Constructing an ‘information strategy’ in Higher Education: perceptions, structure and action.

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Copyright Statement

Abstract

Constructing an 'information strategy' in Higher Education: perceptions, structure and action.

The initial impetus of this thesis was to investigate the notion of an information strategy. This was to be addressed through gaining access to an institution that was attempting to create or formulate an information strategy, in the 1990s and early 2000s. Therefore, the investigation focussed upon researching a particular case study organisation, that of Stapleford University. The thesis is an in depth analysis of that organisation's attempt to formulate, understand, interpret and implement an information strategy.

It was evident within the early stages of the strategy formulation process that the notion of an information strategy was seen by all as being extremely important. This was reflected in both the creation of a specific committee, with a specific remit and the membership of that committee. There was also a newly appointed Vice Chancellor who had made the formulation of an information strategy a priority as part of the mechanism for the university to move forward and compete with other higher education institutions.

Although there was 'open' support within the information steering committee's membership there was also a 'closed' element of confusion with regards to an agreement of definition, what it was supposed to achieve, as well as issues of ownership. This element of confusion included what information meant to various individuals, who had responsibility for the strategy and what would be the 'outcome' of this process. What appeared, to the researcher, was an informal mêlée both at the beginning and throughout the subsequent process. Initially, two individuals were tasked with developing the first draft of the information strategy. The reason for delegating to these individuals was because of their specific roles and implicitly shared notion of information. The individuals were the Director of Information Technology Services and Director of Information & Learning Resources / Director of Library & Learning Resources. The initial results identified a strategy that was technologically focussed, and this continued to inform consecutive attempts and became the accepted and perceived view as to the essence of an information strategy. It was a strategy that maintained continuity with 'hard held ideas' and aligned with particular committee

member's relevant disciplines. The collected evidence highlighted that the notion of an information strategy was more difficult both conceptually and practically than the information steering committee members had appreciated, that no specific document was ever put forward to the University Executive for ratification and that the information steering committee was eventually disbanded and replaced with a committee that was technologically focussed.

The realisation that there was no common agreement on what information was or what an information strategy was became the key problem. The fact that the term was in essence 'polysemous' focussed the research towards what was an information strategy as opposed to how to formulate one. This provided an opportunity to investigate and theorise the strategy formulation process; using neo-institutional theory and in particular isomorphism in an attempt to understand the different interpretations and provide an explanation as to why, in this case, an information strategy was not forthcoming.

The contribution to knowledge, from this investigation, highlights that the polysemous approach to information impacts upon the information strategy formulation process. That is, theorising the process of strategy formulation has indicated that if a technological approach to information strategy formulation is adopted then the outcome of that process would be what the researcher has termed an 'hollow strategy'. Indicating that there is no practical impact gained from the strategy, it is in fact a strategy in name only. The corollary of this approach is the notion of 'superficial validity' that is, it allows the organisation to present a strategy to both internal and external parties and in doing so it meets prescribed criteria; but in reality the practical use or impact of the strategy is negligible. That does not negate the process individuals have engaged with, as it is that process that has provided important learning; such as recognising the role of multiple logics in creating institutional complexity and how that then impacts on that strategy formulation process. This highlights the importance of agency and actors in the socially constructed institution. Together, the issues of the polysemus nature of information and the conflicting role of multiple logics in the strategy formulation process may question whether the notion of an information strategy is at all possible.

The research has reinforced the view that information is polysemous, that it is not a purely rational endeavour or a concrete resource, but is a human construct that manifests

itself in many different forms dependent upon individuals' experiences, perceptions, understanding and involvement within the organisation. These are revealed and influenced by perceptions, structure and actions found within the organisation identifying why multiple logics were able to explain why the strategy formulation process was so dysfunctional. Therefore, an information strategy is not simply a technocratic process but a dynamic one involving negotiation between the ways that individuals and professional groups make sense of their competing concepts of information and use their power and status in privileging their perceptions and gaining legitimacy.

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Chapter 1: Introduction: setting the scene

1.1 Introduction

The notion of information and managing information is one which has been discussed over a number of years, in many different disciplines and from a variety of perspectives (Beynon-Davies, 2009; Davenport, 1993, 2000; Kebede, 2010; Kroenke, 2007, 2012; Laudon & Laudon, 2010; Lucey, 2005; Mclver et al., 2012; Porter, 1985; Zins, 2006, 2007). The importance placed upon information by academia has not been lost within the practical business environment but the business approach has been one which focussed upon the ultimate need to gain advantage over competitors. In fact, the approach from a business perspective has been concerned with managing information in order to facilitate a number of outcomes, such as cost reduction, effective production or competitive advantage; and the use of technology and information systems (IS) in various formats assists in that goal (Rainer et al., 2013). Beynon-Davies (2009: 2) argues that *as a result* [of vast amounts of information] *the need to manage this information is critical to business success*. There are in fact very few, if any, IS texts or Business texts that do not, at some stage, highlight or refer to the area of information and its management in some format, therefore creating the view that information is an important resource to the business community.

The focus upon information has occurred because of the broad notion and recognition of the information economy, information society or the knowledge economy that has evolved over the past twenty five years (Athique, 2013; Belanger & Van Slyke, 2012; Crawford, 1983; Drucker, 1992; Drucker, 1969; Duff, 2002; Hassan, 2008). Much of this discussion, it could be argued, is partially attributable to the developments and advances made within the information technology environment i.e. cost, accessibility, size and software. Beynon-Davies (2009: 3) argues that the notion of an information society is reliant upon *the way in which information is increasingly regarded as an important economic 'commodity'*. This significance is based upon the generally accepted societal and economic change, which highlights the movement from the agricultural age, *to the industrial age, to the information age* (Peppers & Rogers, 2011: 37). The importance placed upon organisations to manage their information and subsequently their knowledge is a major factor in organisations achieving success (Drucker, 2002; Harris, 1993). Pearlson & Saunders (2013: iv) argue that today's

managers face an increasing amount of pressure to manage and understand vast amounts of information that relate not only to their customers but their products and their suppliers. This information comes from varying sources or 'touch points' i.e. social communities, social interactions all of which need managing, storing and analysing to identify trends, requirements and projections; *managing information is a critical skill for success in today's business environment* (ibid: 2013: 1). This importance has manifested itself in the notion of 'Big Data' whereby the emphasis is to collect every bit of data and then analyse that data via algorithms in an attempt to provide and identify patterns and trends in an attempt to unlock future business potential (Davenport et al., 2012).

So although information may have risen in prominence it is not necessarily a new issue (Machlup, 1983). This, the author would argue, is due to the ubiquitous use of the term within everyday activities for example: the information age (Earl, 2000), the information society (Earl, 1989; Hassan, 2008), the information worker/specialist (Marchand, 2000), the information map, the information superhighway, information economy (Beynon-Davies, 2009), information theory, information responsibility (Drucker, 1999), information ecology (Davenport, 1997), information resources (Rayport, 2000), information literacy (Bruce, 1999), information redundancy (Nonaka & Takeuchi, 1995), information richness theory (Daft et al., 1987) even the notion of information overload (Goodman & Dingli, 2013) have all contributed to the pervasive use and ambiguity surrounding the term information.

This use of a common term in a generic format is not confined to information, it is also seen within another term found within the information hierarchy, that of knowledge. The use of terms such as knowledge professionals, knowledge workers, knowledge society, and knowledge management (Bosch-Sijtsema et al., 2010; Hislop, 2005 & 2013) are also common within today's business world. With the use of such terms comes a need to manage the issues that surround them. In reality, there is very little evidence, that in practise, real change has occurred in relation to the use or understanding of the issue of information; what has changed is technology and it is that change that has simulated a view that information has also changed or been managed. Historical attempts to focus specifically upon information have been seen in Hall's (1994) research where the focus was upon how organisations perceived the notion of information within the Scottish textile industry. Allen & Wilson (1995; 1997) also question the role and use of information within the higher education environment. One

could argue that the ubiquitous use of the term information, the rise of the information economy, the importance placed upon information by organisations and the need to manage that information has been part of the impetus for organisations to formulate an information strategy. This attention on managing information via the formulation of an information strategy has been evident within number of areas; one area that has taken up this mantle is that of Higher Education Institutions (HEIs). HEIs have used the notion of an information strategy as a mechanism for 'managing their business' as a result a number of institutions have gone through a process of strategy formulation (Joint-Information-Systems-Committee, 2004).

As mentioned previously this affinity with information, from a management perspective, is not new Evans & Wurster (2000) argue that every business is in the information business, irrespective of an organisations focus information plays a critical role. Indicating that in today's society, organisations not only have to manage the traditional resources of land, labour and capital through cost reduction and efficiency; but also have the added resource of information to manage. This newly added resource, information, focuses upon and rewards the process of doing things differently by better understanding your customer, your product and your processes all within a competitive environment. The use of information in gaining competitive advantage focusses upon the manipulation and understanding of that resource, which from a management perspective is tangible and manageable in the same way as traditional resources. Back in 1985, Porter and Millar (1985) aligned the notion of information with that of competitive advantage. Therefore, managing and understanding information via the formulation of an information strategy has both resonance and credence to organisations. *Table **1***, below highlights the differences between traditional and informational approaches to resources and competition.

Table 1: Traditional Products Versus Information

Products	**Information**
Wears out, not infinite	Doesn't deplete with use, it can become out dated, but it can also increase its value through use
Replication is costly and at the manufacturer's expense	Cost of management and replication is minimal, easy to manipulate and change
Tends to exist in the physical world - tangible	Does not physically exist – often when it is viewed as being physical it is data that is the focus - intangible
When sold, ownership , location and possession changes	Creator holds the key, so can be used many times in many different formats
Price is based upon production costs	Value is confined to what a customer is willing to pay

(Boland, 1987: 377)

Many of the issues that are raised within the literature, regarding information, are embroiled within semantic interpretations i.e. the data, information, and knowledge hierarchy. This approach is often aimed at trying to find one clear definition. This is somewhat difficult as Davenport (1997) acknowledges that getting everyone within an organisation to agree on common definitions is a difficult process. The literature does not address the origins, importance, or profundity of these definitions and their subsequent impact upon the information strategy formulation process. Indicating the need to investigate the importance that an individual definition and a social understanding of that definition can have is pertinent in managing it.

The author would argue that although information has been identified as a resource, the approach needed to address or manage it has been diverted. That is, the managing of information has been focussed and entwined with the management of other more tangible and complementary issues; in the belief that by managing the more tangible products organisations were in fact managing information. In fact, Davenport (2000) stresses this clearly when he acknowledges that organisations should focus and stress the 'I' rather than the 'T' within the area of 'Information Technology'.

The researcher would suggest that this lack of focus on information per se, in preference towards a more traditionally accepted approach i.e. a resource based view in terms of managing information is evident within much the literature. There seems little evidence of focussing upon information which in turn questions and investigates the notion of information, its relevance and context, or its creation and implications to organisations within the general discourse. What is identified is an acceptance that information exists, a tendency to 'skim-over' the conceptual nature of information, and an approach that equates information in terms of other more tangible resources. However, information can mean different things to different individuals and/or stakeholders; this in turn then needs to be interpreted. When formulating an information strategy it seems apparent that a focus on information is required, in terms of its interpretation by individuals and its use within the institution. Therefore, it can be argued that the polysemous nature of 'information' has not been addressed and even though information has been acknowledged as being important to institutions it is often viewed in association with other more tangible resources.

The understanding of an information strategy needs to focus upon the formulation process, identifying the impact that perception, structure and action can have seems pertinent. This highlights the role of individuals, the organisational hierarchy as well decisions made as being an important part of its formulation. This approach is very different to what may be identified as the traditional approach to managing information, where it is seen as a product that is tangible and manageable in the same way as other organisational resources e.g. Human Resources, Estates, Finance, Information Technology.

Historically, information strategies have been in response to criteria set out by various external bodies (Joint-Information-Systems-Committee, 1995, 2004); therefore complying with and being constrained by their particular requirements. There is much more to the notion of information and information strategy than simply stating there is a distinction between the terms based on an outdated and rhetorical hierarchical structure of data, information and knowledge. One may argue that the historical problems identified within the formulation of an information strategy have come about because of a naïve understanding and ingrained interpretations of information both in terms of definition and use within the organisation by stakeholders.

1.2: Aim of the Research

The objective of this thesis focuses on the process of strategic decision-making in relation to an information strategy and how this process influenced and impacted on a higher education case study institution. The relationship between data, information and knowledge in terms of how individuals, professional groups, and their respective disciplines interact in formulating an information strategy is important. It is acknowledged that part of the 'root-cause' could be the problematical or polysemous status of information within various disciplines. Therefore, identifying how individual perceptions, and organisational structures and subsequent actions impact on information strategy formulation becomes the crux of this research.

In hindsight the notion of an information strategy was only part of the problem, as it was entangled as part and parcel of the interaction between hierarchical and professional groups within a very structured and highly managed Higher Education Institution (HEI).

The relevance and importance placed upon managing the notion of information is still part of the fabric of many of today's organisations as seen by Jones, Mutch and Valero-Silva (2013: 291); whereby they acknowledge that *the lack of responsibility for information and the importance of context in conferring meaning* are important but one which is often miss guided. This signals that throughout the time period of this thesis, from start to end, the notion of information, its use and meaning to those involved in managing organisations is still pertinent and relevant and one which will continue to tax management in which ever environment organisations operate.

1.3: Research Questions

The broad research aim has been divided into the following research questions:

1. Why, in a case study institution, was data, information and knowledge chosen as a strategic focus and how did different constituencies within the organisation make sense of this concept?
2. How did different perceptions and structures, influence the process of formulating a strategy?

In addition to the above questions which focus on new understanding there is also a strategic question:

3. What are the implications of this new understanding for the way a university constructs the idea of an information strategy and indeed for the notion of an information strategy?

When looking at these strategic implications a discussion of the changes that have occurred in the field of research between the date of the case study and the present seems a pertinent focus. Initially, this raises issues of privacy, ethics and Big Data which, at this present time, are highly relevant to the notions of data, information and knowledge and therefore an information strategy. It is acknowledged that the substance of this research is and will continue to manifest itself in various formats within the wider business environment and should not therefore be viewed as an historical anomaly.

1.4: Statement of Significance

This thesis supplements the body of knowledge that informs information, systems, technology, strategy and information strategy. It may add to our knowledge of the strategy formulation process of intangible resources through the use and understanding of isomorphism. There are potential insights into what the researcher has termed a 'hollow' strategy and why these appear within the wider organisational framework of strategies. There is also a contribution to understanding the practical consequences of conflict within an organisation, which raises the debate regarding the objective, subjective and intuitive nature of information and knowledge in the information strategy formulation process. What was apparent was that discipline and subjective mind sets created an absence of clarity that allowed individuals to 'drift' towards what was available, achievable or manageable and that was an information technology strategy. This created a situation where committees and committee members missed the whole significance of information, its use, its manageability or its meaning to the organisation; focussing only on whether they were able to produce something called an information strategy with little regard or appreciation of what this might be or how it might be used, hence a 'hollow' strategy.

1.5: Overview of the Thesis

There is, in *Appendix **1***, *p**218***, a diagrammatical overview of the thesis which shows that the central focus of the thesis is based upon three specific disciplines of Information Systems, Library and Information Science and General Management. All three disciplines provided differing views and perceptions but also contain similarities in their use and treatment of information and an information strategy. They have an affinity with the use and management of information which forms the cornerstone of their raison d'ệtre as well as being significant disciplines found within the higher education arena. The use and contextual setting of higher education is pertinent as it has been involved and at the forefront of information strategy formulation for a number of years. Introducing the use of neo-institutionalism and specifically isomorphism provided an understanding of how and why individuals and institutions act in the way that they do and why distinct disciplines were unable to align their views, therefore privileging certain actions. Also, recognising that institutional theory per se has not specifically investigated the notion of information strategy formulation and so provides a new approach to the strategy process. The research methods section provides an overview of how and why certain approaches and activities were undertaken and what actually

occurred. There is also an historical account of the case study process based upon the fictitious Stapleford University. The data is analysed through the use of the isomorphic lens and assists in identifying why the notion of an information strategy seems to be such a contentious issue for those involved.

1.6: Conclusion

This initial chapter of 'scene setting' has identified the broader issues that surround the notion of information and information strategy. It has also acknowledged that information is still as pertinent today, if not more pertinent, than it has ever been for organisations given the rise of the information and knowledge economy. Organisations of the 21st century still have to deal with and manage this resource of information. In paraphrasing much of the literature, information may be the only real resource that allows organisations to differentiate themselves from their competitors. This may be in terms of quality and variety of product, levels of service or interaction with customers. Information, in fact, may prove to be the one thing that institutions believe provides the potential for organisations to differentiate themselves from their competitors. This does provide a very clear and specific view of what the literature means when it refers to this notion of information.

Chapter 2: Literature Review: Information and Information Strategy Discipline Alignment

2.0: Introduction

The previous chapter introduced the reader to why the research was undertaken. The purpose of this chapter is a contextualising introduction to the background and role of each of the three distinct disciplines of Information Systems (IS), Library and Information Science (LIS) and General Management (GM), in terms of information, information strategy and strategy. The researcher would argue that there is an identifiable objective concern within much of the literature regarding the notion of an information strategy. The aim here is to deconstruct the term 'information strategy' and identify each of its constituent parts in light of discipline parameters and in doing so clarify this objective approach to information and information strategy.

Information Systems Discipline

2.1 Introduction

The literature within the information systems discipline would seem to be logical and organised, in that it often focusses upon specific topics for example *operational applications*, *technology*, *information and knowledge management applications*, *networks, systems architecture, systems engineering and infrastructure development* (Chaffey & White, 2011: 319). Within the IS domain there is an affinity with the notion of information and subsequently an information strategy. The following paragraphs provide reasoning for the importance of information within the IS domain and why IS professionals are often tasked with the responsibility to guide and develop organisational wide information strategies. There is an obvious semantic alignment but it seems prudent to understand this relationship between information and the IS discipline.

2.1.1: Information and the information systems discipline

One could be forgiven for assuming that, within the IS discipline, the notion of information would be an established concept; given the fact that the term information appears within its title. This may not necessarily be the case as Shenton (2004) argues that there is a need to define *information given the multiplicity of concepts that have been and indeed continue to be applied* or associated with the term information. Davies

and Ledington (1991: 2) argue that *information is often assumed to be the same as data. It is not.* Data, they argue, draws from the Latin *dare*, meaning to give which may imply similarities to a general interpretation of information but they are not the same thing. This suggests that information is something more than data. In fact, many authors within the IS discipline would acknowledge that there is a problematical issue regarding the concept of information (Bawden, 2001; Checkland & Holwell, 1998; Choo, 1998; Collins, 1997; Davies & Ledington, 1991; Dove, 1999; Harley, 2001; Hislop, 2005; Knox, 2007, 2009; Mutch, 1997, 1999; 1999a 2008;). In fact Liew (2007) identifies

> *information is a message that contains relevant meaning, implication, or input for decision and/or action. Information comes from both current (communication) and historical (processed data or 'reconstructed picture') sources. In essence, the purpose of information is to aid in making decisions and/or solving problems or realising an opportunity.*
>
> *(Liew, 2007: 5)*

A broader interpretation of information within the IS discipline is provided by Beynon-Davies (2009) who states that

> *the output of an information system is information*
>
> (Beynon-Davies, 2009: 92)

So it seems information is acknowledged as something that aids in the decision-making process and emerges from technology but infers that it is made relevant by the individual, indicating that there are seemingly different perceptions of the same term from within the IS discipline. There is an inference that some of the problem revolves around gaining a clear workable definition of the term, highlighting the polysemous nature of information. Kroenke (2007: 11; 2012) offers a very generic definition stating *information a difference that makes a difference,* this seems to perpetuate the nebulous view of information. It does create a view that information is very much dependent upon the individual as it is 'left' to the individual to recognise what that 'difference' might be. Inferring ones experience, perception, background, role responsibility and understanding becomes paramount in 'getting to grips' with its use and interpretation. Wilson (1986: 12) does argue that this common usage, of the term information, is problematic by stating that *when we look more closely at the nature of*

information, that everyday certainty about its character disappears. Therefore, trying to gain a 'true' universal definition of 'information' is as Davenport (1997) indicates problematical.

The problems or inconsistencies found within the IS discourse are as much to do with the definition and interpretation of the concept, as well as the practical difficulties associated with the effective use of information within a business context. This difficulty may be expressed in terms of how one measures the effectiveness of information and the value of that information (Buchanan & Gibb, 1998). This 'difficulty' may be purely down to the complexity of the English language or its ubiquitous use within many different contexts. The fact that terms are often used interchangeably makes this understanding difficult. Checkland and Holwell (1998: 86) acknowledge this difficultly by arguing that *making sense of the field of IS requires a very clear concept of what information is*, they then further this by acknowledging there seems to be a very confused state within the IS field between terms, such as data and information stating that there *is at present no well-defined definition of such terms as 'data' and 'information' upon which there is general agreement* (ibid).

The concept of information is often 'part and parcel' of the IS related literature, unfortunately the level of discussion has not always commensurate with its prominence and has often been referred to in generic terms where information is seen as *data that have been organised so that they have meaning and value to the recipient* (Rainer et al., 2015: 385). Indicating that although the concept is recognised within the IS literature, the focus tends to be more about the technology, structures, networks, architecture and systems that encapsulate it. Within the IS literature the notion of information often acts as part of the introduction or as a mechanism for contextualising what is to follow. The contextualisation could be seen as a rhetorical reference to the concept within the data, information and knowledge hierarchy. The evident 'surface oriented' approach and objective nature shown in terms of the concept of information implies that when dealing with technology, networks, structures and systems they are actually addressing information as it [information] is seen as being contained within the afore mentioned issues. This alignment of information as being contained within, or produced by technology only perpetuates the continued use and reference to information as a generic, objective resource.

There have been attempts, within the IS discipline, to offer clarification regarding the term information. In fact, returning to Checkland and Howell (1998) they introduced another term that of '*capta*' from the Latin *capere*, meaning to take (Checkland, 1982; Checkland & Holwell, 1998). The term *capta*, identifies that part of the whole data set which is relevant and is of use, i.e. data to which one pays some interest, which sits between data and information. This seems to be an attempt to establish some form of clarity given the ambiguity between the use of the two terms data and information. Checkland and Holwell (1998: 89) imply that to move from *capta* to information involves the addition of context, and hence meaning Checkland and Howell (1998: 89) argue that: *data are a starting point in our mental process. Capta are the result of selecting some for attention, or creating some new category…we then enrich it, …we then relate to other things,…we then put it in context,…and see it as part of a larger whole which causes it to gain in significance.* This is then taken to the next stage within the hierarchy, knowledge, by arguing that *data that is selected* [capta] *and converted into meaningful information based on larger structures* [or relevance's] *which they term knowledge*. That is, the movement from information to knowledge is via the creation of large structures of related information. Irrespective if one agrees or disagrees as to the level of clarity this may bring; in relation to this research the important aspect is that of introducing 'context' and 'meaning' both of which are human processes and are enacted by individuals. It also ensures that the concept of information is one which continues to receive debate within the IS literature.

Therefore, when this is then applied within a real-world context a number of authors have suggested that the term information is often used in the corporate world to describe data. Mutch (1996 & 2008) argues that within the context of management science there has long been a tradition of regarding information as both a thing, something tangible and manageable and heavily quantitative in nature. This adds fuel to the tangibility of information, its reference as a resource and a view that it is just there waiting to be discovered, collected and used, all of which elicit a very particular philosophical approach and objective view of information.

The interchangeable nature of the terms data and information or view of information as a resource can be traced back to Boland (1987: 365) who states that *when we use the term information we are, in fact, perhaps unknowingly and unintentionally, describing data*. McCreadie and Rice (1999: 47) concur by highlighting this ambiguity and

confusion, regarding terms, by arguing that *meanings are in people rather than in words or data*; highlighting the role that the individual plays within the process of information creation.

This initial view of information is also seen when Buckland (1991) argues that information in its widest form can refer to anything that is in fact informative and seems to resonate with Kroenke's (2007: 11 & 2012) very generic view, stated previously *information a difference that makes a difference*. However, it must be noted that although some authors have tried to impose a clear distinction between the terms data and information, this has not necessarily been successful. In trying to clarify these issues sometimes other issues can be missed, such as the role that organisations [structure] and organisational culture can play in the formulation of information (Redman, 1995).

What may be taken from much of the IS literature is the concept that information attracts certain underlying themes and maintains an objective presence. Information is taken to exist in the world, waiting to be collected, assembled, gathered, or amassed into some form of useful resource. This view of information as a resource is driven by the assimilation of information as being something that can be processed or manipulated by technology or more specifically by a computer. The common usage of the term information with various other terms i.e. technology, management, systems and resources all of which implies some form of validation that information is somehow computer related; and seen essentially as data that has been structured in some way by that same technology.

It could be argued that traditionally information has been seen as a structured form of data, as seen by Hall (1994: 283) who argued that *information was identified as data that had been produced for subsequent use as a business resource*. It is not unrealistic then to see how individuals then refer to the value of information as its ability to transform companies and increase their competitive advantage within the market place.

This view of information as a product, as a mechanism or resource for gaining competitive advantage gained credence from the views held in the area of 'information resource management'. This alignment of information as just another 'resource', another 'factor of production' (land, labour and capital) instils and supports that

objective view of information. Therefore, organisations that focus upon technology as means to manage information may 'drift' or gravitate towards an interpretation of information that matches that technologic focus; that is a highly structured, manageable and technologically produced format. This alignment of information as a product evolved from a need to gain value from huge amounts of data. The assumption was that technology would enable organisations to structure that resource (data) and its outcome would be information. This product centred objective approach, towards information, resonates within many IS texts (Chaffey & Wood, 2005; Kroenke, 2012; Pearlson & Saunders, 2013)

This generalised, objective perception of information as a resource, a thing or a product allows organisations and individuals to approach the notion of information in much the same way that they would approach any other organisational resource. The issue with this view is that, as Boland (1987) indicated and as shown previously in *table **1** p**14***, information differs significantly from other organisational resources. Eaton and Bawden (1991) refer to this view of information as a product as being extremely tenuous and prefer to focus upon the process by which meaning is derived as being the important factor.

An alternative view of information is where it is seen as a process; a process that is either enacted by individuals or organisational activity, suggesting its creation and format is very different to previous examples. By the individual through the process of attributing meaning, that is, individuals take the raw data and subsequently through the process of interpretation, synthesis, assimilation or some other form of cognitive process, meaning is ascribed to that data; meaning which is unique to that individual. By the organisation through the process of natural development, a stage by stage activity based approach i.e. leading from one area to the next, with each area adding value or meaning in the process. This is clearly evident in Boland's (1987: 377) approach to information when he argues that *information is not a resource to be stockpiled as one more factor of production….it is not a commodity. It is a skilled human accomplishment*. This notion of information as a processual view signifies the role that humans contribute to the information creation process. Therefore, if information is not a resource, as inferred by some, but a process as inferred by others, suggests that there is potential for confusion and ambiguity regarding the notion of information and how to manage it.

2.1.2: A critical analysis of information and the information systems discipline

To provide a precise definition of information, from the IS literature, that everyone agrees upon seems to be somewhat difficult. Information is non-visible, Pearlson and Saunders (2013: 17) state *information exists in the ether,* it is created by individuals through their understanding and interpretation of data therefore intangible. The suggestion is that 'information' is a human centred activity or construct and not one that technology currently mimics. So information cannot be stockpiled, it is not 'out there' waiting to be found and can mean different things to different people. This then only adds to the complexity organisations encounter in trying to manage it.

Within the IS discipline other conflicting views are evident that also resonate with the notion of information. One such concept is that of systems thinking, which is based on systems analysis, as a means of understanding problem situations and finding solutions, it has at its core the concept of information (Waring, 2000). The term information is approached from different perspectives based on the two main approaches within the systems thinking field, termed 'hard' and 'soft' systems methodologies. The issue within systems thinking lies in the distinction, or lack of it, made between information and the related concepts i.e. data, information, knowledge.

Within the 'hard' systems field, there is no clear or worthwhile distinction made between data and information. They are for all intents and purposes one and the same. As Date (1986: 2) identifies *the terms data and information are treated synonymously in this book. Some writers distinguish between the two....it seems preferably to make explicit where relevant, instead of relying on a somewhat arbitrary differentiation between two essentially similar terms.* Within this field data, information and one could also include knowledge, can exist independently of individuals and are viewed in a structured form (i.e. a knowledge management system). This form could be identified as raw facts, numbers, documents, diagrams, or sounds and words all of which are derived from either observation or some form of measurement. This approach would favour the objectiveness of data and information, where emphasis would be placed on such attributes as: ease of sharing, context independent, impersonal, codifiabile and the ability to be collected. This approach aligns with a view of information as a product belonging to the organisation. This is a common view found within the IS discipline and acknowledges why information, computers and technology are often associated.

Opposing this view, still within the general IS discipline, are those who follow a 'softer' approach, who view data and information as inevitably linked but separate aspects of the problem situation. Checkland (1992: 353) argues that *the transformation of data into information by the attribution of meaning makes the study of information a very broad and hybrid field*. This approach would identify that information is subjective, personal and difficult to share, highlighting the context specific nature or influence that the environment can impose on information creation. This view places the individual at the centre of the information creation process, stressing the importance of the individual, the contextual setting and the application, practice or activity that is being undertaken. All three elements can influence the creation of information. Again, this could be seen within the processual view of information and is another element of IS discipline which uses and encapsulates the notion of information in its everyday activities.

The previous discussion has identified two main approaches, those that see information as a resource or a product and those that see it as a process enacted by humans. Initially, it is important to recognise that information, in various guises is something that we have to deal with. In fact Davy's (1998) view is that information is the centre of all business [public and private] and how information gets used by an organisation is the '*determining factor as to how competitive, efficient and, ultimately, profitable they are*', viewing information as playing a specific role within the organisation.

2.1.3: Information Strategy and the information systems discipline

The notion of an information strategy is not necessarily new, given that during the 1990s many environments and specifically those within Higher Education (HE) pursued the formulation of information strategies with much vigour. This was as a result of both The Follet Report and the Joint Information Systems Committee (JISC) directives. Both parties had as their general raison d'être the improvement and access to information. JISC (1995b) via the accessibility of information through technological networks and management of information through information strategies; and the Follet Report (1994) through the reassessment of the way that institutions, specifically libraries, plan and provide for the information needs of those working within them. Both advocated the formulation of an information strategy as a mechanism for managing information and both linked the formulation of an information strategy to funding; and in doing so making organisations extremely receptive.

Historically, much of what had been referred to as information strategy formulation had in fact been quite removed from the concept of 'information'. As far back as 1996 and again in 2003 Allen and Wilson argue that (1996: 240) *there does not seem to be any consensus on basic issues, such as what an information strategy consists of, and little knowledge of how to go about developing an information strategy*; again Allen and Wilson (2003: 223) acknowledge that *there is, [still] little empirical research on the process of information strategy formulation*. This creates a contentious nature regarding both what an information strategy is and how to formulate an information strategy. This contentious nature is also identified within the definitions offered throughout the discourse where many authors (Allen, 1995; Beynon-Davies, 2009; Boddy et al., 2002; Currie & Galliers, 1999; Earl, 1989; Galliers, 1991; Macmillan, 1997; Pearlson, 2001; Wilson, 1989) have offered insights but have not defined what it means; often it is amalgamated with other strategies, processes or plans. General issues identified by authors indicate that getting total agreement on concepts is a difficult process. There are also issues of terminology, levels of granularity, hierarchies and positioning of strategies within the wider strategy formulation process; all of which make the notion of an information strategy difficult to formulate.

The definitions offered within the discourse are extremely disparate, early investigations identified an information strategy as being a sub-set of the information systems strategy (Allen & Wilson, 1997), whereas others have highlighted the view that the information strategy is an overarching strategy, which uses information communication technologies (ICT) to assist the organisational strategy via information flows (Wilson, 1998). There is also a suggestion that the information strategy's overall aim, for users of information, is an attempt to achieve that *one true source*, a central area that holds the correct data. This equates data and information together without offering any reasoning as to how one becomes the other. This diversity in definition was noted by Hall (1994: 282) where she acknowledges, *that there is much interest for information issues but that this interest is focussed on information technology as an enabling technology to share this information and that information as a strategic resource is not altogether appreciated*.

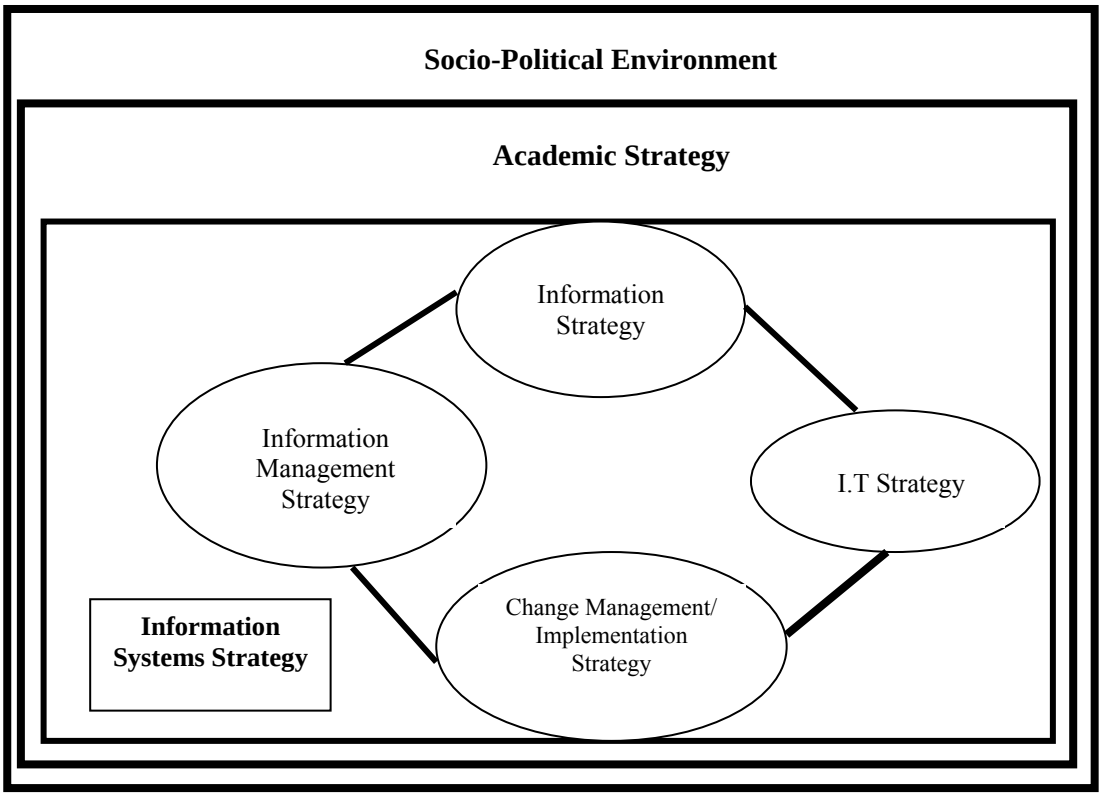
When information strategy is identified the focus is upon an array of related but very different strategies i.e. an information technology strategy, an information systems strategy, an information management, an informatics strategy. Within the literature some specific acknowledgements of an information strategy incorporate: an alignment

between an organisations structure and the information system that supports its operations (Jordan & Tricker, 1995); information strategy in the NHS, which focuses on a national information technology strategy (Keen & Muris, 1995); information strategies in UK higher education institutions, where the theme relates to the failure of IT-driven applications not fulfilling their promise (Allen and Wilson, 1996); information strategies: where the alignment of the business case highlights the need to manage informational assets (Asprey, 2004); the development of an national information strategy in Scotland, where the emphasis is placed upon open access and institutional repositories (Law et al., 2005); an information strategy as a systems strategy, or other technically focussed issues (Goldschmitt, 2004); an *informatics strategy* as a mechanism for managing all things informational Beynon-Davies (2009: 283). All of the above identify a number of alternative foci with regards to the concept of an information strategy, but which tend to focus on everything but what their title infers, that is, information.

Despite the level of ambiguity that has been identified a number of authors have continued with their investigations into the notion of an information strategy.

In the beginning authors (Earl, 1989) represented the domain of information strategy in relation to a planning approach, indicating a structure that may be followed. This and similar approaches, Galliers (1991), see *appendix **2**, **p219***, became the basis of subsequent investigations into information strategy formulation. Allen and Wilson (1996: 247) promoted the view that the information strategy *acts as a linchpin between academic strategy or goals and the IS strategy*, as seen in *figure **1**, **p30***: They argued that the information strategy brings *together the managed information resources to which the organisation has access and the available information technology resources* where it is seen to complete the circle between the IT, IM and organisational strategy; enabling the organisation to deliver information and information services organisation wide. However, it clearly shows the information strategy as being a sub-set of the information systems strategy. Their focus is on the information systems strategy and not on information strategies per se; acknowledging that viewing an information systems strategy as a holistic group of elements, as in Galliers (1991) socio-technical approach (*appendix **2**, **p219***), has not necessarily been wide spread; instead it has been tackled via a process of individual strategy formulation.

Figure 1: Information Strategy, The Linchpin Interpretation



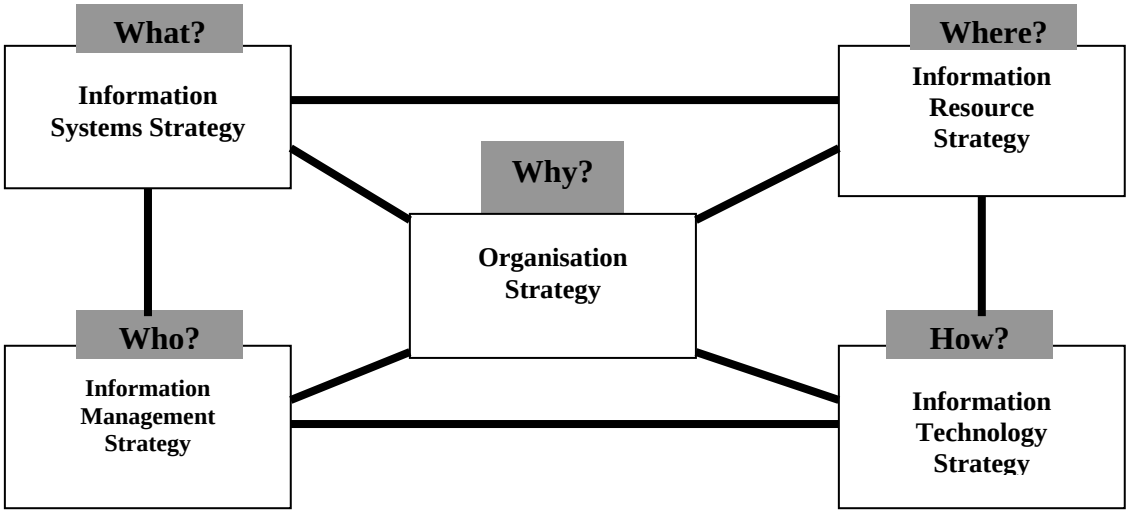
Allen (1995: 4) – Components of an Information Systems Strategy; Allen & Wilson; 1996, 247. – Elements of an Information Systems Strategy – after Galliers; 1991 (*appendix **2/3, p219/20)***

The contentious nature of an information strategy is also evident in Allen's (1995) initial work, within higher education, where the view that an information strategy is seen as a sub-set of a much larger strategy, that of the information system strategy. Allen suggests that within the field of higher education, most information strategy development tends to take a narrow view of what it is and what it consists of, arguing that *information strategy issues in higher education institutions tends to take a functionalist, mechanistic, deterministic approach focusing on the I.T. aspect almost to the exclusion of all other* (Allen, 1995; Allen & Wilson, 1996: 12).

Earl (2000) provides a developed view of an information strategy where he introduces the information resource strategy as part of an information strategy framework, as seen in *figure **2**, **p31***. Earl's initial foray, (Earl, 1988; 1989) (see *appendix **4, p221***), into information strategy brought together three strategic elements, the information technology strategy, the information systems strategy and the information management strategy. This was IS function oriented and said little about information strategy or the wider implication of these strategies to other organisational strategies. Taking Earl's perspective, one could identify that the information systems strategy is part of the

information strategy framework. Earl uses a blended approach to information strategy where all of the strategies identified make up the information strategy, making the information strategy the overarching strategy within which other strategies nest. The original focus upon information technology strategy can be seen in *Appendix **4**, **p221***.

Figure 2: Earl's Information Strategy Framework



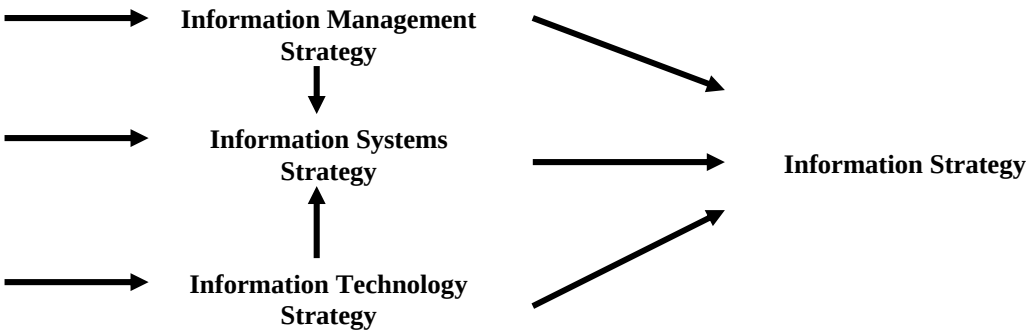
Information Strategy Framework - Earl (2000: 21)

Earl's argument for introducing the information resource strategy is acknowledged below:

> [previous models did not recognise information] *now we can see that a fifth domain was missing – one that we still find difficult to formalise but in which companies increasingly have objectives, principles and policies. This is the domain of information as a resource, or of information resource strategy.*
>
> (Earl, 2000: 20)

This continuation of alternative perspectives, appears with Wilson (1998) who argues that an information strategy *is an overarching strategy that defines how the organisation strategy interacts through information flows, with the aid of modern information and communication technologies,* as seen in *figure **3**, **p32**.* This indicates a number of different 'information' related strategies that come together, feed into one another and through information and communication technologies culminate into an information strategy.

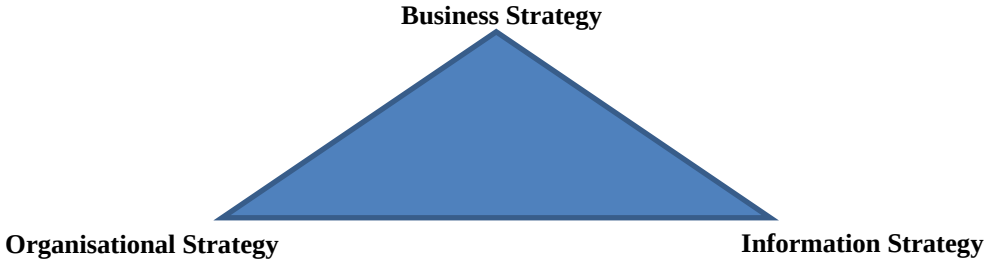
Figure 3: Wilson's information strategy



(Wilson, 1998) – information management: a strategic view

The inference here is that everything flows through the preceding strategies and 'ends-up' as the information strategy. The use and interpretation of the IT, IS & IM strategies are in-line with Earl but infer that the IT & IM strategies feed into the IS strategy as well as all contributing towards the information strategy, with no direct link to the overall organisational strategy as found within Earl's view. This linkage between information based strategies and business strategy is evident where Pearslon and Saunders (2013), *figure **4**, below*, acknowledge an information systems strategy triangle. Contained within that triangle is a reference to an information strategy

Figure 4: Pearlson & Saunders information systems strategy triangle.



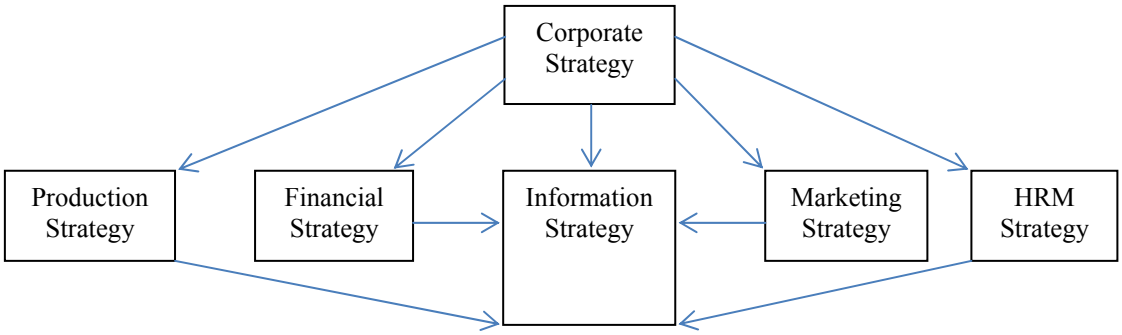
(Pearlson, 2001 & Pearlson & Saunders, 2013: 24)

The argument proposed by Pearlson and Saunders is that *business strategy drives both the organisational strategy and the IS strategy…and they purposely design their organisational and their IS strategies to complement their business strategy* (ibid). The inference here is that all strategies interact but the information strategy is actually an IS or IT strategy which implicitly incorporates information.

Boddy, Boonstra and Kennedy (2002: 93) reference an information strategy, in *figure **5***, *p**33***, where they acknowledge that *it is easy to imply, in view of its importance* [that is

information], *managers should develop a clear information strategy …….this is in practice extremely challenging.* However, their discussion predicates an information systems strategy not information per se but acknowledges that issues are related to formulating an information strategy. Again, there seems to be a blended approach to information systems and information strategy formulation. They do view the information strategy in the same terms as any other strategy, as a function of the organisation.

Figure 5: Boddy, Boonstra and Kennedy – an information strategy



(Boddy, Boonstra and Kennedy, 2002: 94)

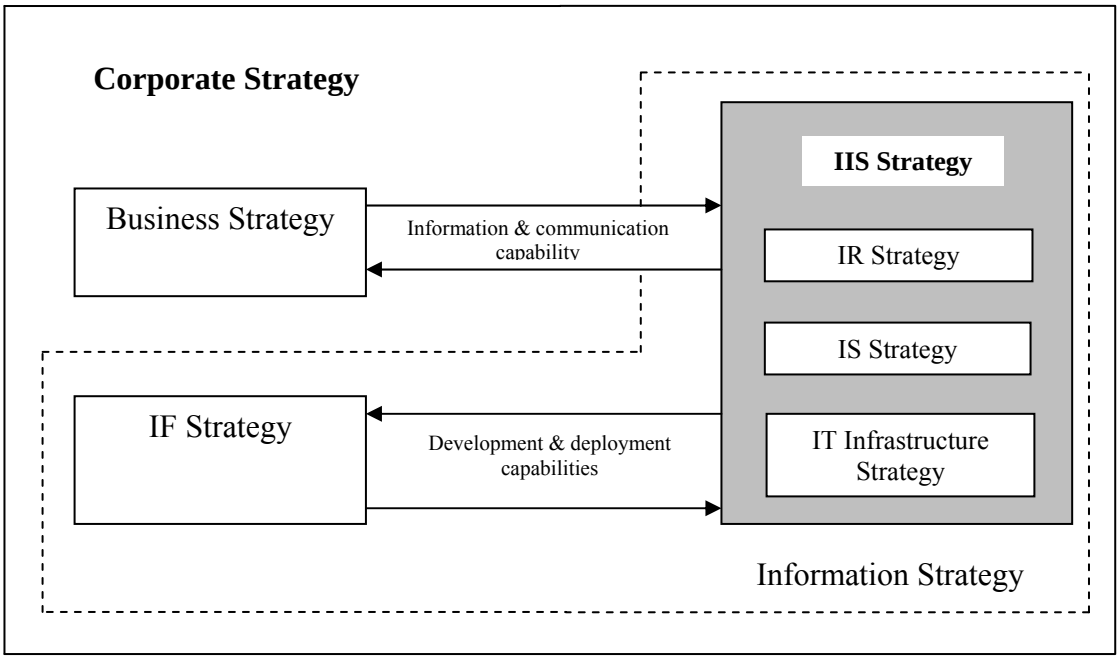
The previous strategies infer that information is a result of everything flowing through all aspects of the organisation. The view of 'flowing' through other strategies or functions resonates with Davenport, Eccles and Prusak (1992) who stress that managing information is a political process. They use the analogy of 'information politics' as a means to understanding and managing information. Although there is no specific reference to an information strategy per se, the discussion, in terms of managing information, discusses the various types and structures that deal with information and highlights the difficulty of managing this resource.

Other authors namely, Neyland and Surridge (2002: 10) provide a more transient view of an information strategy by suggesting that there is no universal answer as to what it is but suggest that it may be *an ongoing process, not dependent on a single document or committee*. This view of uncertainty and ambiguity seems endemic as Allen and Wilson (1996: 247) argue the term information strategy is confusing. They go on to acknowledge the interchangeable nature of the term, by stating that it is often used to mean different things to different individuals i.e. *at times it is used to mean information systems strategy, at times information technology strategy, and on other occasions, information management strategy*. Allen and Wilson (1997) also argue that there has

been too great a focus on the technologies, on internal institutional factors and not on the processes, by stating that in *the late 1980s and early 1990s HEIs developed strategic plans which were information technology focused…..over 73% of these were perceived to have either failed or been only partially successful* (ibid: 179). They describe problems in formulating information strategies as a result of terminological mismatch; meaning that there were many different terms being used, all ascribing to the same phenomenon – information. This reference to inconsistency is also highlighted by Teubner and Mocker (2005; 2009: 148) by acknowledging that *as long as a common concept of information strategy is lacking …. the process will remain vague*.

Teubner and Mocker provide their interpretation of an information strategy, in ***figure 6, p35.*** However, the interpretation of an information strategy again focusses upon the areas of IIS and IF (information infrastructure and information function). These two areas coincide with Earl's view of information technology strategy, information system strategy and an information management strategy. Where the IIS strategy contains information resources, information technology and information communication systems and the IF contains tasks to plan, build, run and maintain and further develop the IIS. The notion that the IIS strategy influences the IF strategy, so the notion of 'nesting' or strategies 'flowing into' one another seems to be inferred; indicating that the information strategy is not a strategy per se but acts as an overarching process that is encapsulated by the two contained strategies (IF & IIS). This view of it working in conjunction with the business strategy is not unusual within the IS literature (Scholes, 2001). The view of an information strategy's working in isolation may be appropriate at operation levels, but not at strategic level being disconnected from the wider organisational strategies is a danger (ibid). Indicating the influence and relationship between wider organisational strategies is an important focus.

Figure 6: Teubner and Mocker's overall model of information strategy



(Teubner and Mocker, 2009,: 162)

One piece of research that attempted to separate out the notion of information was by Checkland and Holwell (1998). Their research in the NHS, focussed upon *re-thinking information needs via the re-formulation of an information and I.T. strategy*. The separation of the two strategies was important in terms of its remit *to deliver a new information strategy* however it acknowledges that those involved in the project actually *conceived it more as an IT project* (ibid, 1998: 207).

What can be drawn from the IS literature is a sense that much of the work towards information strategies is implicit, in that it is identified as part of other actions or strategy formulation processes. Often this leaves more questions than answers and seems to lack completeness, structure or rationale. The information strategy is seen as a planning process (Porter & Millar, 1985), as a function along with other organisational functions (Boddy et al., 2005; Mocker & Teubner, 2005; Smits et al., 1997), or as systems development process focussed upon gaining competitive advantage. What is apparent is that all authors have a contribution to make, but there seems to be little consensus on the issues that encapsulate the notion of an information strategy. Many of these views are driven by the assimilation of information as being something that can be processed or manipulated by technology. This inference of an information strategy as being used as a mechanism to manage this 'resource' identifies why the notion of

information and an information strategy resonated within the domain of information resource management and with those from the IS domain.

2.1.4: A critical analysis of information strategy and the information systems discipline

A general view, within the information systems discipline, acknowledges that an information strategy is *a plan with a defined timeframe setting information management objectives and tactics and control to achieve them* (Chaffey & Wood, 2005: G7). This indicates a time element, an end point, an inference that there is clear view of what an information strategy is meant to achieve. There seems to be, within the information systems discipline, an elected affinity of aligning 'information' with technology, systems and resourced based issues. This may be somewhat naïve as many information systems do not provide the appropriate or necessary information that management require. Guan et al (2002: 170) argues that the *existing information technology infrastructures at many organisations are inadequate to meet the needs of institutional decision-makers*.

It could be argued, from the IS discipline perspective, that the concept of an information strategy was based on trying to extract the benefits of 'information' using the importance placed upon technology and power of technology as a catalyst. This infers that information technology and systems provide access to information and those tasked with managing the technology are seen as custodians of information. Hence, why those tasked with the role of information strategy formulation have tended, in part, to come from the IS or technology field. The notion of an information strategy, from the literature, seems to indicate that it is not a 'straight forward' strategy and one that has various interpretations making it both complex and controversial.

As the information strategy seems to be enmeshed with other strategies, especially from an IS perspective, there is a further discussion of these other strategies namely the information technology strategy, information systems strategy and the information management strategy, seen in *Appendix **4** p**221***

2.1.5: Strategy and the information systems discipline

The relationship between information and strategy has been highlighted early on in the information strategy formulation process and is seen at the upper echelons of higher education institutions as MacColl (1996) acknowledges that:

> *Information is the foundation on which any strategic plan is based* as stated by Gareth Roberts, Vice- Chancellor of the University of Sheffield and Chair of the Committee of Vice-Chancellors and Principals (CVCP), opening a conference of University Librarians, Computing Centre Directors and Directors of Information Services in Sheffield. Universities, like many large companies, now recognise that information is a resource, which can be used to strategic advantage. While it is clear that no planning document could ever appear without it, it is only recently that universities have begun to develop strategies for the management of information in its own right. *Within the set of strategic plans of an institution, it may be considered to be the glue* said Derek Law, Director of Information Services & Systems at King's College London.
>
> (MacColl, 1996).

This notion of information indicates that it is viewed as a strategic resource. This infers that the information strategy formulation follows a rational, planned, logical, top-down approach. The importance of acknowledging the strategy formulation process, within the IS discipline, is significant because almost every activity that occurs within the IS domain contains a reference to strategy. In so much that the term 'strategy' is used almost as a rhetorical term with limited rigour. Eccles and Nohria (1993: 88) consider strategy to be a particular kind of rhetoric that provides a *common language used by people at all levels of an organisation in order to determine, justify and give meaning to the constant stream of actions that the organisation comprises*. The term 'strategic' is seemingly used to add rhetorical weight, to managerial activity. Meadows and Hopkins (1994) identify differences between 'Information Strategies' and 'Information Policies', Allen and Wilson (1995) identified problems and confusion between 'IT Strategy' and 'Information Strategy' both of which infer conflict or confusion within the discipline. Similarly, within the literature, terms are used interchangeably and often author's naïvely interchanged terms when discussing one issue.

In fact, Earl (1989: 117) concedes that distinctions between IT, IS and IM strategies *were rarely made and both terminology and thinking became confused.* Therefore, it could be argued that much of the strategy development, from a historical perspective,

especially within the IS discipline has been based on the development of strategies which relate to physical resources and physical assets. Therefore, the indication that information is seen as another resource would indicate that the strategy formulation process would be the same as other strategy formulation process, from an IS discipline perspective.

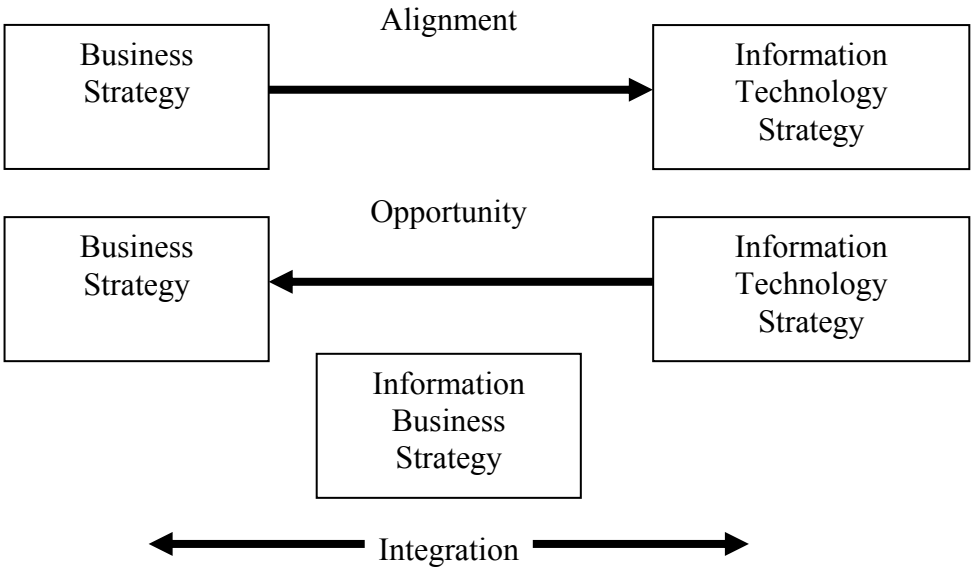
The recognition that information is not the same type of resource that organisations have traditionally dealt with indicates that an alternative approach to strategy formulation may be warranted. It is not unrealistic to see why organisations have followed particular approaches to strategy formulation given the heavy investment in both IT and IS. This investment requires some form of tangible guarantee regarding where their money is being spent in the name of managing information.

As information systems have become an integral part of an organisations activities and operations. Peppard (2003: 467) argues *most organisations today are fundamentally dependent on their information technology systems*. It seems a necessity of success that managers identify the relationship or 'fit' between IT and IS and their business strategy. It is this need to identify value for money, with the proliferation of IT and a need to justify the investment in IT and IS that has brought the two domains together, those of strategy and information systems.

Much of the literature within the IS field, as already acknowledged, is based on the relationship between information systems, information technology, and during the 1990s, information management and business strategy.

Earl (1999) refers to this as the *alignment problem* i.e. how IS and IT are going to support the business strategy, *figure **7***, *p**39***, depicts this alignment between business and technology.

Figure 7: Earl's Strategic Alignment Model



Source: Strategic Alignment (Earl, 1999: 164) –
*from Venkatraman and Henderson's strategic alignment model see appendix **5**, p**222**.*

Earl (1999: 163) argues that *over 90 percent of organisational activity in I.T. strategy making has focused on this question of alignment.* The issue of strategic alignment was previously approach by Henderson and Venkatraman (1989), see *appendix **5**, p**222***, who took a much broader and more conceptual approach. The issues that are identified within *figure **7***, above, include the opportunistic value of IT; that is, what IT allows you to do differently; therefore IT becomes the method of gaining competitive advantage. This recognition that IT/IS strategy can also affect and influence business strategy was an important step in the IT/IS theory development (Henderson & Venkatraman, 1993; Hirschheim & Sabherwal, 2001). This is where Earl (1999: 164) argues that *if every business is an information business… then should there not be one strategy: an integrated information business strategy.*

However, what is not addressed within this 'integration' is the role of information. There seems to be a focus on the **'t'** in information technology and the 's' in information systems but there is no attempt to address the 'i' within both of them – that is the information element. Peppard (2003: 467) argues that *it is not the loss of the technology per se that would result in problems for the organisation, but the loss of the information and information handling services facilitated by the technology.*

This approach to strategy development within the IS field indicates an affinity with Earl's earlier work as well as a focus on the more tangible and the seemingly easier to

identify elements of technology, systems, networks or architecture; this reflects common themes found within the discourse of both the IS and Strategy literature.

The concept of 'strategy' is often about being different. An organisation's competitive strategy is about gaining advantage and doing things differently to differentiate their product or service. The use of IT as a means to create differentiation, is seen in Carr's polemic (2003, 2004) argument indicating that IT no longer holds the significance that it once did.

Earl (2000: 22) recognises that *the world of information and intangible assets is very different from that of the industrial age and physical assets…the abused term paradigm shift may be just right for once, we are all experiencing one in our information business*. Earl (ibid) does raise the issue of information strategy but in terms of identifying information within the theme of an information resource strategy, as stated previously. Unfortunately, Earl's discussion is limited in terms of the notion of information; he does acknowledge its complexities and instead focuses upon the importance of data.

2.1.6: Information Systems Summary

Conflicting definitions and terminology used within the information systems discipline raise concerns. Initially, the investigation into information, information strategy, and strategy, within the IS domain, has identified a variety of terms, and although they may infer new ideas in essence they are very similar. Strategy formulation within the IS discipline is focussed upon recognising the value of the technology employed, how the system is managed, and how it provides benefit to the organisation. This is done, in part, through having a strategy and a strategic outlook which supports the decision-making process. The organisational alignment of IT and information strategy is based on historical reasons of complexity of technology as well as ingrained interpretations influenced by the background and disciplines of individuals; this naïvely miss judges the notion of information.

Library and Information Science Discipline

2.2: Introduction

The Library and Information Science (LIS) discipline is an interdisciplinary science which incorporates a number of areas but has the library as its central focus. Its overall theme identifies the searching, collating, organising, preserving and disseminating of material; as well as managing access and interaction with the resources. Historically, the concept of LIS has be equated with a number of related terms including librarianship, library science, and information science to name a few; what is acknowledge is that whatever the term there is little distinction between them. What resonates within the discipline is that the library is seen as a learning resource and individuals who manage that resource are custodians and guardians of both information and knowledge.

Therefore, it can be acknowledged that the LIS domain in essence views the notion of information and an information strategy as being highly relevant to their activities. This perspective also resonates with the view held by the IT and IS domains, where information is seen as a product but LIS interpret that 'product' differently. That is, LIS do not necessarily equate information and/or an information strategy with technology or systems but highlight and focus on information in terms of the access to knowledge and information products. Access and management occurs through data collection, records management, storing, retrieving products and coding information products. All of which represent a profession and a professional approach in all activities to do with information resources. This reference to information professionals or specialists is seen within the LIS concept of information literacy. Interestingly, the concept of information literacy is often equated with the concept of computer literacy within the IT and IS domain. *Table **2***, *p**42***, distinguishes between the main aspects of computer literacy and information literacy. Indicating the former is utility based, that is something of use or being useful and the latter is competency based focussing upon being able to deal with and understand something, a human attribute.

Table 2: Comparison between information literacy and computer literacy

Computer Literacy	Information Literacy
The ability to use a computer and its software **(Kanter, 1992: 373)**	Ability to know when there is a need for information **(Behrens, 1994)**
A focus on **how** to use a particular application	A focus on **why** one uses a particular application
Using I.T. to store and gather data – this equates computers with producing information	Using I.T. to its optimum level, knowing what one wants to do with the technology **(Bruce 1997, 1999)**
What is currently available Emphasis is placed on retrieval of information	What do managers need to know Emphasis is placed on evaluation and interpretation
Taking an objective view of information	Identifying the subjective nature of information 'Critical Thinking'
Information as a resource, **a thing** **(Mutch, 1997: 377)**	Information **as a process** **(Mutch, 1997: 377)**
Utility based	Competency based

2.2.1: Information and the library and information science discipline

The alignment with the notion of information and LIS is not unusual, as the library is often referred to as learning resources, or the resource centre both of which infer use and availability of information. However, the notion of information is very much based on the ability to manage physical data in the form of books, journals, and now more importantly electronic resources. Irrespective of information format the notion of information is one which is identified as being 'all around' them in their place of work. The Library Association (1996: 1) infers that *in many cases the management of information appears to be evolving somewhat haphazardly*. The discipline does not per se define information but acknowledges it *as what humans transform knowledge into when they want to communicate to other people* and adds to the view of information by stating that [information] is *knowledge that is made visible or audible, in written or printed words or in speech* (Orna, 1999: 8). This then infers that, within the LIS discipline, information is seen in a tangible format and that the role of LIS is to manage that format as information specialists. This initial view is a similar view offered by Marchand (1997: 10), found within the general management discipline, who argues *information allows you to express, transfer and convey knowledge*. The acknowledgement of the individual element or human trait of information seems apparent but seems contradictory to identify that it is also found in a physical format. The physical aspect of information is acknowledged by Orna (2004: 7) when she states that *information is what we seek and pay attention to in our outside world when we need to add to or enrich our knowledge in order to act upon it*.

What is found within the LIS domain is that many of these explanations revolve around the relationship between information, data and knowledge. Orna and Pettitt (1999: 8-9; 1998) acknowledge this by stating that *knowledge and information are separate but interacting entities; we transform one to another constantly....the transformation of information into knowledge and knowledge into information, forms the basis for all human learning and communication.* What seems apparent is that the problematical status of information has not disappeared it is only shifted from one domain to another. As the LIS domain creates this link between information and knowledge it seems appropriate to discuss this relationship briefly. Within the LIS domain knowledge is seen as something that we *acquire from our interaction with the world; it is the results of experience organised and stored inside each individual's own mind in a way that is unique to each* (Orna, 2004: 7). This emphasis is also portrayed by Hislop (2005:15) within the IS domain, where *knowledge can be seen as data or information with a further layer of intellectual analysis added, where it is interpreted, meaning is attached, and is structured and linked with existing systems of beliefs and bodies of knowledge*. Both emphasise the importance of information and knowledge to their respective domains and highlight the role of individuals. They also acknowledge the tangible format of information as either being visual and audible as well as being transferable.

2.2.2: Information Strategy and the library and information science discipline

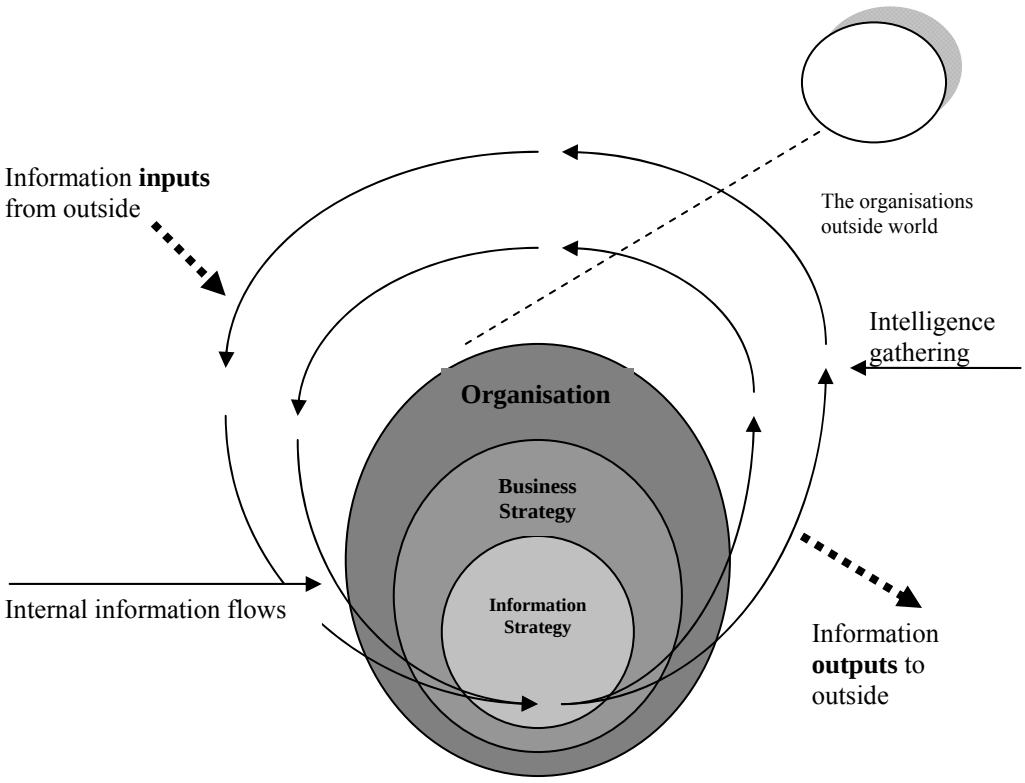
Often what is found within the discourse when enquiring about information strategy is a preoccupation with information policies, document management, regulatory policies, compliance initiatives or best practise standards; all of which purvey a view of an information strategy as a strategy aimed at managing tangible resources. Information policies are seen as a mechanism for organisations to recognise what information they have and how they use it. The organisational information policy refers to the meaning of information within the context of the organisation, the principles of management of information and the role of human resources and technology in reference to information (Orna, 1999).

The information strategy is nested within the information policy of the organisation where Orna (1999: 10; 2004: 103) refers to an information strategy as a *detailed expression of information policy in terms of objectives, targets, and actions to achieve them, for a defined period ahead*. This in essence offers the organisation a detailed framework for the management of information, but offering a view of information as a

manageable resource. Orna (ibid) offers a diagram that positions an information strategy within other organisational strategies, *figure **8** below*; highlighting that the information strategy is the driver of all other organisation activities and strategies. It is not seen or acknowledged as being part of the information systems strategy as previously mentioned. It is the basis for action that an organisation undertakes to achieve its business objectives but Orna (2004; 103) does acknowledge that *information strategies come before* an information systems or information technology strategy.

Within the LIS domain there is also reference to managing information assets, which involves the management of digital assets, electronic documents, e-mails, even web content or digital graphs, this promotes the concept of information and records management both of which are carried out by information professionals; often employed to assist organisations to deal with their ever increasing amounts of electronic 'information'.

Figure 8: The Information Strategy Engine



(Orna, 2004: 104)

Within *figure **8*** above, the analogy offered by Orna (2004) indicates that the information strategy is the engine that drives other activities within the organisation it infers it is the starting point. There is a need for all those involved, within the

organisation, to understand what the information is trying to achieve, its nature and that there is a commitment from everyone within the organisation. Orna (1990, 2005) uses the terms information policy and information strategy as a mechanism to promote the concept of information from her specific background. What is highly evident from the discussions of information policies and information strategy is that (specifically referring to the latter) Orna views this previously contentious notion of information as being separate from any relationship with either information systems or information technology. Indicating that the information policy and information strategy are required prior to the development of IT or IS strategies as they are there to support the information strategy

An influential body within the LIS domain is that of the Joint Information Systems Committee (JISC). It was incorporated in April 1993, with the remit of dealing with networking and specialist information services, to provide vision and leadership on a national level. One of the major challenges facing JISC upon its incorporation was to support a complex community of institutions, comprising of ex-polytechnics and higher education colleges and the 'old' universities previously served by the Information Systems Committee (ISC) and the Computer Committee, JISCs predecessor.

JISC states clearly in its strategy 2004 – 2006 (*context section*) that *information is a corporate asset and increasingly the knowledge base and intellectual assets of institutions and staff are in digital form.* There is, within much of JISCs approach to information and information strategy formulation a focus on information as a tangible, resource based asset.

JISC became one of the main forums that initiated the initial impetus to develop an information strategy within HEI, JISC states that *in our view, the best way to think of an information strategy is as a set of attitudes rather than as a report. The information strategy needs to start from, but also encapsulate, a shared vision of the future of the institution. More specifically, an information strategy is a set of attitudes in which* (JISC, 1998b: 5)**:**

- *any information that should be available for sharing (and most will be) is well defined and appropriately accessible*
- *the quality of information is fit for its purpose*

- *all staff know and exercise their responsibility towards information*
- *there is a mechanism by which priorities are clearly identified and then acted upon*

(JISC, 1998b: 5)

Despite JISCs best efforts, their ability to assist and bring to fruition functional, useful information strategies seems to be somewhat limited. Part of this reason is due to JISCs role as an advisory body and an ephemeral approach strategy formulation (Neyland and Surridge, 2002). This suggests that institutions can decide for themselves the best and most appropriate action for developing an information strategy is counterproductive leaving many institutions on the periphery of the strategy process.

Hughes (1997: 61) argues that *information strategies place the emphasis squarely on 'information' and treat information as the resource it is, a resource that must be managed and exploited in the same way as, for example, finance*. Many of the individuals tasked with the responsibility of formulating an information strategy and subsequently those individuals who were part of the initial JISC workshops were from a library resources background. This selection of library resource staff was possibly due to the trend, in the late 1990s, to place emphasis on access to resources both physical and digital; as well as the fact that libraries were going through a radical change process and were assimilated with information resources – i.e. as not just guardians of books, journals, but as facilitators in the new millennium of digital access and digital media and ultimately access to new types information. Unfortunately, this note from Hughes (1997: 61) acknowledges the contentiousness of an information strategy whereby she states *an information strategy may well be part of a hierarchy of strategies, headed by the institution's strategic plan, and possibly including underneath it an information systems strategy*, this again highlights the contentious nature and confusion found both within the literature and practice. Hughes (1997: 60) infers skills and knowledge required to develop and information strategy. This then promotes a view that information is there waiting to be discovered and using taught skills one can use, manipulate and extract information for the good of the organisation.

2.2.3: Strategy and the library and information science discipline

Within the LIS domain there is evidence of both information strategies and information policies. There is also a strong influence on the view that information is a resource as in

order to get *a job done*, [one] *carries out an information audit, makes a successful business case for an information policy, or formulates an information strategy* (Orna, 2004: 1). When Orna (1999, 2004) is referring to an information policy she is specifically relating this to *an organisation's overall objectives, and the priorities within them*. Furthering this by stating *an information policy is a dynamic tool which can be used as the basis for developing an organisational information strategy* (Orna, 2004: 8); indicating that one may follow on from the other. Mutch (2008: 133) recognises Orna's view of information policies and information strategies but stresses that when she refers to these issues she does so in terms of *information professionals which are specifically those trained as librarians and employed in a variety of capacities to manage information*; arguing that by *introducing an information policy or an information strategy* is an *attempt to bring* to the forefront the skill and role of these *information professionals*, whose *skill* and role within the organisation have for all intents and purposes *been under-estimated, ignored and/or marginalised within many organisations* (Mutch, ibid). This view of an information strategy is very different to the notion of an information strategy within the domain of IT and IS. Within LIS the term has very little to do with IS or IT but has very thing to do with how information is handled, stored, and used. To Orna (2004: 8) an *information strategy is the detailed expression of an information policy in terms of objectives, targets, and actions to achieve them, for a defined period ahead*. This is very much a top down approach which offers a generic overview of how information is used within an organisation, which clearly acknowledges that information is seen as a resource in the very traditional sense of land, labour and capital.

2.2.4: Library and Information Science Summary

The LIS domain provides an alternative yet similarly ambiguous approach to the notion of information and information strategy formulation. Historically, LIS interprets information in terms of tangible assets i.e. the texts, journals, books, monographs, through to the network systems and 'hard resources' that provide access to these resources; this is even more prevalent in the 21st century with the advent of sophisticated electronic resources. LIS, along with IS, take information to be a unique foci and follow a certain path to managing it. The LIS domain has been thrust into the role of custodians of information, much of their own doing, in an attempt to be at the forefront of information development. This ensures both their professional stature and the removal of being marginalised by other disciplines.

General Management Discipline

2.3: Introduction

The domain of general management is a term that is used to encapsulate those individuals whose role involves 'managing' within an organisational setting. There may be no generally accepted definition of 'management' as an activity, although Fayol's (1949) interpretation still resonates with many management practitioners, that is management includes: planning, control, coordination and motivation. In terms of general management it can be argued that irrespective of the size of the organisation or whether they are in the public or private domain the role of management and managing organisations is experiencing profound changes. Changes are occurring in operations, resources, markets and technology so there is a need for organisations to better understand their internal and external activities and adjust to meet the needs of these changes. In some cases the very *modus operandi* that organisations have followed is being brought into question, requiring management to fundamentally change how they operate. Viewing information as a mechanism that assists in that change is a theme found within much of the management literature. Drucker (cited in Harris, 1993) acknowledged this by stating:

> *industries that have moved into the centre of the economy in the last forty years, have as their business, the production and distribution of knowledge and information rather than the production and distribution of things'.*
>
> (and in Drucker, 1992: 75)

The author would argue that the general management discipline provides clear linkages or references between information and competitive advantage, technology, and managing (Porter & Millar, 1985). In fact, Chaffey and White (2011: preface) identify that *the volume of information that organisations need to manage continues to increase relentlessly*. Within the management domain there have been varying views as to why changes have occurred. One view that indicates why change has occurred is seen in Earl's (2000) commentary, where he suggests that technology, its role and relationship to information has, in fact, influenced this change, as seen by:

> *At first it was thought to be the automating power of computers and computation. Then it was the ability to collapse time and space through telecommunications. More recently it has been*

> *the value-creating power of information, a resource which can be reused, shared or exchanged.*
>
> *(Earl: 2000: 17)*

The inference here is that technology is used to create information so the focus towards managing information has inevitably stressed the tools that assist in that process - technology.

2.3.1: Information and its relevance to the general management discipline

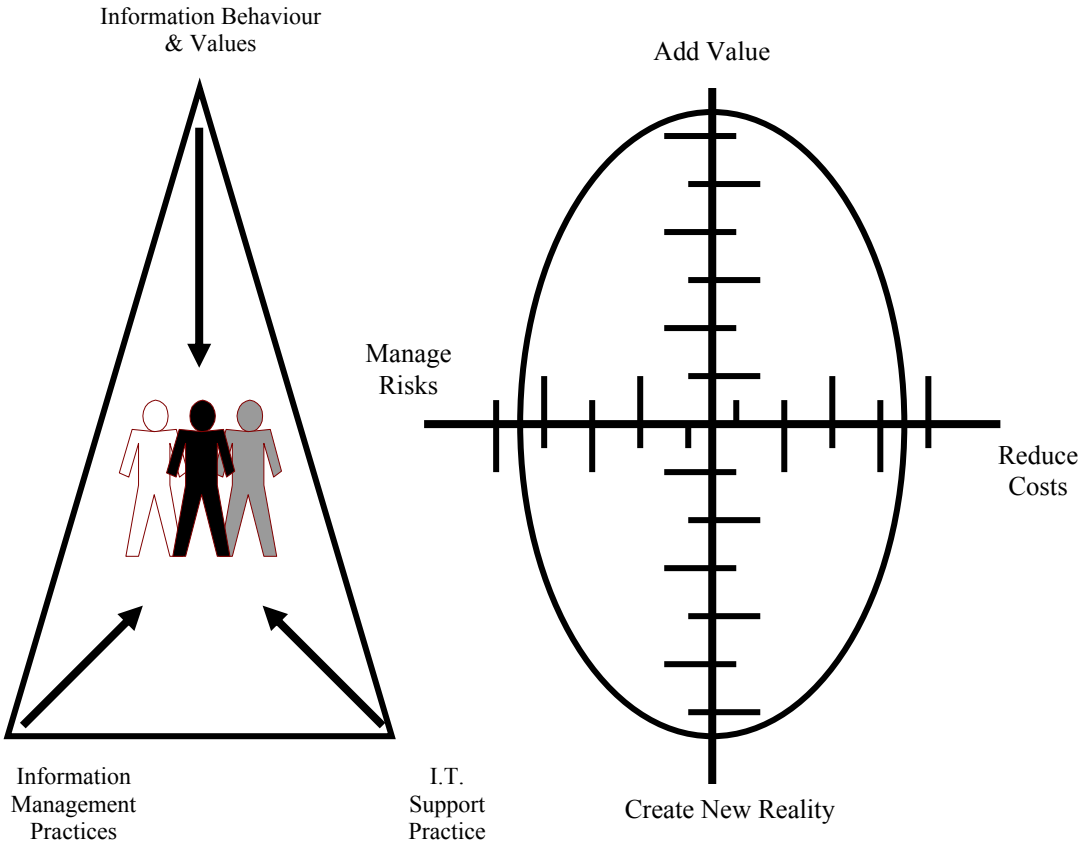
> *A goal of today's organisation is having the right information, in the right place, in the right format, at the right time – at the right cost*
>
> (Cole & *Kelly*, 2011: 338)

Rainer, Prince and Watson (2013) identify that changes found within management processes are having a dramatic effect on how they do business, inferring that

> *in recent years many organisations have recognised the importance of information and of effective management of this critical resource. Information systems are critically important in helping organisations respond to business pressures and in supporting organisations' global strategy.*
>
> *(Rainer, Prince & Watson, 2013: 44)*

Information is seen within the management domain as a resource that can 'make or break' an organisation. Historically, many businesses would not necessarily recognise the role of information or that they were in an information business, yet Earl's (2000) aptly named article suggests that *every business is an information business*. This, along with Dhillon's (2001: 170) view *that information is the life-blood of the organisation* provides a strong case for the promotion, use and management of information within an organisational setting. This view of information within the organisation is approached by Marchand, Kettinger and Rollins (2001b; 2001a) through their notion of information orientation. Information Orientation provides a people-centric view of effective information use and the business framework of strategic information alignment indicates how information can be used to create business value. Both views are shown in *figure **9** p**50***. They argue that the concept of information orientation offers a measure of effective information use and provides a direct causal link between the three factors found within their notion of information orientation and organisational performance.

Figure 9: Information orientation and strategic information alignment



A people-centric view of effective information use, Marchand, Kettinger, Rollins, 2000: 7

Strategic information alignment, Marchand, 2001a: 6

The principle behind Marchand, Kettinger and Rollins (2001a: 10) information orientation approach is based on their view that certain practices within information management have been neglected. Marchand, Kettinger and Rollins (ibid) argue that their approach redresses this 'neglect' stating that *for the first time, managers have a business metric, which is grounded in proven statistical and psychometric research techniques, to measure the levels of information capabilities in their companies.* What this does do is raise the issue of measuring information and recognises information as a resource within the management domain. The notion of measuring and managing information as a resource evolves from Marchand (2000: 245) where he argues that *knowledge exists in the minds of knowers, i.e. people individuals, groups and teams, outside of people's minds knowledge does not exist, only information.* Part of this process of information management is differentiated by the notion of 'managing with information' and 'managing of information', Marchand et al (2001a: 14) would argue

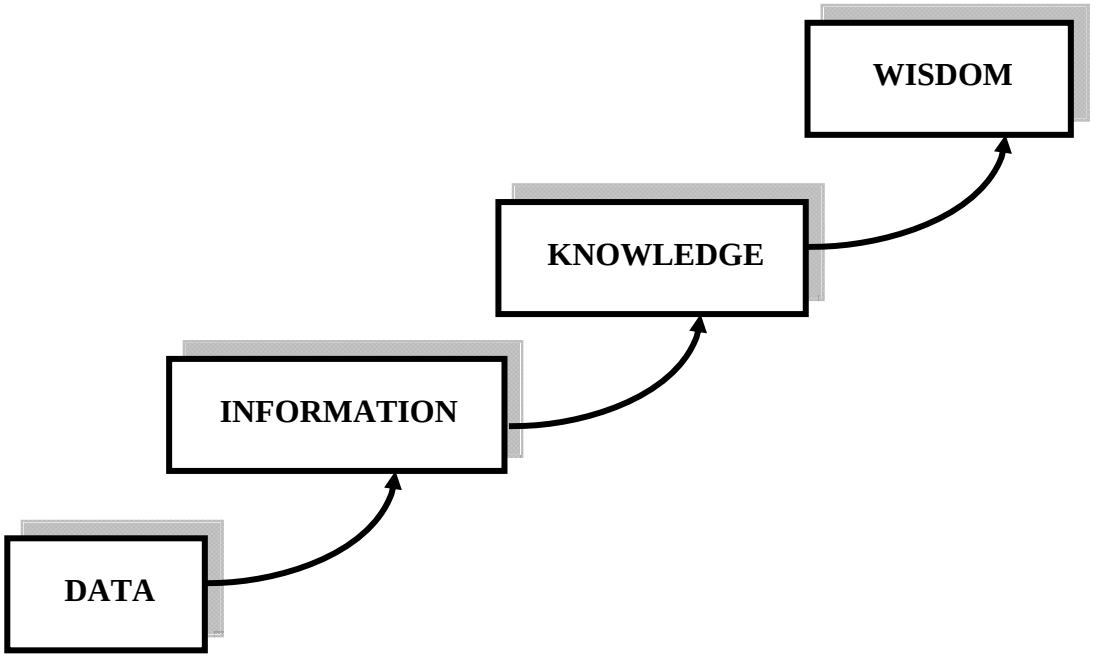
that the latter is to do with IT and IS services and it is the former that most concern managers.

The management domain also indicates a strong linkage between the use, importance and potential of information and knowledge, and as with data, terms are used interchangeably. This linkage stems from a number of management practices that align data, information and knowledge in a hierarchical format. *The concept of information is often equated with data and even more specifically to electronic data stored in databases* (Wijnhoven, 2009: 1). This relationship is provided in *figure **10, p52***. Data is often linked to information, where information is seen as the result of manipulated data. Dopping (1970: 15) identifies that within *administrative data processing, a distinction is sometimes made between data and information by calling raw facts in great quantity 'data' and using the word 'information' for more highly concentrated and improved data derived from raw facts.*

Management theorists argue that information is important, but do not always define it. Beynon-Davies (2009: 72) argues *that information is critical 'stuff', it is extremely difficult 'stuff' to pin down. It is probably not even 'stuff' at all*. This ability to define information specifically is questioned by Stamper (2001: 10) who states *information is a paradoxical resource: you can't eat it, you can't live in it, you can't travel about in it but a lot of people want it*. Interestingly, previous work by Stamper (1973: 1) acknowledged *that the explosive growth of information technology has not been accompanied by a commensurate improvement in the understanding of information*. Indicating a long held view that managers and their approach to using information may not have necessarily changed in the intervening the years. Davenport (2000: 5) argues that *good information is rarely synonymous with advanced information technology*, he goes on to identify the seemingly 'obsessive' approach organisations have with technology, viewing it almost as a 'silver bullet'. This is also seen within the knowledge management domain where Hislop (2002: 165) argues that *too great an emphasis on technology based knowledge management initiatives has been shown to reinforce existing cultures rather than help transform them*. So although domains change, the issues relating to those domains seem to remain constant and transcend the domain changes.

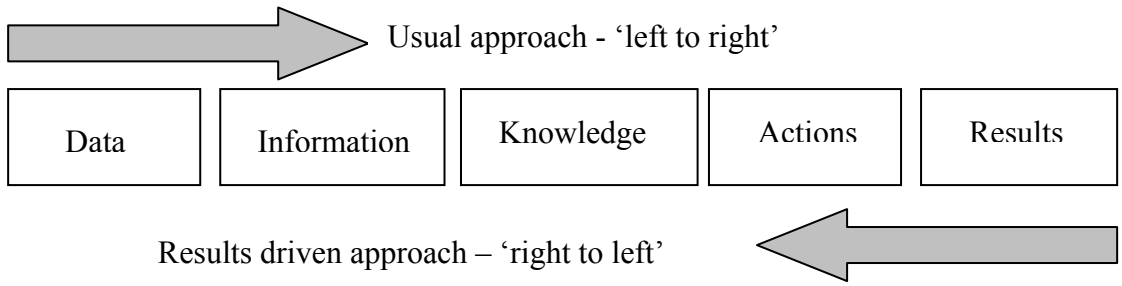
Figure 10: The data, information and knowledge relationship – Hierarchy and DIKAR

A - Hierarchical approach to data, information and knowledge



Adapted from (Jashapara, 2011: 19) & (Chaffey & Wood, 2005: 224)

B - The DIKAR model



Venkatraman, cited in (Chaffey & Wood, 2005: 507)

What seems evident from the general management domain, and other domains, is that data, information and knowledge are often seen as a hierarchical 'stepping-stone' process. Meaning that, if one has data, information will follow, if one has information then knowledge will emerge. The academic and professional IS, LIS and GM literature highlights many meanings for each concept. What is acknowledged is that the terms are interrelated but the nature of that relationship and the meaning attributed is debatable. *Appendix **6, p223***, provides an overview of the terms, data, information and knowledge and the conflicting views of information as both objective and subjective (*appendix **6b, p224***).

2.3.2: Information Strategy and the general management discipline

It is noted, in the preceding sections, that the notion of an information strategy has not been straight forward. The general management domain is no different. There is, within the management discourse a brief discussion on the concept of information strategies, in both private (Hall, 1994) and public (Allen & Wilson; 1996; Neyland and Surridge; 2002) sector environments; unfortunately this is a minor preoccupation given the importance placed on information and the managing of information by many organisations, when one considers that Asprey (2004: 7) argues *there is a compelling requirement for business and government enterprises to address the problems associated with managing information assets.* Although this indicates a very resource based view it never-the-less infers the importance of managing information. Other authors Chaffey and Wood (2005: G7) argue that an information strategy is *a plan with a defined timeframe setting information management objectives and tactics and control to achieve them*. This indicates a time element, suggesting an end point; and seems to suggest a manageable, clear-cut view of an information strategy although this may not, necessarily, be the case because of the contentious and conceptual nature of information. Norton and Peel (1989) argue that organisations must develop an information strategy and corporate structure which ensures the fullest use of internal and external resources. Within the management domain Smits, et al (1997: 147) used the 'insurance' field, as a means to argue that *none of the companies systematically evaluate the effect of information strategies on an organisational or a business process level.* Much of the discussion regarding an information strategy has focused on the management of internal information. Drucker (2002) argues that an information strategy must look beyond its traditional interpretation by managers and IT specialists as dealing with the creation and maintenance of sound systems to manage internal information as *the most important changes affecting an institution today are likely to be outside ones, which present information systems usually know nothing about* (Drucker, 2002: 294). A very technically focussed interpretation of an information strategy is provided by Beynon-Davies who argues that implementing an information strategy includes activities such as *enforcing information, data and process standards, re-engineering aspects of the information and process model, and checking on conformance of new information systems with the information infrastructure* (Beynon Davies, 2009: 313).

Two common terms used within the management domain when discussing information strategy are those of 'information technology' and 'information management'. Both play a major role in understanding how and why organisations continue to view information as a resource.

2.3.2.1: Information Management

Within the management domain the term information management is often interchanged with that of business information management. Both of which identify the process of managing information as a strategic resource for either improving organisational performance or for controlling and monitoring the organisations activities. Marchand (2000: 14) quotes Davenport when he argues that *information management practices represent one of the least understood areas of company practices affecting business performance*. This view is part of the impetus for Marchand's 'information orientation' and Davenport's 'information ecology' approaches to managing information within a business context. Marchand (2000: 30) argues that information management focusses on being business and process driven and focusses on the use, quality and integrity of information. Hislop, (2013: 205) argues that *many ICT –enabled knowledge management initiatives have been unsuccessful, arguably because they focussed almost exclusively on technological issues.* This could also be inferred as to why information management initiatives have been unsuccessful too. Both provide limited recognition of the social, structural, and political factors all of which influence an individual's willingness to participate in information/knowledge management initiatives.

2.3.2.2: Information Technology

Is often referred to as *the hardware and software that are used to store, retrieve and manipulate information* (Cole & Kelly, 2011: 338). The inference is that information is contained within the technology. Cetindamar, Phaal and Probert (2010: 3) argue that *technology is a fundamental part of every organisation* as to Pearlson and Saunders (2013: 4) state *information technology is a critical resource for today's businesses*. It seems logical that much effort and finance has historically been spent on technology in the belief that it will manage information. As Grant and Jordan (2012: 437) argue *information is fundamental to the operation of all management systems.* This linkage between information and technology is highlighted by Galliers and Leidner et al (2001: 2) who argue that *with the right technology in place to collect the necessary data automatically, up-to-date information can be accessed whenever the need arises*. This

equates data and information as one in the same and suggests that technology is a medium to create it. All of the above support why, within the GM domain, IT consumes significant amounts of an organisations resources.

2.3.3: Strategy and its relevance to the general management discipline

Within the domain of general management it has been noted that when there is a reference to information it tends to infer either IT, IS or IM strategies, as seen in Marchand 2000, 2001a, 2001b. With this in mind, what follows is a synopsis of the strategy process used by many organisations in the name of strategy formulation. As Wijnhoven (2009: 2) argues i*nformation is a key resource for strategic and operational processes in organisations* and Earl (2000: 22) indicates that *more and more businesses are defining their strategies in terms of information or knowledge* it would seem appropriate, at this stage, to provide this overview.

The GM domain uses the term information strategy when dealing with the management and value aspects that are intrinsically linked with information. The use of the term 'strategy' has very strong 'management' connotations, as strategy *is the means by which individuals or organisations achieve their objectives* (Grant & Jordan, 2012: 17). The inference is that management can formulate a strategy that manages information. Well known authors, within the strategic field Mintzberg, Ahlstrand et al (2001: 17) attempt to simplify the complexity of strategy by arguing that *we function best when we can take some things for granted, at least for a time, and that is a major role of strategy in organisations: it resolves the big issues so that people can get on with the little details.* Simplifying the concept of strategy, into a role that belongs to and is the domain of the senior management team may be seen to be contrived and inappropriate for information strategy formulation. This simplification of strategy formulation suggests that it is the senior management team that understand the concept of strategy and how best to formulate it in terms of what the organisation needs. Again, this may be inappropriate as the notion of information can be seen to be very different to traditional 'resources', as seen in *table **1, p14***. There are numerous descriptions of strategy, *appendix **7 p225***, provides a brief overview. Johnson and Scholes (1989: 53) argue that *the formulation of strategy is concerned with matching the capabilities of an organisation with its environment.* Grant (2005: 4) states that *strategy is not a detailed plan or program of instructions; it is a unifying theme that gives coherence and direction to the actions and decisions of an individual or an organisation.* Returning to a more traditional view

Quinn (cited in Grant, 2002: 7) argues that *strategy is the pattern or plan that integrates an organisations major goals, policies and actions sequences into a cohesive whole*. This is also the view of Mintzberg, Ahlstrand et al (2001: 9) who argue that *strategy has been around for a long time*, and as such there is no easy definition but *in fact strategy requires a number of definitions* their definitions are based on five interpretations from Mintzberg (1987) these include, strategy as a **Plan**, as a **Pattern**, as a **Position**, as a **Perspective** and as a **Ploy**. The inference suggests that when dealing with strategy formulation management has numerous approaches to follow; often management tend to follow tried and tested methods with regards to strategy formulation. However, information and an information strategy are, for all intents and purposes, fundamentally different to the traditional tangible resources that organisations encounter.

Other authors have argued for an alternative view to strategy, including Hamel and Prahalad (1996) who view strategy as competing on capabilities, Markides (2000: vii) argues strategy is value innovation stating that *we simply do not know what strategy is or how to develop a good one*, Day (1990) states strategy as being market and customer-driven; Eisenhardt and Brown (1998) argue that strategy is competing at the edge of chaos; Porter (1985) states strategy is choosing activities and positioning (similar to planning and positioning); Moore (1996) argues strategy is achieving centrality in an ecosystem and the likes of Whittington (1996) and Jarzabkowski (2005) suggest that strategy is a practice one engages in, highlighting the managers competencies as being paramount . In fact, the research literature suggests that there are many different ideas of strategy all of which differ depending on the angle taken or the contextual setting used for the formulation process.

Mintzberg refers to strategy (Mintzberg et al., 2001: 3) by stating *we are the blind people and strategy formation is our elephant. Since no one has the vision to see the entire beast, everyone has grabbed hold of some part or other and railed on in utter ignorance about the rest*. This statement has resonance with the formulation of an information strategy. No one really knew what they held and so blindly went about the process, influenced by discipline and subjective mind-sets creating a 'drift' towards what was available.

2.3.4: General Management Summary

It seems appropriate to acknowledge that although strategy and the strategy formulation process are seen as a management activity, the process of strategy formulation can vary immensely. That is, it can be driven from the top of an organisation or from the bottom promoting the notion of inclusiveness of all and acknowledging that strategy is not just the domain of senior management. In terms of general management discipline it seems fair to suggest that the notion of an information strategy has not necessarily been identified as being any different to traditional or historically developed strategies. It is however, intrinsically different to traditional strategies that organisations have created. The contentious nature of the strategy, the intangible nature of the resource and the reason for being, all contribute to its complexity. It can also be suggested that a management approach to information and information strategy has, from the author's perspective, been focussed upon information as an operational, and not a strategic, element in managing an organisation. Although a strategic vision might be inferred, the role, use and approach to information, has been at the operational level; in terms of managing that organisation better. This may be changing somewhat with the recent trend to incorporate the notion of 'Big Data' within management processes. In fact Big Data may be seen as *the next management revolution* (McAfee & Brynjolfsson, 2012: 3) whereby it has the potential to unlock business organisational value by identifying new organisational capabilities and value by allowing firms to address and understand their key business issues (Davenport et al, 2012). This approach seems to infer a move from information as an operational tool to information as a strategic focus.

Higher Education Environment

2.4: Introduction

Historically, Higher Education Institutions (HEIs) have operated within a fairly static environment (Prince & Stewart, 2000); in that they were publicly funded but also independently autonomous. HEIs have been dependent on public funding, in the form of grants administered by statutory funding councils and are empowered to award degrees by Order of the Privy Council. So although they are still seen as public institutions, the focus and funding mechanism have changed drastically; government grants were cut by 80% and replaced by student tuition fees (Brown & Carasso, 2013). This change and refocus on a new funding system has resulted in HEIs becoming more business-like and more market focussed.

2.4:1: Relevance and importance of higher education

The Commission of the European Communities (2003: 5) acknowledges the role of the university within the wider community; that is *given they are situated at the crossroads of research, education and innovation; universities in many respects hold the key to the knowledge economy and society*. It may be argued that HEIs, irrespective of their status, are competing on all levels and in all markets for a 'bigger slice' of the student population, research funding, corporate development and technological advancement. HEIs according to the Commission of the European Communities (2003: 13/14) specifically

> *have a duty to their 'stakeholders': the students they train, the public authorities that provide their funding, the labour market which uses the qualifications and skills they transmit and society as a whole, for whom they fulfil important functions related to economic and social life. The objective must be to maximise the social return of the investment represented by this funding*.
>
> (Commission of the European Communities, 2003: 13/14)

This clearly provides a view of HEIs as being market driven entities that are changing the focus of their operation, Allen and Fifield (1999: 4) argue that *HEIs, in common with other public sector institutions are seeking to maintain the three 'Es' of efficiency, effectiveness and economy*. Ultimately, Allen and Fifield (1999: 40) identify that *U.K. HEIs are under pressure to change.* This change towards HEIs operating in a competitive market and adopting a more business-like approach, infers that sound

business practices are an essential part of every university's mission (Knapp & Siegel, 2009).

For nearly three decades, HEIs have dealt with both steadily declining revenues and increasing demands to deliver more to students and outside communities. The cuts in funding, the reduction in faculty size and the *challenges of balancing rigour and student course ratings* (Hall et al., 2012: 2) and the need for and introduction of third stream income generators through the *commercialisation of new knowledge through the delivery of professional training, consultancy and services* (Hazell, 2012: 14) is a constant challenge for HEIs. In fact, Johnson and Mansell (2014: 17) identify that *universities have reacted to these pressures by becoming more business-like and the distinction between for-profit and not-for-profit* [institutions] *is becoming less relevant,* whereby many of the latter *seek to generate surpluses from many of their activities* (ibid).

The outcome from years of commercialisation is a need to understand what is happening at all levels of the institution and to provide greater access to all aspects of university life. Beynon-Davies acknowledge that *information is central to the modern organisation* (Beynon-Davies, 2009: 11); and the researcher would include higher education institutions in that view of a modern organisation. Again, Johnson and Mansell (2014: 16) acknowledge that HEIs are seen as *charitable organisations, subject to public sector rules on issues like information and transparency*; meaning that, although they are regarded as public bodies, they must meet the rules and regulations for accounts reporting, providing clear and concise information on their income and expenditure. Therefore, the collection and analysis of information that relates to all facets of the organisation has been a priority for many newly engaged senior managers, many of whom have come from an industry based background and seem to be following the trend for *public institutions to redefine their identity as service organisations and businesses* (Bok, 2004: 7).

This focus on higher education institutions being seen as 'business-like' in both their approach to staff and students and in the management of the education process (Webber & Boehmer, 2008) has become the norm; and so provides the perception, just as in the private sector, that managing information is an important part of the successful higher education institution. The need to understand what customers think (students are seen as the 'customers'), what products or services are being delivered (modules, courses,

programmes) and what results are being achieved (outcome, results driven, data provider) all require the collection and analysis of information in a target centric environment. The importance of information as a mechanism for managing or controlling organisations is not new, back in 1985 Porter and Millar signified the importance of information and the process of managing it as being a major factor in terms of assisting and benefiting institutional survival, although their focus was in essence on technology. Again in 2003 Allen and Wilson (2003) raised the issue of information and its role within organisations; their focus was specifically upon the information strategy within the higher education sector. Following on from this Mutch (2008: 222) acknowledged that individuals and groups *within higher education had an* interest and need to manage information and within this process they *were concerned with a broader definition of information than that which was associated with* [just] *information technology or information communication technology*. Pearlson & Saunders (2010; 2013) also acknowledged the importance of managing information services and in doing so managing information within a business environment. All of the above clearly link a business-led approach with managing information and so irrespective of domain (public or private) the management of information is part and parcel of an organisations remit.

Drucker (1992: 97) *argued that in the next 50 years universities will change more, and more drastically than they have since they assumed their present for more than 300 years ago*. In fact part of this change has occurred more rapidly than many expected. HEIs have moved from one of providing general higher education tuition to one where HEIs are now more commercially driven and compete with each other for funds, students, resources, research money and commercial ventures. Along with this business-led approach has been the introduction of the Freedom of Information Act 2000; which provides a responsibility, upon an institution, to meet and respond to information requests. The effect of this upon HEIs has been to create an environment of transparency, ensuring accountability and a level of access to information which has never been apparent previously. All of which suggests why higher education institutions are and have been focussed upon managing their information. It seems clear from the above descriptions that information is inextricably linked to the management of the institution.

This focus and movement towards being market driven has created a diversity of purpose and a conflict of understanding as Denman (2005: 10) argues *higher education is and has been in a constant struggle over its definition and purpose*. This diversity of purpose and market definition is identified within the labelling found within the Higher Education environment i.e. that of post and pre 1992 institutions; where their precise legal status is complex and differs between pre–1992 and post-1992 institutions (Johnson and Mansell, 2014). The differences between pre and post 1992 institutions can be seen in *table **3*** below.

Table 3: Divisions between Post and Pre 1992 institutions.

Post 1992 Institutions	**Pre 1992 Institutions**
• the 'new' universities – traditionally when Polytechnic's or higher education colleges gained university status • the number of universities increased fivefold during this period; and opened the way for mass higher education • increased relationship between universities and edubusiness has contributed to increased numbers • a heavy focus upon business activities and the generation of business activities	• the 'old' universities – traditionally the elite institutions which were seen as historically 'places of learning and theoretical enhancement' • a need to protect their 'elite' status was paramount and were heavily seen to be 'about research'. • Collegiate view with other like-minded or equivalent status institutions • Protection of privileged status and reputation as a differentiator

Institutions with a historical track record are actually in the minority. The majority of HEIs within the U.K. are found in the post 1992 sector and are therefore by definition mainly newer institutions. Indicating that higher education institutions not only have contrasting histories, resource levels and typically 'types' of student populations but have also embraced that business led focus in differing ways. The fact is as Longden (2000) rightly identified that the *desire by higher education institutions to retain autonomy of purpose while being driven towards greater accountability and dependence through funding* will be a major challenge for all HEIs.

2.4.2: Information and Higher Education

What has been significant, from previous discussions, is a shift in focus, from a supply–led higher education system to demand-led one. As stated previously, this transformation in terms of funding, liberalised student number controls and lower barriers to entry for service providers has created the most significant change in higher

education since the late 1990s. Historically the HEFCE (Higher education Funding Council for England) exercised control over HEIs through funding and teaching grants; the removal of this control has been replaced with a link to funding through student grants aligned with designated courses recognition, still with an element of control but at the same time a more business-like level of responsibility has occurred. This demand-led focus has created a need for institutions to generate information, that is: to collect, collate, manipulate, report and provide information about all facets of university life for a whole number of different interest parties or stakeholders. For example, types of information collected include student numbers, types of students, backgrounds of students, attrition rates, completion rates, through to degree classifications, employment rates after graduation or even staff student ratios and research grant funding, all of which generates an information focused target approach to the business of higher education.

This level of scrutiny and transparency places a high level of responsibility upon the institution, its staff and its systems to have the right information, in the right place, at the right time; and the mechanism for ensuring that this has been achieved has been aligned with the formulation of an information strategy.

2.4.3: Higher Education Summary

It is important to acknowledge that higher education institutions are seen as separate entities, that is, before any work is carried out in terms of information one has to appreciate the roles, objectives and aims of the institution. It is also important to acknowledge that individuals' and structures 'shape' the institution. That is, the issue of accountability reflects the material aspects of the institution and are invariably tied to funding. This consistent view of institutions as business entities, where high-volume, low-margin are the order of the day, indulges a view of all aspects of the institution as being homogeneous in terms of managing them. However, what this does not acknowledge is the impact and role that people, structures/relationships and culture play in the forming, shaping, operating and strategising of the institution. The recognition of individuals, their roles, beliefs, behaviour and interpretation of issues can be seen as major factor in the success and development of higher education institutions. This focus on individuals, structures, and actions aligns with the underlining principles of institutional theory; where it is used as a mechanism in providing an explanation for both organisational and individual actions.

Chapter 3: Neo-Institutionalism & Higher Education

3.0 Introduction

The previous chapters have highlighted the relevance of higher education and information, along with the three distinct disciplines of IS, LIS and GM, which are themselves found within HEIs and provide varying discipline interpretations and views of information and an information strategy, for example:

- **IS** – through the management and ownership of the network and structures that provides access and a means of sharing and storing data, a technological perspective.
- **LIS** – through the management and ownership of Library Resources, both printed and electronic resources, research materials and related data, as academic resources.
- **GM** – through the management and ownership of information within the organisation, as a means of operational performance measurement, control and ownership.

The varying interpretations identify a need to explain why these exist. That is, if they are all involved in the management of information, then why are they also in conflict in terms of purpose and meaning; and why has the formulation of information strategies remained so elusive?. Gaining an understanding of information and information strategy is not solely reliant upon each of these disciplines but also requires one to acknowledge and appreciate the organisational complexities that are intertwined within the process of information strategy formulation. What was noted was that the notion of an information strategy has become a mechanism for establishing positions of influence, for exerting power, and for controlling resources. This privileging of views creates individual and divisional legitimacy by strengthening fiefdoms within institutions. This is supported by Kraatz and Block (2008) who acknowledge that organisations by their very nature embody multiple logics but more importantly Thorton et al (2012: 57) identifies that *where views or logics are in conflict and claim justification over a single situation, the resultant jurisdictional* […] *overlap creates institutional complexity.*

Therefore, what became apparent was a need to provide a theoretical explanation for this situation:

- **Firstly**, to explain why the conflicts arose, focussing on the inconsistencies between the notion of information and an information strategy and;
- **Secondly**, the failure of an information strategy to come to fruition.

3.1: Reasoning behind the use and relevance of institutional theory

What became evident, throughout the research, was that explaining the complexities and ambiguities of information and an information strategy was problematic. However, one approach that provided structure and explanation was that of Institutional Theory or Neo Institutionalism. The tenets of institutional theory posit the view that any investigation should account for both multi-level and multi-stakeholder analysis thereby incorporating a wide and thorough understanding of the research area. Other approaches that incorporate social theory include actor network theory, structuration theory and transaction cost economics all of which seem to limit themselves to testing institutionalised concepts; and miss the richness of multi-level and multi-stakeholder analysis. In fact, Orlikowski & Barley (2001) argue that tenets of organisational theory are a useful mechanism when trying to research how institutions influence the design, use and outcomes of technology, either within or across organisations. This, the researcher would argue, resonates with information given the technological focus identified within different disciplines when trying to manage the notion of information. Adding to this Currie (2009: 64) argues that institutional theory *offers a conceptually rich source to observe the non-linear (as opposed to linear) routes of information technology adoption and assimilation across markets and organisations*; again, this is applicable to researching the notion of information and information strategy formulation given individual discipline's viewing information as a resource and being contained within technology. The use of institutional theory as a mechanism for investigating the information strategy formulation process resonates with Smets and Jarzabskowski (2013: 1280) view that *there has been little attention to the practice of working with institutional complexity*; that is the notion of institutional complexity and the relationship to institutional work practices has not been forthcoming. Using institutional theory to explain issues found within the information strategy formulation process provides insight and acts a powerful explanation of why there appears to be an absence of clarity regarding an information strategy. What was identified was that the three discipline approach of IS, LIS and GM provided an explanation for what

Greenwood et al (2011: 17) referred to as *incompatible prescriptions from multiple logics*.

3.2: Early Institutional theory through to Neo Institutionalism

The literature on institutional theory is often acknowledged as being complex and diverse. This may be due to its wide academic use, seen in multi-faceted disciplines i.e. anthropology, economics, sociology, engineering, computing and history; many of which highlight the effects or processes of institutionalisation. What is identified within this section is an understanding of its development and its purposeful use in the research.

The term 'neo-institutionalism' seems by definition to identify some form of 'shift' or 'new' approach which replaces the 'old'. As attractive as this may seem to some or contentious to others much of what is discussed within the area of neo-institutionalism is that of issues pertaining to organisational change. Whereas, earlier research within institutional theory focussed upon the areas of stability, legitimacy, access to resources and persistence in institutions. Initially, in defining neo institutionalism it may be prudent to identify what one means by the term 'institution'. Broadly speaking, scholars define institutions as conventions that are self-policing (Douglas, 1982). However, the caveats of new institutional theory identify that this has become more specific where institutions are seen as *historical accretions of past practices and understandings that set conditions on actions* via their process of gradually acquiring the moral and ontological status of taken-for-granted facts which, in turn, shape future interactions and negotiations (Barley & Tolbert, 1997: 99). The idea that institutions are socially constructed produced through meaningful interaction forms the foundation of the institutional theory literature (Meyer and Rowan, 1977). One early contributor to the area of institutional theory is that of Selznick (1957: 16) who refers to notion of institutionalism or that of *to institutionalise, is to infuse with value beyond the technical requirements of the task at hand*, which identifies the added value created by the organisation. Extending this observation from a neo institutionalism perspective, the researcher can identify that organisations are not just social constructions but are social constructions constituted through language, norms, rules, routines and influences; both between the institution itself and those involved in its operations i.e. individuals as well as external parties. This is supported by DiMaggio & Powell (1991: 41) who argue that formal *organisations are generally understood to be systems of coordinated and*

controlled activities that arise when work is embedded in complex networks of technical relations and boundary-spanning exchanges.

Therefore, neo-institutionalism is an attempt to understand how and why organisations act and impact on those who are involved, internally and externally, with the organisation. It provides a way of viewing organisations in terms of their similarities, in terms of structures; yet identifying their differences, in terms, of evolution and consequently how organisations shape the behaviour of individual members. It draws together issues of routines, norms, perceptions, as well as group and individual behaviour, through to structures and subsystems, culture and interaction. Alongside of this were those who viewed institutionalism from an economic perspective, and others for example Max Weber (Economist and Social Theorist) who argued for and recognised the way that bureaucracy, structures and institutions were infiltrating society.

What is now referred to as neo-institutionalism or new institutional theory came into ascendency in the mid-1960s as an extension of the introduction of 'open systems' thinking and its approaches to the study of organisations. Open systems brought into the 'mix' the recognition and importance of the wider environment in terms of its impact in constraining, shaping, changing, structuring and restructuring the organisation. Initial focus was placed on the technical advancements where organisations were seen as *instrumental production systems, transforming inputs into outputs* (Scott, 2001: 2). Only later, towards the end of the 1970s did researchers become aware of, or recognise, the relationship between an organisation and its wider social and cultural environment. This introduced the notion that organisations were not purely production systems but were in fact a complex amalgamation of structures, cultures, perceptions, interactions and subsystems all impacting upon the way an organisation would operate. This then infers that neo-institutionalism was used to explain a process through which organisations become institutionalised, and in doing so provides a contribution to understanding organisational change. Other areas of Neo-institutionalism development include institutional entrepreneurs (Battilana et al., 2009; Garud et al., 2007), the use of language and aesthetics (Suddaby, 2010) or the continuation of structure over agency (Heugens & Lander, 2009). What is evident is the generalised 'shift' towards viewing or investigating organisations at the field level of operation whereby the relationship between complexity, change, structures and processes are seen as important.

It is this 'shift' that recognises the complexity and ambiguity often found within organisational environment. Recent research within this area of complexity and ambiguity is seen within Lawrence and Suddaby (2006) who identify the notion of institutional work, Greenwood et al (2011) refer to institutional complexity both of which are amalgamated within the concept of *incompatible prescriptions from multiple logics* (ibid: 2011: 17). Highlighting the association between individuals ability to create new institutional situations (Greenwood & Suddaby, 2006; Seo & Creed, 2002), along with the need to maintain the status quo in light of new changes (Hirsch & Bermiss, 2009; Zietsma & Lawrence, 2010) and ultimately to disrupt new changes via strategic responses (Oliver, 1991; Pache & Santos, 2010). Yet despite the recognition of institutional complexity Jarzabkowski et al (2009) would argue that little has changed, suggesting that a focus upon everyday work and activities as a mechanism to construct and resolve institutional complexity is needed. This relationship between actors, structure and their impact on particular organisational settings (Hwang & Colyvas, 2011) resonates with the view from a three discipline perspective, IS, LIS and GM, towards the formulation of an information strategy. This approach may contribute to an understanding why organisations, to date, have struggled with the notion of information and information strategy formulation. It recognises the formal and informal attributes found within organisations i.e. rules, norms and routines, through to the power, attitudes, perceptions, allegiances and cognitive processes therefore offering a useful way of considering the context in which organisations operate. In fact, Hatch (2006: 5) sums this up well by stating that organisational theory *embraces multiple perspectives because it draws inspiration from a wide variety of other fields of study, and because organisations will remain too complex and malleable to ever be summed up by any single theory*

Much of the literature in the late 1970s Meyer & Rowan (1977), Zucker (1977), Meyer & Rowan (1977), DiMaggio & Powell (1983), Tolbert & Zucker (1983) and Meyer & Scott (1983) focussed on organisations as agent actors responding to situational circumstances. That is, it was the role of senior managers to guide the organisations based on their interpretation of context and therefore subsequent relevant action. This also identified both structural-contingency and resource-dependence theory. The former identified organisations adapting to circumstances of scale, task uncertainty and strategic scope based on structural arrangements; the latter focussed on the influence organisations could have over critical resources. All of the former identified the

relationship between the organisation and its environment thereby examining how organisations adapted to situations and created 'organisational fit'. However, Currie (2009: 66) would add to this by arguing that *many information systems researchers use the organisational level as the common unit of analysis, rather than the wider environmental (societal, sectoral, field) or individual (agency) levels*, thereby not fully appreciating the multi-faceted, multi-level, multi-stakeholder aspects of neo-institutionalism and as such is an *oversight and problematic*. Following on from this Battilana and DAunno (2009) explore how institutional work is underpinned by different dimensions of agency; and Smets and Jarzabkowski (2013) add to this by introducing a 'practice lens' i.e. what individuals do in their everyday work as a mechanism for disentangling issues that create institutional complexity. *Appendix **8, p226***, provides an overview of authors and their views in relation to institutional theory and neo-institutionalism.

The following section explains the theoretical mechanisms identified within neo-institutionalism, and in doing so provides a basis to apply these to a particular higher education organisation.

3.2: The Elements of Neo Institutionalism & Higher Education

The research focuses upon the notion of information and information strategy and it is with this in mind that the use of a neo-institutional lens is proposed (DiMaggio & Powell, 1983; Powell & DiMaggio, 1991; Scott, 2001). The use of neo-institutionalism is not about arriving at definitive conclusions but is an approach used to, as previously stated, to assist in understanding the complexities that higher education institutions have encountered while grappling with the notion of information and information strategy formulation. It is prudent to acknowledge, at this stage, that the researcher is trying to raise questions about how information and information strategies within higher education are being addressed. As seen in the previous section where the focus upon field logic and individual views, values, allegiances all become influential. This, the researcher believes, is critically important in today's higher education environment given the *ever pressure upon higher education institutions to change* (Allen & Fifield, 1999: 40) and be more business-like (Johnson & Mansell, 2014), or *to increase student numbers* (Ryan, 2005: 97) or essentially in addressing changes in funding and demand–led approaches to higher education (OECD, 2014)

3.2.1: Theoretical Perspectives

The way in which organisational structures and practices become increasingly homogenised has been the subject of much theorising and research. In their seminal work in this area, DiMaggio and Powell (1983) identified two forms of isomorphism, or *a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions* (DiMaggio & Powell, 1983: 149). This resonates with the higher education environment, whereby there has been a massive shift towards that customer-centric approach by all HEIs, where institutions are seen as being extremely similar in all but reputation. **Firstly,** competitive isomorphism focuses on market competition and an organisation's need to obtain resources and more customers. Competitive isomorphism is most relevant under conditions where free and open competition is a characteristic of the organisational environment. In competitive isomorphism, organisations are said to adapt to changing environmental conditions in order to 'fit' the environment and be able to obtain needed resources. **Secondly,** institutional isomorphism, focuses on the need for *political power and institutional legitimacy, for social as well as economic fitness* (DiMaggio & Powell, 1983: 150) highlighting more than just the need for resources and increase customers as stated in the former view of isomorphism. It is this second view of isomorphism that is focussed upon as it resonates with and provides an explanation for the issue of *incompatible prescriptions from multiple logics* (Greenwood et al, 2011: 17).

Thus, neo-institutional theory suggests that meanings in the minds of individuals become materialised *social facts* (Meyer & Rowan, 1977; Scott, 2001: 42). These 'social facts' stem from particular belief systems and structures that dominate an organisational field, in this case IS, LIS and GM or a group of organisations, like universities ('red brick', 'post 1992') and/or their constitute parts i.e. departments, schools, faculties, that offer similar services and share some common environmental pressures (Scott, 2001). Neo-institutionalism *takes as a starting point the striking homogeneity of practices and arrangements* (Powell & DiMaggio, 1991: 9) found in these organisational fields as a mechanism for explaining why institutions evolve as they do.

Neo-institutionalism identifies four elements that assist in understanding why and by what means certain beliefs and structures come to dominate a field, they are: 'mechanisms,' 'carriers', 'field logics' and 'sources of influence'.

3.2.2: Mechanisms and Carriers

The first two approaches identify that 'social facts' i.e. regulations, norms, and/or values/beliefs are the mechanisms through which isomorphism is distributed across organisations and are the 'carriers' of a particular form of isomorphism.

As stated previously, this section has focussed on the use of institutional isomorphic change within which DiMaggio and Powell (1983) identify three mechanisms or subtle social processes by which this change occurs: coercive, mimetic, and normative. It is important to note that although DiMaggio and Powell present these mechanisms as conceptually separate, they also note that the typology is an analytic one; the mechanisms are not necessarily empirically distinct. Mizruchi and Fein (1999) argue that the three types of isomorphism are not disparate elements but note that much of the research within the area of institutional isomorphism has in fact focussed on one element, that of mimetic isomorphism as the major mechanism. Hatch (2013) acknowledges this by stating that *these days mimesis has become the normative activity of best practice* but identifies that the reasoning behind this is due to a high level of uncertainty on the decision makers behalf. With this in mind, the researcher has used each isomorphic pressure independently and collectively to explain why a lack of clarity has been evident in terms of the information strategy formulation process.

3.2.2.1: Mimetic Isomorphism

The notion of **Mimetic Isomorphism** is where institutions copy what other institutions are doing. This could be seen where organisations benchmark themselves against others with the aim of legitimising what they are doing or to incorporate examples of best practice. This process tends to occur under conditions of uncertainty, stress or ambiguity. Organisations copy or model themselves upon other organisations that are seen to be or accepted as being successful and hence more legitimate (DiMaggio & Powell, 1983; Hatch 2006). This need to gain legitimacy by looking like other successful organisations rather than being one is a response to mimetic institutional pressures.

In reality this notion of mimetic isomorphism is not always a conscious process and may occur both intentionally or unintentionally. It is this need to be perceived as legitimate during times of uncertainty that organisations follow this process of modelling themselves after other successful organisations; as the organisation is unsure of what to do or how to move forward. Hatch & Cunliffe (2013: 75) identify that this

approach *often emerges among organizational decision-makers when uncertainty about how to succeed is high*.

Within the domain of higher education this process of mimetic isomorphism is clearly seen when organisations seem to change organisational structures or strategies continuously; either through name changes, or partnership arrangements or even programme redesigns or management fad alignments. This mimetic pressure is also seen when HEIs look for accreditation of programmes, that is, they copy what other successfully accredited institutions have done in an attempt to make their application more legitimate and more likely of being successful.

3.2.2.2: Normative Isomorphism

The notion of **Normative Isomorphism** is similar in terms mimetic pressure but the influence comes from cultural expectations, or education or religious beliefs of organisational members (Hatch & Cunliffe, 2013). In the case of higher education this influence materialises from individuals' professional bodies or discipline allegiances. This identifies that organisations introduce and legitimise their actions based on what the governing 'professional body' indicates. These professional bodies have norms, values, standards, historical attachment and understanding of their field that managers adhere too; that is, there are a set of rules, principles, routines or acceptable solutions one uses to address certain managerial or professional problems. So the reason for introducing the new practice is not simply because everyone else is, it is because it is an accepted industry standard, protocol or an acceptance of societal or professional values and norms, or an accepted or legitimate way to act. This external professional body guidance and influence relates to the process by which these professionals seek to maintain jurisdiction over the work they do, the domains of knowledge, and the reproduction of kind (Abbott, 1988) to which professionals within higher education are no exception. In fact, Scott (2001: xii) argues that *professionals differ from other classes of employees not only in the relative amount of power they exercise, but in what aspects of work they attempt to control*. This 'sense of belonging' to a professional body cannot be under estimated and identifies three main processes that are central to this type of isomorphic pressure. **The first** is the *shared knowledge based* that bonds professionals together, a sense of similar experiences or training. **The second** is the potential to *support and provide networking* opportunities that exist when one belongs to a professional body. **The third** is the career track adopted by those within the profession. DiMaggio & Powell (1983) identified that career professionals tend to

follow the same or similar career paths. As a result, differences between organisations based on their managers tend to be constrained by socialization and other isomorphic pressures that are prevalent to a specific profession. It could be argued that individuals from these professional affiliations take purposive action and focus on change that matches with their professional vision; therefore looking for desirable arrangements that can be achieved through planned change (Battilana & D'Aunno, 2009)

3.2.2.3: Coercive Isomorphism

Finally, there is **Coercive Isomorphism** this is where a more powerful or influential body initiates a course of action that may have otherwise not been instigated. It often derives from political pressure, rules, regulations and influence, or an expectation to conform. It is in essence the result of formal and informal pressures to conform that are imposed upon the organisation by other external organisations or even by cultural expectations (DiMaggio & Powell, 1983). Although, explicit formal coercion is the most evident form, the researcher would identify a more subtle, informal coercive pressure that contributes to isomorphic change. For example, Mizruchi and Fein (1999) identified that pressures from actors within the environment may also influence an organisation's behaviour to change and actors' ability to create new institutional arrangements (Greenwood & Suddaby, 2006) can also be influential. Historically, institutional theorists have generally not accounted for actors' embeddedness in multiple logics (Battilana et al., 2009) instead tending to view actors as having one organisational perspective.

The researcher would argue that in identifying and distinguishing the three processes of institutional isomorphism is not a problem per se. The problem is recognising that one does not focus on one type at the expense or exclusion of the others thereby simplifying the isomorphic process found within the organisation. Recognising that they can be interlinked provides greater understanding as to why work practices, processes, actors and structures impact upon organisational activities and create both multiple logics and institutional complexity.

Specifically, for HEIs the concern regarding isomorphism can be seen across all facets of the isomorphic templates. Mimetic isomorphism is seen where institutions copy one another to emulate the legitimacy and status of those institutions deemed to be successful, this is especially seen within the accreditation process. With normative isomorphism one can identify with the professional bodies and associations found

within the institutions; whereby discipline allegiances, or professionalism and managerial actions (Reay & Hinings, 2009) provide significant influence upon individuals. Finally, the notion of coercive isomorphism is found through the need of higher education institutions to meet government standards and targets as well as to adapt to requirements of external accreditation bodies or through gaining research funding as well as mainstream funding. It is also seen in the continual change in organisational structure and staff profiles. The importance here is the recognition of both internal and external coercive forces. The traditional coercive pressure from governmental laws is recognised but there is also, as mentioned previously, the informal, internal coercive pressure to conform to internal changes placed upon individuals by senior members of the organisation.

3.2.3: Field Logics

The notion of field logic highlights the group of organisations operating within the same field or domain as indicated by their ability to provide the same or similar services or products. It is *the belief systems and related practices that predominate in an organisation field* (Scott, 2001: 139) these belief systems are divided across four dimensions they are: content, penetration, linkage and exclusiveness. Field logic refers to *those organisations that, in the aggregate, constitute a recognised area of institutional life: key suppliers, resources and product consumers, regulatory agencies, and other organisations that produce similar services or products* (DiMaggio & Powell, 1983: 143). It is these areas that one must look to in gaining an understanding of why and how individuals and organisations operate as they do, they are, according to Friedland & Alford (1991: 248) the *organising principles* that organisational participants use to carry out their work. This notion of filed logic is apparent within the three discipline approach (IS, LIS & GM) used as the mechanism for understanding why difference occur and align with use of multiple logics in identifying why organisational complexity appears and distracts from strategy formulation.

- **Content:** refers to the specific belief systems of those involved, the meanings and interpretations participants give to belief systems – via experience and training.
- **Penetration:** refers to how deeply these beliefs are held by participants or as Krasner's (1988) term *vertical depth*, indicates the vertical depth and strength with which a particular belief system is held by those involved.

- **Linkage:** refers to extent to which field logics are connected to other horizontal belief systems, - other areas of similar views
- **Exclusiveness:** refers to the extent to which one, field logic predominates or competing logics vie for acceptance (Scott, 2001: 140).

3.2.4: Sources of Influence

The fourth heuristic approach within the domain of neo-institutionalism is that of sources of influence. This highlights the process that organisations themselves evolve or grow, that is, how did they come about in the first place, and also influence those involved with their operations by the notion of governance structures, highlighting that jurisdiction has not only a culture, but also a social structure (Abbott, 1988: 59). The factors include: imposition, authorisation, inducement, acquisition, imprinting, incorporation and bypassing of organisational structure.

When all of the above aspects of Neo-institutionalism are taken as whole i.e. mechanisms, carries, field logics, and sources of influence there is a framework that neo-institutionalism provides to assist in critically examining how higher education institutions have approach the notion of information and information strategy formulation and goes some way to explaining why to date there are limited reports of higher education institutions formulating an information strategy.

3.3: Critique of Institutional Theory

Often institutional theory has tended to focus on the effects of institutionalisation rather than on the process through which organisations become institutionalised Philips et al (2004) argue this negates the processes that underpin institutions at the expense of highlighting the outcomes of institutionalism. Allowing the researcher to become involved in the strategy formulation process, viewing issues from the three discipline perspectives has addressed this initial concern as the researcher used institutional theory as a mechanism for explaining why certain events occurred and why things, 'strategies', did not evolve as those involved would have expected. One of the tenets of institutional theory is the examination of why organisations tend to look, perform, behave and act in a similar fashion over time. Why this occurs is commonly seen in the fact that structures, practices and methods are so ingrained within organisations that they are rarely challenged; as seen in the 'too big to fail' institutional myth approach.

This then infers that organisations tend to 'copy' processes that have been made legitimate by other organisations. The result of this is that individuals, managers, and actors all get caught up in doing the same as everyone else. There are a number of reasons for this, such as wanting to follow other successful events, following norms, habits, customs and traditions, both consciously and unconsciously (Miles, 2012). Often this strategy comes about due to individuals being uncertain about what to do. They are obliged to follow current company guidelines, procedures or field-tested methods, as well as being influenced by professional standards or norms or simply acting as they have done in previous roles. All of the afore mentioned reasons were highlighted and prevalent within the case study institution unfortunately not recognising this ultimately resulted in the case study institution not fulfilling its remit of formulating a working informative information strategy.

3.5: Neo-institutionalism Summary

In hindsight, the formulation of an information strategy by the 'tasked members' of the information steering committee was all about gaining legitimacy and privileging of position. In terms of institutional theory this is being viewed by society as being legitimate (Aldrich & Fiol, 1994). Whereas, in reality the 'tasked members' were looking for legitimacy from other members of the steering committee initially, and by the wider academic audience, the executive board and professional bodies; all of which seemed a difficult task given the multiple logics and institutional complexity that were found within HEIs. Identifying both internal and external stakeholders Kostova et al (2008) infers being consistent with widely held norms, rules and beliefs, Sonpar et al (2009). The use of Institutional theory and neo-institutionalism provided the mechanisms and structure to make sense of how conflicting isomorphic templates provided an explanation for the collective actions of an organisation; and why divergent prescriptions from multiple institutional logics collided (Greenwood et al., 2010; Greenwood et al., 2011; Thorton et al., 2012). Without this structure the case study experience would have been lost into that ubiquitous 'pot' of failed and poorly understood strategies. In hindsight what this provides is a support mechanism for the polysemous nature of information; as it can be argued that the three distinct disciplines of IS, LIS and GM are in essence isomorphing to different templates with regards to the nature of information creating a situation which may not be commensurate with formulating an information strategy.

Chapter 4: Research Methods

4.0 Introduction

The previous chapters have oriented the reader to the context of the research as well as introducing the main terms. This chapter describes a methodological framework, the methods and reasoning for their use. The chapter offers a brief overview of the researcher's philosophy and approach, (section 4.1). This is then followed by a discussion of the research design (section 4.2). This is an important aspect of the research process as it provides an explanation of the theoretical perspective that links both to the philosophical tenets and the practical aspects of carrying out the research in terms of multiple data sources and longevity of the research process. This then leads into the research methods used for data collection and briefly identifies the process of theme generation and coding of interview material (section 4.3). The chapter closes with a brief but relevant view of the ethical considerations that have materialised during the course of research process which have subsequently impacted upon the research undertaken. It may be prudent to remind the reader, at this stage, of the initial research questions and the interview questions, *appendix **22, p274,*** that underpinned the research process:

1. Why, in a case study institution, was data, information and knowledge chosen as a strategic focus and how did different constituencies within the organisation make sense of this concept?
2. How did different perceptions and structures, influence the process of formulating a strategy?

In addition to the above questions which focus on new understanding there is also a strategic question:

3. What are the implications of this new understanding for the way a university constructs the idea of an information strategy and indeed for the notion of an information strategy?

The research would, at the outset of this chapter, benefit from a clear acknowledgement of the researcher's philosophical and the methodological stance. That is, the researcher's raison d'ętre which has guided, influenced and structured the whole

research process and continues to assist in making sense of the world. This may seem somewhat grand, but can be encapsulated quite simply by the following quote:

> *the existence of a world without the mind is conceivable, [but] meaning without a mind is not*
>
> (Crotty, 1998: 10)

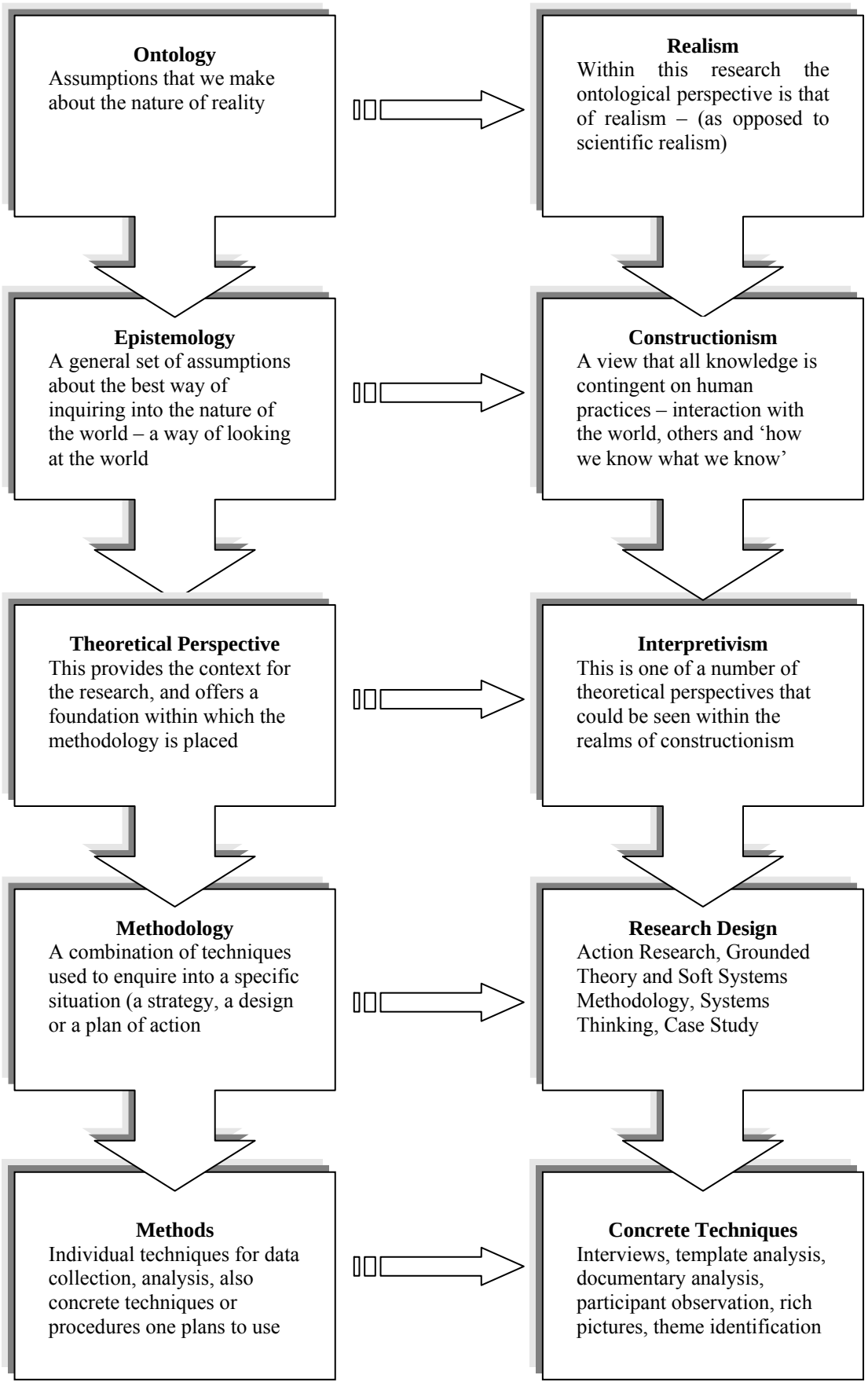
The assumption identified is that there is a world external to our knowing of it; however our knowing of it is dependent on the ability to construct meaning. It is people who create such meaning and hence, collectively, their shared social world. This aligns both with the tenets of institutional theory and the researcher's theoretical perspective of interpretivism; given that the focus was on both multi-level and multi-stakeholder analysis. Thereby, providing a wide and thorough understanding of the research area and linking with the research approach which extracted individual meanings, perspectives and actions all of which provided insight into multiple logics and institutional complexity.

4.1: Philosophical and Methodological Reasoning

It is important that methods and research strategy, while discussed within the chapter, are seen in a broader context as Easterby-Smith, Thorpe et al (2002: 3) argue that it is *unwise to conduct research without an awareness of the philosophical……issues that lie in the background*. The relationship between philosophical and methodological understanding is acknowledged when the same authors state that *the world view of the researcher can influence both the selection of methods and judgements about the quality and value of outcomes* (ibid: 2002: preface). This is further supported by Easton (1995) who suggests, it is important for researchers to understand both the ontological and epistemological positions they are adopting in their research, and that crucial philosophical decisions are not made merely by default but are in fact based on rigorous reflection and true understanding. As Crotty (1998: 13) argues *we need to provide clarity about the process we have engaged in; we need to lay that process out for scrutiny of the observer; we need to defend that process as a form of human inquiry that should be taken seriously*.

This relationship was identified within the Hierarchy of Research (*figure **11, p78***), in an attempt to identify how elements of the research process both influenced and related to one another. Meaning that the research process should not be undertaken in isolation and recognising that each element of the research process has a role to play.

Figure 11: Hierarchy of Research



(adapted from Knox 2007)

The aim of explicitly stating one's philosophical stance is as Crotty (1998: 6) argues, *to ensure the soundness of* [one's] *research and make its outcomes convincing*. The philosophical perspectives identified within this thesis and which inform the research process are that of realism and constructionism. That is, realism where one accepts a world and things in that world, can exist independently of our consciousness of them but does not imply meaning exists independently of consciousness, as one would find within the realms of scientific realism. Therefore, realism from the researcher's perspective acknowledges that the world exists without consciousness but it only becomes a world of meaning when meaning-making beings make sense of it. This process of sense-making or knowing about this world, or to create meaning occurs through that process of constructionism. Whereby, one understands the world through engagement with the realities of that world i.e. meaning is constructed it is not discovered as in *what we know*, and *what kinds of knowledge are possible and how can one ensure that they are both adequate and legitimate* (Maynard, 1994: 10). Ultimately meaning resides within individuals and different people or individuals may construct meaning in different ways, even in response to the same phenomenon based on their experience, understanding and world perspective.

The research methodology and research methods used within this research are influenced by and informed by the philosophical stances discussed previously of realism, constructionism and both lead into interpretivism. Whilst the first two relate to how one views the world (ontology - realism) and how one knows about that world (epistemology - constructionism) the last one (theoretical perspective – interpretivism) recognises that there is no one universal truth about situations only multiple realities, indicating that different ways of viewing the world will shape ways of researching the world. Therefore, the philosophical stance, the research design and the research methods used all align with one another indicating a structured and robust approach to the whole research process.

4.1.1: Ontology & Epistemology

Ontology is how one views the world, what one sees as existing within that world all of which are based upon our understandings and beliefs. Wand and Weber (1993: 220) refer to ontology as *a branch of philosophy concerned with articulating the nature and structure of the world*, simply stated as meaning *how do people view their world and what do they see as reality* (Hill & McGowan, 1999: 8). The researcher takes the world

to exist, the researcher interacts within it and gains experience and understanding because of that interaction but it is individuals who provide that meaning. Therefore, as Crotty (1998: 63) identifies that just because the researcher views *the world as being social constructed* does not mean *that the world is not real*. This then raises the notion of epistemology whereby the terms refers to the theory of knowledge (DeRose, 2004). This is expanded by Fisher (2004: 12) who refers to epistemology *as the study of the nature of knowledge*, that is, what knowledge is possible, valid and meaningful. In essence the notion of epistemology refers to how do we know what we know or how do we think we know, as Crotty (1998: 8) argues epistemology deals with *the nature of knowledge, its possibility, scope, and general basis*. Recognising the relationship between ontology and epistemology allows the movement into the practicalities of the research process; whereby researcher maintains the view that *reality is socially constructed, and that the phenomena of the social and cultural world and their meanings are created in human social interaction* (Robson, 2002: 552).

4.1.2: Interpretivism

Interpretivism is a theoretical perspective that informs a number of methodologies i.e. ethnography, discourse analysis, grounded theory, and action research. As a theoretical perspective, it acts as an approach to assist in understandings and explaining society and the human world, and grounds a set of assumptions that interpretivists' would bring to the research process, i.e. subjectivity, social construction.

Interpretivism is defined by Robson (2002: 549) as *emphasising the meaningful nature of people's participation in social and cultural life*. The focus is on an analysis of the meanings people confer upon their own and others' actions. It acknowledges that there are differences between individuals and their surroundings (i.e. the object world) and its aim is to understand that subjective meaning. Taking an interpretative approach to the research investigation allows the research to postulate alternative or unexpected findings; therefore not being constrained by traditional approaches and outcomes. These findings from an interpretivistic approach differ as the research is involved in the formulation, as an observer, of the information strategy. It does still allow findings to be generated that may be seen to be very different if the research had taken an external approach, that is, a position from outside the social context that the information steering committee found itself.

Interpretivism was initially seen as the reaction to the use of positivism and its tenets of natural sciences in the social world. Meaning that, if one was to use a positivist approach within the social field one would be trying to understand the nature of human beings and their feelings, experiences and environment with inappropriate views as mentioned previously i.e. detached observations, value-free, objective methods, aiming to create law-like generalisations, and predictability all of which are contrary to the social world and not designed to seek out human understanding. Crotty (1998: 67) argues *that the interpretivist approach looks for culturally derived and historically situated interpretations of the social-life world* and in doing so supports the multiple logic and disciplinary approach used within this research.

Within this research interpretivism is used as way of researching and thinking about the world, gathering evidence and making sense of the world that the participants of the information steering committee and those individuals involved in information strategy formulation find themselves. It is seen as Williamson (2000: 28) argues where *reality must be subjected to the widest possible critical examination* so the use of interpretivism requires the use of more *natural settings and the soliciting of* ***emic*** *(or insider) views, as opposed to reliance on* ***etic*** (or outsider) perspectives.

Interpretivism and the assumptions that inform it, reflect the approach needed to address the research questions. The research questions are based on interpretation by individuals, with regard to an information strategy, the process of formulation and understanding how their perspectives and experiences impact on the notion of an information strategy. Therefore, it is appropriate to state that the research is based on *Verstechen* (understanding) as opposed to *Erklären* (explaining), which is the basis for positivism and finding causal relationships. This use of interpretivism, as an approach, then suggests certain methods that would be appropriate given the research being undertaken and the questions being addressed, for example observation and interviews. The researcher acknowledges that the context of the research is not about trying to establish general laws that can be replicated but that it is the individual phenomena and its impact on the formulation of an information strategy that signifies the uniqueness, which is being addressed.

This research activity is strongly focussed towards the qualitative and inductive aspects of the research process. As it is argued that this research examines complex variables

identified within each individual i.e. attitudes, perspectives, understanding, interpretations and experiences of the participants, the best approach to gain this type of understanding is through in-depth, involved access to those formulating the information strategy. Therefore, as the focus is to elicit deep understanding of the individuals and committee members the most appropriate and beneficial approach is that of a case study. There are, within the tenets of interpretivism a number of approaches that could be used to collect evidence, including case studies (Eisenhardt, 1989; Hammel et al., 1993; Stake, 1994; Yin, 2003), action research (Gummesson, 1991), or grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1990). Each of the afore mentioned approaches are valid in their own right but given the complexity of the research a mixed approach is one method of obtaining a rich and/or richer understanding of the situation. The research suggests that no one approach is necessarily appropriate on its own or for that matter more appropriate; therefore they are used throughout the research process at different stages to address the research questions aiming to extract the necessary evidence. It is now appropriate to discuss the methods used, within the fieldwork, as a mechanism to collect the appropriate evidence / data. These methods are linked to the tenets of Realism, Constructionism and Interpretivism and as such identify that the methods used are appropriate given the rationale identified in previous discussions.

Research Design

The methodology, strategy or plan of action all refer to the research design that shapes the foundation for the choice and use of particular data collection methods. One's methodological choice will have a strong relationship with the theoretical perspective. That is, the assumptions that are identified within interpretivism – i.e. subjective, aiming to identify, understand and acknowledge the importance of the individual align very strongly with a research methodology that advocates the interaction with the subject and that there are multiple views of the given situation, all of which are applicable to the case study approach, the use of grounded theory, the process aspects of action research and elements of soft systems methodology. Robson (2002: 549) argues that the *methodology is the theoretical, political and philosophical backgrounds to the social research and their implications for the practice, and for the use of particular research methods*. That is, it is the set of principles that shape the choice and use of a method.

4.2.1: Case Study

The use of the case study as a method for collecting evidence is one that has been used extensively within the interpretivist approach and allowed a rich, multi-level insight into the formulation of an information strategy. Yin (1994: 93) argues that a *case study is an empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident.*

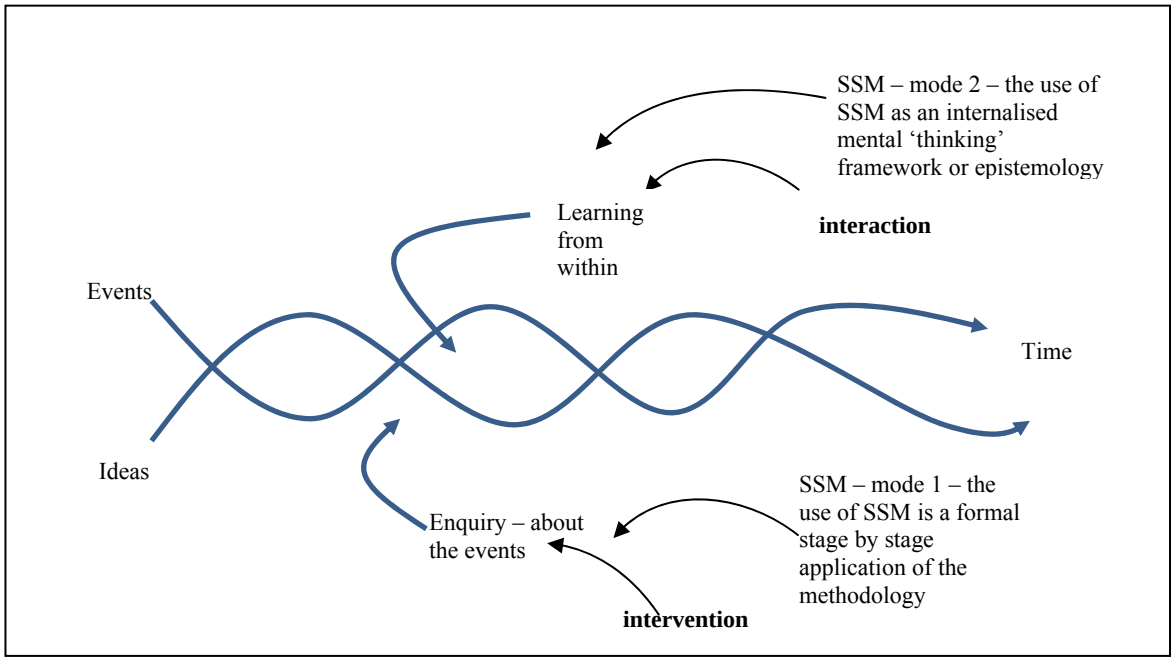
This is highly applicable within this research as each member brings with them a number of experiences, beliefs, understandings and approaches to their everyday work; each member of the committee interacts, within the case study institution, at various levels both in terms of hierarchy, and levels of responsibility and in varying degrees between both formal and informal groups; making the boundary between phenomenon and context difficult to separate. The case study as Fisher (2004: 52) argues, allows the research to *focus on the interrelationships between people, groups, policies, technology and other factors that make up the case study*. This highlights, the case study as a flexible approach to evidence collection emphasising it can be used to study the context, typically using multi-methods of data collection, and the case can be an individual person, an institution, or a situation (Fisher, 2004). Therefore, the case study is noted as being a useful tool in approaching complex situations. Benbasat (1984: 81) argues that a *case study examines a phenomenon in its natural setting, employing multiple methods of [evidence] collection to gather information from one or a few entities (people, groups, or organisations). The boundaries of the phenomenon are not clearly evident at the outset of the research and no experimental control or manipulation is used.*

The strategic nature of the strategy formulation process infers getting access to the process at this level, to a wide varying of institutions, would be extremely tentative hence the in-depth single case study approach. The researcher was fortunate in gaining complete access to all members of the information steering committee; and all historical documentation that preceded the inception of the information steering committee. An important reason for choosing the specific case study was due to previous research undertaken by the author and reported in Marcella and Knox (2004). Indicating a relationship had been established which then allowed for further research to be carried out and precipitated access to high profile individuals. Walliman and Baiche (2001: 167) argue that an advantage of this approach is that the *researcher is not observing*

phenomena from outside the system, but is inextricably bound into the human situation which he/she is studying. The advantage of the case study allowed the researcher to work and investigate within the stream of events that occurred within the workings of the information steering committee.

The notion of working inextricably within the 'real-world' (Checkland 1990) or in the 'swampy lowlands' as Schon (1995: 28) refers or the *quagmire of events* (Knox, 1994: 26) indicates the often messy situation that researchers' find themselves in when dealing with social issues or people. This notion of working from within is identified within Vickers (1983) 'two-strand' rope of events and ideas, unfolding though time, which constitutes experienced daily life for human beings. The 'two-strand' of events is identified below in *figure* ***12***, where the distinction between 'intervention' and 'interaction' is seen. The former assumes some expertise or outside knowledge which is used to investigate from outside the flux of events; whereas the latter is carried out from within the flux of events.

Figure 12: Vickers Stream of Events



Source: adapted from Vickers (1983) and Checkland and Scholes (1990: 282)

The research undertaken within Stapleford University was that of an 'interaction' process and therefore the 'learning' that occurred is directly attributable to that involvement.

Furthering this use of the case study Williamson (2000: 95) argues *that case study research is particularly appropriate for situations in which examination and understanding of the context is important*, this is extremely pertinent to higher education and strategy formulation; as understanding the process that individuals engaged in as well the multiple logics and institutional complexity found, all attributed to the strategy formulation process.

4.2.1.1: Criticisms of the Case Study Approach

There are three main issues or criticisms with the case study approach. **Firstly**, is its potential to lose its ability to be representative and therefore the ability to generalise. However, this research is not about 'generalising' in the positivistic sense (usually attained through random sampling) but that of transferability (Lincoln & Guba, 1985) where the transferability remains its ability to provide insight and creates resonance with the user of the material. Within case studies, random sampling is neither appropriate nor practical (Eisenhardt, 1989) and there is still an opportunity to generalise to a certain extent in that there are other similar institutions, engaged in similar activities so one could generalise about the process (Watson, 1994; Yin, 1994, 2003). The level of detail that is identified within the description of the case study (i.e. its process) leads other authors (Hammel et al., 1993; Stake, 1995) to expound that this ensures its ability to be representative and that commonality with the case study assists in individuals generalising from the particular, that is individuals can gain much that is applicable elsewhere from a single case study (Stake, 1995). **Secondly**, is the question of validity, reliability, and/or subjectivity. This is not something that is unique to case studies or qualitative approaches per se. It is also evident within the scientific, positivistic arena, where there are questions over other researchers' being able to replicate research and experiments and obtain the same result or outcome, i.e. reliability. However, within the field of qualitative research it seems to be more prevalent, as the researcher may be accused of becoming involved in the issues, events or situations being researched and therefore losing perspective or subjectivity. However, Stake (1995) alludes to the fact that all research depends on interpretation, within the qualitative arena the research needs to be conscious of this and reflect on that involvement. Meaning that, it is important not to lead interviewees during the interview process. Within the positivistic arena this issue of reliability is addressed and in a somewhat limited way through the tenets of value-free and object nature of the research and the process. This object nature was not appropriate within this research. **Thirdly**,

is the issue of rigour, i.e. the lack of standardised or systematic approach. Patton and Appelbaum (2003: 66) argue *that the lack of predetermined steps makes case studies harder and more demanding*. Within this research the multi-method approach to data or evidence collection has been used which includes: interviews, informal discussions, documentary analysis, historical documentation and participant observation. The use of these methods has produced a plethora of evidence to analyse, and in hindsight, has been extremely labour intensive, which the researcher would argue only adds to the rigour in the positivistic sense or creditability in an interpretivist sense. The approaches that informed the use of the case study are now addressed in terms of their contribution to the research and their specific role in meaning construction.

4.2.2: Grounded Theory

The use of grounded theory has allowed an inductive approach towards the research process to occur and aligns with the case study approach in concept elicitation and generation. The essence of grounded theory is to move beyond a description and to generate or discover a theory, *a unified theoretical explanation* (Corbin & Strauss, 2007: 107). Although the aim of the research was not to generate a law like generalised theory, the use of grounded theory did allow the researcher to use historical data, interview material and supporting literature to generate themes from the empirical evidence. Grounded theory has been defined as a *theory that was derived from data, systematically gathered and analysed through the research process. In this method, data collection, analysis, and eventual theory stand in close relationship to one another* (Strauss & Corbin, 1998: 12). The level to which the approach is followed seems to vary, but Locke (2001) does identify that it is still extremely well suited to organisational research. The essence of grounded theory allows the researcher to capture the complexity of the situation as the action unfolds and was instrumental in allowing the researcher to elicit themes in relation to the interview material over a period of time. In fact, Strauss and Corbin (1998) identify that themes or theory development is generated or "grounded" in data from participants who have experienced the process. Grounded theory supported the visiting and revisiting of interviewees, it assisted in the researcher gaining a general explanation of a process, an action or an interaction, all from the perspective of the interviewees. Where the researcher would suggest grounded theory was particularly useful was in its adaptation to open-ended research strategy (Bryman & Bell, 2011) as the research was never going to be completed within the initial time set by the information steering committee; so the

ability to move backwards and forwards through the research material was an important aspect of making sense and generating themes that were then used to question the formulation process of an information strategy. The researcher constantly, throughout the data collection period, returned to interviewees to ask questions and compare data gleaned from other interviewees in an attempt to gain a broader understanding of the information strategy process. This allowed new data to be collected, it allowed the testing of themes or views that were surfacing and allowed the researcher to return to the evolving themes to fill in the gaps and to identify how they related to each other. This was, in hindsight, an extremely time consuming process and one that occurred over a large extended period of time. It was this process that allowed the researcher to develop the relationship and interpretations from within and between disciplines (IS, LIS and GM), the recognition of multiple logics and institutional complexity and raised the implicit views of information as being tangible or intangible and product or process driven. This then allowed the placement of individuals within Hirschheim and Klein's four paradigms of information system development model, identifying discipline views of objectivity and subjectivity towards the notion of information and how this may influence the strategy formulation process, see *Appendix **9, p229***.

4.2.2.1: Criticisms of Grounded Theory

It has been suggested that part of the problem with grounded theory is the ability of the researcher to suspend their awareness of relevant theories or concepts until quite a late stage in the process of analysis (Bulmer, 1979).Within the research process the focus moved from the initial view of how to formulate an information strategy to what is an information strategy and so the researcher in essence spent quite a lot of time trying to elicit views and understanding from the committee members as to what they thought constituted an information strategy. This then meant that visiting and revisiting approach to individuals in terms of asking questions and gaining clarification occurred over a lengthy period of time and so addresses the initial criticism of grounded theory. There was certainly an element of extracting theory or ideas from the literature so an element of understanding was apparent but this was soon questioned in terms of why information was being viewed as a tangible resource and questioning this view drew out a host of issues. There is also the issue of 'timing' in terms of meeting deadlines, so although the researcher spent a substantial amount of time analysing the data from various sources and revisiting interviewees, the deadline was created by the information steering committee's need to produce a finalised strategy that could be submitted to the

university executive. In hindsight the researcher would suggest that the use of grounded theory was not used to produce a resultant theory, as is the intension with the use of grounded theory which is also a criticism of grounded theory; but it was used to provide a rigorous approach to the generation of concepts and ascertain an understanding of the specific social phenomenon being research, that is the understanding of information and an information strategy. There is also the fragmentation of data (Coffey & Atkinson, 1996) whereby data is coded into discrete chunks; this may lose a sense of context and narrative flow. The researcher would acknowledge this but argue that there is a need to extract concepts, categories and themes in an attempt to provide understanding and further in-depth inquiry. Then there is the issue of objectivity within the grounded theory literature, where Charmaz (2000) highlights the Glaser and Strauss (1967) and the Strauss and Corbin (1990) original suggesting an objectivist approach; in that categories, concepts or themes are within the data waiting to be discovered. Charmaz (2000: 521) offers an alternative constructionist view that *people create and maintain meaningful worlds through dialectical processes of conferring meaning on their realities and acting within them…..suggesting that social reality does not exist independent of human action.* This implies that *categories, concepts and theoretical analysis emerge from the researcher's interaction within the field and questions about the data* (Charmaz, 2000: 522). Although the researcher would concur with the latter interpretation upon closer inspection Charmaz (2000) conflates ontological issues from Glaser and Strauss with her interpretation being based on an epistemological view of the nature of knowledge of the social world (Knox, 2004).

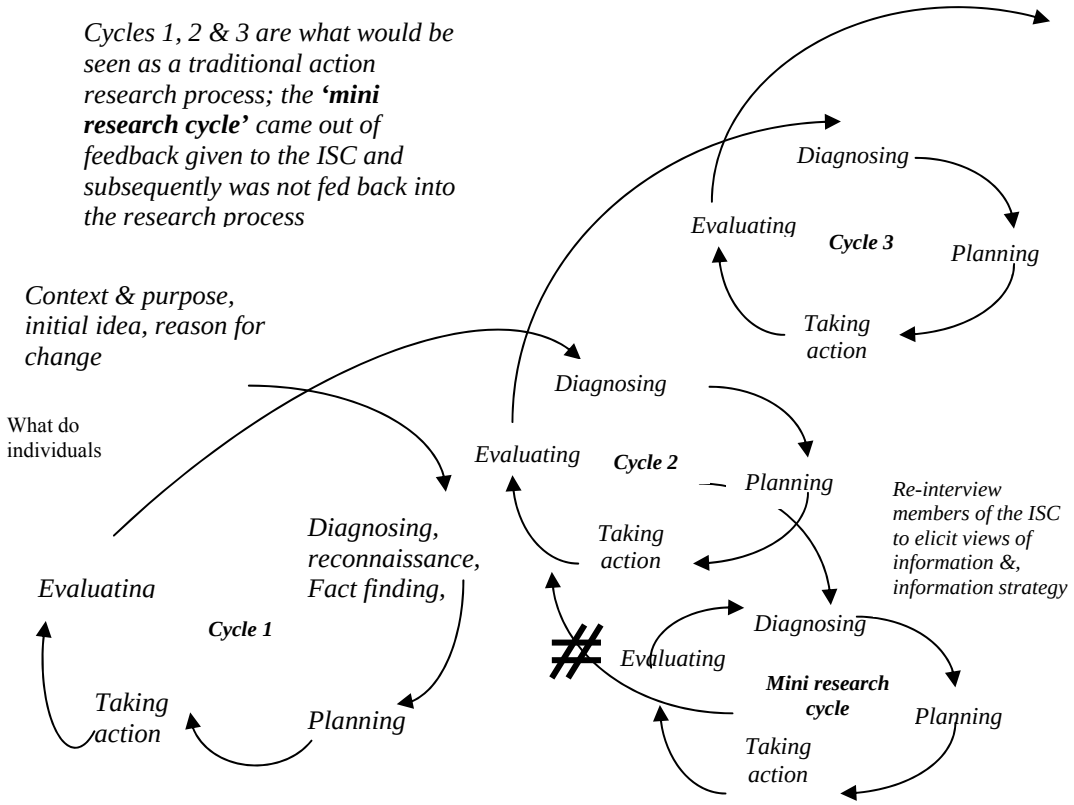
4.2.3: Action Research

Given the previous sections discussion of grounded theory the researcher would suggest action research and grounded theory are in practice closely linked, in terms of that process of going back and forth between participants, developing practical knowing in the pursuit of worthwhile human purposes (Reason & Bradbury, 2001) and working in close proximity to the research activity in an iterative cycle (Gill & Johnson, 2010: 99) of *problem identification, diagnosis, planning, intervention and evaluation* but stressing the importance that action research is not done *upon* individuals but *with* individuals; and as such the researcher would stress the use of an interactive approach and not an intervention approach many would associate with action research.

> *It is a research strategy concerned with the management of change and involving close collaboration between practitioners and researchers.*
>
> *(Saunders et al., 2007: 591)*

The first use of the term action research is attributed to Kurt Lewin (1946). The literature identifies four significant interpretations of the terms action research. **Firstly**, and most notable views the purpose of the research, that is, research in action, rather about action (Coghlan & Brannick, 2005). This is akin to *figure **12** p**84***, indicating 'in action' refers to interaction within the organisations events as opposed to outside knowledge in relation to intervention. **Secondly**, the literature identifies the relationship between the practitioners and the researcher, focusing on the practitioner involvement highlighting that findings derived from action research are a result as Eden and Huxham (1996: 75) argue of that *involvement with members of an organisation over a matter which is of genuine concern to them*. **Thirdly**, the literature places great emphasis on the iterative process which action research engages in, as a spiral process (Sykes & Treleaven, 2009) as seen in *figure **13**,* below.

Figure 13: Action Research Cycle and subsequent mini research cycle



Source adapted from Saunders, Lewis & Thornhill (2007: 141)

The action research cycle, identified above, involves going in and out of the situation, adding to the situation and then testing new develops in subsequent cycles, in order to gain a better understanding of the problem area. Within the research process there was a constant interaction and discussion between individuals in an attempt to gain a better understanding and to move forward with the strategy formulation process. What

transpired was a need to revisit all interviewees, at the request of the chair of the information steering committee, to gain clarity regarding the apparent confusion of both the nature of an information strategy and the formulation process. This is depicted in *figure **13, p89,*** as the mini research cycle. **Finally**, the literature suggests that action research should have wider implications. Meaning that, implications go beyond the specific area of investigation, which could be used to inform other contexts or situations. This can be seen in terms of knowledge transfer from one situation to the next or as Eden and Huxham (1996) identify the development of theory about the area of investigation.

The use of action research, within this research process has in some ways used all four interpretations. Action research was initially used as an approach to structure the interaction with those individuals who were trying to formulate an information strategy. Foster (1972: 534) identifies that the action researcher *should seek for knowledge as an observer and also be actively involved in bringing about practical results*. This provided a structure to move 'in and out' of the situation under investigation. The use of action research is justified by Fisher (2004: 18) who argues that action research *is a further development of the interpretative research*. Other interpretations of action research are offered by Williamson (2000: 141) where she identifies that action research could be seen as a hermeneutical approach highlighting the study of human action and social practice. Phillips (1993: 103) argues that *hermeneutics came to be seen as the study of the interpretation and understanding not only of texts, but also of human actions and customs and social practices*. Action Research was used as a way of getting to know or learn about a situation and/or organisation through offering change. Although the researcher may argue that specific change did not occur what did occur was an understanding of the strategy process and an explanation why multiple logics and institutional complexity reduce the strategy formulation process and provided an element of reflection for those involved.

In hindsight the use of action research was in line with both Robson (2002) and Dick (1997). Where firstly, Robson (2002: 214) argues *that improvement and involvement are central to action research. There is, first, the improvement of a practice of some kind; second the improvement of the understanding of a practice, by its practitioners; and thirdly, improvement of the situation in which the practice takes place*. The research has certainly led to the improvement of understanding in terms of intangible

strategy development. Secondly, where Dick (1997) identifies a two-fold approach to action research; initially as an action in practice and then as a knowledge generator through rigorous research. The use of interaction and knowledge generation identified that if the research proposed new ideas, approaches or understanding to information strategy formulation then the research is working within the realms of action research as identified by Dick (1997).

The researcher's use of action research may not have been used in a traditional sense, where the aim is to bring about practical results but it did encourage learning about a complex problem facing the institution; and assisted, supported and encouraged change and reflection as an integral part of the research process. All of which aligns with the case study approach and the researcher would argue encapsulates the theoretical perspective of interpretivism.

4.2.3.1: Criticisms of Action Research

The criticisms of action research revolve around it being inward looking and historical in approach (Adelman, 1989). However, this criticism is somewhat naïve given the many facets of action research identified previously. This criticism may be based one particular view point i.e. if one were to view action research from a positivistic or pure scientific approach to its use. As by suggesting flexibility in one's approach would certainly clash with the positivist who would be looking for a fixed, structured approach to the research i.e. as opposed to an iterative and multi-cycled approach. It is also criticised for its lack of repeatability and that it is focussed heavily on organisational action and not on research findings. However, this research would argue that the in-depth involvement with the members of the information steering committee is not an easily repeatable activity, coupled with the insight and depth of knowledge gained is something that, as argued previously, would be extremely difficult to obtain in any other way. The outcome of the investigation i.e. the findings are grounded and based on interaction, that is, the action of working within but having the opportunity to move 'in and out' of the situation and reflecting on that process. This use of action research allowed the research to enhance not only the understanding of a complex situation but also allowed other members of the committee's understanding and to acknowledge different perspectives. The researcher maintained a professional approach by both acting as a part of the committee, being involved in discussions but at the same time holding an element of removal and distance; whereby reflection and cognitive mapping

occurred elsewhere away from the pressure of the information steering committee and its members. The researcher acknowledges the criticisms of action research but would argue that they are not peculiar to action research per se. The discussion now turns to the final piece of the research strategy as SSM was used in understanding the problem situation in order to assist in the use of the other aforementioned approaches.

4.2.4: Soft Systems Methodology (SSM)

It could be argued that Soft Systems Methodology (SSM) is not one of the traditional approaches, research texts would identify as an approach to carrying out research. Rose (2002: 242) argues *that SSM is generally considered to lie outside the more conventional technical paradigms*. It was used as a mechanism, very early on, to assist the researcher in gaining an understanding of the situation being investigated, typically mode 2 as shown in *figure **12***, *p**84***. This was achieved through using 'rich pictures', as seen in *appendix **10 & 11***, *p**230/231***. The use of SSM complements the role of Action Research, as Baskerville and Wood-Harper (1996: 237) acknowledge *that Checkland's view of human activity systems draws considerable attention to action research*, where SSM is seen and holds similar views in its approach and influential relationship with action research. The nature of SSM involves, according to Wilson, (1992: 10) a method of *simultaneously bringing about change in the project situation (the action) while learning from the process of deriving the change (the research)*.

This link between SSM and human activity is identified by a number of authors. Von Bulow (1989: 37) argues that *SSM is a methodology that aims to bring about improvement in areas of social concern by activating in the people involved in the situation a learning cycle which is ideally never-ending*. Platt & Warwick (1995) further this understanding of SSM by arguing that SSM is concerned with Human Activity Systems (HAS) which are defined as a collection of activities, in which individuals are purposefully engaged. SSM was therefore used as a way of making sense of the complex human engagement within the formulation of an information strategy. Given that there were multiple stakeholders, conflicting views and limited articulation the use of SSM provided a starting point for the researcher and allowed independent thinking to occur about the problem situation. It was this early process that highlighted the issue of 'what' is an information strategy given the ambiguity found within the information steering committee as opposed to 'how' to create one; as well as the polysemous nature of information itself.

Within SSM the emphasis is placed on the examination of the world-view (raison d'être) of the organisation, in the problem situation (Songkhla, 1997) and how the actors (those involved) perceive and react to the problem situation. SSM does not therefore offer or develop solutions to the problem situation rather it illustrates and attempts to comprehend the problem to the researcher. This is sometimes used as a criticism of SSM, however the researcher would identify that Checkland and Scholes (1990: 29) in defence of this, argue that SSM is a participative approach in which the aim is to achieve an accommodation concerning *what action should be taken not a finite solution to a problem*. In this research, SSM has assisted in three main ways, **firstly**, by allowing the researcher to reflect on the problem situation i.e. examining and learning about the context of strategy formulation in higher education. **Secondly**, by assisting in providing a mechanism to understanding how participants within the Information Steering Committee interact, and engage in and perceive their role within the committee. **Thirdly**, by allowing discussion to create a shared understanding of what the committee was in fact trying to achieve and therefore explicitly stating what they identified as an information strategy.

4.2.4.1: Criticisms of Soft Systems Methodology

The criticisms of SSM are reflected in its lack of rigidity, i.e. the lack of scientific rigidity causes difficulty in establishing a clear conclusion. However, the researcher would argue that this lack of rigidity or flexibility is in fact one of its strengths i.e. the users of SSM are not constrained by inappropriate procedures in investigating dynamic and complex human involvement in organisational change. Nor are they trying to replicate research or situations from which to generalise. This lack of rigidity is argued by Rose (2002: 265) to be a strengthen given that *many problems have been unwittingly driven by central ideas of problem solution……but at the heart of SSM is transformation…..which is an excellent metaphor for the change aspect of development*.

The researcher would identify that having used a multiple design approach has been a strength of the research; as it has provided appropriate structure and guidance at different stages of the research process. In using alternative approaches or methods, within the research process, there will always be protagonists and critics; however, by following the tenets of realism, constructionism and interpretivism and acknowledging the notion of transferability (Lincoln & Guba, 1985) the researcher feels that the research process has been robust and creditable in the approach(es) taken.

Research Methods – data collection and coding practices

Having discussed the research strategy the following sections discuss the actual data collection process; that is, what data collection methods were used and why; as well as a brief insight into the management of the evidence collected through historical documentation, minutes of meetings, interview transcripts, including the theme generation process.

4.3 Research Methods

The notion of research methods are as Crotty (1998: 6) argues the *concrete techniques or procedures used*, they are the activities that one engages in so as to gather and analyse the evidence. According to Bell (1987: 52) *the instrument is merely the tool to enable you to gather [evidence], and it is important to select the best tool for the job*. Therefore the 'tool' selected will undoubtedly be influenced by a number of variables, such as the research questions, philosophical grounding, through to experience, and understanding. There have been many authors (Bryman & Bell, 2011; Crotty, 1998; Denzin, 1970; Fisher, 2004; Mingers, 2001; Weber, 2004) who advocate methodological pluralism or as this researcher (Knox, 2004) would prefer to state pluralism of methods, Fisher (2004: 49) supports the fact *that it is possible, however, with care, to combine some approaches*. There is however, no clear-cut basis on how one should choose among the numerous primary research methods Fisher (2004: 53) argues *it is tempting, but wrong, to make an easy connection between research methodology and methods*. This then supports, as previously mentioned, the use of a multi-method approach within the fieldwork and evidence collection process. This approach has been used to great effect in eliciting the views of individual interviewees.

A qualitative approach to data collection has been used as there are clearly certain kinds of evidence, which are best obtained by formal methods (hypothesise and cause and effect relationships) but there some questions about an individuals' experiences, beliefs, attitudes, reactions and interpretations which are best tackled by qualitative approaches to research. Qualitative approaches focus on the individual and their understanding and meaning of a given situation, therefore addressing the notion of multiple logics. Articulating the views and perceptions from different disciplines, in terms of an information strategy was paramount in this research process. So the use of qualitative methods were deemed significant and appropriate; highlighting that there are certainly specific methods designed to comprehend those implicit qualities of an individual's

response and disposition that the sieve of quantitative research cannot catch (Fisher: 2004).

This aligns well with the grounded theory approach discussed previously whereby themes, 'theory' and understanding are a direct result of that interaction with individuals, the data collection process and the analysis and categorisation of that data throughout the whole research process.

Given the variety of methods available the researcher concurs with Jankowicz (1991) that the 'best' method is the one that is most appropriate to the kinds of research questions one is asking (*seen on p**76**, & interview questions in appendix **22**, p**74***) and the environment within which these questions are being asked. Therefore, identifying previously that the theoretical perspective taken is that of interprevtivism then there are a number of primary research methods which the researcher would suggest have an elected affinity with that theoretical perspective and they are: questionnaires, interviews, panels, thematic analysis, documentary/content analysis, focus groups, observation, surveys, and participant observation. That is not to say that other data collection methods are not appropriate or that a mixed method approach could not be taken, as seen in Knox (2015). The context and content of the research seemed to warrant methods that allowed perceptions, discussions, reflection and understanding to be extracted from the participants, which also aligned with the theoretical and philosophical tenets previously ascribed; so the use of observation, documentary analysis and interviews were deemed most appropriate.

4.3.1: Participant Observation

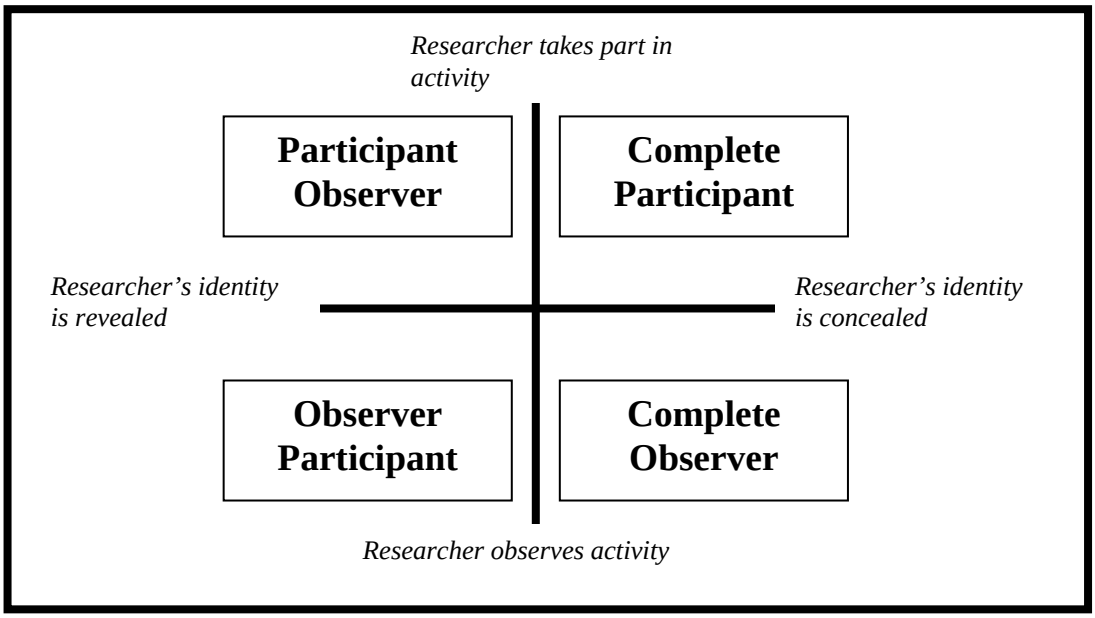
The use of participant observation is often taken to imply a commitment to interpretivism and constructionism (Bryman and Bell 2003: 471). It has been used within this research as it offers what Fisher (2004: 135) refers to as unstructured observation. That is, it allowed observation of all of the information steering committee meetings, throughout an extended eighteen month period. Bernard (1994: 56) defines *participant observation as the process of establishing rapport within a community and learning to act in such a way as to blend into the community so that its members will act naturally, then removing oneself from the setting or community to immerse oneself in the data to understand what is going on and be able to write about it.*

Having already had an involvement with a number of the committee members, created a situation where members were extremely open and candid during committee meetings, the interview process and during informal discussions. This familiarity and acceptance allowed unrivalled access to committee members but more importantly to historical documentation that was not publically available. The researcher is aware that often the account of the observation could be seen to be coloured by the researcher's values, judgements, or prejudices but relied and maintained the notions of creditability and confirmability aspects of Lincoln and Guba's (1985) trustworthiness approach to research in the social sciences in reducing this issue.

The researcher also acknowledges that detailed notes were taken at each information steering committee, identifying attendance, placement sitting, and discussions between various members, which were not always minuted; subsequently, this evidence was written next to the minutes of the meeting once they became available in an effort to add further clarification and justification to the views that were forth coming. These were then used in subsequent meetings with committee members to gain clarity, understanding and provide an opportunity for interviewees to reflect upon what had been said in meetings.

Williamson (2000: 249) argues that *participant observation is one of the most flexible techniques or set of techniques for doing research*. There is no single way to do participant observation and in fact it is often seen as a method that incorporates a number of methods from questionnaires and interviews through to focus groups (Williamson 2000). Glesne and Peshkin (1992: 16/17) argue that participant observation ranges across a continuum from mostly observation to mostly participation; different levels of participation can be seen in *figure **14**, **p97***. The researcher would suggest that the level of participation within this research was that of the participant observer. As the researcher engaged with the members of the information steering committee and was asked for and provided work and feedback to the committee and individuals and they were fully aware of the researcher's role. This provided level of acceptance and was reflected within the information steering committee and created unobstructed access to individuals and documentation.

Figure 14: Research and the Observation Process



Source: Glesne and Peshkin, 2000: 16/17.

4.3.1.1: Criticisms of Participant Observation

One of the criticisms of participant observation is referred to by Salkind (2006: 203) who identifies *that participant observation is a difficult method of conducting research because it requires the researcher to be an active participant in the social network being studied while maintaining sufficient objectivity and detachment to be able to evaluate accurately the material being gathered*. However, through acknowledging the different levels of participant observation, the research was able to maintain a professional involvement but also was able to withdraw from the information strategy process to analyse, reflect and write objectively about the formulation process and the events observed within the committee meetings; as identified within the action research and SSM strategy process. Not being part of the institution i.e. as a formal employed member of the organisation. This enabled the researcher to maintain and impose a strong level of detachment that created an air of independence; which interviewees appeared to find up-lifting and none threatening and in hindsight was highly evident in both the research process and the candidness exhibited by the interviewees.

4.3.2: Documentary Analysis

Documentary analysis can be an important part of the research process. Rapley (2007: 12) argues that *documents are manifold, playing an important role in organizational life, providing details of policies, procedures, prospective plans and records of events such as minutes of meetings* alongside this Salkind (2006: 202) argues that

documentation that is composed and released either internally or for public consumption can provide a wealth of information. It is this acknowledgement of internal documentation that the researcher has identified as being extremely important in gaining an understanding of the research situation as well as an unrivalled opportunity to identify the historical development of the issues surrounding the formulation of an information strategy. Previous 'information strategy' documentation provided sequential attempts at formulating a strategy, identified relevant 'thinking' and understanding of 'information' and acknowledged the importance of technology in the process. Williamson (2000: 255) argues that documentary analysis *is helpful if there is a need to gain an understanding of the official policies of the setting*; this was extremely apt in the case study institution. The use of committee minutes provided an opportunity to identify allegiances, formal and informal groups as well as an historical account of what was said and by whom both of which could then be returned to in order to ask questions during the interview process. The documentation also allowed a comparison between a 'consultants' led view on an information strategy and those that came from the committee members; highlighting a lack of articulation on both content and process. An important point in terms of document analysis is its longevity; that is *the evidence endures physically and thus can be separated across space and time from its author, producer and user* (Hodder, 2003: 703).

4.3.3: Interviews

The very nature and environment of this research requires detailed, objective, and appreciative approaches to the task. Alvesson and Ashcraft (2012: 240) identify that *interviews are deemed reliable gateways into what goes on in organizations: how leadership is conducted, what values and beliefs people hold and how decisions are made*. Therefore, the use of the interview as means of collecting data has been chosen as one of the most suitable methods for eliciting evidence from individuals as they *encourage the free flow of words, ideas, feelings, thoughts and images in response to stimulus subjects or words* (Goodyear, 1971: 49).

According to Silverman (1993: 90) the positivists approach to evidence collection through interviews is to identify *facts about the world; the primary use is to generate data which are valid and reliable, independently of the research setting*. This refers to interviews that are highly structured where the questions, categories and order of questions have been predetermined. These are in fact no more than surveys but carried

out through another medium. This type of interview is what Chisnall (1991: 40) refers to as being very structured, *where there are standardised questions asked in a carefully planned sequence and the interviewer does not vary from their trained routine*. This 'very structured' approach to interviewing is not the approach taken within this research. The interview was used a way that is akin to the view of Goodyear (1971), where it is used as a means to allow free expression, free flow of ideas, and thoughts in response to prompts or stimuli offered by the research on the subject under investigation. This is also akin to Dingwall's (1997) view where the more in-tune one is with the interviewee the greater chance one has of asserting true meaning.

There are basically three styles of interview to choose from, the structured, semi-structured and the unstructured. **Firstly**, as stated above, the structured approach is not appropriate for this research – as the questions, the order of the questions, and choice of responses are all fixed or selected from a predetermined list; Fisher (2004: 133) states that *in these interviews the interviewer generally reads from a prepared script and is not expected to deviate from it….questions are organised into a logical sequence…and most questions have a series of responses*. Again, this is not considered an appropriate method for this research as it lacks flexibility; it reduces the potential for relationship building which is needed when dealing with sensitive material and the personal element both from the interviewee and the interviewer is removed. **Secondly**, the unstructured interview involves no set of questions or order and consequently the control over response is removed i.e. its relevance and ability to probe or question further. However, the research takes this concept of an unstructured interview as referring to the informal discussions that occurred from time to time; so although it may lack structure, its theme, ethos, and purpose are inherent. Therefore, using this interpretation the unstructured approach was used on several occasions to elicit brief, informative, informal responses from committee members. **Thirdly**, the type of interview used to collect the majority of the evidence was that of the semi-structured interview. Given the sensitivity and complexity of the evidence required this approach was deemed as the most appropriate. As Oppenheim (1992: 47) *argues the more structured the interview the easier the analysis and the more comparable the responses, but the more limited the data*. As the evidence required is based on individuals' interpretations and understandings the use of the semi-structured interviews worked extremely well. It offered as Fisher (2004: 133) states a *schedule to remind one of the main issues and topics encouraging the researcher to maintain an element of comparability between the interviewees but also*

allowing each individual member to highlight, focus in on, and articulate what was deemed to be most important and crucial to them in their role. The process of interviewing aims to advocate a more 'genuine' human interaction, seeks to cultivate interpersonal relations founded on rapport, trust, commitment in an attempt to allow the interviewee to express themselves openly and freely (Alvesson & Ashcraft, 2012).

Williamson (2000: 224) argues that *interviewing in interpretivist or naturalistic research aims at understanding people from their own point of view*, which was the focus of the interview process. The evidence required for this research is of a functional nature, in that it involves the opinions of informed individuals, but it is necessary to recognise that those individuals are also constrained by institutional policy and procedures. The essence of this evidence is likely to be confidential in nature and would not, therefore be suitable for collection using any other method than that of interviewing. Also as Chisnall (1991: 40) argues *the interview is a social process*, that is, it involves dialogue (usually) between two individuals and this interaction should occur or be established quickly therefore assisting in achieving a successful outcome; one that enables the collection of relevant, informative and reliable evidence. Although a large amount of this evidence may be subjective in nature because *interviewing as a method relies heavily on the opinions, perspectives, and recollections of respondents,* Snow and Thomas (1994: 461) state it is still valid because *an input to some extent coloured by subjectivity from a properly informed and qualified individual is perfectly valid form of information*. This then addressed one of the main criticisms of using the interview method. The interview was semi-structured but was led by the interviewee; the researcher's role was to keep the interview 'on track' and relevant to the issues under discussion. This enabled a free response to the questions posed and led to an open and candid discussion on many issues for example 'does the institution need an information strategy' through to 'do you know and understand what is being discussed?'

4.3.3.1: Criticisms of Interviews

The major criticism of interviews revolves around both issues of validity and reliability and the ability to record and analyses them appropriately. The researcher feels that the latter has been addressed through interviewees consent to record all interviews and also the offering of transcripts of any reports produced for the interviewees to peruse. The issue of validity and reliability is referred to as the 'interviewer effect'. This highlights

the personal characteristics of the interviewer i.e. age, gender, experience of interviewing, educational level. There is also the issue of opinions and expectations of the interviewer. However, the researcher acknowledges these issues but given the researcher's experience of interviewing and interacting within many different social contexts this is reduced significantly. Also, the professionalism and experience of carrying out interviews ensures that the researcher does not lead interviewees; ensuring that confirmation of what has been said is always clarified.

4.4: Research Sample and Population

A population is a group in which all the individuals or items are singled out for study. It often happens that the group is so large that to study everyone would be impractical because it is too expensive and too time consuming (Kane, 1985: 90). However, this is not the case within this activity, as the researcher had access to the 'whole population' that is all those individuals involved with and responsible for the formulation of the information strategy within the case study institution. The researcher also had access to four further individuals, from other higher education institutions. These individuals were actively involved in the information strategy formulation process within their own institutions. This also allowed the researcher to reflect on internal activities and to compare them to external institutional activities in an attempt to validate, confirm or question what had been happening within the case study institution. *Table **4***, *p**102***, identifies all parties involved in the information strategy formulation process, at Stapleford University.

Table 4: Research Population – Interviewees by position and discipline

	Position		Position
Interviewee -A	Pro Vice Chancellor for Teaching & Learning	**Interviewee - N**	Academic Staff Member - IT
Interviewee - B	Pro Vice Chancellor for Research	**Interviewee - O**	Dean of Faculty – Business School
Interviewee - C	The Registrar	**Interviewee - P**	Staff Member - HR
Interviewee - D	Dean of Faculty - Engineering	**Interviewee - Q**	Director of JISC InfoNet
Interviewee - E	Deputy Vice Chancellor for Development	**Interviewee - R**	Staff Member - HR
Interviewee - F	Director of Library & Learning Resources / Director of Information & Learning Resources	**Interviewee - S**	Academic Staff Member – Engineering
Interviewee - G	Director of Information Technology Services	**Interviewee -T**	Academic Staff Member – Business School
Interviewee - H	Director of Human Resources	**Interviewee - U**	Assistant Registrar
Interviewee - I	Deputy Vice Chancellor for Finance & Resources	**Interviewee - V**	Director of Information Management & Information Services – external
Interviewee - J	Manager Strategic Planning Unit	**Interviewee -W**	Vice Principal for Knowledge Management & Librarian to the University – external
Interviewee - K	Assistant Dean of Informatics	**Interviewee - X**	Director of Libraries and Learning Resources - external
Interviewee - L	Academic Staff Member - IT	**Interviewee - Y**	Head of Library Services – external
Interviewee - M	Academic Staff Member - IT		

●● - Interviewees from Library and Information Services discipline - LIS
●● - Interviewees from Information Systems / Information Technology discipline - IS
●● -Interviewees from General Management discipline – senior management team (SMT)
●● -Interviewees aligned with the General Management discipline but seen at a different level to SMT

4.5: Coding Practices and Theme Generation

The whole notion of coding is to assist the researcher to find patterns in the evidence supplied by the in formats in order to gain understanding; *coding can be thought about as a way of relating the data to ones ideas about that data* (Coffey & Atkinson, 1996: 27). Initially the researcher used in vivo codes, which were generated straight from the interviewees. The aim here was to identify what was important to the interviewees and from participant's meanings explain their emergent actions. Initially the researcher listened to the taped transcripts and transcribed the material. The transcripts were read a number of times in an attempt to identify common issues or terms; this allowed the researcher to identify emic terms, those that come directly from the informant. The terms were used in subsequent rounds of interviews to prompt and to clarify meaning, as well as to generate further discussion. In the beginning the terms were just that

simple terms, sometimes 'off-the-cuff' remarks or phrases but which the researcher felt held deeper meaning and as such held a commonality to the subject, the interviewees and the process.

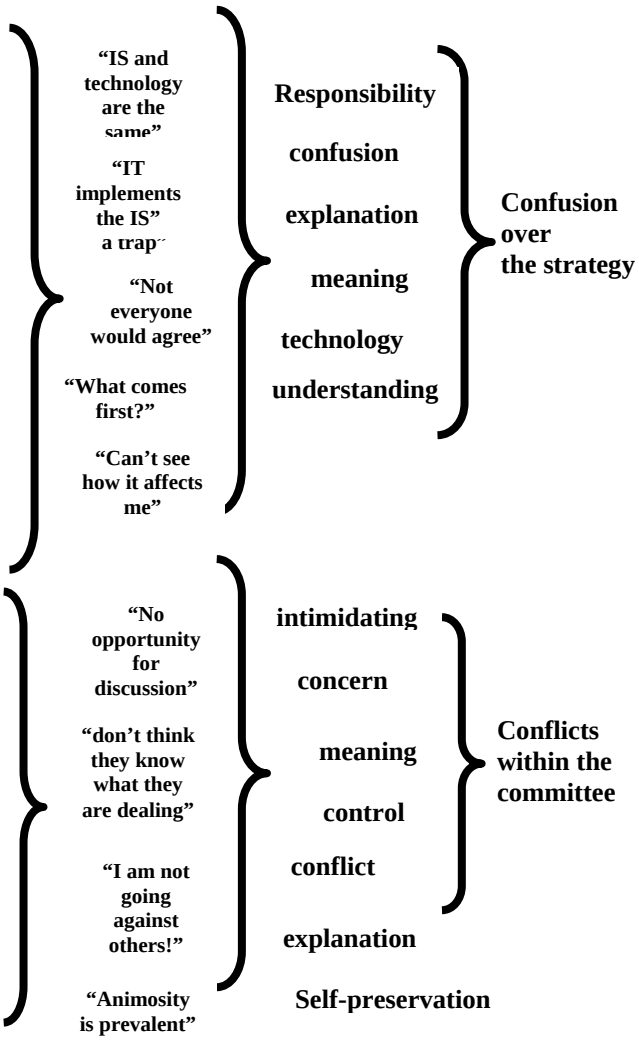
> *The term 'education' was raised during a number of interviews, was this inferring a lack of understanding on behalf of others, a lack recognition of what was being undertaken, or more guidance was required to bring everyone together – all seemed quite plausible*
>
> *(Researcher's notes 2004 – including name, position and date of interview/ee)*

Some of the reoccurring terms from the transcripts included: *education, understanding, confusion, history, content, ownership, roles, conflict, technology, meaning, outcomes, impact, control, relevance, necessity of the strategy, contribu*tion, all of which became the first stage of the coding process. The transcripts were revisited to highlight, using different coloured highlighter pens and post-it notes, where the terms appeared or where discussion may relate to the terms identified. This can be seen as 'fracturing' the data as it allowed the researcher to think about and attribute meaning to the data collected (Bryman & Bell, 2011; Miles & Huberman, 1994). The terms were aligned with interviewees and could therefore be attributed to disciplines, so each discipline was given a colour and each term was coloured, although the number of terms was quite extensive initially, they were subsequently reduced through the process of thematic analysis, as seen in *figure **15, p104***. At the same time the linkage to disciplines allowed the researcher to use the process of perceptual mapping, whereby dependent on views elicited from the interviewees and through discipline alignment the researcher was able to place the interviewees within Hirschheim & Klein's information systems development model, as seen in *figure **28, p135***.

Overall this process followed the principles of inductive, grounded theory (Dougherty, 2002; Eisenhardt, 1989; Glaser & Strauss, 1967). This process entailed the movement between the collected data, documentation, emerging themes, the related literature and informal discussions with committee members. Once the initial themes were identified, the themes which came out of the data (in vivo) rather than being imposed from outside (Agar, 1980), were then used in feedback sessions with the ISC.

Figure 15: Coded Text and Theme Elicitation

Participant	Discussion /Text
Interviewee E	Surely the IS and the technology that manages it are one in the same
Interviewee K	I think I am coming from the view point of an IT strategy; because the IT strategy implements the information strategy
Interviewee F	Let's not fall into the trap of having a bodged IT strategy that provides just the infrastructure, PCs and the MIS strategy
Interviewee C	Information strategy is a strand of the IT strategy but I not sure everyone would agree!
Interviewee P	I am not clear what come first, that's why we have taken some time to get to where we are
Interviewee N	I can't see how this strategy affects me, I am not going to ask!
Interviewee E	I don't think they know what they are dealing with; some people in there wouldn't know information if hit them on the head, they don't see the bigger picture.
Interviewee C	I don't think there was an opportunity to raise that kind of fairly basic, fundamental question in the meeting
Interviewee K	I am not going to go up against higher individuals within the committee and say I disagree with this approach
Interviewee Q	There is certainly animosity within the committee



4.5.1: Thematic Analysis

The use of thematic analysis and content analysis were mechanisms used to manage and represent the complexity of qualitative analysis (Boyatzis, 1998). They were used to allow the translation of a qualitative narrative into quantitative data, as seen within *figure **16**, **p105***. Where the narrative quotes were aligned within particular themes and then counted as a mechanism for identifying which 'themes' were more prevalent in terms of what the interviewees were saying about the strategy formulation process. It is noted that although the number of occurrences influenced the importance placed on a theme; it was also the context in which the theme was mentioned that also influenced its importance. In hindsight the researcher would identify that those tasked with the strategy formulation did carry more gravitas as they were seen to be leading the process. In reality it could be argued that they were in essence just privileging their own views as their views resonated with what they wanted to do and wanted to achieve. That is, what

was presented at committee meetings was from a particular view which supported what they wanted to achieve, so met their objectives making the process simpler to manage and control.

Figure 16: Template Analysis of Quotes, themes and disciplines

'A' – A Conflict of understanding regarding the constituent elements of an information strategy	**Total no. of responses**	**B**	**C**	**K**	**E**	**N**	
• "There is a default tendency to think of information in terms of IT and IT is but one part of an information strategy" (B)	25	✔					
• "Previously I had responsibility for IT, I asked for an information strategy and what came about was a technical document; it was this is what we need to run the business, this is how we are going to get it" (E)					✔		
• "If you take the IT strategy - that sits within the information strategy it's a strand of it **BUT** I am not sure that everyone would agree with that"			✔				
• "I think that if you asked ten different people you will get ten different answers"				✔			
• "I think there was a feeling that the information strategy in the large respect was aligned to the technology" (N)						✔	

●● - Total number of responses for the particular theme ●● - Responses from IS staff
●● - Responses from library and learning resources ●● - Responses from Senior Management
●● -Responses from the General Management discipline but seen at a different level to SMT

(*in-line with content and template analysis identified within appendix **19, p244***)

4.5.2: Coding Practices and Theme Generation Summary

The notion of coding and theme generation was tied to the use of grounded theory. In that the data was collected and inductively a theoretical account of the general features of the problem situation started to emerge. The use of thematic and content analysis allowed sense to be made of the complex qualitative data collected and provided a mechanism from which to identify multiple logics and institutional complexity which were 'killing' the process of information strategy formulation. The recognition of certain themes, specifically conflict, confusion, order and responsibility made the chair of the information steering committee uncomfortable and resolute that this had to be addressed quickly.

4.6: Ethics Statement

At the time of the research and when the field work was undertaken there was no formal requirement to gain research ethics approval. However, the researcher would acknowledge and is conscious of the research ethics principles, specifically confidentiality and anonymity and would identify that consent was obtained from all interviewees prior to the research being undertaken. All interviewees were aware of the researcher's roles and gave permission for the interview process to be recorded. The

aim of recording all interviews was twofold. Firstly, it allowed the researcher to transcribe interview material more accurately but also to revisit points that were not necessarily picked up upon during the initial interview. The researcher was able to return to interviewees to gain clarification and well as in line with the ethics process offer a transcript of the interview to the interviewee for confirmation of what was said and what was reported. The opportunity for interviewees to read the transcript ensured an ethical and robustness to the process and provided validity in terms of quotes and interpretations that the researcher had made as a result of the interview process. In hindsight the majority of the interviewees acknowledged the transcripts as being a fair representation of the discussion and only two asked that quotes would not be attributed to the individual.

4.7: Research Methods Conclusions

The use of a mixed method approach to evidence collection is one which is seen as being supportive of creating rigour, robustness and transferability within this research. As the researcher has clearly acknowledged those aspects of the research process which are deemed to be important and identified how each aspect fits into the overall research undertaken. This then creates a level of transparency that allows the readership to identify how and why the research has approached the investigation in a particular way and why certain methods have been used to collect evidence. The researcher would like to note that within the research design different approaches were used i.e. case study, grounded theory, action research and soft systems methodology. They were used in varying degrees and for different purposes at different times. This is said to indicate that the researcher is aware of different schools of thought within different research designs, for example grounded theory; the researcher was not exclusively 'buying' into any of them but was pragmatically taking ideas from them that were useful to the research undertaken, especially in terms of how the researcher extracted meaning and interpretations from the research material. This pragmatic approach to the research process aligns with the researcher's view that one can have plurality of methods but not philosophical plurality as seen in Knox 2004 & 2015. It is now prudent to contextualise the complexity and uniqueness of the case study institution.

Chapter 5: The Case Study – an historical account of the process

5.0: Introduction

The following section introduces a case study within a higher education institution given the fictitious name of Stapleford University; although the name is fictionalised the work was based on a real world institution. In reality, Stapleford University is a large, diverse, 'new university' formed as part of the change in higher education that occurred in 1992. Stapleford University encompasses a main city location as well as a number of additional satellite campuses making it one the largest higher education institutions (HEI) and education providers in the U.K.

This chapter provides a précis of the case study work and the activities of the information steering committee (ISC) explaining how it came about, its actions throughout the research and its eventual demise. The discussion is based upon the chronological events that occurred, the actions and outcomes of committee members and their attempt to construct an information strategy. The purpose of the chapter is to provide a historical account and context that will make the analysis of the case study in the next chapter easier to understand; and to describe the researcher's role in the case study.

5.1: Contextualisation

The entirety of the information strategy formulation process, at Stapleford University, spanned some twelve years. This encompassed the initial documentation, which was referred to as an information strategy, through to the disbandment the committee set-up to reassess and redesign a new information strategy. The researcher's involvement focussed upon the last five years of that period; which were the most active and informative. Historically, Stapleford University was static in its approach to the notion of an information strategy, relying on the fact that they had an historical document and changes would emerge from that starting point. In fact when the new committee (the Information Steering Committee) was formed and first met, some members acknowledged the existence of an information strategy but stated *that it was obsolete and not properly deployed* (**minutes of the ISC 11th October 2002**). Interestingly, this comment was from *interviewee **F***, who at that stage was one of only two individuals, in the committee, who had actually seen or read the document. That initial foray, in terms

of producing an information strategy, was based on views from the library and was written by the then Head of Library Services (*interviewee **Y***) in response to a need to have an information strategy in line with changes that were occurring within higher education, at that time; and in response to issues raised by the Follet Report. The Follet Report (1994: 1) specifically identified that *each institution should fundamentally reassess the way it plans and provides for the information needs of those working within it, and the place of the library in meeting those needs*. This view of 'providing information' was certainly attached to both libraries and technology services, both of which were seen as providing access and managing information resources.

Significantly throughout the 'historical account', the perception of an information strategy had taken many guises. Initially, it was seen as technically focussed approach (*information strategy 1995/96 – 1997/98*), it was also viewed as being linked to a library and learning services driven strategy as guidance was given by outside sources which absolutely encouraged and aligned this relationship, namely The Follet Report and JISC (the Joint Information Systems Committee). Although within Stapleford University's information steering committee (ISC) there were discussions regarding what the information strategy would look like in the 21st century much of the thinking still resonated with earlier views of what an information strategy entail. That is, even though the issues of managing, and responsibility of information were identified they were in essence still seen as issues that focussed upon the role of technology and managing access to information. This then infers that information was a valuable 'thing', a valuable resource in its own right and one that can be abstracted, collected, stored, codified, disseminated and managed (Swan & Scarbrough, 2001).

It was clear from the information steering committee's remit, *...to formulate, approve and oversee procedures for the promotion of the greater understanding of the production and use of information within the university*…, that knowing what information was available and subsequently how to manage and use it was important. This reasoning formed the basis of the committee's direction; as seen in both their initial documents *Information Strategy 1995/96 – 1997/98 and 2002*. The need to redesign and reassess in 2002/03 indicated the importance placed upon having a strategy that was fit for purpose. Given that technology had changed dramatically since the first attempt, back in 1994/5, it was now deemed appropriate to update that document. Again the researcher would argue that there was an unquestioned and unconscious link made between the role of technology and managing information via

that conduit of technology even at that early stage. The view that information was an *important strategic resource* (*Stapleford University's Information Strategy 1995/96*) had not changed and the remit of the committee in relation to ensuring that occurred can be seen within the **Principal Responsibilities** and the **Terms of Reference** of the committee, identified below:

> *The committee noted that, although the university does have an information strategy, it is obsolete and not properly deployed and a new information strategy should be developed.*
>
> *(minutes of ISC meeting October 2002)*

The Principal Responsibilities of the information steering committee were:

1. *Executive authority for the information strategy lies with the Pro Vice Chancellor (Learning & Teaching);*
2. *The implementation of the strategy will be monitored via the Information Steering Committee, reporting to the University Executive;*
3. *The Director of Information & Learning Resources and the Director of Information Technology Services will take strategic and operational roles in implementing the strategy and ensuring the alignment of the university services within the strategy.*

Minutes of the ISC meeting 11th October 2002

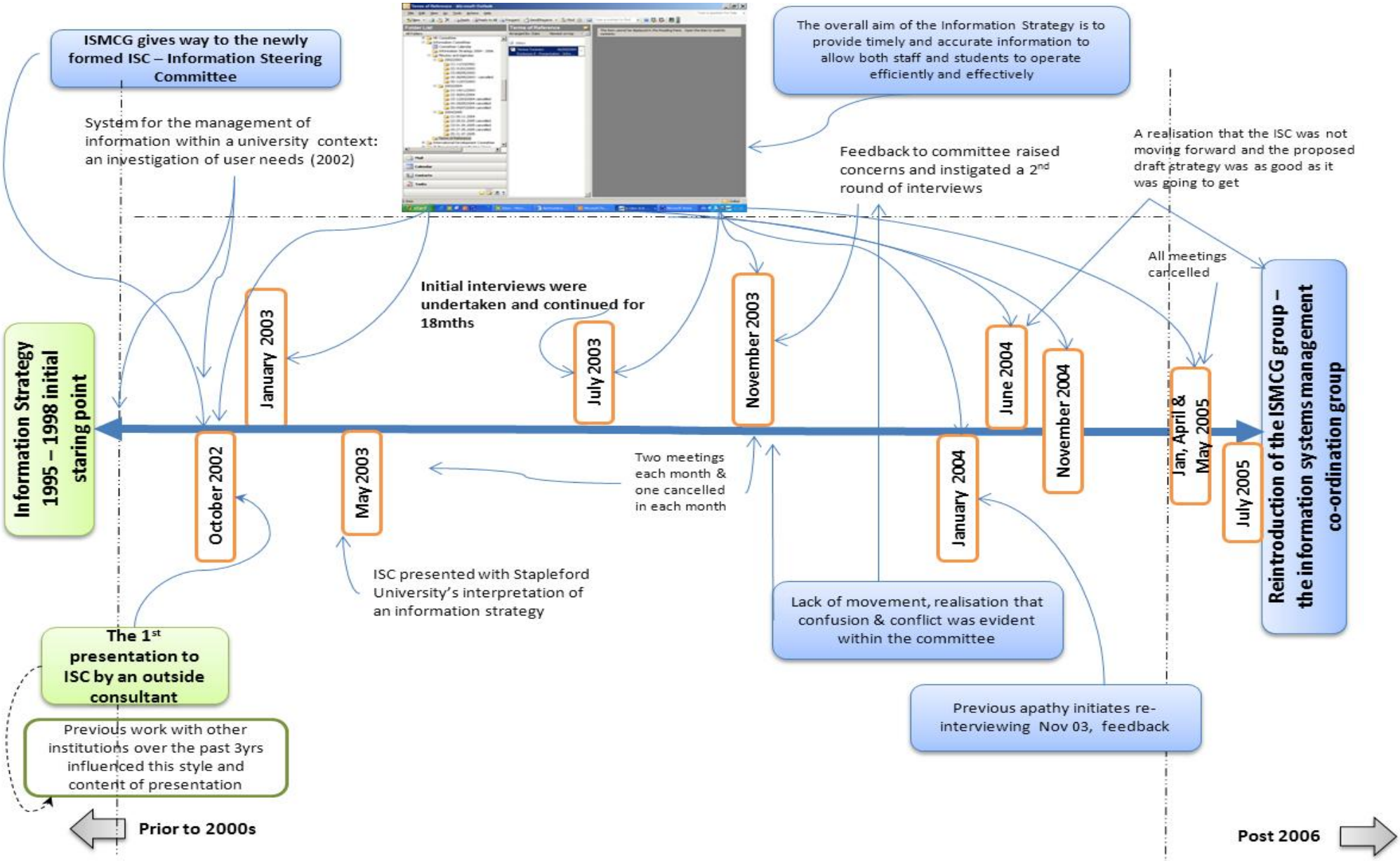
The Terms of Reference of the ISC were:

- *To formulate and approve the university information strategy having regard to JISC recommended good practice, and to make recommendations to the University Executive;*
- *To formulate, approve and oversee procedures for the promotion of the greater understanding of the production and use of information within the University, and to make recommendations to the University Executive;*
- *To approve, and make recommendations to the Executive on general system developments and infrastructure, to progress implementation of the University information strategy;*
- *To monitor the implementation of the University information strategy, systems and processes and to report to the Executive regularly on progress.*

Minutes of the ISC meeting 11th October 2002

It seems clear from the above statements that the focus was upon developing a new strategy that was 'fit for purpose' in terms of the managing, production and use of information; but more importantly that the responsibility for its strategic and operational implementation would be with two specific individuals – one from libraries and learning resources and one from technology services. This event, in hindsight, would end up privileging certain views and approaches in order to achieve and provide an information strategy to the ISC. What follows is an historical account of that process; *figure **17**, **p110*** provides a diagrammatical representation of the events that unfolded throughout the process.

Figure 17: The Sequence of Events 1994 – 2006 – ISC



It seems clear from the 'terms of reference' and 'principals' of the ISC that the focus was upon developing a new strategy that was 'fit for purpose' in terms of the managing, production and use of information; but more importantly that the responsibility for its strategic and operational implementation would be with two specific individuals – one from libraries and learning resources and one from technology services. This event, in hindsight, placed pressure on individuals, privileged certain views and approaches in order to achieve and provide an information strategy to the ISC.

At this point it is necessary to discuss the researcher's role in the case study, which was facilitated in a number of ways. Firstly, having previously undertaken a small research activity provided a strong basis from which to expand ideas; and secondly, it provided a sense of understanding and familiarity both with the institution and employees. Gaining access to individuals and gaining their trust is not always straight forward. Therefore, this staged process addressed these issues and allowed the researcher a level of familiarity with some individuals that in turn provided access to others. This level of familiarity and trustworthiness provided an environment where individuals were able to 'air their views candidly'. In hindsight, this was crucial because of the following factors:

- the importance placed upon formulating an information strategy by senior management and an unwillingness of individuals to question this process;
- the level of involvement attributed to this strategy formulation process and its importance in the wider university strategic process; and
- a difference of understanding and commitment to the strategy and an inability to articulate that difference.

The following section builds on the sequence of events outlined in *figure **17***, *p**110***, and highlights the salient aspects of that process with regards to the information strategy formulation process.

5.2: The Reasoning and Focus for the Information Steering Committee

The starting point of the whole process was the Information Strategy 1994/5 document. This was obtained from the Director of Library and Learning Services and was the work of the previous Head of Library Studies, who had since moved to another institution in 1999. The fact that this document was still owned, located and for all intents and purposes the property of the library, as it was then known, indicates the affiliation

between the information strategy and Library Sciences. It was an attempt by the then Head of Library Studies (*interviewee **Y***) to *raise the profile and prominence of the library within the institution and in response to outside bodies specifically referring to the role that the library should play in the management of information*.

The document clearly sets out views and interpretations of information and the information strategy. A summary of the key points are provided below:

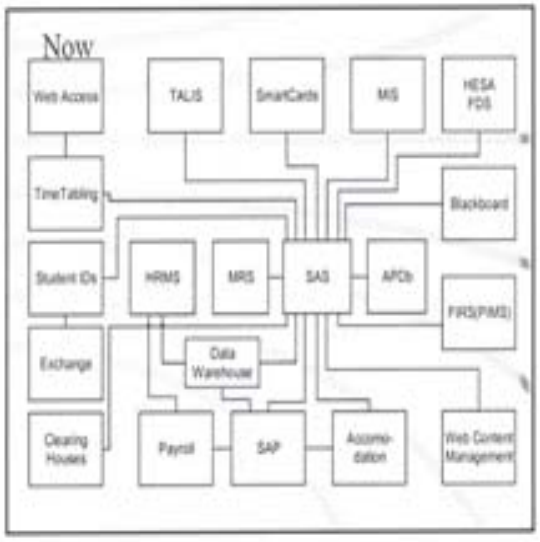
- *information is a powerful strategic resource for the university*
- *it [information] will increasingly be held and used in electronic forms*
- *the information strategy is designed to provide effective academic and administrative information services, to offer a suitable underpinning infrastructure*

(Information Strategy 1995-96 & 1997-98; 1-3)

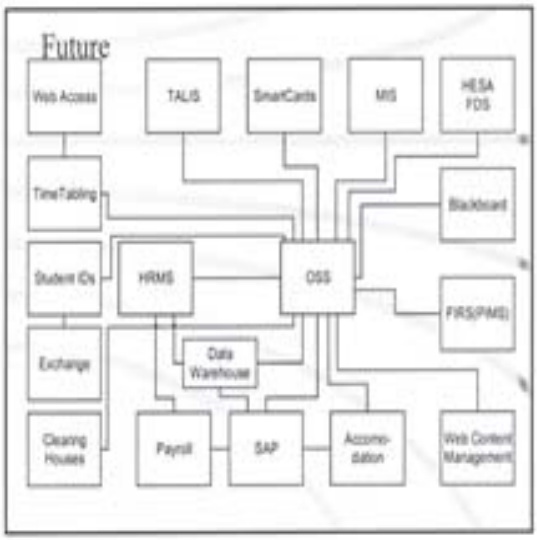
This interpretation of information aligns with views found within the LIS discipline where the notion of tangibility and access form the tenets that Library Sciences ascribe. At the early stages of the information strategy formulation process, much of the initial discussion was about updating the document as opposed to questioning its validity, content, interpretations and inferences. This was further influenced and guided by the focus on the current systems available for the management of information within the university context, emphasising mechanisms used to manage information, and not the notion of information. Upon reflection it is not surprising that initial attempts at updating the information strategy focussed upon the mechanisms used to manage that information, as seen in *figure **18***, *p**113***. Given the starting point of the historical documentation, the influences from outside bodies but more importantly the selection of those individuals tasked with leading the strategy formulation process; that was the Director of Information Services and the Director of Library & Learning Resources - where the term library was subsequently changed to information making the linkage even more pertinent, now becoming the Director of Information & Learning Resources.

Figure 18: Stapleford University's main system map for information management

NOW - Taken from information strategy 1997/98



Future - Presented at the ISC June 2004



Inclusion in presentation to the ISC June 2004, *Interviewees **F** & **G***

The 'Now and Future' scenarios focus upon streamlining the technological systems as a mechanism for managing and providing better access to information, as seen below:

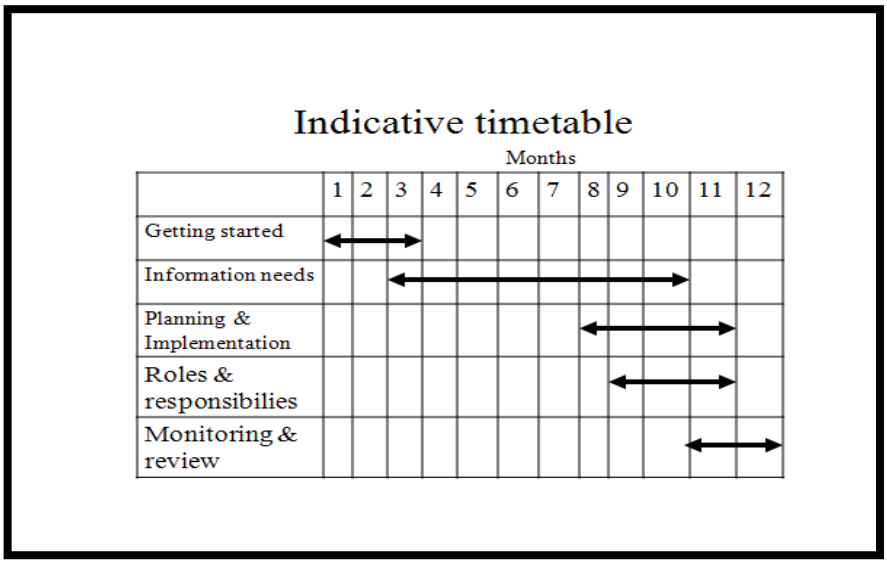
> *Principles – the following principles will be followed at all times as we develop the information strategy:*
>
> - ***Learner Centric** – the learner should be at the forefront of all activities and decisions relating to the procurement, design, development and deployment of information services.*
> - ***Support the University** – we will endeavour to provide the right tools and information to enable excellence in Learning, Teaching and Research through collaboration leading to a knowledge driven culture. 'Learner' in its broadest context – customer could be learner*
> - ***Value for Money** – we will seek to provide the right quality at the right price.*
>
> *Interviewee **F**&**G*** presentation to ISC June 2004

What was evident from the presentation was a focus on removing old and outdated academic administration systems (APDb, MRS & SAS, see *appendix **12**, p**232***), streamlining the administrative process and providing support for flexible courses, this was the essence of introducing the new OSS (Oracle Student System); all in the name of improving access to and managing information. The complexity and technological focus excluded a number of committee members, limiting interaction and discussion. The majority of ISC members were more interested in the 'outcome' of such systems not the underlining mechanisms that emphasised the use of technology to manage information within the institution.

The tabled discussions focussed upon amounts of data stored, the number of visits to the online library services and the available resources as well as numbers of catalogued books, purchasing orders, management of databases and access to this information, all of which emphasise the notion of managing information through technology. It was noted that many members of the information steering committee felt comfortable with this interpretation as it provided an implicit view that information was being managed. Interestingly this may be part of the reason that leads to a 'hollow' strategy as seen in the next chapter. They were, however, unsure of where their divisions 'fitted' into the technological infrastructure of the university and how changes would affect them and their use of information. It was identified, in subsequent interviews, that the technological focus precluded members from engaging with the process and they were not about to raise issues regarding their understanding in that forum or at such an early stage of proceedings. In hindsight ISC members accepted the relationship between technology and information, but identified their interest lay in ensuring continued access to what they currently had; *interviewee **C*** stated *the preference was to see what was to come in subsequent meetings and presentations and assess how this would impact upon their division and activity to decide if any action was needed*.

The need to update the 'old' information strategy, from the researcher's observations of committee members, indicated that the process was not one that was seen to be overly onerous. In fact the initial time table for this process is set out in *figure **19**, below:*

Figure 19: Proposed timetable for the information strategy formulation



(Source: Presentation to ISC committee members October 2002, slide 15)

There was an underlining assumption, by all members of the ISC, that the strategy would be completed and signed off within the time frame proposed. *Interviewee **G*** identified that the process would be *fairly straight forward, that it would progress in very much the same way as all other strategies and that it would be done and dusted within the coming months*. *Figure **20***, below highlights the initial time frame that the committee intended to work towards.

Figure 20: Schedule of intended meetings of the ISC

Source: Presentation to ISC committee members October 2002, slide 16

Upon reflection the time frame became years and not months; and although there was an intensive period of eighteen months where much of the activity occurred the researcher would suggest that over the three year period of involvement the strategy formulation process dissipated into an ineffectual exercise that was eventually subsumed into another committee that of the Information Systems and Management Co-ordination Group (ISMCG), where the emphasis and make-up of the committee lay with technology.

The Information Steering Committee (ISC) had set itself a huge task within a very short period of time; however this was on the proviso that the strategy was much the same as any other strategy and that all parties understood and agreed upon what the strategy was there to achieve and there was clear direction on how to proceed. What followed were a set of meetings, interviews, presentations by both internal and external committee members and 'heated' discussions regarding the nature and purpose of the information strategy.

It was at this stage that the researcher undertook a series of interviews in an attempt to gain an understanding and feeling for how this formulation process would occur. The

researcher interviewed all committee members on a number of occasions. Initially the interviews were fact finding meetings but it soon became evident that more discussion was needed and so the whole interview and re-interviewing process occurred over a 3 year period. Alongside the committee meetings the researcher also gained access to external individuals who were themselves involved with formulating an information strategy at other higher education institutions. The contacts came through the 'JISC infoNet' network. This was a 'spin-off' from JISC itself and was primarily for those involved in managing information and technological resources within higher education institutions, *appendix **13, p233***, provides detail of JISC infoNet; access to JISC Infonet, occurred through *interviewee **Q***, a member of the ISC who had been seconded.

This new role for *interviewee **Q*** inferred that Stapleford University had a strategic advantage and raised the profile of the University, as it would *be good for the university and put them at the forefront of information strategy formulation (interviewee **Q**)*.

Returning to the committee meetings where often a quorum of members was not present making the meeting ineffectual. However this did provide an opportunity for the researcher to discuss points and issues that were emanating from the interview process with individuals who were present. The committee meetings provided historical documentation in the form of minutes of meetings and were used by the researcher to raise points; they were usually as a result of informal requests, from committee members asking the researcher to raise points. These requests were partially to do with points of clarification but also to do with points of implementation of the strategy. *Interviewee **(N)*** stated *I can't see how this strategy affects me or the department but I am not about to ask that question in open forum.*

What was evident from the committee meetings was that at a very early stage committee members were becoming uneasy about the interpretation of the information strategy process and what it would mean to their role and responsibility within the university. There were evident allegiances within the committee membership, often drawn on the basis of roles and responsibilities held within the university, such as academic, management, support services and senior management.

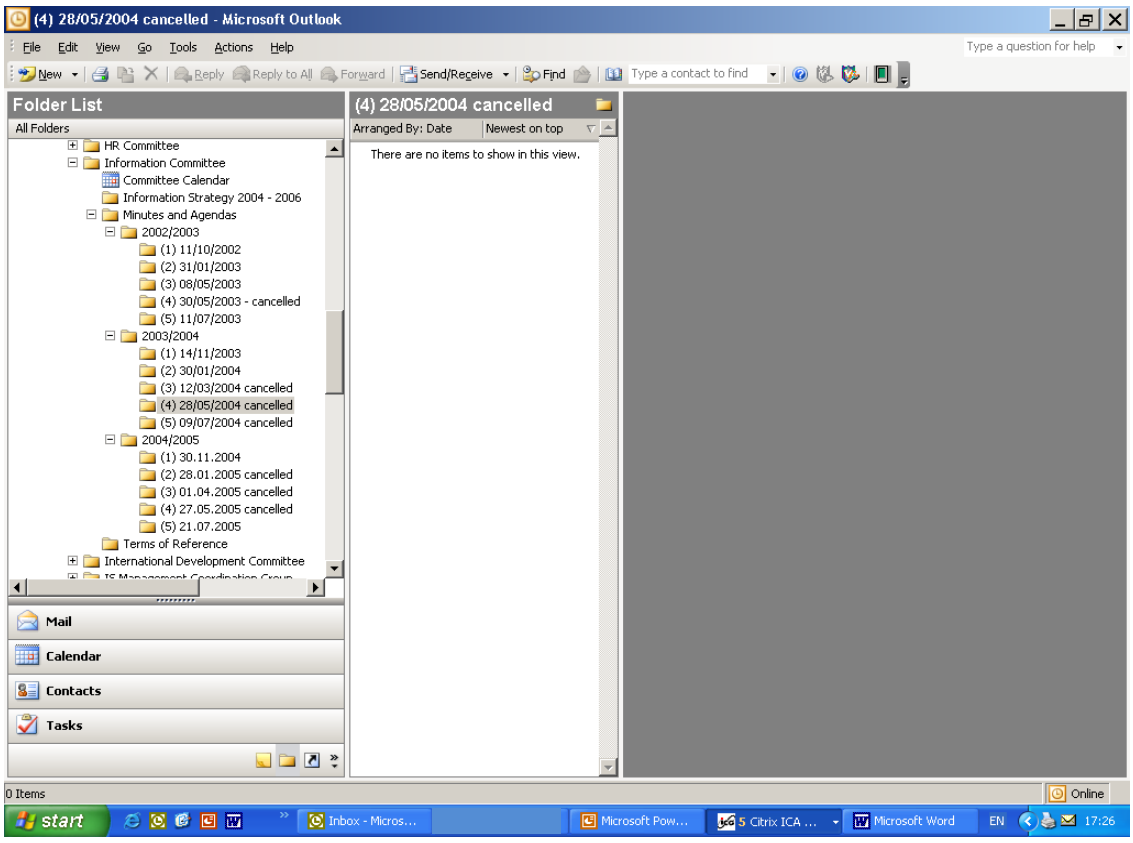
The researcher's task, at this stage, was the continuation of the interview process and meeting with ISC members informally. The researcher wanted to understand what

committee members understood by the terms 'information', 'information strategy', as well as understanding the process that was being enacted. With the ISC meetings being formal and structured, the informal meetings were extremely valuable in terms of raising questions, addressing ambiguities or gaining clarification. They also acted as an opportunity for *interviewees* ***F&G*** to gain feedback, from the researcher, prior to any unwanted questions being asked at the ISC, a rather politicalised approach.

5.3: An Overview of the ISC Meeting Process

There was a set schedule that was driving the ISC, as seen in *figure **21**, below*, where retrospectively there were fifteen meetings set out initially but only seven actually took place; even some of the meetings that were not identified as being cancelled were not held, reducing the actual number of meetings that took place. Indicating that although at the outset the notion of an information strategy was seen as important and had the 'backing' of committee members, over time this became a 'task' oriented process that members felt was not moving forward and related very little to their normal activities, producing an apathy towards the committee and the information strategy, making the interview process and informal meetings extremely important in gathering data.

Figure 21: ISC outlook folder, highlighting scheduled meetings



The subsequent meetings, held by the ISC, are shown in *table **5**, **p119***; where a brief summation of each meeting is provided together with identified outcomes. It should be noted that the meetings that were cancelled are not shown in *table **5*** but played a significant part in the overall dynamics and function of the steering committee's ability to gel and formulate an information strategy. The cancelled meetings are identified below:

- **8th March 2003** – initially set out in the time schedule but seen to be too soon after the January meeting to allow any real progress to be made.

- **28th March 2003** – again this cancellation was specifically requested by *interviewees **F&G*** to enable then to provide a more coherent strategy at the next scheduled meeting. Not part of the outlook calendar list but was part of the meetings identified in Nov 2002. The cancellation of this meeting was placed in the context of two subsequent meetings in May 2003. Where the two meetings would act as an opportunity to offer a draft initially and then receive feedback and amend the draft in time for the second meeting where a more coherent strategy would be forthcoming.

- **30th May 2003** – meeting cancelled as the draft was not well received, issues over similarities to outside consultants presentation and therefore how was this specific and unique to Stapleford University's needs. There was also an issue of clarity and detail so as *interviewee **F*** was not available there seemed little point in holding the meeting. What seemed apparent was that the notion of an information strategy was becoming more elusive and ISC members seemed unsure about its interpretation. Little feedback was forthcoming from ISC members leaving *interviewees **F&G*** to formulate documentation this was creating a rift between committee members.

Further meetings were cancelled until more progress was made on the formulation of the information strategy. Meetings scheduled for **12th March 2004, 28th May 2004, 9th July 2004** were all cancelled and no documentation was forthcoming. This approach to cancelling meetings continued with the cancellation of **28th January 2005, 1st April 2005 and 27th May 2005**, all of which just exacerbated the spiral of inactivity.

Table 5: Précis of ISC meetings: content and outcomes

Date	Content	Outcomes
11th October 2002	- Initial meeting, setting the scene, terms of reference, roles - Identified a previous information strategy, but it was obsolete and not properly deployed - a initial depiction of an information strategy (*appendix **14**, **p233***). Also the initial draft of the strategy is provided in *appendix **15**, **p234***.	- A new strategy was needed in light of changes and advancements in technology, the changing nature of higher education and reliance ICT – a more 'fit-for-purpose' strategy was needed. - the use of internal expertise was stressed as important, *interviewee **F&G*** were tasked with producing discussion points for next scheduled meeting
31st January 2003	- strong turnout in anticipation of viewing the information strategy!	- Presentation fell short of expectations - focussed upon information & information technology strategies – as seen in *figure **23**,**p122***
8th May 2003	- Main agenda item was to receive and consider the first draft of the information strategy – *appendix **15**, **p234*** and the pictorial representation is provided in *figure **22**, **p121 – comments on that first draft are seen in appendix **16, p235*** - information strategy based on an outside consultants interpretation – *figure **23**, **p122***	- Two meetings one to consider the draft, the other to redraft the strategy in line with comments and feedback from other ISC members. - pressure was placed on having a coherent strategy. - presentation bought interviewees ***F&G*** more time to further develop ideas and gain a better understanding towards what the information strategy should look like
11th July 2003	- the whole issue of the relevance of the ISC was being brought into question - there was a written document that highlighted the context and objectives of the strategy – *appendix **15**, **p234***	- No more meetings would be held until the information strategy was approved - this was a strange approach to take but little movement had occurred to date.
14th November 2003	- it was felt this would allow time to refocus and allow others to comment on the draft strategy – again this was an ineffectual approach.	- members not enamoured with the situation and the information strategy was not going anywhere! - contempt and apathy for both the tasked individuals and the information strategy – due to its lack of focus - it was seen as too important to rush and the chair would ask the VC for more time – it was agreed that the information strategy would be completed after all other strategies were finalised – as the information strategy supported the other strategies!
30th January 2004	- this came and went – poor understanding and little change to previous situation	- further documentary evidence was needed to understand views raised by ISC – more interviews, now to be undertaken by *interviewees **F&G***
30th November 2004	- confirmation of minutes of meeting that were held in January 2004! - a focus on technology and feedback from ISMCG – indicating another committee had come into being – no ISC occurred or was mentioned!	- no meetings had been held for almost a year during which time nothing had really happened and no movement on the information strategy.
21st July 2005	Final Meeting – never held and cancelled	ISMCG – came back into operation

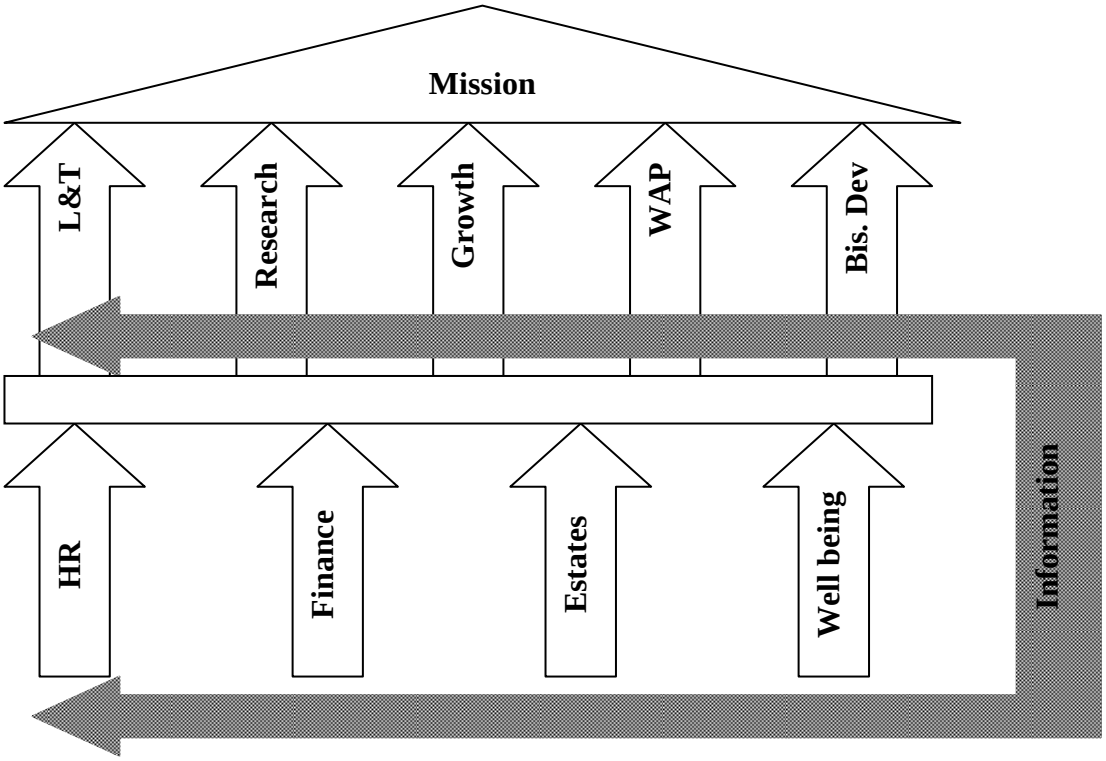
What is evident from the above meetings was that by July 2003 committee members were starting to question the relevance of the committee and its ability to formulate an information strategy. Also, the level of commitment and participation of members was starting to fade; leaving members looking for ways to avoid and remove themselves from the committee's activities. Unfortunately for *interviewees **F&G*** this was not an option or a possibility was they had the responsibility of formulating the strategy. This level of apathy is succinctly stated in the minutes of the meeting under Any Other Business (AOB), where it was stated that:

> *Discussions took place regarding the purpose and effectiveness of the group. It was felt that a committee dealing with information management issues would be more appropriate after the initial task of delivering an information strategy was achieved…* [the comments continued by stating that]… *it was agreed to recommend the review of the effectiveness of the committee in its current format*….[and that the ISC also] *….agreed not to hold any future meetings until the information strategy was approved.*
>
> (ISC minutes July 2003)

This raised issues as it seemed strange for the committee not to meet again until the strategy was approved. What transpired as a resurgence of the ISMCG as this committee was focussed upon issues that committee members felt more aligned to. *Interviewees **F&G*** both acknowledged that trying to get other committee members involved was a lost cause; what had been provided to the committee for review was seen as a sense of déjà vu, that is they the 'tasked members' were back to where they started, in terms of being solely responsible for the formulation of the information strategy and nothing had changed since the start of the process. *Interviewee **G*** identified that feedback from the committee through activity sheets (sheets to record data regarding the information strategy) were *still to be distributed* and that *the exact requirement of this activity sheet* still needed to be clarified. Indicating that there had been little or no movement on the previously raised point of trying to find out from committee members what they wanted from an information strategy. Not knowing what members required made it difficult to incorporate their requests. There *was evidence of a 'final draft of the information strategy' being available* as stated by *interviewee **G*** however, *this could not be formally approved and/or distributed until it was re-viewed in the context of the key university strategies, which would be discussed in September* [2003] (ISC minutes July 2003). The initial draft can be seen in *appendix **15, p234.***

*Figure **22, p121***, portrays *interviewees **F&G*** version of an information strategy and its relationship to other university wide strategies.

Figure 22: ISC interpretation of an information strategy



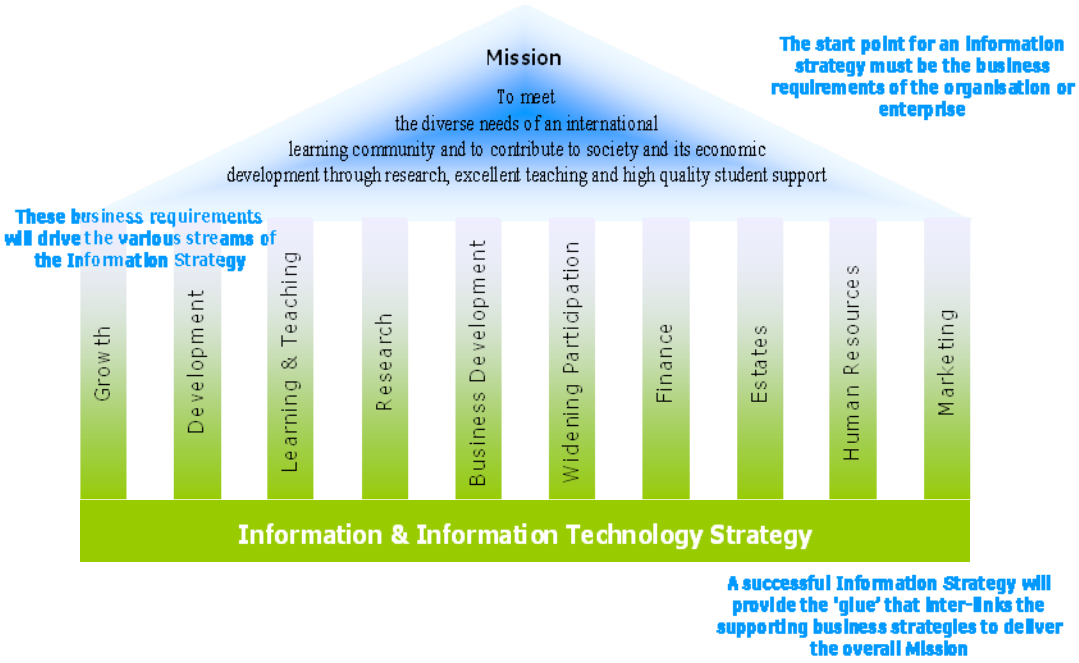
Source: Stapleford University's Draft information strategy, May 2003 & ISC meeting November 2004 (Learning & Teaching, Research, Growth, Widening Participation, Business Development, Human Resources, Finance, Estates& Well-Being - each stream of the strategy is expanded upon in *appendix **17, p236***)

Although the above diagram portrays an element that is referred to as an information strategy; it was used to show where the information strategy was 'located', in terms of other university strategies. In reality, the diagram is a pictorial representation of a group of strategies indicating '*here is our strategy*' alongside other strategies but is devoid of content. In hindsight *interviewees **F&G*** identified that

> *Our initial diagram was a means of raising debate about where the committee might view the information strategy in relation to other strategies but we were unsure of how this fitted together*
>
> (*Interviewee **G***)

*Figure **23, p122***, provides a similar style diagram but 'groups' information and an information technology strategy as one in the same, acting as a supporting mechanism to other university and business strategies all within the remit of an information strategy framework – this term of an 'information strategy framework' is taken from Earl's (2000) work, seen in *figure **2, p31***.

Figure 23: Outside consultant's representation of an information strategy



Source: Outside Consultants Presentation to ISC meeting 31st January 2003, slide 1.

The crux of the presentation focussed upon the above slide. The outside consultant's presentation included terms or phrases such as '*the strategy must be a living and guiding document*', providing '*access to resources*', acknowledging '*information technology trends within higher education*', and supporting '*ease of knowledge transfer both internally and externally*'. The focus of *Information Assets of the University* was paramount, acknowledging that the *information strategy must support the Mission of the University and drive cohesion and alignment through supporting directional strategies.* The formality of this language and the lack of detailed content will be important in the next chapter in developing the notion of a 'hollow' strategy.

It is apparent that there were similarities between both representations of an information strategy. What differentiates them was that the former shows information cutting across and informing all other strategies thereby coming later in the strategy formulation process; and the latter focusses upon an underpinning approach suggesting a need to be in place first. Both are still devoid of content and act as a basis for the notion of visual rhetoric discussed in the following chapter; in essence on the surface they seem plausible but delving deeper raises more questions than answers.

5.4: Case Study Activity and Events Summary

The ultimate outcome of the sequence of events regarding the ISC was the disbandment of the ISC and with it the information strategy project. In theory the strategy and its focus was subsumed into another committee that of the ISMCG. The ISMCG was a committee that was operational prior to the commencement of the ISC but was 'put on hold' as it was felt that a dedicated information strategy committee was needed. Its resurgence promoted the technological aspects of managing information and members stated they were much more *'in tune'* and *'akin'* to the needs of the reformed committee than they ever were with the ISC. It was to be chaired by *interviewee **E*** with close support from *interviewee **G***. In hindsight, the foray into the information strategy formulation process was seen as a 'diversion' from members' everyday roles within the organisation. The apathy, confusion, poor communication and disingenuous approach seen within the ISC can be summed by the following response to issues raised by the researcher:

> *Interviewee **A*** the chair was somewhat truculent in his response to the points raised by the researcher, as *interviewee **A*** stated *this seems somewhat late in the day and seditious to be raising points now, this is not appropriate and needs to be dealt with ASAP*. Other committee members, when asked about the comments and outcome of the ISC meeting stated they *were not surprised at the response but felt fortunate that they had not been the one to raise issues* (*interviewee **R**)*. If they had raised the issues *there would have been the need to provide further explanation* and *they did not feel adequately equipped to answer that type of questioning in the ISC forum* (ibid).

What this suggested was that the role of the ISC actually just 'petered' out and due to certain members moving to the newly re-established ISMCG nothing more was done or occurred regarding the formulation of an information strategy. So by July 2005 the whole notion of an information strategy and its formulation was no longer part of the strategy formulation process at Stapleford University.

The whole process from start to finish was one of mismanagement and misunderstanding of what the committee was actually tasked with producing. *Interviewee **F*** sums up their perspective of the role of the committee by stating

> *Obviously the other members of the committee don't seem to know what they are talking about, in terms of an information strategy, that's why it was left to us in the first place*
>
> (*interviewee **F***)

Analysing this apparent misunderstanding and inability to express and discuss issues that were of concern would suggest was in fact part of the committees 'down-fall'. An environment that precluded the opportunity to ask questions and gain clarification was detrimental to the whole strategy formulation process. One would assume that members who are seconded to a committee are seconded on the premise of their ability and understanding to contribute to that committee's goals. It seems appropriate to recognise the strategic process, in terms of information strategy formulation, and the inability for committee members to participate and engage fully in that process was partly to blame for the ineffectual result of the ISC.

The lack of response and/or involvement from other members of the committee brought into open forum the realisation that individuals had very different understandings of what an information strategy was supposed to provide, and were not ready to raise this in open forum; none questioned the importance of having an information strategy just that there was no real understanding of what or how this was going to be achieved. The fact that members were reluctant to be re-interviewed by *interviewees **F**&**G*** and were even more cautious in their responses indicated that there was a serious undertone to the committee and that it was not going to come to the forefront in committee meetings. In hindsight and through further informal discussions it became apparent that the conflict of understanding regarding the information strategy was one that was not going to be solved easily and that the views held by individuals were in fact deeply entrenched in their own theoretical, professional and work related disciplines. Therefore, creating meaning and understanding out of the situation that the committee now found itself was not straight forward and becomes the focus of the following chapter. The following chapter builds upon the issues raised within the case study chapter and identifies why the information strategy did not come to fruition and why, in 2013, many higher education institutions do not have information strategies or if they do claim to 'hold' an information strategy it relies upon a default position being used. That is, the focus tends to be towards I.T. and I.S., maintaining a link with information and the technology that manages that resource. This relationship is highlighted in *appendix **18, p239***, where an overview of other institutions attempts at strategy formulation is shown.

Chapter 6: The information strategy formulation process: analysis and understanding

6.0 Introduction

The core aim of this chapter is to bring together the literature, theoretical frameworks and case study material. The analysis identifies that the individuals involved in the information strategy formulation process exhibited different values and understandings towards the notion of information; in doing so they highlighted the polysemous nature of information. These differences were a result of each individual's experiences, backgrounds and professional affiliations. The analysis of the case study material identifies that by using neo-institutionalism and in particular the concepts of isomorphism the researcher was able to theorise the issues and problems the information steering committee faced in trying to formulate an information strategy. Crucially the researcher would argue that there is a dynamic relationship between individuals and isomorphic templates. What became apparent was that individuals and the information steering committee did not recognise the tensions between templates and individuals resulting in the strategy process 'drifting' without any clear guidance. Individuals and the committee took solace in their discipline and subjective mind sets focusing upon what was already available and accepted and not questioning the relevance or purpose of what they were doing. This then perpetuated the feeling of déjà vu for many individuals involved in the strategy formulation process, as no progress was made, resulting in the demise of the ISC and an empty an ineffectual strategy for the university.

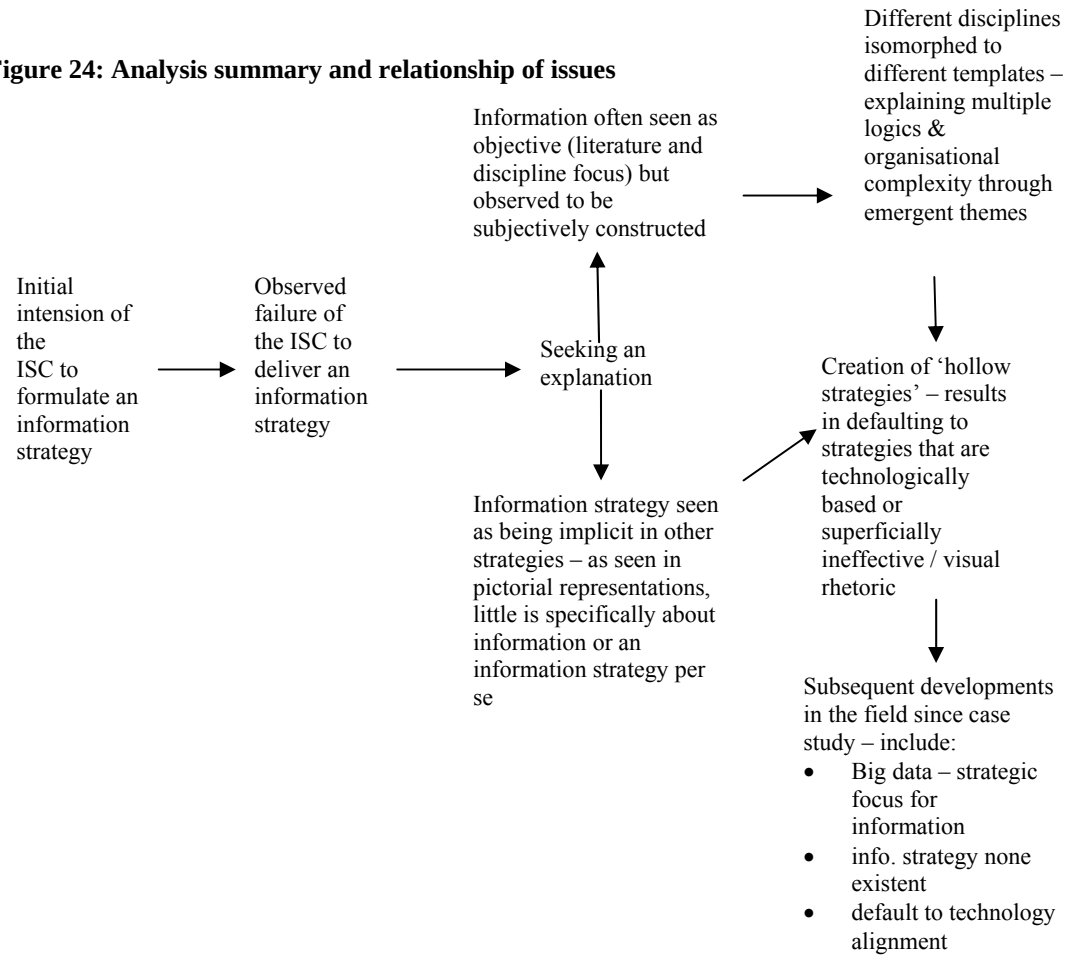
The use and alignment of mimetic, normative and coercive aspects of isomorphism to the main themes that emerged from the research material; in turn influenced actors' views, values and priorities indicates a reason why multiple logics and the polysemous nature of information were in fact so difficult to manage and not immediately apparent in the strategy formulation process. The very nature of the committee meant that individuals were prepared to discuss issues with the researcher outside of the committee environment but were not prepared to raise issues within the meeting; apart from issues of generality for example – where has the strategy changed from previous versions, why does it not show my division, or will I still have access to my current data in a similar format?

As previously mentioned there were three distinct disciplines represented in both Stapleford University and within the constituent parts of the ISC. The identification of the disciplines highlights that through individual alliances or group associations these professions had direct impact on the formulation of the information strategy. The three disciplines were Library and Information Science, IT and Information Systems, and General Management. The latter discipline included accountants, registrars, human resource management and members of the senior management team, as seen previously in *table **4, p102***. Interestingly, within this grouping, interviewees **D**, **F**, **G**, **K** were aligned with IT Services and Library & Information Sciences; all acknowledged issues surrounding the need to fulfil their senior management roles, within the university, as well as issues of alignment to their respective disciplines, highlighting the very essence of isomorphism.

It seems obvious, from both the literature and the research work, why specific individuals were tasked with the responsibility of formulating the information strategy. The selected members were chosen by virtue of their role, expertise in dealing with a notional issue of information and their job title; specifically the Director of I.T. Services and the Director of Information & Learning Resources (a title that initially started as Director of Library & Learning Services/Resources). It was their task to inform and guide the information steering committee in all matters pertaining to the formulation of an information strategy and to provide documentation regarding how this was going to look and be implemented. It was acknowledged by *interviewee **D** that the two individuals chosen to lead this strategic development were in fact the two most appropriate individuals based on their roles and responsibilities within the University*. However, at the initial stages the complexity of the task, the difficulty of the process and the lack of understanding regarding both the strategy and individual perceptions were not realised; all of which compounded the difficulties in dealing with multiple logics, organisational complexities and conflict of understanding.

As an overview the chapter is divided into two main themes, firstly the role that theory has played in providing explanations for actions and secondly a recognition of the importance that the case study material played in identifying why the information strategy was seen as ineffectual, hollow and rhetorical in nature. Initially *figure **24, p127***, provides an overview of how the analysis and its relevant parts are related.

Figure 24: Analysis summary and relationship of issues



The first aspect of the analysis addresses the tensions surrounding the formulation of an information strategy and this is approached from the three discipline perspective.

6.1: The Library and Information Sciences Template

Within the discipline of Library and Information Science and specifically in terms of Stapleford University the Director of Information & Learning Resources acted as the figurehead providing guidance, leadership and strategic direction within the tenets of LIS. As previously acknowledged the tenets of LIS recognise information as being contained within:

- the context of text, paper documents, magazines, books, journals, and electronic sources from databases to media files
- the skills of searching, finding, disseminating, recording, storing, and preserving these traditional and developing resources are all important to the LIS professional
- this resource is both tangible (printed media) and intangible (in electronic media) but still being seen as in existence

This suggests that, from an LIS perspective, an objective view of information is identified, in terms of their role as custodians of information, promoting the notion that information is seen as tangible, codifiable, and a manageable asset that provides value and wealth to those that hold and possess it. This professional discipline view created a dilemma for the Director of Library and Learning Resources as she acknowledged the role she played, within the university, but also acknowledged that *information can be seen in various guises by different individuals* (*interviewee **F***) and therefore trying to *align these differences was becoming an impossible task* (ibid), and that these other views may in fact conflict with an LIS approach. Recent discussions within the LIS literature suggest movement from information management to knowledge management or even information science to knowledge science (Kebede, 2010; Wilson, 2002; Zins, 2007) in a response to changing needs and an evolving role of LIS. This discussion is based upon conceptualisations, processes, goals and scope of knowledge management. One might argue that this 'new' approach is nothing more than previous activity in a different guise. Highlighting that within the field of LIS the notion of information and that of an information strategy has still not addressed fundamental issues of what information is per se and how it relates to LIS; as it maintains the fundamental view of information as a resource and technology is paramount in managing that resource.

6.2: The Information Systems Template

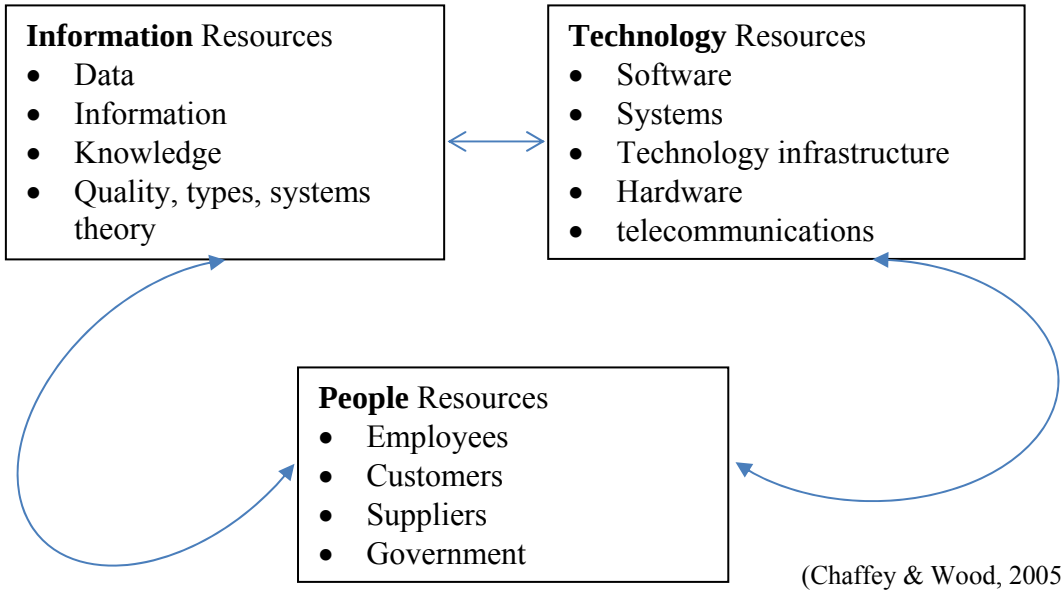
The discipline area of IT and Information Systems identify a specific alignment and historical attachment to the notion of information. The contributing areas of information technology, information systems, and information management strategies all have an implicit assumption that they are dealing with information and are part and parcel of an information strategy as seen in *figures **1 - 6, p30 – 35***. The underlining assumption is that the IS activities and role are providing access, networking, storage and dissemination of information to all parties within the organisation.

The fact that the term 'information' is contained within each of their titles, above, indicates an affinity with the concept of information per se. What is evident is that the role of IT Services and the Information Systems division encapsulates the process of making sure the 'system' works; and that individuals are able to access appropriate and relevant information. The view that information is a by-product of technology and managing technology infers managing information resonates within the discipline. The fact that technology and its entire periphery are viewed as resources equates, from an

IT/IS perspective, with the notion that information is also a resource. Although developments have been seen to include the business element, as seen below in *figure **25***, and to then broaden out its scope the emphasis still maintains that resource based approach to managing information.

- **Technology:** the network, hardware, software, peripherals,
- **Information:** documentation, statistics, raw data
- **People:** usage, access, procedures

Figure 25: Information, technology, people relationship



(Chaffey & Wood, 2005: 19)

This view of information, technology and people under the broader term of Business Information Management (aligns with Earl 1989, 2000) still indicates a level of tangibility to the resources. Therefore, even by separating out individual elements to provide a more specific and transparent view, whilst at the same time providing a more holistic view does not change the resource based approach to information. *Interviewee **E** argues that without the network, access points, databases, students can't get access to library resources, staff can't get access to teaching material and management can't produce reports* this clearly acknowledges the view that information is seen as resource and IT Services have a vital role in maintaining access to this important resource for Stapleford University. It is suggested that within the area of IT and Information Services, information is contained within the technology itself and that technology and the network are viewed as both the custodian and creators of information.

6.3: The General Management Template

Within the tenets of general management there are distinct views that information is based on and used for the management of operational activities. Traditionally the role of management has been aligned with the process of achieving the organisation's aims through planning, organising, leading, directing, monitoring, and controlling. The latter focuses critically upon information as a mechanism to 'control', 'monitor' and 'manage' what was happening within the organisation. Belanger & Van Slyke (2012: 94) acknowledge that *information and decision-making are inextricably linked; much of our information needs are related to decision-making*. The 'information' produced by technology is used by managers to manage. Pearlson and Saunders (2013: 47) refer *to information resources as the available data, technology, people and processes within an organisation to be used by the manager to perform business process and tasks*. It is essentially a by-product of technology that provides information on a variety of management functions, such as costs, expenses, sales reports, payroll, and production figures and so focusses upon the operational aspect of the organisation. This increased emphasis on the output of technology only perpetuates the notion that information is contained within it and the objective view of information. The importance placed upon what is contained within technological systems has *become of paramount importance for those individuals in senior management positions in order to manage the organisation* and *do their job* as stated by *interviewee **E***. The notion of general management implies a two perspective approach, one is their organisational role and the second is their professional role. The two are inextricably linked as the professional role provides legitimacy for the actions taken in the operational role and the operational role is the raison d'être for the existence of the professional role. Both of which, the researcher would argue, influences how they act and interpret the notion of information and an information strategy. Organisations are responsible for, and required to provide information for many different activities, with the assumption that the 'information' required is contained and provided by the information system. Typical types of information required within a higher education institution may include:

- attrition rates, students' ethnic backgrounds, application data
- pass rates, employment rates, graduation percentages, grades
- class sizes, attendance, numbers of students,

It is not uncommon, within higher education institutions, to identity large electronic boards that provide tables and lists of information that address all types of 'information'. Therefore, from a general management perspective, information can be seen as an important asset or resource that needs to be managed. Managing and controlling this resource provided individuals with an element of power, authority and importance as *information was seen as an important factor in 'bench marking' the institution against other competitors and justified certain roles* (*interviewees **C&J***). Drucker (1994) mentions a similar view when he identified how important information was to an organisation and how it has changed the way organisations compete:

> *The industries that moved into the centre of the economy in the last forty years, have as their business, the production and distribution of knowledge and information rather than the production and distribution of things*
>
> (Drucker, 1992: 75)

6.4: Discipline and Template Analysis – objective and implicit approaches

In recognising that there are different disciplines and isomorphic templates there is a need to identify their relationship. That is, by recognising the discipline underpinnings allows one to explanation why individuals may interpret information in a particular way and act in a particular fashion; indicating the implicitness of an information strategy in other strategies. One mechanism for explaining discipline underpinnings is that of Hirschheim and Klien's (1989) four paradigms of IS development model (*Appendix **9, p229***). Where the concept of a paradigm relates *to the most basic fundamental set of assumptions adopted by a professional community that allows its members to share similar perceptions and engage in commonly shared practices* (Hirschheim and Klien, 1989: 1201). The important aspect here is that the concept of a paradigm identifies assumptions with regards to knowledge i.e. how is knowledge acquired and how does one understand that world to which this knowledge relates. The four paradigms highlighted by Hirschheim and Klein, 1989, are split across two dimensions: subjectivist and objectivist, and order and conflict. The assumption the researcher makes is that depending on the way that one acquires, perceives or understands the concept of information and/or knowledge will impact on actions, decisions, systems development and strategy formulation. This equates the concept of how individual's understand or interpret the notion of information with how they acquire it, create it, use it and formulate it into decisions and actions; explaining the polysemous nature of

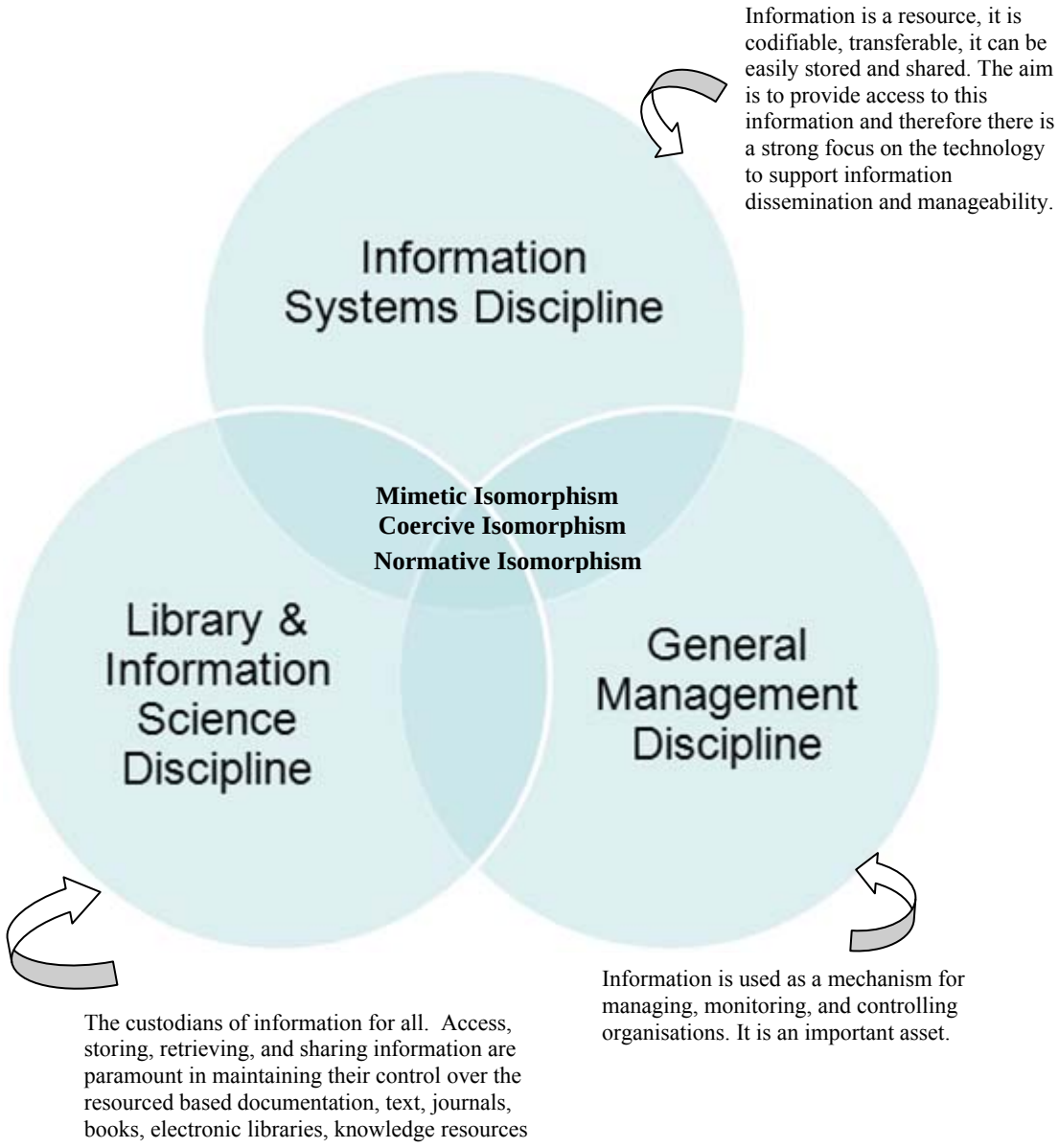
information and its impact, as well as the process of isomorphism in explaining why this occurred.

Initially, *figure **26, p133***, provides a placement of isomorphic templates within the three distinct disciplines of LIS, IS and GM. This identifies that disciplines have their own unique requirements and characteristics but share the same operating environment, that of the university. The placement of the isomorphic templates in the centre indicates that templates are not specifically aligned or unique to one discipline but can been seen across all disciplines. Therefore, suggesting why the author can argue that ISC individuals were isomorphing to different templates. As there was no clear understanding or agreement within the committee regarding the notion of information and an information strategy; individuals were drifting towards socially and/or professionally accepted views, on the basis that there was an absence of direction from within the committee itself. Analysing this 'absence' or 'drift' suggests that individuals were copying what was 'out there' either in the form of the 'external consultants' material, or internal processes and documentation or from other outside bodies or institutions; resulted in a default position that aligned with either their professional body, or with written guidance from outside bodies or other institutions. Importantly, the use and attribution and of all three templates to each individual discipline provided reasoning for multiple logics and organisational complexity to exist; as well as addressing one of the criticisms attributed to isomorphic templates in that there is often a tendency to only focus upon one template at the expense of the others. This analysis also identifies that although disciplines are heterogeneous they need to be aware and appreciate that there are competing perceptions, understandings and needs, something that was miss placed within the ISC.

It seemed a fait accompli that everyone within the ISC knew, understood and agreed with the reasoning for and need of an information strategy; which in turn generated the assumption that everyone knew, understood and agreed on what was meant by information and an information strategy. Highlighting that, individuals are in fact influenced by a number of different forces when trying to manage the notion of information and more importantly in terms of formulating an information strategy. These compelling forces where different isomorphic templates pull in different directions was clearly seen when the Director of Library and Learning Resources acknowledged that *views of information seem to be at polar opposites within the*

information steering committee (*interviewee **F***). This 'polar opposite' view supports the polysemous nature of information; and the implicit approach to information strategy formulation that was identified within the visual representations both in the literature and within the ISC attempts to formulate an information strategy (Allen, 1995; Earl, 2000; Pearlson & Saunder, 2001, 2013; Boddy, Boonstra & Kennedy, 2002; Information Steering Committee 2002-2006 documentation, Teubner & Mocker, 2005, 2009).

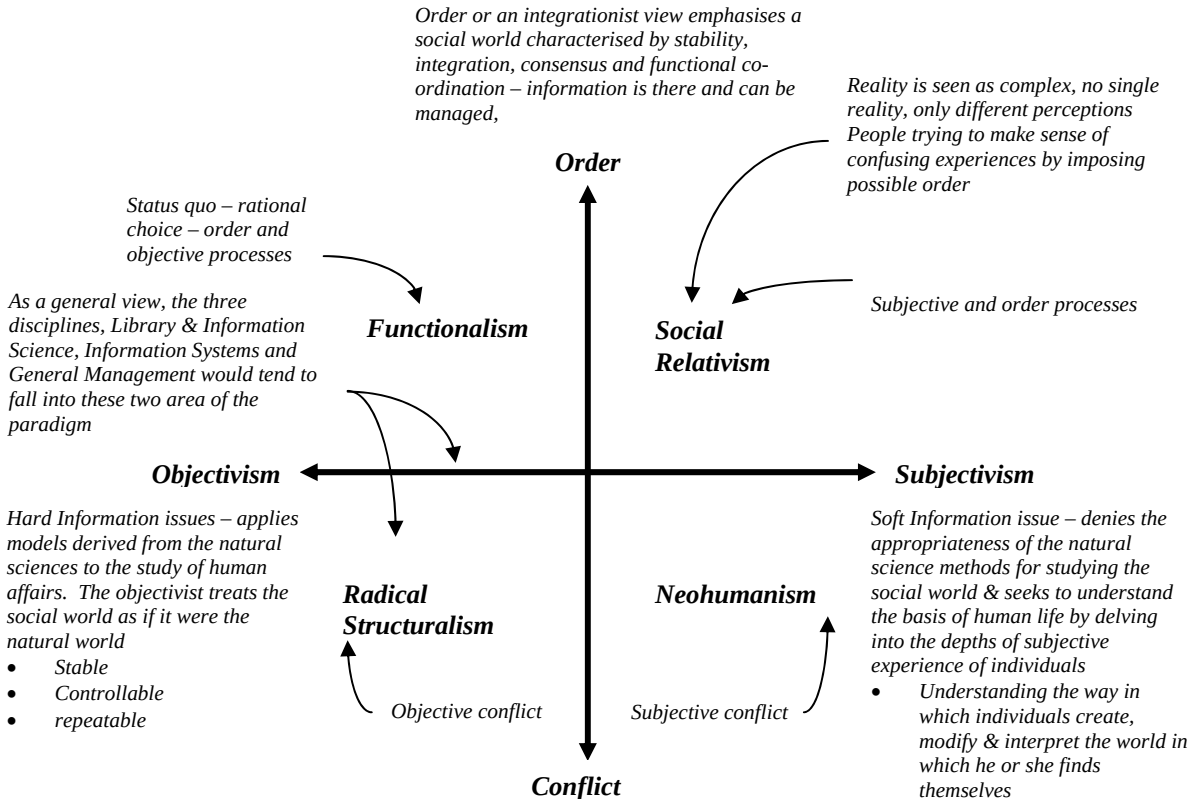
Figure 26: Academic Disciplines and Isomorphic Templates



Given the recognition that the three isomorphic templates in fact influence individuals and disciplines and that all templates are important and prevalent, it is now possible to place the disciplines within Hirschheims and Klien's (1989) four paradigms of information development model to identify their philosophical underpinnings. *Figure **27, p134***, represents where the researcher believes the underlying philosophical views

of each of the disciplines would align themselves. It is argued, for example, that the Library and Information Science discipline takes information to be a tangible product as seen through the texts, journals, manuscripts etc. that they hold and manage; providing access and the skills to find and search these resources is very much their domain and forms the very essence of their role within the university environment. The notion of information and information strategy is also shown in an attempt to provide reasoning why members of the ISC may have approached the strategy formulation process in a specific manner based on discipline tenets.

Figure 27: Hirschheim & Klein's four paradigms of information systems development model

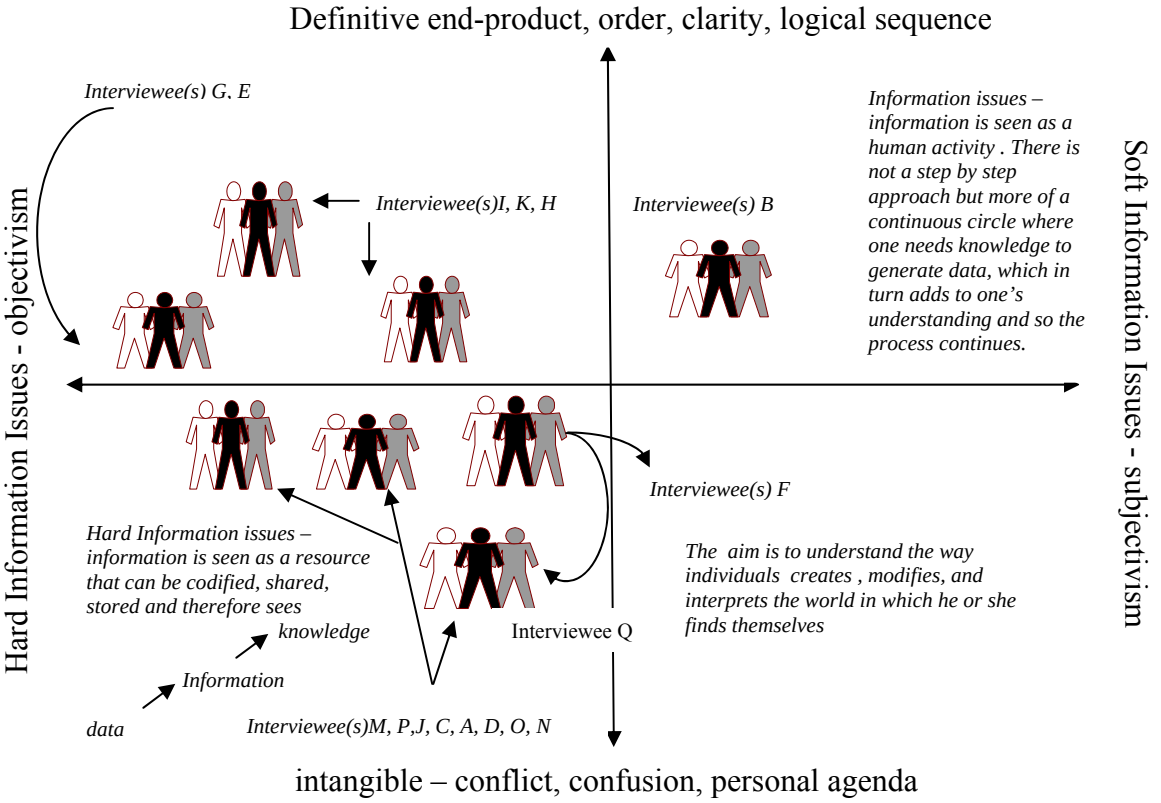


Source: adapted from Hirschheim & Klein (1989)
(seen in *Appendix **9**, p**229***)

Following on from *figure **27***, above, the relevance of individual's perceptions, actions and understanding of information and an information strategy can be seen within *figure **28**, p**135***. Where members of the information steering committee are positioned specifically based on their expressions and articulation of what they identified as being information and an information strategy and in doing so identifying the polysemous nature of information, the influence of multiple logics and the complexity found within the environment of higher education towards the information strategy formulation

process. Recognising that there is an inherent objective view of information found within committee members, that they maintain their discipline views but fail to recognise the alternative perceptions of information and therefore to fail to acknowledge that polysemous nature of information and formulating information becomes problematical.

Figure 28: Perceptual mapping of the Information Steering Committee



What this analysis signifies is that the majority of individuals within the ISC are aligned with specific disciplines and so have a strong tendency towards a very descriptive, logically sequenced, hard interpretation of information issues, as seen within *figure **27** & **28***. This creates a significant issue when trying to formulate an information strategy; given that it has been argued that information is a subjective human construct, it is intangible and not the same as other organisational resources. As Boland (1987) argues information is not a resource to be stockpiled and as such cannot be managed in a similar fashion; suggesting this is not a traditional resource and that managing it may require a different approach. That is, strategy formulation has been viewed in discrete phases followed by implementation (Jarzabkowski, 2005; Mintzberg, 1978, 1990), which in turn provides legitimacy and a rationale for the decision-making process.

Interestingly, the analysis identifies a 'lone voice', that of *interviewee **B***, seen in *figure **28***, *p**135***, who acknowledges *there may be more to the notion of information than is currently being voiced by committee members*. However, having the time, resources and ability to promote and develop this understanding was not something that was available to the ISC. *Interviewee **B*** stated that *this alternative view was not part of his remit and so had been left to interviewees **F&G***. This alternative approach was not something the researcher felt the ISC would be willing to explore further as it would raise more concerns and frailties within the committee. A change of focus or perspective in terms of information and an information strategy, from the committee membership, was not something that seemed appropriate for the committee to take on-board.

The researcher would suggest that the majority of committee members take a very hard, objectivist view of information and therefore that view is aligned and carried forward in the approach and formulation of an information strategy. The analysis would suggest that ISC members have a similar understanding of what a strategy is, in that they view it as a mechanism for managing a resource in this case 'information'. However, their understanding of information and therefore an information strategy seem not to coincide resulting in a default position being taken of assimilating the use of technology to manage information; with the corollary that information and its management is implicit in other strategies. Indicating that their objective view of information may align but the content of the strategy may not. That is, they interpret what is information quite differently but agree on it being seen as a resource. Unfortunately this was not articulated within meetings. These informal disagreements could be argued, are based upon the influence of isomorphic templates pulling individuals in different directions.

*Table **6**, below*, indicates differences found, with regards to meaning and understanding, of the notion of an information strategy within the information steering committee, indicating an ineffectual and 'hollow' approach to strategy formulation.

Table 6: Contrasting views of what is an information strategy within the ISC

Contrasting views of individual interpretations of an Information Strategy within the ISC *(information strategy)*	
• *There is a default tendency to think of information in terms of I.T.; and I.T. is but one part of an information strategy (**B**)* • *The information strategy is not like a mission statement – this is a different order of*	• *To me an information strategy should be something very simple; it should state that we have a firm belief that information should be free across the university (**K**).* • *I am not sure if everyone's perception [of an*

*generality (**B**)* • *Given the membership of the committee there is a general feeling that they should know what an information strategy is – yet it hasn't been made explicitly clear (**D**)* • *An information strategy is not dissimilar to other strategies that have been produced previously only the content changes (**M**)* • *Not sure how this strategy affects our department [HR] as we have, control and manage all of our information internally (**H**)* • *I haven't really thought about it before I just assumed it was taken care of (**U**)*	*information strategy] is the same – this is not known (**K**)* • *Surely the information strategy and the technology that manages it are one in the same and need addressing accordingly (**E**)* • *Information strategy provides access to the necessary information that individuals' need to do their jobs (**P**)* • *Information is an important resource that we all need so managing that resource through the strategy is what we should be doing (**J**)* • *It tells us how to manage and control information within the university (**R**)*

The differences found within the above analysis indicate that within Stapleford University and the ISC specifically there were a number of obvious tensions that were not recognised by those involved. That is, tensions between disciplines, templates and individuals which manifested themselves through the eleven themes generated from the interview process. A contributing factor in these tensions was the ambiguities found within the discipline literature (*Chapter **2, p20***) which is revisited briefly below, in an attempt to bring together both Stapleford University's interpretation and the implicit approach to information strategy found within the discipline literature.

6.5: Literature and Information Strategy Analysis – the implicit approach

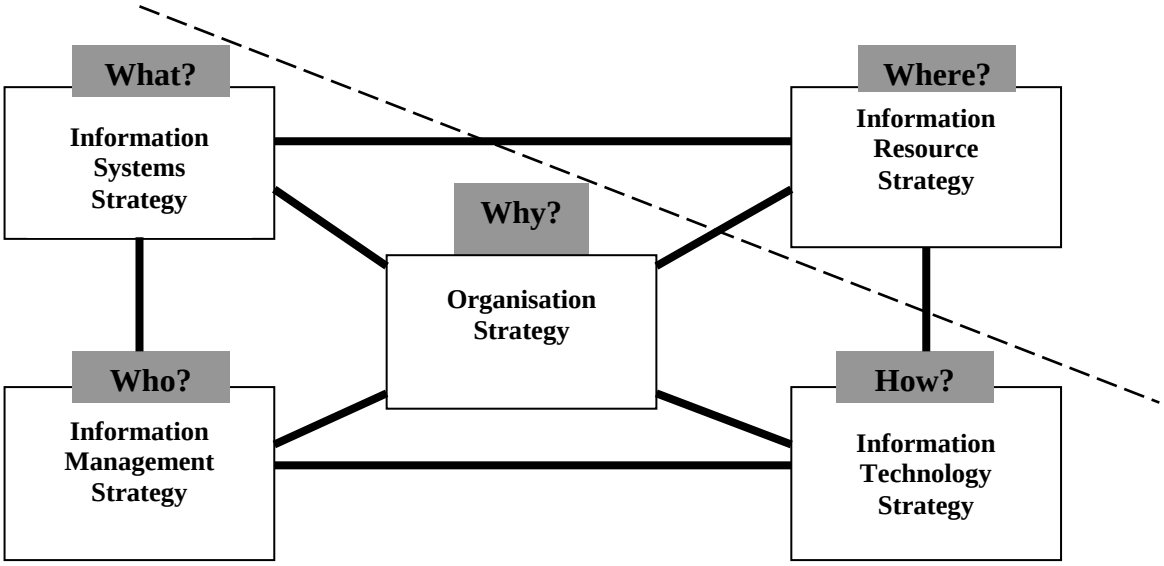
A main issue that emerged from the template analysis (*appendix **19, p244***) was that of conflict and confusion, in terms of the constituent parts of an information strategy, its order of formulation and its ownership all of which are clearly acknowledged by ***interviewee F*** when she stated that g*iven the membership of the committee there is a general feeling that they should know what an information strategy is – yet it hasn't been made explicitly clear.* As state above the ambiguity, complexity and lack of clarity was evident within the literature, where different views regarding the notion of an information strategy emerged, highlighting the objective and implicit approach to the process as shown by:

- **IS interpretation** – technological aspect, infrastructure, application portfolio, over-arching, nested approach, functional, subset, blended, linchpin approach to information strategy
- **LIS interpretation** – functional, hierarchical, planning and centralised approach to information strategy, and

- **GM interpretation** – planning, functional, structured approach to information strategy

Again, within the literature *figure **29***, Earl (2000: 21) suggests that *the information strategy is an overarching approach to managing information within an organisation via the other established strategies*. Earl's early work on information strategy (*figure **2**, **p31** & Appendix **4**, **p221***), is shown again in *figure **29***, *below*, this time with the information technology focus identified in strategies to the left of the dotted line. The inclusion of information resource strategy was an acknowledgement, from Earl (1996: 491-96), that his original model was not fully complete and that the notion of information needed addressing. Subsequently, in Earl (2000) he provided this inclusion as a mechanism to placate the earlier issue but the essence is still viewing information as a resource and the notion of an information strategy is implicit in the title of the model:

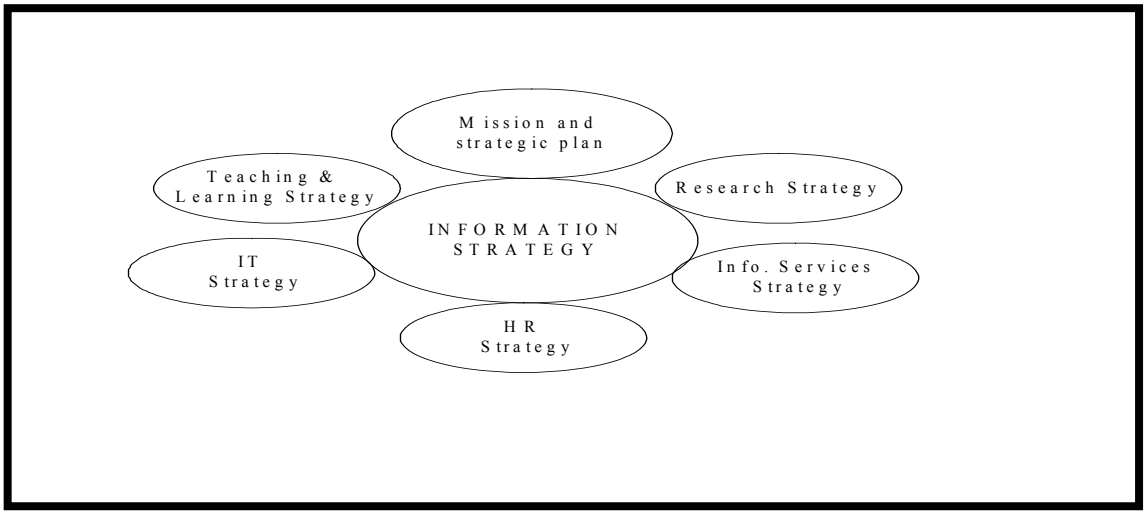
Figure 29: Earl's information strategy framework



(Earl 2000: 21 & Mutch, 2008: 134)

The researcher would argue that Stapleford University's initial pictorial representation of an information strategy, *figure **30, p139,*** bares a strong resemblance to strategies and models found within the IT/IS and LIS literature. So similar criticisms can be implied, they are a generic focus, limited explanation of information per se and no clarification of the information strategy's relationship to other strategies; resulting in that view of hollowness. This lack of clarity lets individuals 'drift' towards a default position of focussing upon an information technology strategy, in the absence of concrete guidance.

Figure 30: Stapleford University's initial information strategy



(Minutes of ISC meeting October 2003)

Stapleford University's initial information strategy, seen in *figure **30***, above, places the information strategy at the centre of all other strategies, not dissimilar to Orna's (2004, *figure **8, p44***) view of an information strategy acting as 'the engine' which drives everything else. The analysis of the information strategy suggests that it is the source or centre of all other organisational strategies; and infers a strong relationship and a level of dependency upon the information strategy in terms of the other strategies; promoting the view that the information strategy comes first in the sequence of strategy process formulation. Even in Allen & Wilson's interpretation (seen previously in *figure **1, p30***) where the information strategy acts a 'linchpin' between other strategies, it does not identify how these strategies are related, inferring an implicit relationship and suggesting that technology acts as that 'link' in a similar fashion to a portfolio application approach. This view of an information strategy being at the centre of other strategies was part of the problem committee members identified as it promoted a functionalist view of information strategy, in line with Boddy et al 2004 (*figure **4, p32***); but subsequent analysis then identified that which function this would be only was devoid of reasoning or understanding resulting in the drift towards a default position of an information technology function. The analysis of this implicit or inferred approach to information strategy resulted in committee members becoming confused. Therefore committee members focussed upon the 'protection' and 'promotion' of strategies that they could control through their direct responsibility or involvement. Stapleford University certainly had views on this early strategy as seen by the following:

> *I can't see how the information strategy relates to our HR function, I see a big picture but I can't see the practicalities of the strategy*
>
> *(interviewee **P**, 2003/04)*

However, this response to the pictorial representation only exacerbates the researcher's notion of visual rhetoric. As when asked why, *interviewee **P*** was unable to expand apart from indicating *that once the information strategy is complete it would be clearer as to their relationship to other strategies*.

Library and Information Science (LIS) perspective, emphasises the resource based view of information as items that can be managed through the process of classification, cataloguing and indexing as a means to manage these information resources and therefore access to these items are managed through an information strategy. Wilson (2003) identifies that

> *An information strategy defines the information needs of the organisations, ensures that the information resources exist to meet those needs and are appropriately organised and managed, and applies information technology to the effective storage, retrieval, distribution, communication and security of that information.*
>
> *(Wilson, 2003: 447)*

Wilson (2003) interprets this approach of an information strategy as being a 'higher order' or a stepping stone approach (*figure **3; p32***). Again, what is not made clear in terms of an information strategy is how it fits into the fabric or framework of other institutional strategies and does tend to promote a technological focus. This is not unique to Wilson, as many information strategy approaches are not clear and only exacerbate the ambiguity found within the literature. Even the most recent attempt by Teubner and Mocker (2009) *figure **6, p35*** again provides an elaborate pictorial representation but they tend to substitute one set of terms for another; that is IIS for Earl's information systems and technology and IF for information management function. This functional and hierarchical approach was also found within Orna's information strategy engine *figure **8, p44***, as mentioned previously.

The researcher would identity that within the evolution of the information strategy formulation process, at Stapleford University, slight 'tweaks' to the pictorial representation of their information strategy have occurred. Within *figure **31, p143***, is an identification of how Stapleford University and specifically the Information Steering

Committee under the influences of the Director of Information and Learning Resources and the Director of I.T. Services moved from viewing the information strategy as being at the centre of all other institutional strategies (*figure **30, p139***) to being seen as one which influences, or is fundamentally entwined, pre-empts or supports all other institutional strategies. Within *figure **31***, *p**142** - ***144***, there are three versions of the information strategy all of which come directly from Stapleford University's documentation. Interestingly, the final version (*fig **31** – **B***) that is one that appears in the Vice Chancellor's 'State of the nation, 2002-2006' speech which bares huge similarities to the structure provided by the outside consultant (*fig **31** – **C***) seen at the initial presentation to the ISC in January 2003; re-emphasising that static approach and feeling of déjà vu held by many committee members; promoting the researcher's analysis of a 'hollow' strategy.

The researcher would argue that this similarity was due to the lack of clarity within the ISC, and this allowed members to drift towards known and accepted views. The inability to engage and discuss issues and understandings openly perpetuated an uncertain and unpredictable environment in which the 'tasked members' of the ISC had to operate. The outcome was to 'drift' and 'gravitate' towards models and explanations that were endemic in their respective disciplines and professional alignments, specifically they drifted towards a default position of an information technology strategy as that was tangible and feasible to manage. It also resonated with the view that information was a resource and managed through technology which aligned with tasked members of the ISC and their approach. This 'drift' was explained through the use of isomorphic templates that in turn provided individuals with reasoning for their views. Although this alignment was no different to historical views of information it gave 'tasked members' models and explanations that they felt comfortable with and ultimately provided them with a defensible argument, at a high level, that they could show to the ISC. This use of high level interpretations of the information strategy were based upon a technological approach and underpinnings that other members were unable to argue against for various reasons, namely:

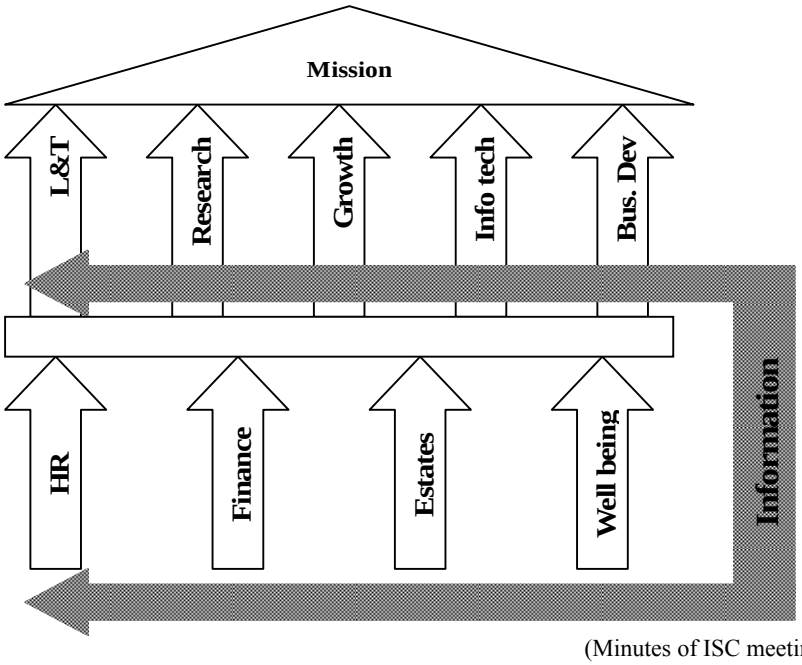
- an inability to articulate their own understanding of an information strategy, and
- a lack of understanding of the technological implications of university systems

The alignment with such models, from literature and specific disciplines, indicates elements of both mimetic and normative isomorphism, whereby individuals used their

expertise supported by discipline knowledge to promote and circulate their interpretation of an information strategy. The fact that this was seen to be 'what was happening elsewhere' provided legitimacy and recognition for their ideas and limited the discussion that occurred within the ISC. The researcher would argue that what was identified within the pictorial representations of an information strategy was in fact 'visual rhetoric' and an ineffectual strategy that for all intents and purposes was seen as a 'hollow' strategy. That is, visual representations are provided but they are devoid of any meaning. They are put in place to placate a particular situation or to identify a particular view but when investigated further there is little or no meaning or substance attached. This is highly evident within the three information strategy models provided by Stapleford University, as seen in *figure **31 A-C,*** below.

Figure 31: Stapleford University's view of an information strategy

*Fig. **31–A***

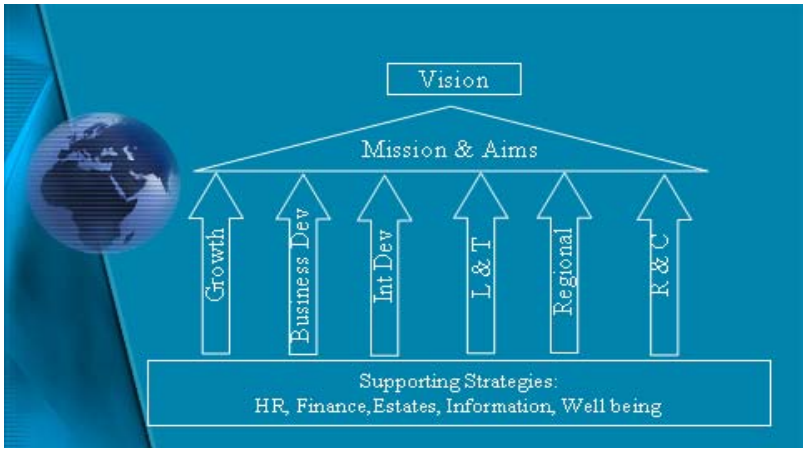


(Minutes of ISC meeting May 2003 & Nov2004)

The interpretation offered, above, by the tasked members indicates an information strategy that permeates across all other strategies; it is viewed as a strategy that is itself incorporated into other strategies. Meaning that, it cannot be formulated by itself but is dependent on other strategies being in place first. The analysis indicates that by providing a pictorial representation to the ISC provided a mechanism to 'buy time' more time in which to do more investigation. The fact that the strategy was proposed and formulated by IT and LIS reflects a cross functional approach which in turn resonates with IT services views. Meaning that, information processing pervades the

whole institution and aligns with the role that IT and IS services provide to all other departments. It also aligns within the IS literature where an information strategy is seen as a functional strategy that influences other functional strategies, identified previously in *figure **5**, **p33*** and *appendix **20**, **p262***. What is not evident or explained is how this operates and supports other strategies.

*Fig. **31–B*** – 2006 – 'state of the nation speech'



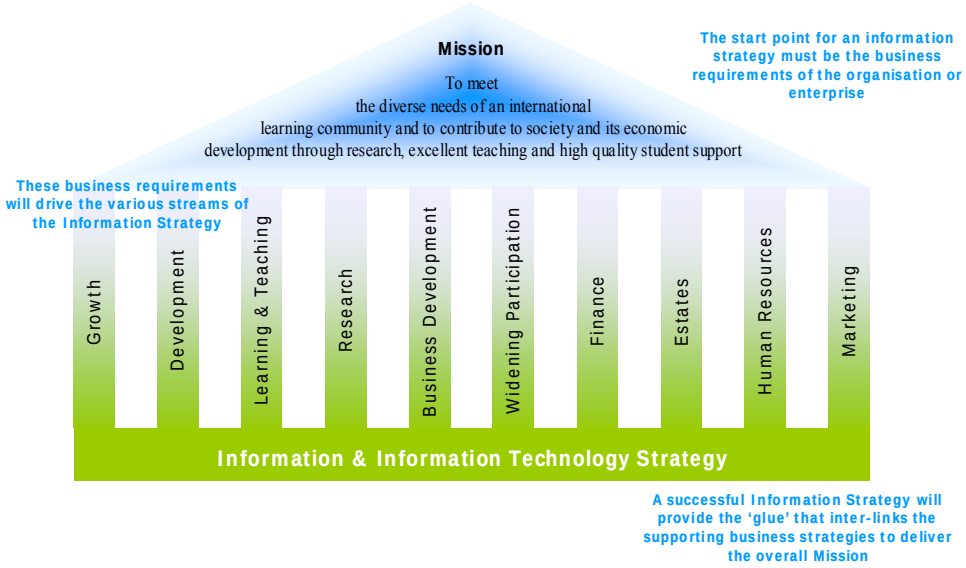
(Vice Chancellor's state of the nation speech June 2005)

*Figure **31-B***, above, is identified as the final version that depicts the information strategy in relation to Stapleford University; as it is used by, the then Vice Chancellor, in a speech addressing the vision for the university in the coming years. It is extremely similar to a model provided by the 'outside consultant' in January 2003 (*figure **32-C**, **p144***); both in its structure and the positioning of the information strategy in a supporting role. The researcher, again, would raise the issue of visual rhetoric as there seems to be little change in the 2 year period regarding the structure, format or role in reference to the notion of an information strategy. There was an assumption that the IT/IS division were managing this strategy as all work relating to its formulation was devolved to that specific division.. This then promoted a functionalist approach to strategy formulation, placing the information strategy within the IT function. The inference was that models that are promoted are based on views that individuals feel comfortable with, both from a discipline perspective and a responsibility perspective. They are models that individuals can align with and play to their strengths, inherently they are technology focussed given the technology domain are responsible for creating it. They infer a strong strategic information system approach to information strategy.

So the researcher would argue that the model is seen as a strategic necessity, in reality it does little in terms of providing strategic advantage or explanation.

Fig. ***31–C*** – 2003 – outside consultant's pictorial representation

)



Information Strategy Framework

(Minutes of ISC meeting Janaury2003)

Figure ***31–C***, above, was used as a reminder to identified where Stapleford University started from in their efforts to redefine an information strategy in 2002 and where they were some three years later in 2005, seen in *figure* ***31-B, p143***. The researcher would argue that the similarities are due to a lack of clarity within the ISC, that isomorphic templates have 'pulled' members in different directions. That the inability to engage and discuss issues and understandings openly only perpetuated an uncertain and unpredictable environment in which the 'tasked members' had to operate. The outcome of this uncertainty only encouraged individuals to follow and gravitate towards models that they felt they could align with, signifying the notions of mimetic isomorphism were evident. The researcher would argue that all of the models are functionalist in their approach, that they focus on IT strategy and a technology domain and promote the notion of information as a tangible product; thus from the researchers analysis missing the subjective construction of information identified within the research process.

What became evident to the researcher was that although the ISC can show 'change' in terms of their pictorial representations of an information strategy; this change is limited,

minimal and ineffectual in its process. The models do not identify changes in current practises, how they integrate with other strategies, where the strategy resides, who has ownership or whether it needs to be first or last in the wider strategy formulation process. The information strategy model provides little more than 'visual rhetoric' of what the institution had already!

The researcher would argue that the use of different interpretations of information and information strategy without clear explanation contributes to the conflict and confusion found within the information steering committee. In June 2004 for all intents and purposes the strategy formulation process came to a premature halt. The formulation of the information strategy document was intended to cover the period of 2004 through to 2006 but the strategy was not implemented, it was not made available to those within Stapleford University and it was not available in the public domain. What was identified was that the information steering committee was disbanded (2005/06). It was replaced with a committee made up of similar individuals, with similar dispositions, and acknowledging similar disciplines all still influenced by the three isomorphic templates but given their alignment to technology minimised any difference of opinions or conflicts. The recreation of the Information Systems and Management Coordination Group ISMCG clearly signified a need to view the concept of an information strategy in terms of *operational and technological developments* (identified within the minutes of the information steering committee November 2004 meeting). Upon further investigation into the minutes of the ISMCG committee there was no evidence that the notion of an information strategy had been tabled. In effect, the information strategy had become a strategy that was no longer on the agenda of Stapleford University. In essence the information strategy formulation was resolved by the disbandment of the ISC, there was a document entitled information strategy 2004/06 but this was a copy of previously held documents. The researcher would identify that what has been termed an information strategy is in fact a 'hollow' strategy. That is a document of little substance, which only exists to placate the executive board by suggesting that the ISC has done what it was required to do at the outset of the process and fulfilled its remit; the researcher would argue that what was present was a strategy that was 'seen to be written' as opposed to 'written to be seen'!

Subsequent discussions with the Director of IT Services, the same director (***interviewee G***) who was present during the initial work into the information strategy formulation

process, highlighted the following: as at December 2009 and January 2010 Stapleford University, *does hold an information strategy document,* however with further discussions *interviewee* ***G*** acknowledged that the document *does focus upon the manipulation, storage, and dissemination of information through a robust and effective network allowing both on-site and off-site access to all who require information in varying formats in order to achieve their goals*. (*interviewee* ***G, 2010***). This seems not dissimilar to what the institution had achieved some 5 years previously. Given that this section has identified both the confusion within the literature and the implicit nature of an information strategy it seems prudent now to identify the reasoning behind this lack of fulfilment which is addressed through the use of isomorphism as a mechanism for explaining the notion of multiple logics and organisational complexity.

6.6: Isomorphic Template Analysis in Relation to Discipline Alignment

Part of the issue that the researcher encountered was the lack of engagement and willingness to express ideas and understanding within the ISC. Often, as mentioned previously, the only mechanism to raise debate was through the researcher's involvement within the steering committee meetings. As numerous interviewees had acknowledged that the ISC was not an environment for one to raise questions of understanding or confusion. Although in the beginning all members were keen to support the information strategy; as they all felt it was an important element of Stapleford University's success and future direction. The analysis of this 'support and agreed need' to have an information strategy was more of an agreement upon the need and purpose of a 'strategy' not necessarily the implementation or understanding of an information strategy and its potential wide reaching implications. Given the demise of the ISC it became apparent that there were underlining reasons for its demise and ineffectual approach to the information strategy formulation process. What the researcher was able to elicit was that the identification of the three disciplines was a major factor in contributing towards multiple logics being identified and this also contributed to the complexity of the situation. In explaining the notion of multiple logics and organisational complexity the researcher has used isomorphism as a mechanism that identified three forces that influenced and informed the actions, perceptions and formulation of an information strategy. *Appendix* ***21, p263***, provides an overview and identifies relationships between isomorphic templates, discipline alignments and emergent themes from the case study material.

The three main aspects of isomorphism are briefly recapped below as an acknowledgement of the differences and focal points of each.

6.6.1: Mimetic Isomorphism

As a recap mimetic isomorphism is the process of following or copying what other institutions or organisations (i.e. benchmarking) and occurs in periods of uncertainty. This allows institutions to identify best practise and to legitimise their actions, in terms of what others are doing and what 'we', as an institution, aspire too. Within Stapleford University it was clear that there was a need to formulate an information strategy as other institutions where going through this process (JISC 1995 – 2004).

6.6.2: Normative Isomorphism

This is similar in its type of influence but focuses upon the professional nature of individuals and their alliances to professional bodies as both regulatory and performance related influences. Given the diverse nature of individuals seconded to the information steering committee it is of no surprise to identify many different viewpoints and 'pulling mechanisms' at play when these individuals were trying understand, interpret and formulate an information strategy. As the ISC contain a number of senior management it was not unexpected that these individuals were also aligned with professional and discipline bodies; which would from a professional background provide guidance and meaning on aspects of their role.

6.6.3: Coercive Isomorphism

This type of isomorphism is one which places the emphasis upon power and/or influence from either bodies or individuals that initiate a course of action that may have otherwise not have been instigated. Specifically the institution may, as a result of this influence, change its focus, course of action, strategy, or even raison d'être. Therefore themes that would be aligned with this view of isomorphism may include those that have the power to stop what the organisation or individual are currently doing. It was identified that coercive isomorphism was both an internal and an external factor but often the internal aspect was not recognised or acknowledged, yet all ISC members felt pressure to formulate an information strategy.

What became evident from the alignment of isomorphic templates to disciplines and emergent themes was that tensions existed between isomorphic templates 'pulling' and 'influencing' individuals in terms of actions and perception of an information strategy. The analysis suggested that the templates, in line with disciplines, were part of the

process that created demise of the information strategy as they gave rise to the notion and existence of multiple logics mechanisms. It was evident that the templates, specifically at this stage, the normative isomorphic template; where professional alignment and views of information as being seen as objective were apparent. What was more controversial, for the researcher, was how could individuals influence or change this normative isomorphic influence. The analysis suggested that there was little or no opportunity for individuals' to influence their own professional templates. This infers that little questioning of what was happening in the process and why certain views were more predominant than others was not entertained. The result was that certain views dominated the process, i.e. those from IT and LIS. They dominated because of two reasons: **firstly**, they were tasked with producing the draft strategy so used their professional background to initiate this process (normative isomorphism) and **secondly**, then used legitimisation of their views based on what others outside of the institution were doing (consultants interpretation) in the form of coercive isomorphism; both approaches predicated their interpretation of an information strategy which made it difficult for others to question. Given that there may have been other interpretations but were they strong enough, formulated enough or articulated enough to stand up to scrutiny within the ISC environment, the researcher would suggest not.

As the analysis and involvement with the ISC meetings continued there became an element of the 'emperor's new clothes'. That is, individuals by their silence and lack of engagement inferred complicity with the actions of the ISC, they did not want to identify, in open forum, that certain views were not understood or that they did not see the apparent relevance, *interviewee **D*** acknowledged that given the membership of the information committee

> *there is a general feeling that they should know what an information strategy is – yet it hasn't been made explicitly clear nor does it seem that this will be discussed within the forum of the committee.*
>
> *(interviewee **D**)*

This lack of communication between members resulted in individuals focusing on issues and points that made sense to them but then not sharing this with other committee members, perpetuating the notion of multiple logics. Their ability to articulate what they were interpreting from their professional templates (normative isomorphism) was not apparent; resulting in either member's withdrawing to their institutional roles,

withdrawing further involvement, both of which created a sense of apathy towards and acceptance of what was being promoted.

This identified a linkage with of both coercive and normative isomorphism as mechanisms that influenced the process. They were used as a reason to legitimise why views were taken i.e. an objective interpretation, linking information and technology together, inferring that information was seen as a by-product of technology. This enabled 'tasked members' to deal with and address issues that were tabled and presented at committee meetings. The vagueness and ineffectualness of the information strategy was highlighted by the following:

> *there is not only confusion about what is an information strategy but also about what is information*.
>
> *(interviewee **J**)*

Both the draft strategy and the pictorial representations of the information strategy were generic and 'hollow'. The whole implicit approach towards the information strategy made it extremely difficult to identify roles, responsibility, relevance and agreement resulting in anger, frustration and animosity between members of the information steering committee. An overarching theme that brings these actions together was that of multiple logic and organisational complexity; not being able to articulate, acknowledge or identify different perspectives or interpretations within the committee created that 'hollowness' of the strategy. This resulted in an inwardly focused approach indicating that members became protective of their own domains, ensuring they were not being marginalised in any way; as the need now was to protect their roles, responsibilities and status and not to *lose out* (*interviewee **K***).

The intangibility of the subject matter was an issue that was never addressed (*as acknowledge by interviewee **B***) and one which caused immense confusion, uncertainty and was part of the problem situation for the information steering committee. In hindsight, the focus on diagrams to illustrate the information strategy and its relationship to other strategies within the institution as a whole was in fact counterproductive. It only resulted in providing a visual representation (as discussed previously) which had little meaning to those observing the presentations. This then created the potential for members to be seen as belligerent, confrontational and negative towards a strategy.

> *we* [the committee members] *are all senior management post holders and are supposed to know what we are doing, so to*

question those above would not have been appropriate action within the institutional framework.

*(Interviewee **B**)*

Although many strategic initiatives are as a result of top-down approaches and outcome driven processes there was certainly an unclear and mix message approach surrounding the information strategy initiative.

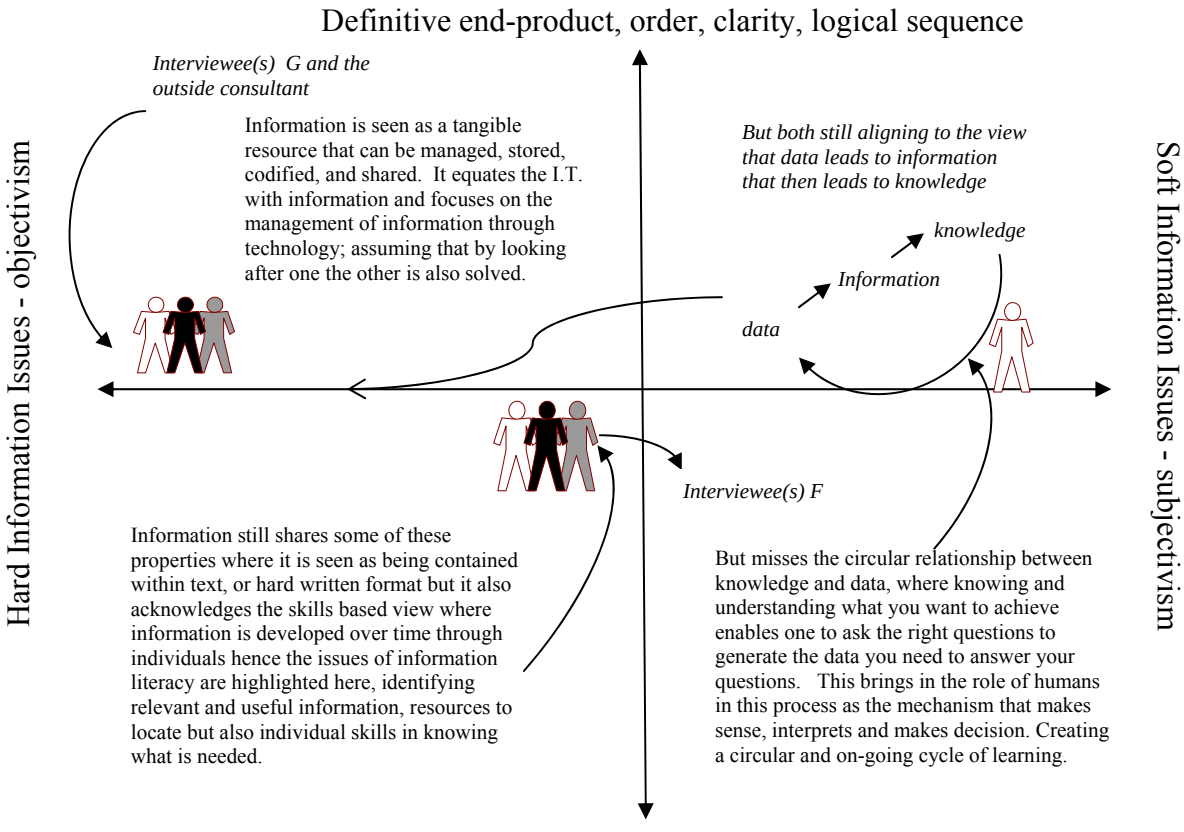
What has been suggested so far is that there were a number of issues that made it difficult for the information steering committee members to formulate an information strategy. These issues were in fact based upon committee member's understandings, beliefs, perceptions, experiences, views and values all of which were influenced by the three isomorphic templates, the following paragraphs focus specifically upon the disciplines and templates.

6.6.4: Library & Information Science Discipline

The discipline of Library and Information Science and the role of the Director of Information and Learning Resources, which one would assume are in-line with one another. However, what transpired was that all isomorphic templates of mimetic, normative and coercive isomorphism were influential. The issue of mimetic isomorphism was seen in the pressure from outside the institution to follow and provide what was apparently available in other higher education institutions. Libraries were seen to be at the 'heart' of information strategy formulation and so not to be involved or provide direction was almost professional recklessness; it was also the fact that not being involved would or could potentially marginalise the learning resources division further. Given that LIS has an affinity with the notion of information there was also normative isomorphism in play where their whole raison d'être revolves round the notion of information but in an objective form where it is contained within text, journals, etc and technology now provides access to that resource. The notion of coercive isomorphism (internally and externally) was also evident in that an outside body, for example JISC, was highly influential in terms of material and providing examples of other institutions; suggesting a pressure to conform and incorporate this guidance. Internally the pressure was from senior management to 'produce' an information strategy. The analysis suggests that JISCs influence occurred on two tiers, initially as a provider of guidance and secondly as Stapleford University was identified as an exemplar institution therefore as a 'role' for others to follow. This two tiered approach created a high level of coercive isomorphism. In conjunction with this the

Director of Information and Learning Resources was also reconciling other views of information within the information steering committee, specifically *interviewee **G***. In reference to this view of information, *figure **32**, below*, identifies the two 'tasked' committee members were not located within the same quadrant of Hirschheim and Kleins's model, *interviewee **F&G***; indicating a possible conflict of perspectives. Although it was acknowledged and accepted that *interviewee **F&G*** were the two most obvious individuals to lead this strategic process. They were not necessarily in-line with each other but had to be seen to be in agreement if they were to provide guidance and direction to others. This required a need to come together quickly and to act in support of one another requiring some form of change and acceptance. This change and acceptance came in the form of the outside consultant as a mechanism for presenting outside views and 'other' relevant thinking on the issue. Within *figure **32***, *interviewee **F&G*** are positioned in different quadrants therefore holding similar views in terms of the objective nature of information but differing views of tangibility; thus highlighting different and conflicting views of information. Although *interviewee **F*** did indicate that information may be seen as an individual perspective, this is then shown as an arrow to a subjective construct of information.

Figure 32: IS Hirschheim and Klein's diagram – specifically *interviewee F&G*



Although those tasked with the initial role of presenting ideas towards an information strategy were seen to be the best individuals for the 'job'. There were entrenched differences that were not addressed and manifested into bigger issues. *Interviewee **F*** was very much influenced by the allegiances to the Library and Information Science discipline as well as coercive pressures from outside bodies in the form of JISC who were themselves heavily aligned to the disciplines of Library and Information Science. Whereas *interviewee **G*** was governed by historical views found within the field of information technology and information systems (normative isomorphism) but also coercively by the views of the outside consultant (an IT specialist) showing what other institutions' views and approaches to the notion of information and information strategy formulation have been identified. It is these conflicting isomorphic pressures that initially created confusion and conflict between the two individuals. Reconciling the two individual's views was not immediate but some form of cohesion was needed in terms of presenting ideas to the ISC. What transpired was to 'go with' what seemed the more legitimate and articulated argument and that was the outside consultants view as it was based on mimetic and coercive isomorphic pressures.

Given that the outside consultant's presentation aligned with the notion of information being seen as objective and resource based. Coinciding with this in*terviewee **G*** felt that much of what was required to manage this resource was already in place in the form of an information technology strategy that would allow Stapleford University to manage its access and storage of information adequately; it seemed a strong argument with which to move forward. Whereas *interviewee **F*** was very much concerned with providing access to a variety of library resources on multiple platforms, something that had not happened previously. The analysis would suggest that both individuals used the outside consultant's presentation as a mechanism to 'rally' support for the information strategy in an attempt to move forward and thereby show that they were both in control of the situation. There was also an element of trying to gain support for what was presented from other like-minded committee members. Within *figure **28, p135,*** one can identify that *interviewee **G*** aligned or had an elected affinity with other members, namely *interviewee(s) **E, I, K**, & **H*** whereas *interviewee **F*** gained and looked for support from *interviewee(s) **Q, M, P, J, C, A, D, O**, & **N***. On a purely numerical division one would suggest that *interviewee **F*** seemed to have the stronger support. What transpired was that supported was expressed based on personality or 'who liked whom'; this the researcher would argue, was due to a lack of confusion of the subject.

6.6.5: Information Systems Discipline

Within the information systems discipline there is an obvious alignment with the role of Director of IT Services. What can be identified is that there is a strong view that information is a resource that it is managed by the IT facilities, infrastructure and networks. Within much of the literature of information technology, information systems and information management domain there is evidence of information being viewed as objective, tangible, codifiable product that is acknowledged as an important resource for the organisation. Therefore, the notion of normative isomorphism signifies a need to continue this approach by maintaining and managing information in-line with professional and regulatory body's principles. Historically, within Stapleford University the original documentation pertaining to an information strategy was heavily technologically focussed, even if it was held and written by the then Library Services.

The perspectives, actions, values, views and priorities taken within this discipline align well with Hirschheim and Klein's implicit and explicit assumptions. Given that the information systems disciplines are very much about information as a resource and that information is a by-product of information technology it was not unexpected to find those individuals within the information steering committee aligned with the notion of objectivism and identifying a definitive end product highlighting order, clarity, explicit and logical sequences (as seen in *figure **28, p135***) as they are part of the very make-up of the information systems discipline.

This indicates an affinity between disciplines and isomorphic templates, namely those of normative and mimetic. Initially, the strong allegiance held with traditional discipline views were evident throughout discussions, where much of what was highlighted would take a very technological focus. This is seen both in the interview material, as well as within the presentation(s) given to the information steering committee; and the subsequent reintroduction of the ISMCG, itself a very technologically based committee both in remit and in membership. There is also a strong indication that other institutions were also taking a technological focussed approach (as seen by the outside consultant's presentation) to information strategy formulation. This reflects the notion of mimetic isomorphism and identifies where this template can be seen within the field of information systems and their view towards information. *Interviewee **G*** also acknowledged an internal coercive force at play by stating:

> *that the VC came [into the university] he had a belief that information is bigger than information technology therefore we didn't need the current technology focussed committee* (i.e. the ISMCG); however what replaced it was a *diluted committee of members who were nominated from their heads of department*
>
> (*interviewee **G***)

This view *interviewee **G*** inferred created, in effect, a non-functional committee. This is a strong acknowledgement of internal coercion influencing actions within the organisation. Another issue *interviewee **G*** encountered was that there seemed to be more to the notion of information but those views could not be reconciled with IT / IS views on how this could be managed. This, in essence, was an acknowledgement of issues that *interviewee **F&B*** raised but in reality noting more would be done. *Interviewee **G***, did acknowledged that the work undertaken, by the researcher, was a mechanism for raising debate but that getting agreement and introducing change was not part of the ISC remit:

> *the current research may identify issues in the strategy formulation process and provide a way forward that would enable the institution to manage this strategy but I can't see things changing*
>
> (*interviewee **G***)

Paradoxically to this present day (2015) there are roles identified, within higher education, that call for a 'chief information officer'. This post is located within the field of information technology and focusses upon

> *the integration of I.C.T initiatives, technologies and platforms to create an advanced digital environment that includes the management of the information systems*.
>
> (THES, 2012)

Within the domain of IT there are evident normative isomorphic pressures whereby there is a movement on not only addressing information needs but also providing *knowledge initiatives* (Kebede, 2010) within higher education. The analysis suggests that information is still being seen as a resource to be managed and IT is part of that process; however it also identities that information and knowledge are concepts that are high on the agenda of HEIs. In fact, *interviewee **W*** acknowledged that their *institutional focus was upon knowledge management strategy not information strategy as it was seen as a 'bigger' issue and one that needs addressing* (*interviewee **W***).

6.6.7: General Management Discipline

Within the discipline that is referred to as general management there was a clear alignment with information being seen as resource and used in the management of operational and strategic aspects of the institution. There seemed little issue over the strategy per se as the majority of these individuals were not so much interested with what information was or as not but more about ensuring access and future availability to enable these individuals to continue to undertake their roles within the institution. Given their professional stature there was clear evidence of normative isomorphism whereby there was a need to maintain that professional alignment and it was this alignment that in fact allowed them to operate in their role within the institution. This was specifically addressed by *interviewee **I*** where it was clearly expressed that *access to and robustness of information was paramount in allowing the institution to function properly*. Without appropriate levels of information the institution would not be able to fulfil its legal requirements and he suggested that the information strategy was a necessary part of maintaining that access and professionalism. The major issue seemed to be over the 'conflicting views of the constituent elements of an information strategy' individuals from the GM discipline saw no difference in the nature of the strategy to any other strategy and identified it was there to manage resources in order to support outcomes. Information was vital to the decision-making process and this in turn aligned with monitoring and controlling which was the main stay of their approach to organisational effectiveness. There was an implicit view that technology would allow access and provide the necessary information. Certainly the isomorphic templates of normative and mimetic elements were apparent and in essence they didn't want anything to change; as everything had work previously, all they viewed the information strategy as achieving was to provide more of the same, faster, with more transparency and in the format that they required.

All of the disciplines, within the GM domain, would argue that maintaining a level of control and professionalism is 'part and parcel' of their remit. The linkage to their professional discipline is paramount as it was identified that association and membership of their professional body carries a far greater influence than their association to the institution. Their association provides authority and legitimacy to carry out their duties as well as providing both the regulatory and the performance requirements to enable them to maintain their professional status. Without professional membership individuals would not be able to undertake their roles within institution,

therefore emphasising that the influence from the normative isomorphic template is far greater; and the opportunity to for individuals to influence that template in return is almost none existent.

There was also an element of coercive isomorphism found within the discipline of GM, but mainly from internal perspective. As individuals within GM acknowledged that the executive team had set a requirement of implementing an information strategy and as they were part of the ISC there was an implicit assumption that pressure was being exerted to produce the information strategy.

Throughout the whole process an underlying theme was evident and that was the objective approach taken by the literature towards information and an information strategy. What follows is the researcher's observed view of information as a subjective or human construct indicating, why from the case study material, the notion of multiple logics are valid and that organisational complexity is to be expected, indicating part of the reason why the information strategy became null and void and suggests the fact that formulating an information strategy based on historical and objective interpretations may be impossible.

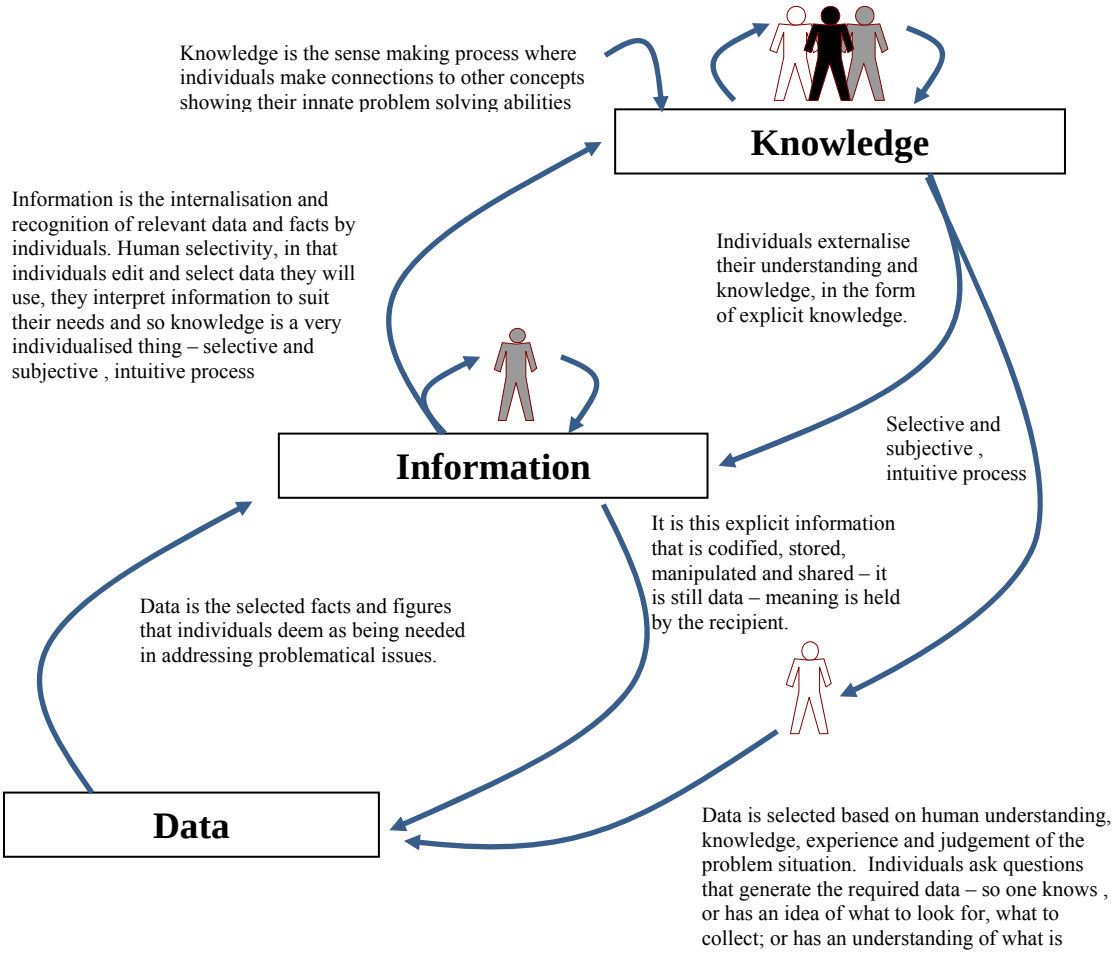
6.7: Information as a Human Construct.

The recognition of an objective and implicit approach to the formulation of an information strategy seems to be now well established; as well as an understanding of how isomorphic templates influenced individuals. What was less well identified and became evident from the research process was the fact that individuals were not willing or seemed oblivious to other views and were unable to adapt their own professional templates to integrate competing discipline views. This signifies that individuals and organisations were unable to 'break away' from the technological thinking or understanding that has dominated much of the discourse surrounding the notion of an information strategy. The need to 'humanise, the concepts of information and knowledge, as seen in *figure **33, p158***, are an important movement forward in understanding how information and an information strategy can contribute to organisational development. It was mooted by *interviewee **B*** that *there may be more to the notion of information than was currently being voiced by committee members…..but investigating this was not part of his remit and was left to others*. The researcher would argue that the one way approach of professional templates influencing individuals,

together with institutions not recognising the role of individuals and how they make sense and construct information will result in a continued alignment between technology and information. This will perpetuate the view of information being seen as a by-product of technology and continue the 'drift' towards technologically based strategies to manage information. The researcher would argue that technology is important, in line with Carr (2003, 2004), but it is not the only 'thing' that provides advantage. It does provide a platform to manage, manipulate and disseminate data which it does to great effect and much more effectively than an individual. However, the constant neglect of the individual within the information process limits the use of information as a resource, even with the benefits and advancements in technology. The key is about managing people and they in turn provide the key to information and knowledge and its potential advantage. Within the information focussed society it is important to reiterate the need and role of individuals; to ignore this would continue an historical approach of viewing information as a product, as a resource and as a technology based asset that is managed by technology. The result would be for organisations to focus upon technology as a mechanism to manage and control that resource. The alternative is for organisations to recognise the importance of the individual within the information process which would then focus upon managing, training and developing individuals. This would support the view that information is a human construct and place individuals at the centre of creating and managing information. Rainer et al (2015) emphasises the importance of the individual, if somewhat surreptitiously, by acknowledging that information has to have meaning and relevance to the recipient; inferring the individual makes sense and understanding.

What organisations have historical misconstrued in their objective and implicit approach to the process of managing information through technology is that they are in fact managing data, something technology is very good at. This misalignment is acknowledged by Wijnhoven (2009: 1) who argues that *the concept of information is often equated with data and even more specifically to electronic data*. The notion that information is a subjective human construct is identified in *figure **33***, *p**158***.

Figure 33: The data, information and knowledge hierarchy as a human construct



(Knox 2012, adaptation from Knox 2007 and Knox 2009)

What the researcher can identify from both the literature and the case study material is that the need to manage information is pervasive across all aspects of the organisation. Therefore, the notions of data, information and knowledge are implicit in all activities whether they are strategic or operational. The former would suggest that information about future actions, forecasting scenarios or knowing what your competitors are doing. General Management (GM) require this type of information to make decisions regarding where to go next or what actions to take; and much of this information is reliant upon access to sound information that is produced by technology. This infers a strong relationship between information and technology which in turn general management use in decision-making and managing the organisation. The latter also has a requirement to access information but more in terms of the internal aspects of the organisation. Something that general management would indicate is harder to 'copy' and so provides advantage over their competitors. Information is again identified as a

by-product of technology and focusses upon internal costs and operations. Whether information is for external or internal activities there is an assimilation between information and technology as the mechanism to manage that process.

The researcher would argue that this is only part of the process and that in effect this resourced based view minimises the role that individuals paly within the data, information and knowledge process.

Within the case study material the subjective construct of information was evident in the conflicting views articulated by the ISC members, as seen previously in *table **6, p136/7***. Whereby individuals expressed concerns over language, interpretation, processes even meaning all of which signify that different constructs were evident. Unfortunately the management and role of the ISC didn't allow or encourage individual members to express these constructs in open forum; leaving the only way to 'vent' or 'express' their interpretations was through the researcher during the interviewee process. There were rather naïve constructs of an information strategy indicating that *I haven't really thought about it before I just assumed it was taken care of* (*interviewee **U***) or it *tells us how to manage and control information within the university* (*interviewee **R***) or that *it is not dissimilar to other strategies only the content is changed* (*interviewee **H***) all of which infer an objective and tangible approach to information strategy. Alternative quite astute views argue *that there is a default tendency to think of information in terms of I.T but I.T. is but one part of an information strategy* (*interviewee **B***). The analysis here indicates that individuals are subjectively making sense of the situation and subjectively constructing what information actually means to them and in what context.

6.8: The Notion of Hollow Strategies and Visual Rhetoric

The fact that there seems to be evidence to suggest that not only is there an objective and implicit alignment with information and an information strategy but that this alignment is misplaced as it fails to recognise the subjective human construct of information. The result of an objective and implicit approach to information and information strategy formulation manifests itself in the realisation that the information strategy is in fact a 'hollow' strategy. Much of what the researcher has identified within the research process indicates that those involved in the information strategy formulation process were themselves not totally in agreement with what constitutes an information strategy. Taking Teubner & Mocker's (2009) points that the

conceptualisations of an information strategy were not articulated in terms of completeness, structure and rationale. The researcher would add that an information strategy has still not materialised in terms of how it was initially construed. It still has not aligned with the notion of information as a process, as it focusses upon technology and information as a product; and it does not recognise the role of the individual in the process. It still 'floats' within the general structure of organisational strategies and infers little development has occurred, as seen within the modelling processes identify in both the literature, Mutch's (2008) view of it *'fizzling out'* and within Stapleford University's attempts at formulating an information strategy. The researcher would suggest that many institutions have 'paper based' documents but they are nothing more than an ineffectual document or 'hollow' strategies. Given the contextual setting within which the information strategy is located, where universities are in a constant role of programme, module and institutional validation it is not unreasonable to find this type of approach to a particular strategy formulation process. As indicated in the previous chapter what seems to be evident is that institutions have produced strategies that have been *seen to be written* but not *written to be seen*. The case study investigation has clearly acknowledged that no real formal or useful strategy was forth coming and that in the end the whole process was subsumed into another strategic committee. In support of this ineffectual strategy process *Appendix **18, p239***, indicates that over a ten year period, viewed in 2004, 2008 and 2013 other HEIs attempts at formulating an information strategy have had mixed results. All started with a number of acknowledgements referring to an information strategy, yet ended up with almost no mention of the strategy or certainly not one that was evident or available in the public domain. This certainly, from the researcher's perspective, strengthens the notion of an ineffectual process that results in the creation of a 'hollow' strategy with regards to the information strategy.

It is worth noting that from a management perspective the impetus may have been the Follet Report (1994), and Dearing (1997) both acknowledged the need for institutions to have information strategies. The JISC guidelines (1995c; 1995b) promoted the view *that any information that should be available for sharing (and most will be) is well defined and appropriately accessible*. All inferred that the Library would have a central role to play in this development process. The intervening years have identified various attempts at information strategy formulation both explicitly and implicitly. Explicitly in terms of various higher education institutions following similar documented information

strategy development processes; and implicitly, through actions that focussed upon information, without necessarily referring to an information strategy per se. The information strategy was, for all intents and purposes, the controlling actions of those who managed access and ownership to information, generally IT and GM and were based upon a 'need to know' criteria. This was evident within Stapleford University where the focus on ownership, control and access to information was the real aim, although this was not openly stated but was an implicit part of managing information. These actions and a lack of congruent outcomes have drawn the researcher to establish this view of an information strategy being seen as a 'hollow' strategy and that the pictorial representations were devoid of meaning and serve only to promote that notion of visual rhetoric. Part of the reasoning, elicited from the case study material, was a rolling programme of changes which required institutions to provide documentation for external purposes, to which the notion of an information strategy was no different. Ultimately, this documentary approach ensured that institutions had strategies in place as 'part and parcel' of the development of HEIs. In reality, the researcher would argue that, the strategy doesn't actually manage information or address the information needs of an organisation and is therefore a 'hollow' strategy. The notion of 'visual' rhetoric is a manifestation of a 'hollow' strategy, where a visual picture is provided (as seen in *figure **31 A-C, p142/144***) but in essence they are devoid of content or meaning.

The final part of the analysis process addresses the eleven emergent themes, seen in *table **7, p162***, where the eleven themes are highlighted with an initial brief description along-side. This list of themes then provided a need for more in-depth analysis of the data, identified in *appendix **19, p244***, where the process of content and template analysis occurred, again colour coding of discipline and themes, all of which contributed to the notion of an ineffectual process and 'hollow' strategy as well as the notion of visual rhetoric in relation to the information strategy.

The focus of the data collected, from interview questions *Appendix **22, p274***, was based on understanding why an information strategy was being formulated, what it meant to individuals and how this impacted on the strategy making process. The themes emerged and are identified in order of significance based on the number of occurrences. That is, where they were highlighted within the transcripts; this included the number of times a reference was made or where an interpretation was provided which could be justifiably aligned to similar ideas and themes, as shown in *figure **15, p104***.

Table 7: The eleven themes overview

Themes	Brief Description
A confusion over the strategy development process (38)	There was confusion over why the process was not moving as expected, why the strategy seemed to be viewed differently by different individuals, why there seemed to be little cohesion between the strategy and intended outcomes. The thought that this resource 'information' or strategy was in any way different to previous strategy formulation processes was not considered.
A conflict of understanding regarding the constituent elements of an information strategy (26)	There was an initial view that those tasked with its formulation were the ones most appropriately skilled and/or qualified to guide the information steering committee. Unfortunately what emerged was a debate over whether the information strategy was to include I.T. and I.S. issues.
An issue over what an information strategy will achieve (19)	What would be the benefits, the drawbacks and the overall outcome. What will be different from what we have now, therefore trying to identifying outcomes, benefits, and value of the information strategy was contentious as to who would own the strategy and who would be responsible for it and manage the information
An issue over terminology and general education of the committee (18)	Varied backgrounds, little previous experience of an information strategy before, misuse of terms, limited contribution all inhibited members from participating, lack of articulation of understanding
Levels of participation (18)	background, experience and role individuals held within Stapleford University created confusion and conflict between what members of the committee thought should be happening and what was happening therefore members withdraw involvement.
Whether the institution actually needs an information strategy (18)	what this theme initially raising was whether the information strategy was an attempt to maintain standing, or parity with other similar type institutions – have one because others have !!
An issue over the hierarchical order of an information strategy (17)	Whether the information strategy is a broader all-encompassing strategy, whether it is a strategy that is found within other strategies, or whether it is an underpinning/underlying strategy
An issue over ownership and responsibility (16)	There were a number of issues raised whom would use it and how, whom would own, control and be responsible this strategy and its product, a realisation that there is no clear division regarding ownership of and responsibility for the information strategy, it seemed to be 'cutting across' all disciplines
An identification of conflict within the committee (13)	focus by individuals on how this strategic initiative would affect and effect individuals and divisions in terms of individual roles, responsibilities, protection of areas of interest.
An issue of membership (15)	Individuals who were nominated or seconded due to their position or role were not clear as to why, not necessarily the tasked members but the general committee members.
A confusion over the issue of whether or not the formulation process, in terms of the information strategy is seen as a product or a process (5)	No consideration that the information strategy to be any different to previously formulated strategies. They were very much outcome driven and focussed on providing a strategy that would then be 'rolled out' institution wide and implemented, as with other strategies, 'custom and practise'. The fact that information and therefore the information strategy could be seen by others differently, initially had not crossed their minds.

6.9: Explanation of Theme Analysis

The following paragraphs take each of the themes generated from the research process. Each theme was grounded in narratives from the interview process which formed the foundations of the template analysis process. The themes are linked through isomorphic, theory and case study material. What became apparent, within Stapleford University, was that there were a number of strategies in place, *figure **22**, **p121***. There were questions of individual interpretations of an information strategy, what or which strategies needed to be written first and whether the information strategy was in fact a stand-alone strategy. Where did the information strategy 'sit' in terms of other functional strategies? All of these questions were ones which committee members found difficult to answer; it was not clear, at any stage, whether members of the ISC identified the purpose or role of the information strategy, even the remit for some committee members needed clarification.

6.9.1: Theme One: confusion over the strategy development process

Firstly, identifying what constitutes an information strategy, as stated previously, then leads onto how can they then subsequently identify what order or what place an information strategy should take in relation to other framework of strategies at Stapleford University. Referring back to the pictorial representations of an information strategy *(figure **31**, **p:142-144**)* it became apparent that having a visual representation was important but what that visual representation actually meant, in reality, became somewhat obscure and intangible. The pictorial representations had initiated what the researcher referred to as 'visual rhetoric'. Indicating that, at times, visual representations are used more for effect and persuasion than for meaning or explanation. *Theme One* support this visual rhetoric as it was based on individuals not being able to articulate what they viewed or understood the strategy to be, or what made up the strategy, only that they thought it was a useful process. It is argued that if the composition of an information strategy is problematic then the formulation of it also becomes problematic. How can members formulate a strategy if they are unsure of its constituent parts? The fact that there was confusion over where it 'sat' or where and how it 'fitted' within Stapleford University's strategy framework became an issue.

This issue of confusion impacted upon the how to develop an information strategy, what should be part of the information strategy through to what is information and what level of detail is it required. *Interviewee **C*** acknowledges this by stating

> *at the meeting(s), I don't see where this is going to support the university's administration and so the relevance to me seems to be missing*
>
> *(interviewee* **C**)

This indicated that individuals were starting to look towards their own areas of work to identify where and how this strategy will impinge, support or relate to them. This highlights the notion of normative isomorphism. Individuals were aligning their role, their responsibilities and their ability to relate and make sense of this strategy in light of what they do every day within the institution. Their everyday processes are heavily aligned and influenced by their professionalism and 'job activities', so it was not surprising to recognise this type of isomorphism being identified. Ultimately, the lack of relevance created a feeling of uncertainty, cynicism and dubiousness towards the new strategy. This created a focus, by individuals, to protect their current situation and level of responsibility. It also provided a greater affinity with their respective professional bodies in an attempt to gain guidance and a common grounding with which to protect their positions. This confusion resonates within *interviewee* ***E*** who states

> *I don't think they* [a reference to the committee members] *know what they are dealing with. Some people there wouldn't know information if it hit them on the head; they don't see the bigger picture*
>
> *(interviewee* ***E****)*

Certainly a feeling that some members of the committee were confused and struggled to align themselves any perspective, resulted in a competitive aspect to their view of what information may be. This confusion then required 'tasked' members to persuade or coerce others into a supporting the presented view. It clearly acknowledges that others have different views, that are not necessarily articulated and that there doesn't seem to be any mechanism for dealing with these differences. It seems that *interviewee* ***E*** indicated that they had understood and recognised what information was per se but that others did not. An influencing factor upon individual views comes from one's experiences and understanding which in turn are influenced by isomorphic templates. This sense of differing views can be identified in the following:

> *I think the angle I am coming from is from the aspect of an IT strategy; because the IT strategy implements the information strategy – that's the way I see it*
>
> (Interviewee **K**)

Trying to align with an area that was comfortable to the individual was not unexpected but does show aspects of mimetic and normative isomorphism influencing the strategy formulation process. That is, *interviewee **K*** states clearly their notion of an information strategy seeing it as being part of or highly related to an IT strategy. This then projects the notion of information as being objective and implicitly managed by technology. This then draws alignment to isomorphic templates as a mechanism to explain their views. The notion of mimetic isomorphism influenced *interviewee **K*** in terms of identifying what others had done as a means to justify their understanding. They were also highlighting a strong normative isomorphic template as *interviewee **K*** comes from a background involved in 'informatics' where it is argued that information was part and parcel of the gambit of information technology. Their alignment within Hirschheim & Klein's model, *figure **28***, ***p135***, also supports this interpretation. The researcher would argue that the underlying view, within the committee, was that confusion with regards to the information strategy was endemic and is acknowledged aptly by the following:

> *there was a general feeling that information strategy was a good thing **BUT** there wasn't altogether an agreement as to what it meant.*
>
> ***(**interviewee **N**)*

The analysis would suggest that if one does not understand something there is the potential for a notion of complicity to occur. That is, for one to be led or influenced by others into a certain way of acting. This focuses on the notion of coercive isomorphism, in this case internal coerciveness from other committee members. The researcher would argue that an outcome of this is that individuals who predicated the strongest argument or most influential reasoning would influence those less able to articulate their argument or reasoning. It highlights that the information steering committee was not the place to raise the issue of weakness, in terms of not understanding what was actually being discussed. To do so would, in some individual's views, marginalise those and in effect make their involvement and contribution to the overall process less accepted. This confusion not only arises in terms of meaning but also in terms of process or inclusion. That is, what is actually part of the information strategy and what is the information used for, indicating that within

> *the university information is processed for purposes other than managing the business – but we still have to manage infrastructure so interfaces and infrastructure (IT issues) might as well be a part of the information strategy*
>
> ***(**interviewee **F**)*

Here it was evident that *interviewee **F*** was tied to things that they knew and could relate to, specifically the use of technology as a mechanism for managing access to information. Although not directly involved with IT infrastructure *interviewee **F*** had an elected affinity with technology. Recognising that technology was important, it was better to hold onto and accommodate these views within their own principles than to remove them completely. This supported the resourced based objective view of information and followed what had been done by other institutions, technologists or information strategy formulation processes and so links in with mimetic isomorphism. *Interviewee **F*** had a strong link to the library discipline and with their professional affiliation drawing on the notion of normative isomorphism. Following on from this *interviewee **F*** also acknowledge that

> *Let's be fair, as a group the information steering committee are thinking how can we do this? That is, develop an information strategy*
>
> *(interviewee **F**)*

So it seemed that individually members had concerns, but collectively they are not so keen to articulate those concerns. Not knowing where the information strategy 'fits', how it relates to the other strategies, was problematic Therefore, copying what others had done (outside consultant) provided an initial starting point and provided, in a general sense, support for actions taken and so legitimising the process.

Unfortunately, the confusion over the information strategy seemed to stem from a more fundamental issue; that is what the strategy being formulated actually referred to:

> *I think there is not only confusion about what is an information strategy but also about what is information.*
>
> *(interviewee **J**)*

An overall feeling emerged, that the committee members were in disarray due to little guidance or understanding of how to move forward and no one was willing to voice this confusion. Individuals tended to draw upon their areas of specialisms through the notion of normative isomorphism but there is a feeling that their understandings within their own specialisms were not strong enough to voice to others. There was a lack of confidence in their own ability to relate their understanding to that practise of information strategy formulation. This then created a situation of 'he who shouts loudest' in terms of coercive isomorphism, traditionally this would be in the form of an outside influential body. However, within Stapleford University, there is clearly an element of internal coercive isomorphism.

Suggesting those committee members who provided guidance and/or direction based on some form of legitimacy were not questioned in open forum.

> *I think there is a confusion inside the committee, probably, by a number of its members because traditionally what went before it was more of a IT strategy rather than an information services strategy; and there is still an uneasy shift between IT and IS issues and it is not clear to me, as yet, whether this has been resolved in terms of what the committee is trying to achieve*
>
> *(interviewee **I**)*

Across the seventeen committee members there was little agreement or clarity towards where the information strategy 'fits'. This then exacerbated the potential for those who were still not clear to raise issues regarding where the information strategy fitted and what the notion of information actually meant to Stapleford University. The longer it went on the harder it became to say anything. The outcome identified that individuals were more easily led and coerced into following and accepting what was being presented by others as this meant that they did not have to raise their confusion. This action meant that participation and involvement within the information steering committee started to dwindle dramatically and can be seen by the levels of attendance at subsequent meetings. Summing up this confusion the chair of the committee stated:

> *from what I have seen so far there is lack of clarity and agreement within the committee*
>
> *(interviewee **A**)*

This acknowledgement, from the chair of the committee, that the process to date was problematical, indicated that there was little forward. *Interviewee **A*** held a difficult role as this individual had to act as the conduit between the committee and the executive management board; who were one part of the process that had instigated the requirement of formulating the information strategy in the first place. Therefore *interviewee **A*** was experiencing the influences of coercive isomorphism from both above and below their respective role. Above, in terms of managing the team and to report back on the formulation of an information strategy; and from below where they were being told what was happening, what and how the committee were formulating the strategy and in essence recognising confusion over the process. The analysis of this 'conduit' infers that one committee does not know what the other committee is expecting of it; that is tantamount to identifying that they do not know what is happening!

Throughout all of the statements, identified above it is clear that both **theme one** (confusion of process) and **theme two** (conflict of understanding) are intertwined. As both acknowledged elements of difficulty regarding the make-up and 'fit' of the strategy. This lack of clarity has resulted in the information steering committee being influenced by the notion(s) of mimetic, normative and coercive isomorphism. **Firstly**, what other institutions were doing became the 'guiding light' as to how they should proceed. This, unfortunately, then follows a resourced based view of an information strategy which aligns it with technology. This does, however, give the committee members and specifically the 'tasked group' a way forward. **Secondly**, levels of legitimacy based on what others were doing; and **thirdly**, the recognition that coercive isomorphism was both an internal and external feature of this process for Stapleford University.

6.9.2: Theme Two: conflict of understanding – constituent elements

Initially, this theme came from a very basic question asking 'what is an information strategy? It was meant as an opportunity for interviewees to express their ideas and understanding regarding what they, given their involvement within the information steering committee and specialist background, understood an information strategy to be. The aim was to identify if different members of the committee held different views of an information strategy and if so why. The first element became evident quite quickly, in that most interviewees held varying and diverse views of what an information strategy was and how it should look but that they were not always able to articulate that specifically. Given that all committee members were seconded to the ISC based on their role or involvement with information per se what was created was a large heterogeneous group of individuals. Therefore, for the strategy to work everyone had to 'buy' into it, so it seemed appropriate for as many areas of the university, as possible, to be represented. *Interviewee* **G** stated *that I am part of the committee because of my role within the university and the fact that 'information' is in the title of both the committee and my job title*. Whereas, other interviewees stated:

- *I haven't been to the last two meetings, as there is, in my mind, a slight confusion as to why I am there? (interviewee **L**)*
- *I was surprised that I was there and after the meeting I was even questioning should I be there? (interviewee **M**)*
- *My membership came about in an odd way – I was asked to join as I was involved in the technical infrastructure of the institution (interviewee **N**)*
- *Because of my role within the university (interviewee **C**)*
- *I am there as my role is to lead the business development side of the university – my belief is that the information strategy should*

*be business led, the business should not be led by the information strategy (interviewee **I**)*

- *There seemed to be a heavy slant of I.T. specialists, which made me question why I was there? (interviewee **K**)*

This initial uncertainty regarding reasons for membership only exacerbated the confusion and ambiguity found within the committee members with regards to what constitutes an information strategy. It became apparent that interviewees could be divided based on a number of elements. **Initially**, based on their roles within the Stapleford University, for example academic, administrative, and technical; **secondly**, based on their status, such as senior management, middle management, academic and technical staff, and support level; **thirdly**, based on their level of experience relating to strategy development. All of which seemed to impact on their views, questions, involvement and participation and all of which related well and could be influenced by the notions of isomorphic templates. What came out of the initial round of interviews regarding the notion of what constitutes an information strategy raised a number of discussion points: Initially some viewed the strategy as being more than just information technology by stating:

> *Essentially an information strategy is bigger than an I.T. strategy and therefore is not an I.T strategy per se*
>
> (*Interviewee* **G**)

Highlighting, that for some, there was a definite view of what an information strategy consisted more than technology but they are unable to pin point what that something 'more' was. Their view relied upon something that they knew or recognised in the first instance, that being a resource based view of the strategy by linking it to the notion of information technology or placing it in a hierarchical framework. It is seen in terms of the previous pictorial representations where information and the information strategy were seen as larger, overarching strategies that influenced other strategies. Without being able to 'pin-point' what it is or what its elements may be the notion of mimetic isomorphism came into play as this provided a mechanism for presenting something at the information steering committee meetings and so stimulating debate. Unfortunately, what was not expected was the lack of involvement and limited understanding exhibited by committee members. Trying to quantify their previous statement *interviewee **G*** went on to say

> *I just don't see IT strategy, IS strategy and the information strategy as being three separate things*
>
> (*Interviewee* **G**)

This statement seems to be inconsistent with the previous statement whereby the information strategy was more than an IT strategy initially, but now there is an alignment of the information strategy with two very traditional strategies found within the IS discipline; this just exacerbates the situation. As seen in *Chapter **2**, **p20***, the information strategy is often aligned with the IT or IS strategies. This also signifies the notion of mimetic and normative isomorphism. Mimetic, in the sense that *interviewee **G*** clearly acknowledges that they are copying what other like-minded institutions are doing in relation to formulating an information strategy; Normative, in the fact that they are identifying how their professional alignment and/or professional body acknowledged an information strategy as being part and parcel of the information technology domain.

Interviewee **G** was from a very technically oriented background, one which would often view information as being objective and a resource. The influence of normative isomorphism is evident in terms of past experience and attachment to professional work ethics signifies that *interviewee* **G's** perspective of dealing with information was based on specific parameters, and perspectives. This becomes even more important when, in fact, it could be argued (as stated above) that the two statements above are in fact contradictory in their meaning. Initially, an information strategy is stated as being something more than an IT strategy; and secondly, there is no difference between all three strategies as they are in essence all related to one another.

Other committee members also seem to have a definitive view of information and an information strategy by stating that:

> *previously I had responsibility for I.T., I asked for an information strategy and what came about was a technical document; it was - this is what we need to run the business, this is how we are going to get it*
>
> *(Interviewee **E**)*

A number of general comments were identified within the template analysis process that supported the view that there were issues regarding the agreement or understanding of the constituent elements of an information strategy. Some committee members even elected to introduce other strategies that for all intents and purposes seemed to bring in more issues and confusion; rather than provide clarity which made the notion of an information strategy even more contentious, for example:

> *One thing you haven't heard about is the communication strategy – which the university doesn't have and one could argue that it should actually be free standing **BUT** for convenience reasons we are actually going to bundle that into being part of the information strategy*
>
> (*Interviewee* **G**)

Trying to introduce a 'new' strategy only adds to the confusion of what constitutes an information strategy. What became evident was a consolidation of different parts or ideas which were 'pulled together' to create an information strategy. There seems to be evidence that having the responsibility to formulate the information strategy or to present findings to the information steering committee almost forced individuals into grasping at what they could find and hence the notion of mimetic isomorphism became apparent at that stage. Below *interviewee* ***C*** indicated that the IT strategy was part of the information strategy relating to the view that the information strategy was 'bigger' than just an IT strategy per se. What the researcher would suggest was that this 'bigger' strategy was identified within the literature and was often referred to as the information management strategy and not something that necessarily dealt with information per se but acted as an all-encompassing approach.

> *If you take the IT strategy that sits within the information strategy it's a strand of it **BUT** I am not sure that everyone would agree with me*
>
> *(interviewee **C**)*

> *There is a default tendency to think of information in terms of IT and IT is but one part of an information strategy*
>
> (*Interviewee **B***)

Levels of uncertainty and an unwillingness to express individual ideas to the wider community seem endemic. The analysis suggested that the information strategy was an umbrella term that encapsulated lots of other things or other strategies. There was a covertness about stating what constituted an information strategy and a lack of opportunity to voice these concerns, resulting in both mimetic and coercive isomorphism becoming prevalent. Not knowing or fully understanding what one was dealing with then allows individuals, those who are not directly tasked with its formulation, to 'sit-back' somewhat and be led by others and hence the internal coercive element appears. The notion of complicity again becomes apparent.

This notion of an information strategy being all encompassing, affecting all aspects of Stapleford University suggests an alignment with what was presented to the information steering committee by the outside consultant at the start of the strategy formulation process.

The lack of involvement or commitment by information steering committee members resulted in many of the committee members being led by others. Being 'led by others' indicated that members would only say something if they felt what is being said impacted on their role or activity. This inability to voice concerns was put into context by the following:

> *Given the membership of the committee there is a general feeling they should know what an information strategy is - yet it hasn't been made explicitly clear*
>
> (*Interviewee **D***)

> *I think if you ask ten different people* [as to what is an information strategy] *you will get ten different answers*
>
> *(Interviewee **K**)*

Summing up the feelings of many committee members *interviewee **N*** acknowledged the fact that many members went along with what was being proposed, initially, in the committee meetings because they did not have an alternative and so:

> *I think there was a feeling that the information strategy in the large respect was aligned to the technology*
>
> (*Interviewee **N***)

The acceptance of what had gone before and the strong support for an objective resource based view of information increasingly identified aspects of coercive and mimetic isomorphism. There were presentations, as well as literature, linking and focussing the notion of an information strategy to that IT and in doing so to view information as an implicit aspect of technology, so it seemed logical for members to identify a relationship between the two. *Interviewee **K*** states:

> *To me an information strategy should be something very simple, it should state that we have a firm belief that information should be free across the university*
>
> (*interviewee **K***)

This is a commendable statement but what does it actually mean, it implies that information is tangible and manageable and free from any human construct. The confusion continued when the chair of the information steering committee acknowledged that within the committee there is an:

> *IT/IS confusion – what goes in and what doesn't – what is applicable?*
>
> (*Interviewee **A***)

This supports a strong focus upon technology and systems as a means to manage information, indicating an implicit approach to information and a continued lack of clarity. Given *interviewee **A***'s position within the committee *interviewee **A*** was heavily influenced by those tasked with the strategy formulation and so the notion of internal coercive isomorphism became apparent. This need to identify what makes up the information strategy was not helped when some committee members argue that an:

> *information strategy, I think, was perceived as some blunt instrument which led to a certain structure and that structure was no longer thought relevant, so I would argue that we are looking at an information strategy next generation which is one which is far more business driven*
>
> *(Interviewee **F**)*

Identifying the next 'generation' was not something that the information steering committee was necessarily aware of at the time of formulating the strategy. *Interviewee **F*** clearly identified that something new was required but this was not actually articulated to all members of the information steering committee. Hence the guidance and acceptance of both mimetic and normative isomorphism was a continuing factor and was acknowledged in *interviewee **F's*** discussion. There seems to be a clear acknowledgement that, from within the committee, it was evident that members were not totally in agreement of how to move forward. It was suggested, by the researcher, that in this instance, members are more easily led or are more inclined to limit their involvement. In fact one interviewee actually tried to separate the two elements of information technology in the same way that Davenport (1997, 2000) places the emphasis on information, *interviewee **D*** acknowledged that

> *There are two strands that I actually see - the information and the technology but I am not sure how we deal with the former*
>
> *(Interviewee **D**)*

This separated out the two elements of information and technology but doesn't suggest what this then meant to the university. It acknowledged that information may be seen as being different to that of technology but it doesn't assist in identifying how this could be shared or explained to other committee members. It does however add to the dilemma as to what are the constituent parts of an information strategy. Importantly this view was never raised within the information steering committee meetings as a topic of discussion, much to the detriment of the formulation of the information strategy and the working of the information steering committee.

All of the above indicate that when the question what constitutes an information strategy was asked there was strong evidence to suggest that a conflict of understanding existed and resolving that conflict was not straight forward.

6.9.3: Theme Three: what will an information strategy achieve

One outcome, expected from the information strategy and identified as part of the initial ISC remit was that access to information would occur on a university wide basis; it was intended to bring everything together so that all parties could access relevant and required information. This implies that information would be available, via technology, to all who need it, again an implicit assumption that technology manages and provides access to information.

> *information strategies can be expensive to implement so you need to know why you are doing it and what you expect your expected outcomes are*
>
> (*interviewee **F***)

> *we need clear outcomes so we know when it has been achieved*
>
> (*interviewee **H***)

Other strategies, within Stapleford University have tangible outcomes and for all intents and purposes the information strategy was seen to be no different. Efficient and effective access to information was a major outcome of having an information strategy. However, the ISC had not acknowledged or identified how this outcome would be achieved.

The interviewee process identified different ideas about what the outcomes an information strategy might look like. Those with a managerial perspective of information emphasised its use in establishing a vision and meeting business objectives.

> *In terms of the overall objectives but links in with wider things like the university mission statement, the teaching and learning strategy; there are lots of drivers behind the information strategy*
>
> *(interviewee **D**)*

> *The strategy itself, has to deliver something affordable, pragmatic and something in so far as we can future gaze should meet the needs of the university in the future*
>
> *(interviewee **F**)*

> *Information strategies are about values and attitudes – in so far as they are primarily about business objectives and the business*

> *objectives always embed themselves in values and attitudes of the organisation*
>
> *(interviewee **I**)*

Others such as *Interviewee **E*** from a functionalist perspective took a more pragmatic view that contrasted with a focus on vision.

> *Specifics of what is going to be done, by whom, and by when – we need that in the strategy*
>
> *(interviewee **E**)*

> *So the information strategy is really, I think, something that needs to be fairly simple but it is an enabling framework*
>
> *(interviewee **N**)*

> *Maybe I am coming from a technologists background but we just don't seem to see the same things, therefore how do we all buy into it?*
>
> *(interviewee **K**)*

Given that, as theme one and two identified, the nature of the information strategy was problematical the notion of tangible outcomes was also becoming unclear and imprecise. The emphasis in the committee's discussions moved from what the strategy set out to achieve towards the identification of responsibility for the implementation and accountability of the strategy once it had left the 'hands of the information steering committee'. This approach gave some element of tangibility to the strategy but not in the sense that was initially intended. It also moved the onus, in terms of responsibility, from the members of the information steering committee, to those who would eventually manage and own the strategy. It became evident that the responsibility would fall to the IT department; it then became essential that the strategy was in a format that equated and predicated their views and perceptions.

This highlighted clearly the factional division that was occurring within the information steering committee.

> *I firmly believe that if we don't create an information strategy that is completely practical and understood by everybody on the ground then it will remain un-implemented and un-implementable*
>
> *(interviewee **K**)*

The discussion was now about who would manage this strategy it became evident that aligning the strategy with their views is crucial to its success. Therefore, the technological perspective that was influenced by the normative isomorphic template became a strong factor in how the information strategy progressed; ensuring that the end 'product' would be something that the IT domain would be able to work with. This is an important outcome and hence the strategy became essentially a technologically, functional, portfolio driven strategy.

6.9.4: Theme Four: terminology and general understanding

The issue of terminology and general understanding related specifically to the area of information and information strategy. It was seen to be embedded within issues of confusion and/or conflict, regarding terminology and inclusion or implicitness within other strategies. Given that the ISC was seen as highly political and influential which in turn created an environment that made it extremely difficult to ask basic or pertinent questions that related to meaning; the fact that the committee meetings were at times hostile and gladiatorial and not the place:

> *where there was the opportunity to raise that kind of fairly basic, fundamental question in the meeting environment* [i.e. what is an information strategy or what is information]
>
> (*interviewee **C**)*

The apparent confusion of understanding amongst members, the nature and make-up of the committee made it nigh on impossible to raise clarification questions. Therefore, aligning oneself with others who were seen to be influential and/or informed became part of the strategy formulation process that was adopted by committee members. This again highlighted elements of internal coercive isomorphism. Indicating that alliances and allegiances became apparent and played a role in how the information strategy progressed. The role of the committee was becoming extremely difficult *interviewee **G*** stated that:

> *it isn't a given that everyone on the committee knows what an information strategy is – but the VC has said we need it!!*
>
> *(interviewee **G**)*

This realisation that the information strategy was requested by the Vice Chancellor and had the support of the executive committee placed pressure on the information committee to fulfil the request of an individual who exerts power over others and aligns the notion of internal coercive isomorphism clearly within the information steering committee. There was, over the

feedback and development stage, a clear withdrawal of members both in terms of their support and involvement of those tasked with the information strategy formulation. The withdrawal of involvement was based, the researcher would argue, on the fact that many committee members were unsure as to what they were doing or how the strategy was to move forward, as seen by the following:

> *I was concerned over the wooliness and fluffiness of how the information strategy was portrayed*, others argued *that the* [information] *strategy doesn't seem to fit with other resources.*
>
> *(interviewee **G**)*

There was an agreement from the interviewees that the use of terminology within the committee was inconsistent, even though

> *information was being seen more and more as a strategic asset – a new VC (Vice Chancellor) with new ideas, the environment was more competitive, we need to provide more information, as a marketing tool to make others aware*
>
> *(interviewee **J**)*

> *Terminology was mixed and confused, we had people calling strategies policies and no commonality and no indication of if the strategy was an individual one or contained within other strategies!*
>
> *(interviewee **C**)*

> *Information strategies should be as lean as possible in defining what is the essential information which is needed by the business in order to understand its context and deliver its objectives within that context*
>
> *(interviewee **I**)*

This identified both coercive and normative isomorphic issues where the VC was influencing and directing what was needed and where individual perceptions were influenced by their need to attain a tangible outcome. The analysis suggested that it may have been unrealistic to expect everyone to agree on a definition but this opportunity to discuss or agree never came about. The polysemous nature of the term 'information' was never addressed; throughout the whole process there was an implicit assumption that everyone knew and agreed upon what was being discussed.

> *The problem though until we have ALL got a clear definition, which we are all signed up too i.e. what is the remit of the information strategy? We have a problem as you can't have a strategy until you know what's supposed to focus on*

*(interviewee **C**)*

The result of this lack of clarity created a situation where members became focussed upon protecting what they had and not being marginalised.. Protectionist issues included: maintaining power, control, responsibility for what was currently used and not to lose any level of responsibility due to the formulation of this new if somewhat poorly articulated strategy. The researcher suggest that this 'protectionist' approach emerged because ISC members could not see how the information strategy would materialise and so withdrew from the process and focussed upon what they could see. This approach allowed individuals with the responsibility for the strategy formulation, to drive forward their views but at the same time the decision-making process was restricted due to lack of agreement and cohesion of other committee members.

> *I am sure that there are people who see the information strategy not in terms of a mission statement*
>
> *(interviewee **K**)*

The inference here was that *interviewee **K*** equated the strategy with that of a mission statement, as a broad generic statement, but that others may not. Therefore, the terminology used and understood by committee members was highly relevant if there was to be any meaningful dialogue between committee members. The confusion was openly acknowledged by the following which equated a business focus with an information focus in terms of managing the organisation.

> *No it isn't a given that everyone on the committee knows what an information strategy is – The VC has said we need it – but some may say this is a business strategy not an information strategy – this is how we need to run the business as opposed to how we handle information*
>
> *(interviewee **G**)*

The influence of normative isomorphism was evident here where there is a strong definitive view of what an information strategy constitutes and how it should be interpreted, based on discipline backgrounds. It acknowledges the role of information as being objective, tangible and a useable commodity that assists the organisation in achieving its objectives; seen in JISC (Joint Information Systems Committee) and SCONUL (Standing Council of National University Libraries). *Table **8, p179***, identifies alternative views, terminology used within the ISC regarding information and an information strategy.

Table 8: Contrasting views of information and an information strategy within the ISC

Contrasting views of terminology used within the ISC (regarding information, strategy and an information strategy)
• *I don't think they know what they are dealing with. Some people there wouldn't know information if it hit them on the head; they don't see the bigger picture, interviewee (**E**)* • *I think the angle I am coming from is from the aspect of an I.T. strategy – because the IT strategy implements the information strategy, interviewee (**K**)* • *There was a general feeling that information strategy was a good thing BUT there wasn't all together agreement as to what it meant, interviewee (**F**)* • *Historically, what we are calling an information strategy would typically have been called something else, probably an information technology strategy, interviewee (**G**)* *Terminology was mixed and confused, we had people calling strategies, policies and no commonality, interviewee I* • *We are all very familiar with the development of strategy per se, interviewee (**D**)* • *I don't believe we can write a strategy by committee, interviewee (**E**)* • *If you ask me what should be in an information strategy this is very difficult, interviewee (**D**)* • *We all have an interest and a different view point of an information strategy and information delivery because of our experience, interviewee (**K**)* • *What we are trying to do is make it so the information strategy is not a detailed document, effectively what we want to do is still have a strategy that will be valid in five years' time, interviewee (**G**)* • *I think there is not only confusion about what is an information strategy but also about what is information, interviewee (**J**)*

The notion of mimetic isomorphism can be seen in the statement(s) above, as well as from *interviewee **F*** who argues *that there are two views* [of an information strategy] *a business view and an a JISC view – now JISC is a business view, but pure corporate and software people (IT dominant) talk about information as a commodity,* this infers that the ISC are following what was out there already, but even that was seen to be vague. The ISC acknowledged that *that there is a bit of a debate over whether we use JISC definitions and guidelines (hedge our bets as in the T&L and HR strategies) or let them run alongside, as long as we get what we want (interviewee **F**).* The analysis suggests that, within the committee, there was a recognition that other views existed and other institutions were doing trying to do the same thing.

6.9.5: Theme Five: levels of participation

Following on from theme four where the mismatch of understanding was causing problems, this then resulted in members withdrawing from the process; this created a level of apathy within the committee and developed into a situation where often committee meetings were cancelled before they had even begun. Not holding a quorum meant meetings were cancelled by the secretary to the committee, as individuals focussed upon what was relevant to them:

> *if you're primary remit is research your primary interest will be the research strategy. If you are very much involved in T&L and little research your interest will lie with the T&L strategy. Therefore,*

> *individuals have a local perspective, which will change based on the conditions or responsibilities within the university*
>
> (interviewee **D**)

Therefore, many committee members view the information strategy as 'not their responsibility'. The initial support, shown towards the information strategy, can be put down to the influence of internal coercive isomorphism. That is, the new VC was pushing and insisting that Stapleford University had an information strategy in-line with his old institution. What was apparent was that the VC was also being influenced by his own experiences and beliefs and was exhibiting notions of mimetic isomorphism. This could be seen in the fact that he was in essence copying what had already been done previously and taking from his previous institution,

Ward and Peppard (2002: 345) identify that [many] *information steering group(s) are seen as failures, or at best an irrelevance to line managers, I.S. managers and some senior executives*, and goes some way to suggesting why information steering committees have become ineffective. It indicates why membership had dwindled over a period of time. Members raised the following points when asked about their participation within the information steering committee:

> *It has just gone by me I have other priorities and I suspect other people are in the same boat*
>
> *(interviewee **C**)*

> *I am a little anxious that participation in senior committees by the academics of this university is not as good as it should be*
>
> *(interviewee **B**)*

There is a feeling, 'aired' by some committee members that not all parties within the committee were participating fully in the goals of the information steering committee. There were elements of a need to focus on the 'job in hand'. This meant that their roles may involve high levels of responsibility, it seemed that the aspects of normative isomorphism became prevalent as it was about doing their job in line with their professional body, meeting the requirements of their professional body or meeting the requirements of their main role. This recognition of professional alignment impacts on other organisational responsibilities which indicates a 'two master' syndrome. The overall level of involvement by committee members can be gleaned from the Minutes of the information steering committee dated 14th November 2003, which stated that the

> *draft strategy would provide guiding principles from which defined and named actions could then be derived. It had been widely circulated for comment, but the level of response had been disappointing*
>
> (minutes of the information steering committee dated 14th November 2003)

It is inferred from certain committee members that Stapleford University's academic staff could certainly provide more direction for the committee members especially from those within that perceived field. This highlights the lack of participation and could be suggested was a result of theme two indicating individuals were unsure or had conflicting views of what constituted an information strategy. The lack of involvement was highlighted by the following

> *I have only attended one meeting, as I didn't see it as a priority*
>
> *(interviewee **E**)*

The level of confusion and limited amount of participation can be seen in the following acknowledgements:

> *What the committee is about – again I haven't check the terms of reference, so I am quoting from memory of a committee that I haven't actually attended now for quite a number of months because of either it has been cancelled or my diary hasn't allowed attendance*
>
> *(interviewee **D**)*

> *I wasn't exactly sure what the purpose of the information steering committee actually was*
>
> *(interviewee **E**)*

Again, the level of involvement and commitment to the committee does not seem a high agenda item in their overall scheme of responsibility. There was a level of indifference that suggested a mismatch of understanding and lack of relevance to their particular role.

The analysis of this indifference suggested that it was not necessarily about a lack of commitment but a mismatch of understanding and confusion over the aim of the committee and more importantly their individual role within the committee.

6.9.6: Theme Six: the need for an information strategy

Again, this particular theme can be seen as a result of previous themes but what brings this to the forefront is the following view, aired by a number of individuals:

A cynical view could be that we have survived for the past years without an information strategy why do we need one now

*(interviewee **E**)*

Although the institution had a strategy called an information strategy it was not something that was common knowledge. Also the fact that given the pictorial representations implied an implicit approach to the notion of an information strategy, together with the conflict, confusion and language used all added to the view that it was seen as being 'part and parcel' of other strategies. The committee members started to raise issues over the need for the strategy; which the researcher then identified the strategy as being 'seen to be written or written to be seen'. If the strategy was implicit in other strategies was the notion of an information strategy more of a need to have something called an information strategy, as opposed to a strategy that was actually used, implemented and beneficial.

However, the notion of internal coercive isomorphism prohibited this questioning actually being 'aired' in open forum; it was held back for private discussions with the researcher during the interviewee process and goes someway to explaining why committee members refrained from participating in the strategy formulation process. This suggests that the strategy was in fact being driven by other internal and external forces not general committee members.

As identified above, this theme came directly from the narratives and generated a number of responses ranging from the cynical to the confused. There seemed to be an overall agreement that *information* was important to the university but the crucial element was how to go about extracting or using it, dependent upon one's interpretation. The objective approach to information then becomes enmeshed in managing the technology, which in turn revolves access, collation and use as seen in *figure **18, p113.*** There was also the view that not much had happened in terms of the information strategy development and promoted the notion that the strategy may end up being superfluous, as expressed below:

If we have an information strategy that is twenty pages long, with lovely hifalutin ideas, I personally believe it will just get cellophaned and put into a draw

(*interviewee* **K**)

We don't really need a strategy, the strategy is just an enabling framework, it is recognising that these needs exist, and that people need help in addressing them

*(interviewee **N**)*

We spend a lot of time degenerating strategies. The strategies are often so detailed and so involved and so complex then not read or they are not understood

*(interviewee **D**)*

The analysis suggests that if information and an information strategy are not objective, tangible or resource based then trying to manage a non-specific or intangible element may create issues for committee members. This would then imply that other tangible replacements are sought, explaining the implicitness of an information strategy being seen in other strategies.

This need for a strategy also manifests itself in a process or mechanism for some departments to gain power at the expense of other departments; and hence a realisation that belief systems and general practises found within institutions impact heavily on perceptions and actions of individuals. This identifies the heuristic notion of field logic, where 'custom and practice' come into play, identifying issues of control and jurisdiction over work, domains of knowledge and indicates why departments and individuals hold onto 'things' and gain legitimacy from their position and role in the organisation. Therefore maintaining that control is important so questioning anything that may remove that control was an obvious outcome of the strategy formulation process, where individuals express this

Data is held by individuals or departments and it is a political war to get it

*(interviewee **K**)*

The information strategy is effectively a stripe through all of the other strategies and effectively tries to bring them all together – therefore mapping things from those strategies onto the information strategy

*(interviewee **G**)*

The above statements and previous pictorial representations (*figure **31-A**, **p142***) of the information strategy question the need for the strategy. As the clarity and articulation of the strategy seems limited, suggesting that the notion of having a strategy in name seems to be enough for some individuals and this reflects the mimetic approach to strategy formulation.

6.9.7: Theme Seven: the hierarchical order of an information strategy

This relates back to theme two where members were trying to identify where the information strategy 'sat' within the wider array of university strategies. How best to align the strategy,

was it a supporting strategy, was it an overarching strategy, or was it a strategy that influenced and permeated all other strategies; suggesting an implicitness in that all strategies contain elements of an information strategy. How do members formulate a strategy that is ambiguous and intangible? This issue was addresses by the following, from the minutes of November 2003 meeting, there was an agreement within the information steering committee *for the information strategy to be completed after all other strategies were finalised. However, the need to finalise the University Plan had meant that this was not altogether possible*. This suggested to the researcher and aligned with generic approaches found within the literature that the ISC as a whole were finding the formulation of an information strategy a difficult process; and even more so for those tasked with its formulation that the problems The analysis of the hierarchical placement of the strategy indicated that members were reluctant to provide support for what they did not understand, that members had a sense of being marginalised due to the technological focus and that the information strategy was not coming to fruition and was almost seen as a 'poison challis' resulting in committee members distancing themselves from the strategy and its formulation.

The hierarchical placement also raised issues of the immediacy, role and level of detail; and members were perplexed over what should or who should be driving this strategy *there was a preference for line management, rather than a committee driven strategy.* Others highlighted *that the guiding principles could be strengthened, and that they* [as they currently stood] *emphasised technology more than information* (*interviewee* **E**). There is a realisation that Stapleford University *needs to acquire an information strategy within the coming months,* (internal coercive isomorphism). Given that eighteens had pasted the committee identified that *the strategy was too important to rush, therefore the strategy should be treated as being in development and further time would be requested from Stapleford University's Executive Committee (interviewee **A**).* As time went by this became a bigger and bigger issue for committee members. After months of meetings, cancelled meetings and informal discussions it still was not clear as to how this strategy would move forward; the all-encompassing approach raised the following issues:

> *Information strategy comes last, as it underpins all other strategies*
>
> *(interviewee **C**)*

> *Yes there is a recognition that in order to flesh out the other strategies, the key strategies for learning and teaching and research*

> *and consultancy need to be in place" [other strategies need to be in place before the information strategy*
>
> *(interviewee **D**)*

others proposed that

> *There are a series of flanking and supporting strategies and information maps across them all*
>
> *(interviewee **B**)*

> *Many strategies cut across one another, similarly information must necessarily cut across, underpin and support*
>
> *(interviewee **B**)*

There seemed to be a number of generic views from individuals, but the level of detail and articulation was missing. This raised the notion of multiple logics where individuals were relying on their discipline perspective implying the relationship between information and technology but not providing further clarification. The inference was that the information strategy acts as a mechanism to provide movement and the sharing of information and that's how it underpins other strategies. This bares more resemblance to an IT strategy. It does, however indicate where this individual placed priorities in terms of information and how this individual saw data and/or information as being the starting point for all other areas. Given that *interviewee **C*** was the university registrar, there was a high level or importance placed upon information as a mechanism for managing and informing all areas of the university. Information was seen as tangible resource that must be controlled and the information strategy was, from their perspective, the means for doing this. Interviewee C viewed this as the most important aspect of the information strategy.

An element of 'cutting across', 'embedded', 'nested', or 'functional', all infer a mechanism for providing support for other strategies which in turn allows other strategies to operate. The alternative was that the information strategy followed other strategies, but as a grand vision this seemed to be logical but as an actual process forward it offered little direction; this was where the difficultly and conflicting views came into play:

> *Which one is the driving strategy will depend on your role within the university, different strategies will have or will be differently important to you, depending where you are placed within the university*
>
> *(interviewee **D**)*

6.9.8: Theme Eight: an issue over ownership and responsibility

It became evident that the formulation of an information strategy was seen as the 'an elephant in the room' and as a result members became reticent towards it. What resulted was a general agreement to disagree and remove oneself from the strategy formulation process on the basis that *as long as it doesn't impinge on 'my' specific role or responsibility they can do what they want* (*interviewee* **L**). The focus of this theme identified that those committee members deemed responsible for delivery, implementation, development and accountability were left to manage the process and as long as 'nothing really changed' no one would say anything. The success or failure of the information strategy was focussed upon tangible outcomes that could be measured by the committee and one way of doing this was through the process of assigning ownership and responsibility. This became a problem as no one really wanted ownership or responsibility for the information strategy due to activities of the past eighteen months but also no one wanted to relinquish power, ownership, control or responsibility for what they already had within Stapleford University. This created a 'stale mate' position where nothing was really done, no movement occurred and the information strategy faded into the background. Those that were initially tasked with its formulation were left to produce what became in essence an ineffectual document. This is shown by the following where one member identifies that as long as

> *something is produced that is all that matters as in reality nothing is going to change because of the information strategy*
>
> *(interviewee **L**)*

> *No department takes responsibility for integrating information across all of the university systems*
>
> *(interviewee **Q**)*

*Interviewee **A*** as the figure head or chair of the information steering committee held a certain level of responsibility but this had been delegated to the other 'tasked members' of the committee, therefore removing any direct attribution. This could also be seen as an aspect of internal coercive isomorphism where pressure was placed upon other committee members to formulate an information strategy. As stated previously it was unlikely that the committee forum was the place to raise issues of clarification or definition. However, what came back from those 'tasked members' still had to be presented to the university's executive committee, the way out of this was the reformation of another committee and a strategy in name only.

The ownership of the information strategy still has to come, I don't think we have got it quite right yet – 'A' has responsibility for it in terms of overseeing its development, and holds accountability but 'A' can't do that on his own

*(interviewee **B**)*

Responsibility lies with the committee and I have the development of the strategy as a target

*(interviewee **A**)*

I think people buy in to it, and I don't think ownership is important

*(interviewee **C**)*

Clearly 'buy-in' was important but how do individuals buy into something that they are unsure about. The result was an outcome driven focus that was based on producing a tangible document that sufficed a need and was called an information strategy. All three notions of isomorphism came into being here in an attempt to satisfy the remit of the committee and achieve what they set out to do in the first place.

- *Internal coercive isomorphism in terms of the executive committee*
- *Normative isomorphism in terms of a reliance on those professionals within the committee to deliver a product*
- *Mimetic isomorphism in terms of following what has been done previously to produce something.*

I am worried about what is happening within the information committee, because we have had a number of meetings, not masses, and it is almost like it is being pushed down a pre-programmed route

*(interviewee **K**)*

The analysis of ownership and responsibility indicated that having a strategy in name was enough at that stage. It supported the researcher's view of an ineffectual, hollow and implicit approach towards the information strategy formulation process. It was evident that those tasked with the formulation of the strategy were in essence relying on their experiences, beliefs and understanding as a mechanism for producing the strategy all of which were influenced by isomorphic templates. The removal from the process, of committee members, enabled the strategy to continue without raising issues of conflict of understanding.

Officers of the university as part of their job descriptions should be held accountable for the delivery and they should be reporting it to local committees

*(interviewee **B**).*

There was clear accountability with the ISC but within the ISC responsibility and ownership was ultimately with those members initially tasked with formulating the information strategy. Thereby, forcing those 'tasked' individuals to revert towards what they knew and understand in terms of an information strategy and so isomorphing to different templates.

6.9.9: Theme Nine: an identification of conflict within the committee

It was apparent within the committee that divisions were occurring, between those members who were able to remove themselves from the actual formulation process and those who could not. The committee meetings, that occurred, became arenas of hostility and 'blame', slighting a lack of attendance, lack of response and unwillingness to participate as the major reason why the strategy had not moved forwards. In their defence those that were there, then slighted confusion and lack of clarity on what had been presented as the major reason for the information strategy to become null and void. The atmosphere within the committee meetings was expressed succinctly by:

> *I am not going to go up against higher level individuals within the committee and say I disagree with this approach – I did it initially but individuals are very good politicians – they listen and still do it how they think it should be done and that's what they are paid for*
>
> *(interviewee* **K**)

The analysis suggests that the committee was a political arena and that notions of multiple logics, field logic and organisational complexity came into play; as trying to change how the organisation operated was going to be a difficult thing to achieve. In times of uncertainty members revert to things that they knew and understood and hence common practises that are entrenched in the operation of the organisation hold strong and take precedent over new and uncertain practises. This also identifies the notion of internal coercive isomorphism indicating individuals who view themselves as holding lower positions within Stapleford University were not necessarily going to raise issues and argue against other members who are seen or hold more influential roles.

The issue of conflict was seen to be real and present, whether the conflict was implicit or explicit the fact that it was seen to exist only distracts from the end goal. The element of conflict was intrinsic in many of the other themes.

> *It's a concern to me that some of our committees dispense with business rather than deal with business*
>
> *(interviewee* ***B****)*

The analysis of the committee meeting minutes (*Appendix **23, p275***) indicated that anything to do with the information strategy was almost 'bypassed', in that it was subsumed with other activities or discussions which suggest an implicit approach to the strategy. The ISC focussed upon issues that were tangible and achievable, issues they could deal with resulting in an end product. The fact that one element was not producing a result was down to one or two individuals and not the result of the whole committee or that's how it was expressed.

> *The time frame for the post task group and F&Gs requests for comments from members of the task group is impossible*
>
> *(interviewee **C**)*

Comments were requested but little or no response was forthcoming. Initial time was provided between meetings in March 2003; then again between May and November 2003 with little or no response (*table **5, p119***). The result was that all committee members were to be re-interviewed after the lack of involvement was identified in November 2003 (as seen as the 'mini-research cycle' within *figure **13, p89)***; committee members were reluctant to be re-interviewed but especially as it was to be undertaken by *interviewees **F&G***. What this suggested was a controlled approach both in the process and the outcomes, as well as the potential for interviewees and their views to be identified specifically. This would provide a view of *this is where were now and this is what we have to work with* (*interviewee **G**)*.

> *There needs to be clarification within the committee – the presentation identified two issues – **firstly** how you build an information strategy (business objectives determine it – I agree) – **the second** – was a process for achieving it – this was massively complex, heavy weight process bound – takes forever*
>
> *(interviewee **I**)*

There was a feeling within the committee that any lack of cohesion, or understanding shown would be used against them, resulting in committee members not being available for further rounds of interviews.

> *Many of the committee members are working at a higher level, they are used to thinking strategically they are used to writing strategic statements BUT although that is a benefit that is also a hindrance – in that they may not be able to see the woods for the trees*
>
> *(interviewee **N**)*

The result of the conflict issue stifled the process and in-line with issues raised previously i.e. a lack of clarity, conflict or mismatch of what constituent elements, participation, terminology

used, together with an inability to discuss issues in open forum all contributed to a limited amount of work and progress in terms of formulating an information strategy.

6.9.10: Theme Ten: an issue of membership

Generally reasons for membership of the committee had been acknowledged as being implicit due to their role within the university. However, there had been an element of uncertainty as to why or how the membership of the committee actually came about. Some individuals were quite bemused by their involvement. Ward and Peppard (2002: 345) acknowledge that some information steering committees are *very effective mechanisms for developing a more concerted approach to the strategic management of IS and IT*. Members identified that the committee was a good thing and that it was heavily focussed towards IT and IS issues, which then questioned why some were involved, for example:

> *Because of my role within the university*
>
> *(interviewee **C**)*

> *My role is as Dean – therefore to bring the school perspective on how it interacts with, from a management of a school, delivery of an economic programme, management of staff and other activities*
>
> *(interviewee **D**)*

> *I was surprised that I was there and after one meeting I was even questioning should I be there?" "However I feel that I do bring pragmatism to the committee*
>
> *(interviewee **K**)*

Membership was based on roles within the organisation as well as experience but ultimately it was the alignment with information and knowledge that was important. There was a bigger view of how the institution as a whole operated and influenced activities indicating that issue of custom and practise and related actions was part of the reasoning for committee membership.

> *My membership came about in an odd way – I was asked to join as I was involved in the technical infrastructure*
>
> *(interviewee **N**)*

*Interviewee **N***'s secondment to the committee seems to resonate with that objective view of information and its linkage to a technological infrastructure as means to manage it.

> *I am there as my role is to lead the business development side of the university – my belief is that the information strategy should be business led, the business should not be led by the information strategy*
>
> *(interviewee **I**)*

> *I haven't been to the last two meetings, as there is, in my mind, a slight confusion as to why I am on that committee*
>
> *(interviewee **N**)*

Returning to *interviewee **N***, as time pasted there seemed to be questions arising with regards to why they were actually involved. A common statement across a number of committee members indicated a lack of reasoning as to why they have been asked or selected to be part of the ISC. This mismatch of experience or understanding or this multiple logic of individuals may have contributed to individuals not participating in the committee activities.

Although the analysis of membership indicated this multiple logic and this may have been what the committee was actually looking for as a mechanism for addressing organisational complexity. What transpired was that these multiple logics prohibited participation and the lack of recognition and support led to strategy process becoming ineffective.

One of the most straight forward reasons for membership was highlighted by *interviewee **G*** who stated quite simply

> *My involvement comes from my role within the university and the fact that 'information' is in the title of both the committee and my job title*
>
> *(interviewee **G**)*

Clearly custom and practice, or in isomorphic terms field logic, plays an influential role in the reasoning behind this individual's participation in the information steering committee. The notion of coercive isomorphism becomes evident as due to their role they are in essence expected to be part of the committee. Normative isomorphism was evident in that due to their experience and involvement with 'information' in its various guises (implicit or explicit) their professional alignment would influence how information was perceived and used within Stapleford University.

6.9.11: Theme Eleven: product or process and the information strategy

Allen and Wilson (2003) argued that *there is very little empirical research on the process of information strategy development.* The researcher would argue that there is even less on the

inter-relationship between product or process in terms of information strategy formulation. The analysis of product or process regarding the information strategy seemed to split the committee. Initially some committee members were unsure of the difference; others were quick to acknowledge the product aspect of information where it was viewed as a resource and tangible; very few identified with a process orientated view, as that went against their objective view of information. The process view suggests a developmental approach, that is uncertain, not predefined inferring an incremental or emergent strategic formulation process. Whether members identify the information strategy as being seen as a product or a process had wider implications in terms of how one might manage the resource, or strategise it.

> *I would say it is more of process but you could also say it's a product - it will set out what we are going to achieve*
>
> *(interviewee **C**)*

> *I can remember surveys, that were done but I never really thought that they got to the 'hub' of what we were about in terms of information needs, information storage, and information dissemination*
>
> *(interviewee **N**)*

One could suggest an inference, from the above, that information was a product given the alignment with being able to store and disseminate it. Again, this provides an insight into the influential processes that drive this individual forward, there seems to be a relationship between technology as a mechanism for managing relevant information for the benefit of the university.

> *By buying a strategy off the shelf you actually miss the benefit of the process and the benefits of the process have been worthwhile*
>
> *(interviewee **G**)*

This clearly infers the notion of mimetic isomorphism being present as it was almost just taking what was already there and adapting your situation to fit the same process that was available to all other institutions.

> *I would see information as being a product and we see information strategy as a process*
>
> *(interviewee **G**)*

If one was set to manage the other then if information was seen as a product the information strategy then becomes a mechanism to manage this and so again infers a particular view and process to achieve this.

> *I am actually attracted by the idea of it being a product – as it becomes tangible – if you treat it as a process it somehow lacks guts*
>
> *(interviewee **J**)*

In reality individuals seem to be much more comfortable with things that they can see and touch and therefore manage. So it was not surprising that many committee members, in the first instances, aligned themselves with the technological view of information and information strategy formulation as both resonate with that traditional objective, implicit view of information.

6.10: What do the emerging themes indicate?

The analysis of the emerging themes provides an overview of issues that the ISC encountered. There seems to be no definitive answer regarding what is an information strategy and more importantly the process of strategy formulation lacked clarity and focus. What can be said is that the development of an information strategy was ambiguous and complex. Interestingly, there was a feeling that there should be an information strategy but without consensus as to what it might look like or achieve. On many occasions both in the information steering committee meetings and throughout the interviewing process the analogy used to express what the information strategy was, can be identified in terms of a generic analogy that *it is the glue that holds all the other strategies together, it is almost an umbrella term, where it is endemic in all strategies, and it cuts across all strategies*. Given what was identified within the literature, this generic view seems natural; and supports the process that Stapleford University followed. However, this in itself was part of the problem. The ability to differentiate between tangible and intangible issues, to extract something that was not clearly identifiable (information) was in essence what seemed to be causing the majority of the problems in the information strategy formulating process. The level of complexity and use of information at all levels of the institution, coupled with the need to address requirements and pressures both internally and externally added to the difficulty in terms of strategy formulation. Without realising it the individual were isomorphing to different templates which influenced how individuals managed, interpreted and formulated the information strategy.

6.11: Analysis Summary

The concluding outcome of this piece of research identified a number of important elements that are important to all institutions undertaking an information strategy process. The issues identified suggest that not recognising different interpretations create an ineffectual process. That is, if one accepts that information is a complex, non-tangible, subjective construct then trying to formulate a strategy to manage is extremely difficult as it may an impossible task to create a strategy that encompasses all variants of individual subjective interpretations. What can be said and what becomes highly relevant is that recognising that individuals are influenced, to varying degrees, by a number of different 'bodies', templates and/or discipline pressures. It is the interactive dynamics of these templates, disciplines and individuals that that then influence the formulation process. These 'bodies' are both internal and external to the organisation and place varying pressures on individuals; whether these pressures are in terms of their roles they undertake, within the organisation or whether they are in fact due to previous or professional experiences are all important in understanding the conflicting nature of information and information strategy formulation. Recognising that these pressure or as the researcher has highlighted isomorphic templates become important in explaining why, where and what influences individual's views and interpretations.

The researcher would argue that information is identified as a human construct but that this does not work in isolation. That is, individuals make sense of situations and this sense making process is based on an interactive process between collective templates and individual understanding. The process of sense making cannot be totally individual because isomorphic templates are involved and these are collective and not individual. So upon reflection, the researcher would argue that there is an acknowledged dynamic process in which templates influence individuals and individuals influence templates. What the case study research at Stapleford University indicated was that there may have been too much of one (the former) and not enough of the other (the latter). Individuals were not willing to adapt or question their own professional template or to integrate them with competing disciplines as they did not acknowledge or recognise what was happening as perceptions are in-build, it was only through the use of isomorphism that these different interpretations were explained.

Recognising this then allows committee members to acknowledge these differences, to appreciate why they exist and then to embrace them in moving forward. This movement forward was something that Stapleford University did not achieve. It may be identified that there is a paper document to which it ascribes the title of an information strategy; but this

strategy was no different to what it may have had prior to the process beginning. The result could be seen as a paper exercise that, in essence, has not achieved the initial vision. What this highlights is a recognition of a more endemic problem, that of trying to do things in the way that they have always been done.

The notion of isomorphic templates has allowed the researcher to understand and recognise why individuals have and show different levels of understanding, different levels of participation, different levels of ability to change, when confronted with something that does not conform to the norm. Initially, there was an assumption that there is such a thing as an information strategy. However, the research and analysis would suggest that information is a human construct and so creating a strategy to manage that human construct may in fact be impossible. In hindsight it was recognised that it is not possible to have one 'true source' or one true level of agreement of something that is a human construct, as all individuals are different and that there may be many different interpretations, all of which are valid. What has transpired is that isomorphic templates have provided an explanation as to why agreement was not possible when dealing with a conceptual and individual understanding of both information and an information strategy. That the objective view of information and its implicit placement within other strategies means that what institutions end up with when trying formulate a strategy is an ineffectual and hollow strategy that benefits no one. That is, there seems to be a void between the term and reference to information and its content. The notion of a 'hollow' strategy materialises because of the objective view of information, as in reality it has no content and does not achieve anything hence it is ineffectual. What it does achieve, from a management perspective within the public sector, is that external or overseeing bodies are assured that institutions are doing what they want or expect. So the notion of a hollow strategy or visual rhetoric may have a function, in so much as they present the illusion that institutions are doing what is expected of them, which in turn allows the continuation of the process or activity. This approach to strategy formulation could be envisage within a number of activities that occur within the realms of higher education but specifically this research identifies that role of internal coercive isomorphism, something that was previously viewed as being external to the institution.

Chapter 7: Conclusions to the Thesis and broader impacts

7.0: Introduction

The main aim of the research was to investigate the notions of information, information strategy and its formulation process. This was achieved by asking why institutions chose to develop an information strategy and how different constituencies made sense of this process. What the research undertaken has provided is a way of thinking about information strategy that differs significantly from traditional text book approaches. This meta-level framework provided the following points to be investigated:

- what was the implication of a polysemous view of information for those involved;
- what were the implications for strategy formulation in the case study organisation

These points, identified above, are a manifestation of the original research questions that I sought to answer:

1. Why, in a case study institution, was data, information and knowledge chosen as a strategic focus and how did different constituencies within the organisation make sense of this concept?
2. How did different perceptions and structures, influence the process of formulating a strategy?
3. What are the implications of this new understanding for the way a university constructs the idea of an information strategy and indeed for the notion of an information strategy?

In the first part of the conclusions I will summarise the contribution to academic knowledge that have come researching these questions.

The researcher has been successful in identifying how individuals' constructed meaning, in relation to information and an information strategy. Isomorphic templates assisted in making-sense of that process and provided a reason why gaining agreement on issues was not forthcoming. This then provided a theoretical account of the process and ecological validity in terms of the context used in other universities; the process of general strategy making and specifically the process of information strategy making; implying that how an individual constructs meaning then impacts on the strategy formulation process. The researcher would

argue a major outcome of the research was that notion of an information strategy was significantly different to that of other strategies. This is identified by the concept of a 'hollow' strategy and visual rhetoric; both of which then impact on the strategy formulation process.

An information strategy differs in the following; and encapsulating Boland's (1987) views of information *table **1, p14***:

- the nature and interpretation of information from heterogenic disciplines infers different views between disciplines
- the objective view within the literature and human construct polysemous view of information again identifies a difference
- the conflict of understanding, in terms, of its constituent parts and its relationship to other organisational strategies infers differences, and
- the process of strategizing an intangible issue is contentious and generates conflict

7.1: Why is it a 'hollow' strategy

Previous discussions regarding a 'hollow' strategy (*section **6.8, p159***) identified actors taking an objective approach to information and an information strategy which resulted in an ineffectual strategy, lacking completeness or articulation. This was because of a dissonance between a perceived objective view of information and the polysemous nature of information. So the information strategy was a 'hollow' strategy because it only produced visual rhetoric and not a complete strategy. A 'hollow' strategy is an empty vessel. The 'hollow' strategy stems from the conflicting and disparate views based on different disciplinary backgrounds, experiences and approaches which have 'muddied' the strategy formulation process, as opposed to providing clarification; which was the initial intention of the ISC by having a multi-disciplinary team involved in the formulation process. This dissonance set against the background of distinct and inexplicitly articulated assumptions, the notions of togetherness and collegiality where individuals are working towards the same outcome or viewing the same phenomenon *does not ensure mutual agreement or understanding* (Weber, 2004a).

So although, in the wider context, some similarities between disciplines were identified, amongst the many differences, these were purely based on views which equated information with technology. What was not recognised was that within the disciplines the views of what this resource was and how it was managed are in fact heterogeneous. For example, when Orna (1990, 2005) discusses the notion of an information strategy from her contextual setting

of LIS, she is referring to something quite different from information strategies that address IT or IS. Therefore, contextual disciplines may view information as a resource to be managed but in fact they are referring to different things, creating that notion of a 'hollow' strategy.

- Orna's focus is upon information in print, text, or electronic media which information professional (librarians) manage, catalogue, index, search and act as custodians of such resources. In this the inference of an information strategy reflects the management of learning resources.
- Earl focussed upon the technology, networks, and systems architecture that enable information to be collected, managed, stored, and shared. This inference suggests that it is the technology that manages, creates and provides information for others to use. The inference of an information strategy was on the function of IT & IS and has very little to do with what was alluded to, namely information.
- General Management perspectives of information being contained within 'systems' and the inference was that technology provides information upon which decisions are made and control is maintained; value for money and measurement.

The result of this recognition was that even though the two 'tasked members' of ISC shared an objective view of information; in reality they had quite disparate views about what they were actually focussing upon and what they envisage the information strategy was meant to achieve. This conflict of understanding was endemic within other committee members manifesting itself in the removal and or protectionist approach that seemed to prevail within the committee members, identified in their comments, perspectives and actions. This implies a wider recognition of this issue and suggests why other institutions have also struggled with the notion of an information strategy.

The need to 'humanise' the concepts of information and knowledge were raised within *figure **33***, *p**158***, and is an important movement forward in understanding how information and an information strategy can contribute to organisational development.

The notion of the 'hollow' strategy, the researcher would argue, provides managers with the illusion of control, and has a purpose and a part to play in organisations in that it allows the operation or process to continue. The essence of a 'hollow' strategy is that it is a strategy that *is seen to be written as opposed to written to be seen*; the information strategy is for rhetorical purposes only. The researcher would argue that 'hollowness' of the strategy is partly the fact

that when attempting to manage information managers are not necessarily managing information per se but managing data, as it is data that is contained within the systems they place such reliance upon. It is individuals who make sense of the data, who assign relationships, who think 'outside' of the box which in turn suggests new and innovative ways of doing things. These activities are based upon their experience, training, background, understanding and knowledge of problem situations, so information is a human construct.

7.2: Isomorphic Templates and 'hollow' strategy

The committee members failed to recognise differences and so missed any cognition that as to the importance and influence of those differences. That is individuals had views that were seen as objective but failed to recognise that each discipline was influenced by different isomorphic templates. The use of isomorphic templates allowed the researcher to explain why the information is seen as a human construct and why the information strategy was not forthcoming. What became apparent was that each template has its own supporting group which in turn allowed the templates to influence the individual. This relationship between template and individual is in fact a dynamic process in which templates influenced individuals and individuals could potentially influence templates; although this did not occur and was not recognised. This signifies that individuals and organisations seem unable to 'break away' from the objective related technological thinking or understanding that has dominated much of the discourse surrounding an information strategy formulation process.

The literature identifies many representations and references that include information strategy, however upon investigation the analysis suggested that they were there for rhetorical impact and do not identify what an information strategy might be. As mentioned previously visual rhetoric is a manifestation of 'hollow' strategies, in that the representations present a way of highlighting the information strategy but do not provide meaning.

What isomorphism provided was a mechanism that identified why the polysemous nature of information was not recognised. It was identified that isomorphic templates influenced individuals' sense-making processes as in the absence of clarity and guidance the collective templates provided reasoning for actions and allowed that strategic 'drift' to occur, which was seen in the assimilation of information with technology.

The researcher would argue that professional disciplines have not shifted and until they do institutions will continue to face the same issues that they have encountered over the past 15

years. That is, issues of formulating an information strategy and gaining benefit from the notion of information will continue to be elusive. The 'humanisation' of information, that is recognising that information is a human construct, that is selective, subjective, and an intuitive process may provide that alternative approach.

The implications of viewing an information strategy as a 'hollow' strategy include:

- a strategy that is seen to be written as opposed to written to be seen
- a strategy that has a purpose in maintaining continuity and allowing operations or processes to continue, but
- a strategy that is devoid of content and reasoning but acts as strategy with rhetorical impact to outside bodies.

7.3: The wider impacts of a 'hollow' strategy

The researcher would identify that from both the wider literature and the case study investigation there is a fundamental dilemma. The literature identifies an objective view of information whereas the research has raised the fact that information is essentially a 'human construct' that is not easily managed or managed in the same way as other resources. The researcher would argue that the objective view of information infers that it is independent of its content and infers the assimilation with technology. Alternatively, the issue that arises from information being seen as a 'human construct' implies that individuals construct meaning through perceptions, understanding and experience; and use their construct to establish the hegemony of their view. So information becomes a political device rather than an objective resource as found within much of the literature. This identifies the importance of the individual and implies managing individuals as being the mechanism for managing information.

Recognising that an information strategy can be seen as fundamentally different, from traditional organisational strategies, in its content and context is important for institutions. The fact that prior to this research being undertaken little was known about the micro practices and processes of information strategy formulation, in terms of how organisational members interact with the process; this research now provides an opportunity for the findings to be expanded through the notion of transferability (Denzin & Lincoln, 1994) with other institutions; which in turn provides a wider context to the research. It also provides access in understanding, through the use of isomorphic templates, how and why strategic choices are made within organisations. Research carried out by Teubner & Mocker (2009: 147) indicated

that the *notion of an information strategy is at best seen as a system of plans and that all too often conceptualisations are not satisfactorily argued in terms of completeness, structure and rationale*. This, along with Mutch's (2008: 138) view stresses that *in the higher education experience in the UK, the push for all institutions receiving public funding to have an information policy* [strategy] *in place appears to have fizzled out.* What the researcher would argue is that both authors' infer that an information strategy has been an important priority for institutions and for some it continues to be part of their strategic process. The case study research has indicated that notion of an information strategy is 'still' part of the configuration of strategies that institutions want or require. This intrinsic affinity to manage information and therefore have something known as an information strategy is ingrained within an environmental context of the information age, information society and the notion that information is power; as Webster (2014) argues *information is regarded as the distinguishing feature of our world*. So the importance placed upon managing information has inherently created this need for an information strategy. Institutions have tried to address this 'need' in different rhetorical formats (Davy, 1998; Dearing, 1997; Merzuki & Latif, 2009; Neyland & Surridge, 2002; Teubner & Mocker, 2009). Therefore, irrespective of reported past success or failure, many institutions still maintain a need or recognition of 'holding' an information strategy. This, the researcher, would indicate is because of the competitive nature of business and that notion of information as being one of the differentiators in an often homogenous market. This objective approach to information and an information strategy has created the notion of the 'hollow' strategy, whereby the strategy exists on paper but in reality it is devoid of meaning and content.

7.3: Validity of the research

The researcher would note that a 'time gap' has occurred between the empirical work and the present day. What is apparent is that although time has passed the core situation still remains. *Appendix **18, p239***, highlights that as at 2013 a number of the exemplar institutions that JISC acknowledged at the very start of this information strategy formulation process still do not have an information strategy that is publically available. Institution ***A1*** acknowledged within their university strategy 2013 – 16 that *we will ensure that 'they' can gain access to the information 'they' need wherever and whenever they might need it.* Other institutions mention an information strategy but nothing exists, institution ***A16***; whilst others have maintained that implicit approach where it is subsumed within other strategies, such as the information governance strategy institution ***A9***, information security and records management policy institution ***A11***. What has come to the forefront, during this time period, are that issues

of information, dealing with and managing it are still prevalent (Jones et al, 2013) and that ethical concerns regarding the objective view of information are endemic in both the public and private sector. There is also, within large organisations, a focus upon 'big data' as a mechanism to provide additional information derived from the analysis of single large data sets. Interestingly, aligning data with information and meaning is not new but seems have the capability to be done on a much larger scale and to a much greater level of detail.

The project has been a personal journey. I started from the, now seen as naïve premise that the information steering committee members would have a clear understanding of the strategy, given their responsibilities and level of expertise. As the research progressed my perspective on the issue developed in ways that challenged the belief that there was even such a thing as an information strategy; all contributing towards that notion of a 'hollow' strategy, visual rhetoric and an ineffectual strategy.

Historically the approach, within institutions, towards data, information and knowledge indicates that individuals are conditioned by the importance placed on technology, conditioned by the structures within which they operate and conditioned by the actions they take in the decision-making process. In essence they do not necessarily question the processes that constrain them but accept their situation, accept the interpretations and types of information provided, accept what is provided by professional bodies, and accept 'custom and practice' procedures as well as formal and informal structures within the institution. What is evident over time and from the case study is an incongruity in relation to their approach and formulation of an information strategy. The seemingly naivety lay in the fact that they did not recognise the polysemous nature of information and the objective view taken towards information when trying to formulate the information strategy and therefore based their views, ideas and understanding on what had occurred previously. It could be argued that the literature, within the various disciplines, is itself inconsistent and naïve in its approach and explanation of an information strategy.

The researcher highlighted that MacColl (1996), *as seen previously p**37***, suggested that some managers in HEI were questioning the usefulness of the concept of an information strategy. Therefore, the elapse of some 19 years, since MacColl's words, and in light of the research undertaken and discipline literature the researcher would argue that there are still doubts, concerns and conflicts of understanding with regards to an information strategy, implying little has changed. Therefore, contributing to this lack of movement may be a number of

facts, including: that the terms information and information strategy are all pervasive, that they are endemic in multiple disciplines, that ISCs are made up of disparate individuals who have a vested interest in both the agenda and the outcome of an information strategy. In terms of information, as shown within the research, disciplines hold specific interpretations and align strongly to those interpretations without recognising that other disciplines do not agree or misinterpret their views. All of the above have contributed towards the notion of information and the formulation of an information strategy as being 'hollow' and ineffectual.

In fact, the researcher would pose the question can we actually have an information strategy? The focus upon IT/IS as a means of information strategy formulation, as an almost default position, along with an inability to recognise or shift professional templates infers that future information strategy formulation processes may continue to be ineffectual, hollow and rhetorical in nature.

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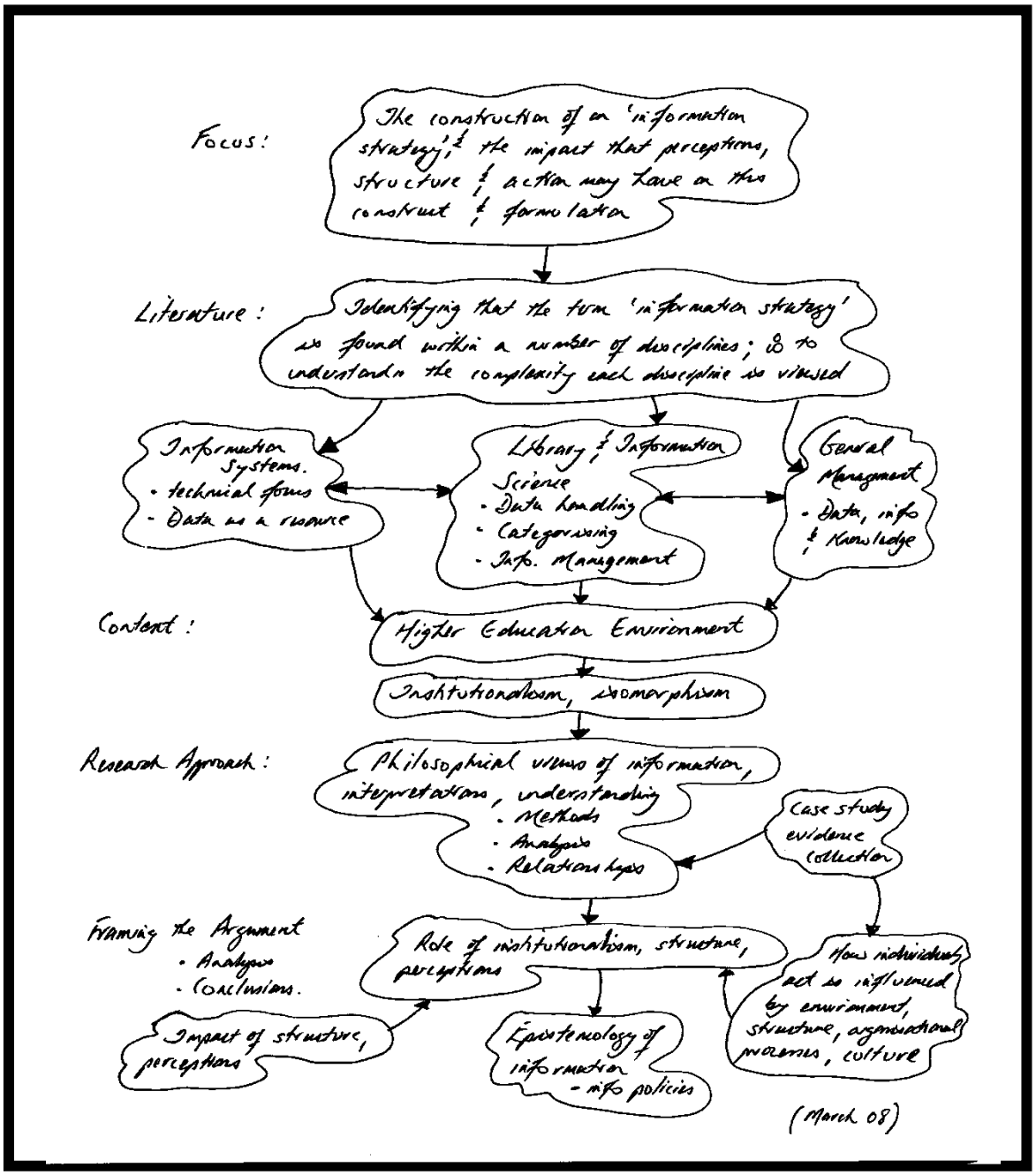
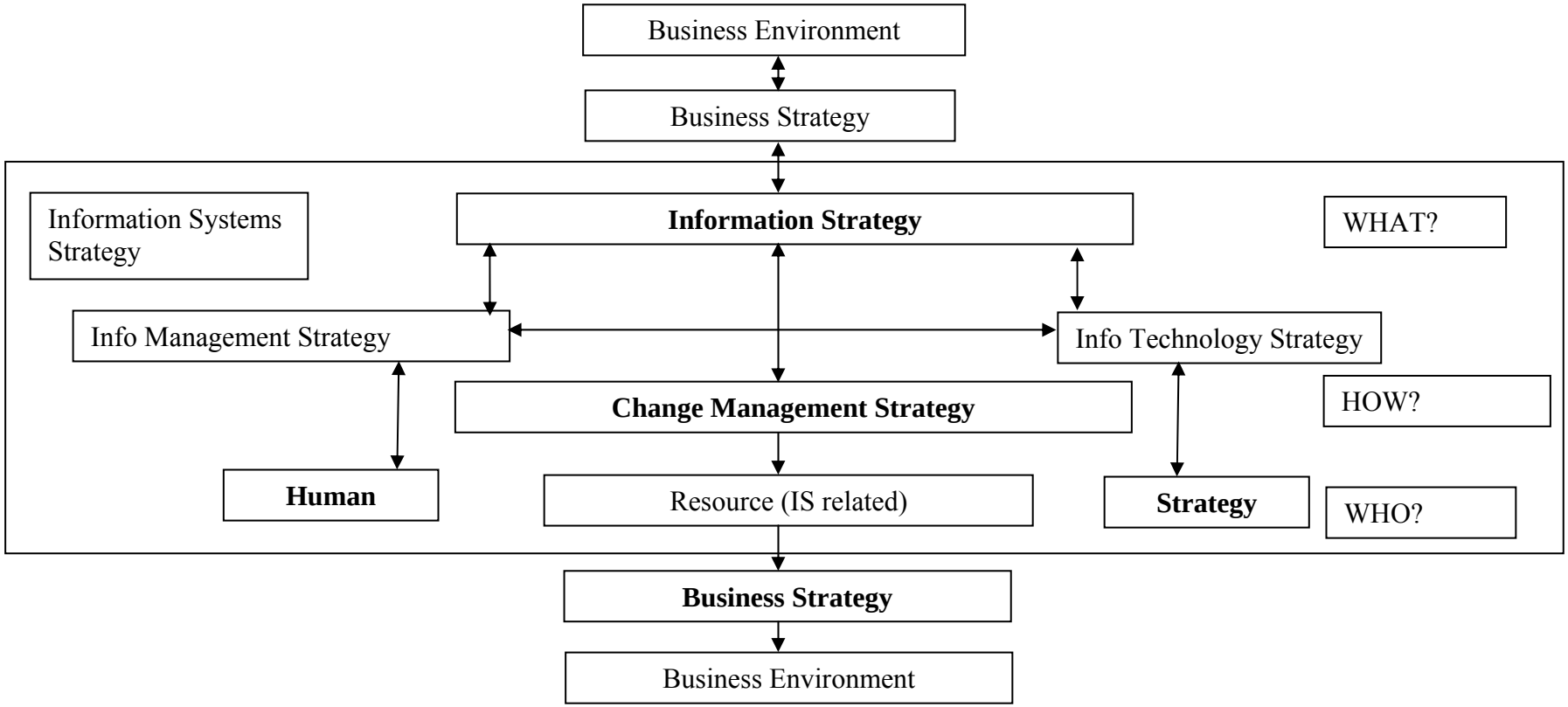
Appendices – Constructing an 'information strategy' in Higher Education: perceptions, structure and action.

Appendix 1: Structure of the Thesis



Appendix 2: Gallier's: information systems - a socio-technical perspective

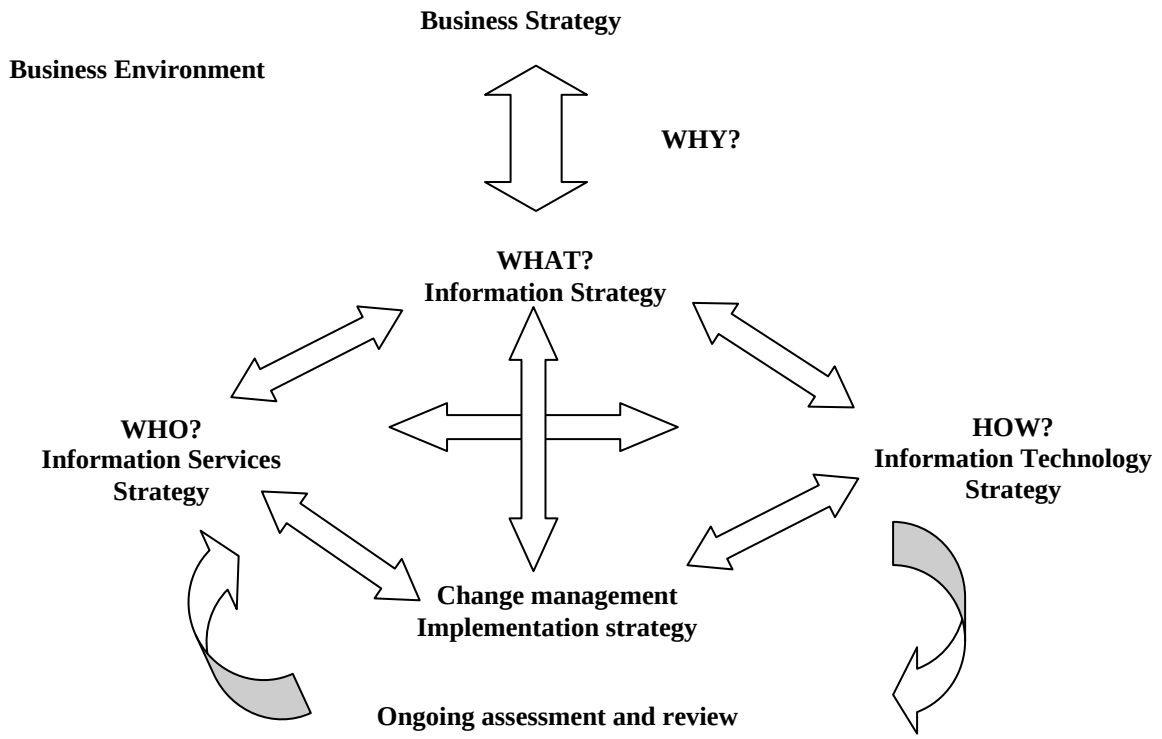


Gallier's takes an socio-technical perspective to identify a more holistic view, to indicate that information systems are as much concerned with human activity and organisations as they are with technology.

Galliers (1991: 60)

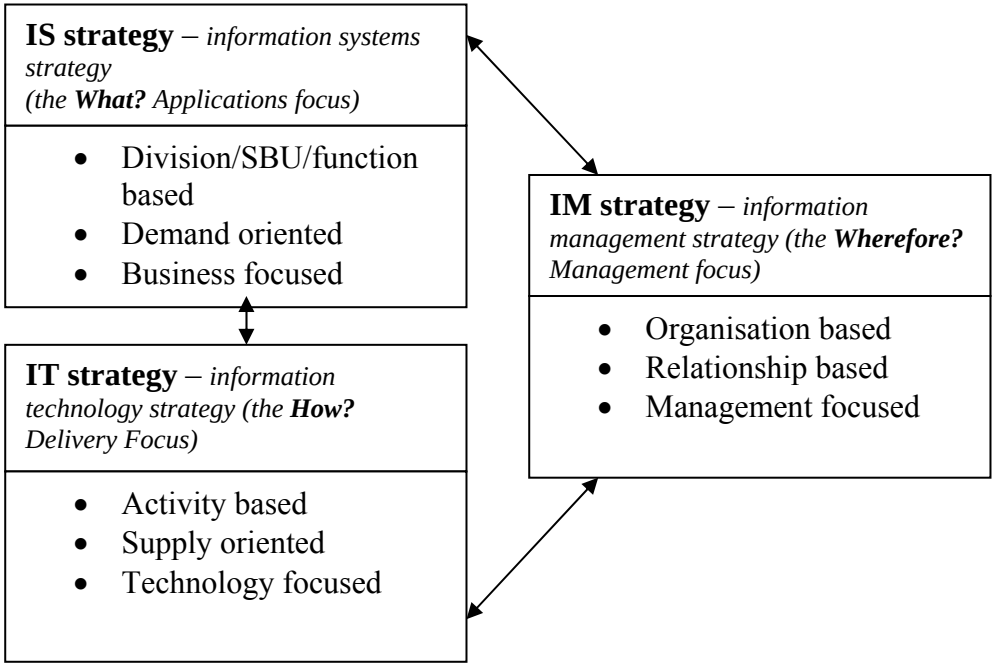
Appendix 3: Gallier's: components of an information system strategy

Gallier's I.S. strategy framework – adapted from the original work of Michael Earl.



Galliers, Leidner, & Baker, 2001, p 145

Appendix 4: Earl's The Three Levels of Strategy in Information Technology



(Earl, 1989, p63/64)

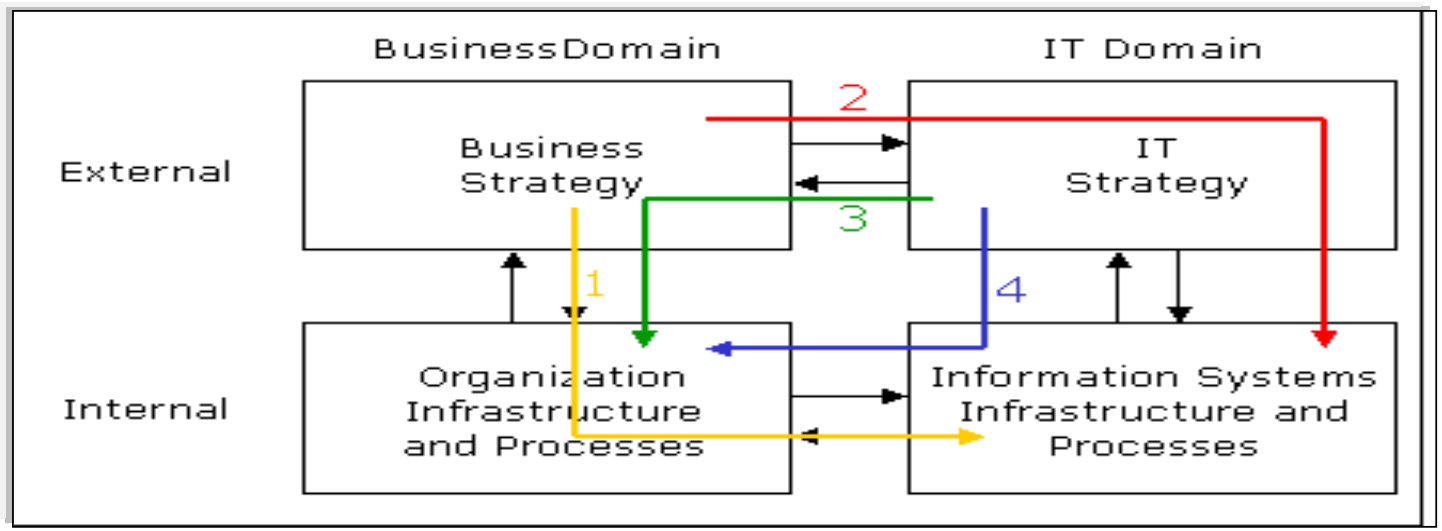
The phrase **information technology** came into common use within the 1980s. The term itself seems straightforward and clear – technologies to support the communication of information. Unfortunately, this seems to limit information to only electronic and digital media as Chaffey and Wood (2005: 42) state information technology is the information and communications technologies *used to capture, process, store and transport information in digital form.*

Therefore, the information technology strategy as seen by Earl (1989: 64) identifies the 'how' of doing something. That is delivering the service to the users via the hardware of computers, keyboards, printers, terminals etc. That 'how' *is the technology infrastructure or platform, which enables the organisation to use technology and communicate* Earl (1987, 1989, 2000). Galliers identifies the information technology strategy as being concerned with applications and platforms; that is 'how' *is the system going to work and provide individuals with access to their required information, it is the nuts and bolts of how to provide information* (Galliers, 1991),

Information systems infers an organisational wide approach and addresses the issue of 'what' should organisations do with the available technology. Lucey (2005: 302) encapsulates this by stating that *the information system is part of a wider management system. It must provide support and assistance to management for planning, control, decision-making and other functions.* (Lucey, 2005: 302). This infers that the information system strategy should come first as organisations need to concentrate on 'what' to do and then on 'how' to do it.

Information management strategy is *concerned with the role and structure of IT activities in the organisation* (Earl, 1989: 65). That is, the relationship between the users of the technology, its delivery and the divisions and departments within the organisation. It is an overarching view of control, responsibility, measurement and location and focusses upon the wider issues that IT creates within the organisation. It is a strategy that is addressed at the corporate level and aims to identify the future direction that the organisation should follow in terms of IT.

Appendix 5: Henderson and Venkatramen's Strategic Alignment Model



1 = a traditional top down approach, decisions made without input from IT – IT acts as mechanism to support internal processes

2 = decisions are influenced and reliant upon changes in technology infrstructure

3 = IT provides the potential to do things differently – a new way of doing business – organisational strategy changes due to IT

4 = IT can change internal processes, service and support processes

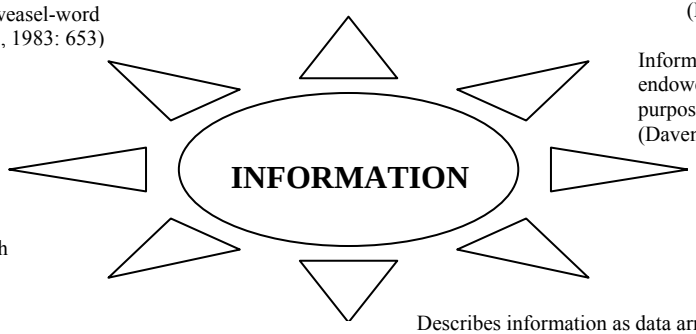
Henderson and Venkatramen, 1989 J. Henderson and N. Venkatramen, Strategic Alignment: A Model for Organisational Transformation In: T. Kochan and M. Unseem, Editors, *1992. Transforming Organisations*, OUP, New York.

Appendix 6: Literature definitions of data, information and knowledge

Author	Data	Information	Knowledge
Davies & Ledington (1991) p4	What does Ledington suggest data is? Generalities on data being all around us	Information is not some object that exists in the world	Not mentioned per se
Drucker (1989, 1999: 124)	General view on data being in the form of signals, events and situations which people chose to interpret as being or not being of relevance.	Drucker has called information data endowed with relevance and purpose	Knowledge as that which changes something or somebody - either by becoming grounds for action, or by making an individual or organisation, capable of more effective action
Checkland & Holwell (1998) p88,	Data are checkable facts, that can be agreed, disputed both of which allow supporting evidence to be brought forward	This is data – capta that then has been enriched. i.e. related to other things, seen as part of a larger whole – gains significance	Larger structures of related information – expected to have longevity
Chaffey & Wood (2005, p21)	Discrete, objective facts about events. Data are transformed into information by adding value through context, categorisation, calculations, corrections, and condensation	Organised data, meaningful and contextually relevant. Used for decision making	The combination of data and information to which is added expert opinion, skills and experience to result in a valuable asset which can be used to make decisions
Boddy, Boonstra and Kenndy (2002, p6, 15) Citing Martin et al, 1994, Turban, et al, 1999 &	Refers to recorded descriptions of things, events, activities and transactions	Information is data that has been processed so that it has meaning and value to the recipient	No clear definition is offered except to state certain information systems help people to make decisions by incorporating human knowledge into the system
Hislop (2005) p13, 14 15 & 16	One could see data as being raw numbers, facts, images, words, sounds based on observation or measurement	Information represents data arranged in a meaningful pattern, data where some intellectual input has been added	Means to analyse / understand information / data, belief about causality of events / actions, and provides the basis to guide meaningful action and thought. That is one could say knowledge can be understood to emerge from the application, analysis and productive use of data and/or information
Orna, 1990, 1999, 2004, 2005		What knowledge is transferred into to share with others	
Bruce, C, 1997, 1999			Not mentioned per se
Hughes A – JISC, 1997, 2001		A resource that needs to be managed	Not mentioned per se
Davenport (1997) p9	Simple observations of the states of the world - easily structured - easily captured on machines - often quantified - easily transferred	Data endowed with relevance and purpose - requires unit of analysis - need consensus on meaning - human mediation necessary	Valuable information from the human mind, includes reflection, synthesis, context - hard to structure - difficult to capture on machines - often tacit - hard to transfer

Sources adapted from (Boddy et al., 2002; Bruce, 1999; Chaffey & Wood, 2005; Davenport, 1997; Davies & Ledington, 1991; Drucker, 1989, 1999; Hislop, 2005; Hughes, 1997; Martin et al., 1994; Orna, 1990; Orna, 2004; Orna, 2005)

Appendix 6b - The varying and conflicting notions of information



Information is data that has been processed (sorted, summarized, manipulated, filtered) so that it is meaningful to people (Cole & Kelly, 2011:338)

Information is useful data that can influence someone's choice and behaviour (Williams, 2012: 321)

Information is something that is recorded and readily available. (Hawryszkiewycz, 2010: 16)

Information is any representation of our physical or imaginary world which people need to understand the world for problem solving and decision making. (Wijnhoven, 2009: 1)

Information was defined as data that had been processed for subsequent use as a business resource – (Hall, 1994: 283)

Information is the result of processing data, usually formalised processing (Hayes, R. 1969: 218)

Information is data of value in decision-making (Yovits & Abilock, 1974: 163)

Information is data in context. Information is usable data. Information is the meaning of data, so facts become understandable (English, L. 1999)

Information is identified as

- a resource
- a commodity
- a perception

(Braman, 1989)

Information is the currency of democracy – therefore it implies that information is a commodity that can be bought & sold – (Thomas Jefferson, 1776)

When we use the term information we are, in fact, perhaps unknowingly and unintentionally, describing data (Mutch, 1996)

Information, its meaning & its relevance varies from individual to individual - therefore it is complex, unique, subjective & human centred (Knox, 2004)

..information is critical to the effective operation of activity systems, and particularly to measuring their performance. It should be managed in a similar manner to other organisational resources such as human resources (staff) and material resources (plant and machinery). (Benyon-Davies, 2009: 313)

Knowledge it is simplest form is information with meaning (O'Leary & Selfridge, 2000)

Information has become an all-purpose weasel-word (Machlup, 1983: 653)

Information is something that we instinctively recognise as important (The Highways Agency)

Information is data endowed with relevance & purpose (Davenport, 1997: 9)

Data is the raw material from which information can be generated (Milner, 2000: 8)

Information is what provides a new point of view for interpreting events or objects, which makes visible previously invisible meanings or sheds light on unexpected connections….it affects knowledge by adding something to it or restructuring it. (Nonaka & Takeuchi 1995: 58/59)

We define information as a tangible or intangible entity that serves to reduce uncertainty about some state or event (Lucas, 1994: 17)

Information…..is a resource & it needs managing as such; this puts it on par with finance and HR (JISC, 1995: preface)

Information is defined as meaning derived from data & context with a knowledge function (Lillank, 2003:691)

Information is facts or knowledge provided or learned…what is conveyed or represented by a particular sequence of symbols, impulses etc (Oxford Dictionary, 2004)

Describes information as data arranged in a meaningful pattern where some intellectual input is added (Hislop, 2005)

Information is not a resource to be stockpiled as one or more factors of production (Boland, 1987: 377)

Information is a difference that makes a difference (Kroenke, 2007 – Gregory Bateson – Psychologist)

Information is a kind of preliminary stage to knowledge (Lueg, 2001: 151)

Information is data interpreted in a meaningful context. (Benyon-Davies: 2009: 2)

Information is data with meaning – information has meaning….data becomes information when its creator adds meaning (Davenport & Prusak, 1998: 3)

By information we mean data that have been shaped into a form that is meaningful and useful to human beings. (Laudon & Laudon, 2010: 46)

Information is the glue that holds together the structure of all businesses (Evans & Wurster, 1997)

Information is data that has been processed into a form that is meaningful to the recipient and is real perceived value in current or prospective decisions (Thompson, 1993: 405)

Information is data that has been processed into a form that is meaningful to the recipient & is of value in decision making (Lucas, 1994: 33)

Information is a subjective human actioned activity. (Knox 2007) – a human construct (Knox2013)

Information is data that have been shaped into a form that is meaningful and useful to human beings (Laudon & Laudon, 2014: 45)

(Source Adapted from Knox 2009: 165)

Appendix 7: The differing views of strategy – literature based

Author	Strategy definition or notion
Mintzberg, H (Mintzberg, 1994) - the rise and fall of strategic planning	• Strategy is **a plan** • Strategy is **a position** – that is, it reflects decisions to offer particular products and services in particular markets • Strategy is **a pattern** in actions over time • Strategy is **a perspective**, that is a vision and direction • Strategy is **a ploy**, that is Strategy emerges over time as intentions collide with and accommodate a changing reality
Steiner, George (Steiner, 1979) – strategic planning	• Strategy is what top management does that is of great importance to the organisation • Strategy refers to basic directional decisions, to purposes and missions • Strategy consists of the important actions to realise these directions • Strategy answers the question: What should the organisation be doing? • Strategy answers the question: What are the ends one seeks and how should one achieve them?
Whittington, R (1993)	• strategy is changing and part of that change occurs as a result of the process • strategy or the notion of strategy is as practice i.e. viewing the competence of the manager as a strategist
Porter, Michael (Porter, 1996) – What is Strategy?	• Competitive strategy is *about being different*. It means deliberately *choosing a different set of activities to deliver a unique mix of value* • Strategy is a competitive positioning and differentiation
Hofer, Charles, Schendel, D(Hofer & Schendel, 1986)	• The fundamental pattern of present and planned resource deployments and environmental interactions that indicate how the organisation will achieve its objectives
Digman, Lester A (Digman, 1990)	• The organisations pre-selected means or approach to achieving its goals or objectives, while coping with current and future external conditions
Ansoff, H. Igor (Ansoff, 1965)	• Strategy is an elusive and somewhat abstract concept – for what seemed so straight forward then is has now become highly sophisticated
Andrews, Kenneth (1980) – The concept of corporate strategy	• Corporate strategy is the pattern of decisions in a company that determine its objectives, and produces the plans for achieving those goals and defines the range of business the company is to pursue • Distinguishes levels of strategy – strategic planning, corporate strategy and business strategy • Strategy will remain more of an art than a science
Cummings, S & Wilson, D (2003) Images of Strategy	• Organisations could take many forms and strategy could, correspondingly, be many things, and seen through many images • They use the analogy of how people are oriented and animated by maps to argue how individuals use many different frameworks in developing strategy in complex environments over time • Strategy: as data plus sense making, as creativity, as organising, as systems thinking, as process, power and change, as decision making

Appendix 8: An overview of early and current institutional theorists.

Theorist	Date	Attributes
Cooley & Hughes Cooley 1956, Social Organisation Hughes 1936, The Ecological Aspect of Institutions	Early 20th Century	**Cooley –** the interdependence of individuals and institutions, of self and structure – language, custom seem independent & external to behaviour but are developed and preserved through interactions among individuals and exist as habit of mind and of action, unconscious, as they are common to the group. **Hughes –** an institution as an establishment of relative permanence of distinctly social sort (1936: 180) – very much institutional structures that support work activities – focus on professions & interactions with institutions: creating identities, shaping careers
Marx, Durkheim, Weber & Parsons	19th Century & Early 20th Century	**Marx –** Productive activity had been transformed into involuntary labour. The nature and meaning of work and work relations were seen to be transformed by structures of oppression and exploitation. – social construction of reality – the structures are the product of human ideas and activities but are external and objective to their participants **Durkheim** – division of labour – differentiated between the mechanical solidarity based on shared religious beliefs that integrated society and the newly emerging organic solidarity associated with an advanced division of labour. Symbolic systems – knowledge, belief, moral authority are social institutions **Weber –** a concern for the way in which cultural rules, i.e. customs to legal rules define social structures and govern behaviour. Social sciences are different from natural sciences in the former but not the later, both the researcher and the object of the study attach meaning to events. Abstraction from the specificity and complexity of concrete events one could create 'idea types' to guide and inform comparative studies – only if one does not confuse or mistake these ideal types of reality. **Parsons –** institutionalised action is motivated by moral rather than by instrumental concerns. The actor conforms because of his/her belief in a value standard, not out of expediency or self-interest. – culture influences behaviour – but missed culture as an object existing outside of the individual viewing as an internalised element of the personality system - ↑subjective in contrast to the objective

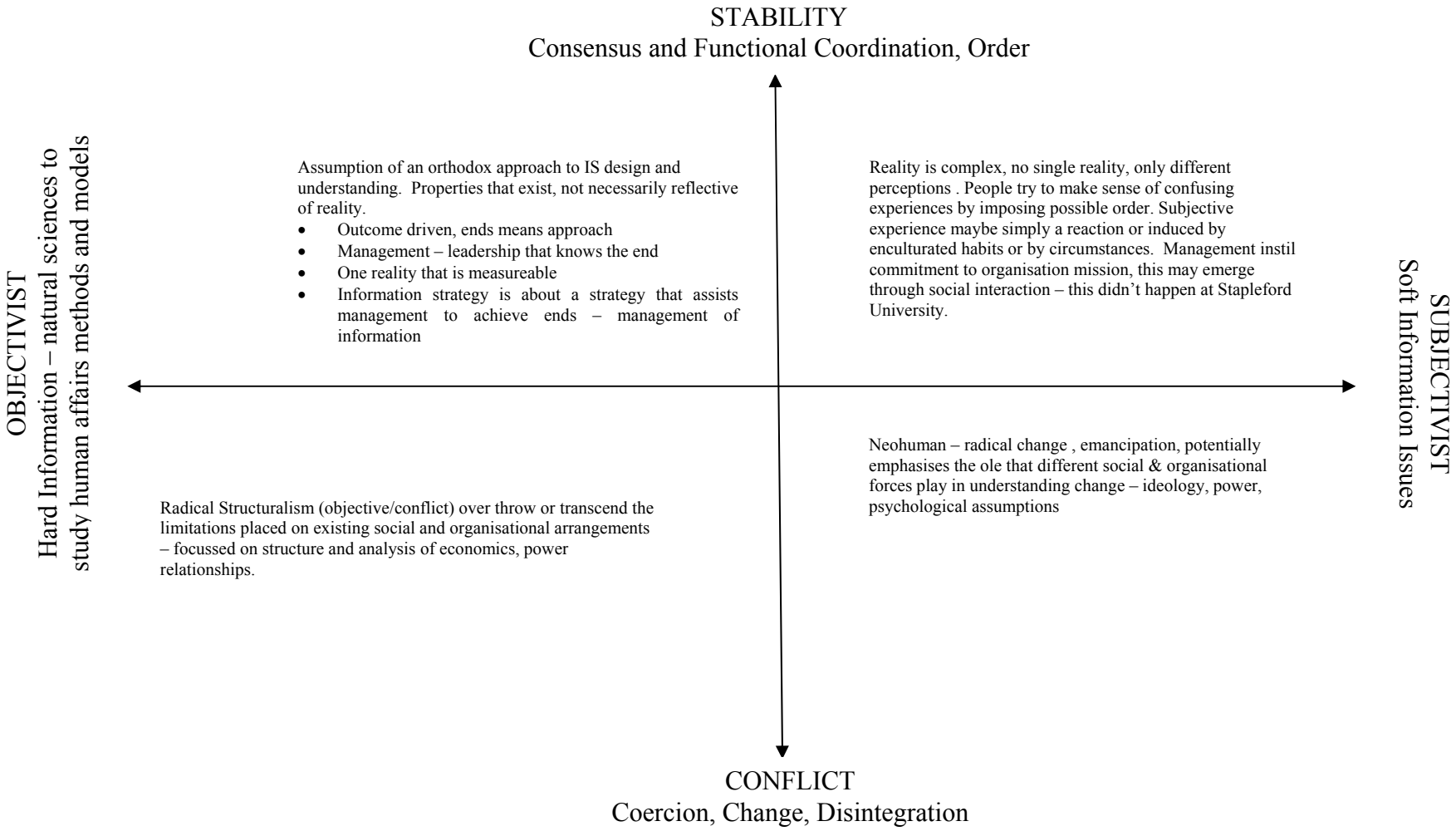
Appendix 8: An overview of early and current institutional theorists

Theorist	Date	Attributes
Mead, Schutz, Berger & Luckman	20th Century	**Mead –** emphasised the interdependence of self and society but also highlighted symbolic systems – meaning is created in gestures i.e. language **Schutz –** also look at ways in which common meanings are constructed through interactions of individuals – but included the wider structure of the social world. **Berger & Luckman –** argued that social reality is a human construction, a product of social interaction. Not concerned with the validity of this knowledge but its production - social creation of reality.
Zucker 1977 **Zucker 1987**	20th Century	**Zucker –** a focus on the role of shared meanings, institutional processes i.e. cultural prescriptions and institutional conformity. Highlighting cultural persistence via three levels: • Generational uniformity of cultural understanding • Maintenance of these understandings; and • Resistance to these understandings to change Environmental and organisational as distinct theoretical approaches to institutionalism – linking both the macro and micro elements of the organisation 'reproduction is therefore a consequence of institutionalisation rather than a cause'.
DiMaggio & Powell – 1983	20th Century	**DiMaggio & Powell -** organisations are influenced by wide spread social understandings (rationalised myths) – organisations are influenced by their institutional context – these define what it means to be rational Highlighting links between institutional isomorphism and rationality – posing the question What makes organisations so similar?
Meyer & Rowan, 1977, 1983	20th Century	**Meyer & Rowan –**– rules, norms and ideologies of the wider society – (Myer & Rowan, 1983: 84) – the rationalisation and diffusion of formal bureaucracies as a result of 'the complexity of networks of social organisation and exchange' and the 'institutional context' (Meyer, 1977: 346) Meaning that formal organisational structures emerge as reflections of rationalised myths and rules
Richard W. Scott, 1983 & Meyer	20th Century	**Scott –** focussed on normative and cognitive belief systems – (Scott, 1983: 16)
Lawrence & Suddaby, 2006; and Lawrence et al, 2011	21st Century	**Lawrence –** introduce the notion of institutional work and how actors become motivated and enabled to change the taken for granted practises and norms that are found within institutional situations.
Greenwood et al, 2011	21st Century	**Greenwood –** discusses the issue of institutional complexity**;** where they acknowledge the issue of incompatible prescriptions from multiple institutional logics

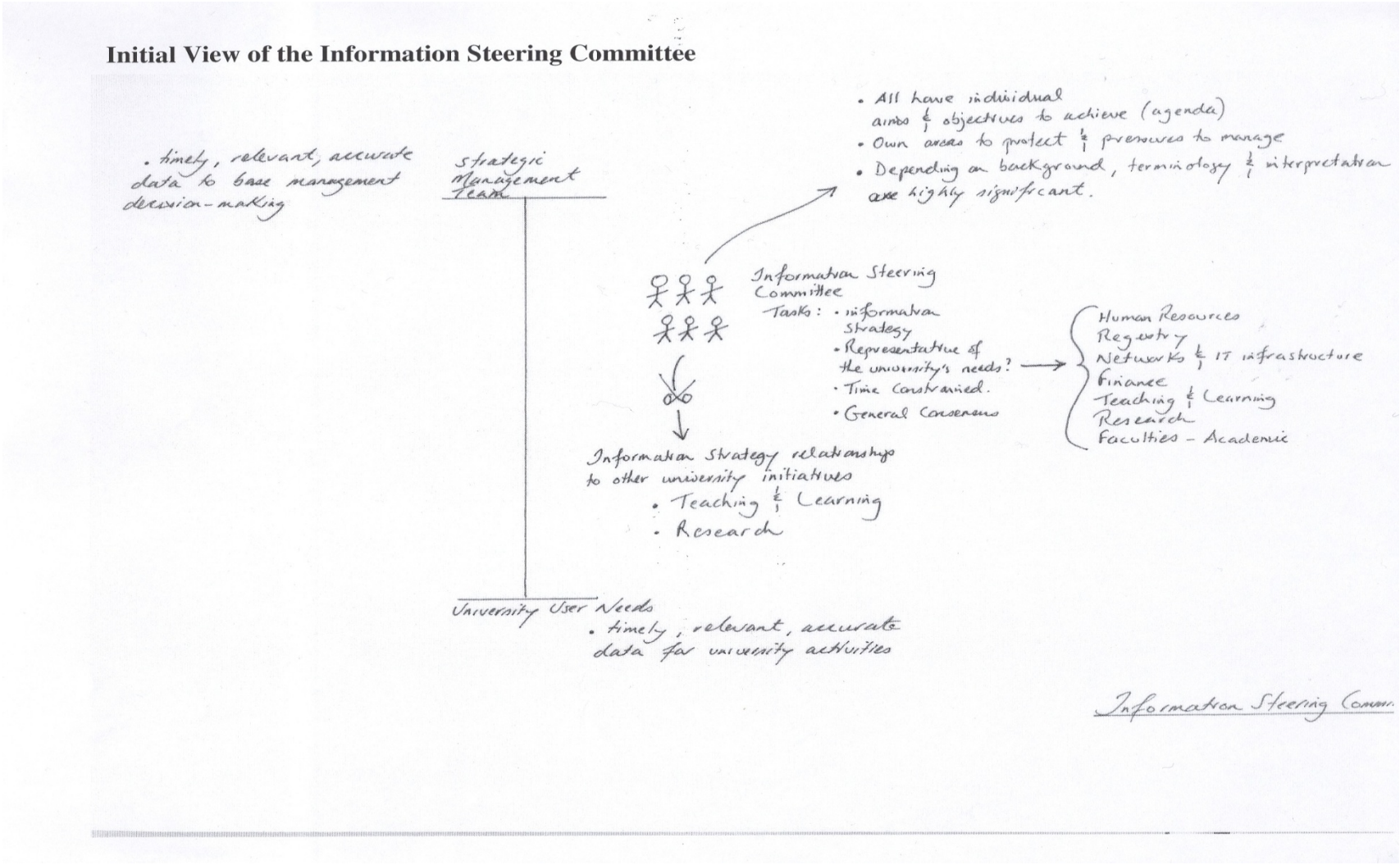
Appendix 8: An overview of early and current institutional theorists

Theorist	Date	Attributes
Kraatz & Block, 2008	21st Century	Organisations by their nature hold multiple logics – where these logics are in conflict and claim jurisdiction over single situation – this creates institutional complexity
Delbridge & Edwards, 2008; Delmestri, 2006; Hwang & Colyvas, 2011	21st Century	Issues of contradictory institutional practises, negotiate adaptations that facilitate task accomplishment and reconstruct their underlying institutional logics.
Kaghan & Lounsbury **Lawrence et al, 2011**	21st Century	Brings together the 'macro-worlds' of the institution with the 'micro-worlds' of the actors who manage and populate them.
Smets & Jarzabkowski, 2013	21st Century	Attempt to provide a model that places institutional work in the everyday practises of individuals coping with the institutional complex settings to the actions and interactions of the individual who inhabit them (2013:1281) – practice lens to institutionalism

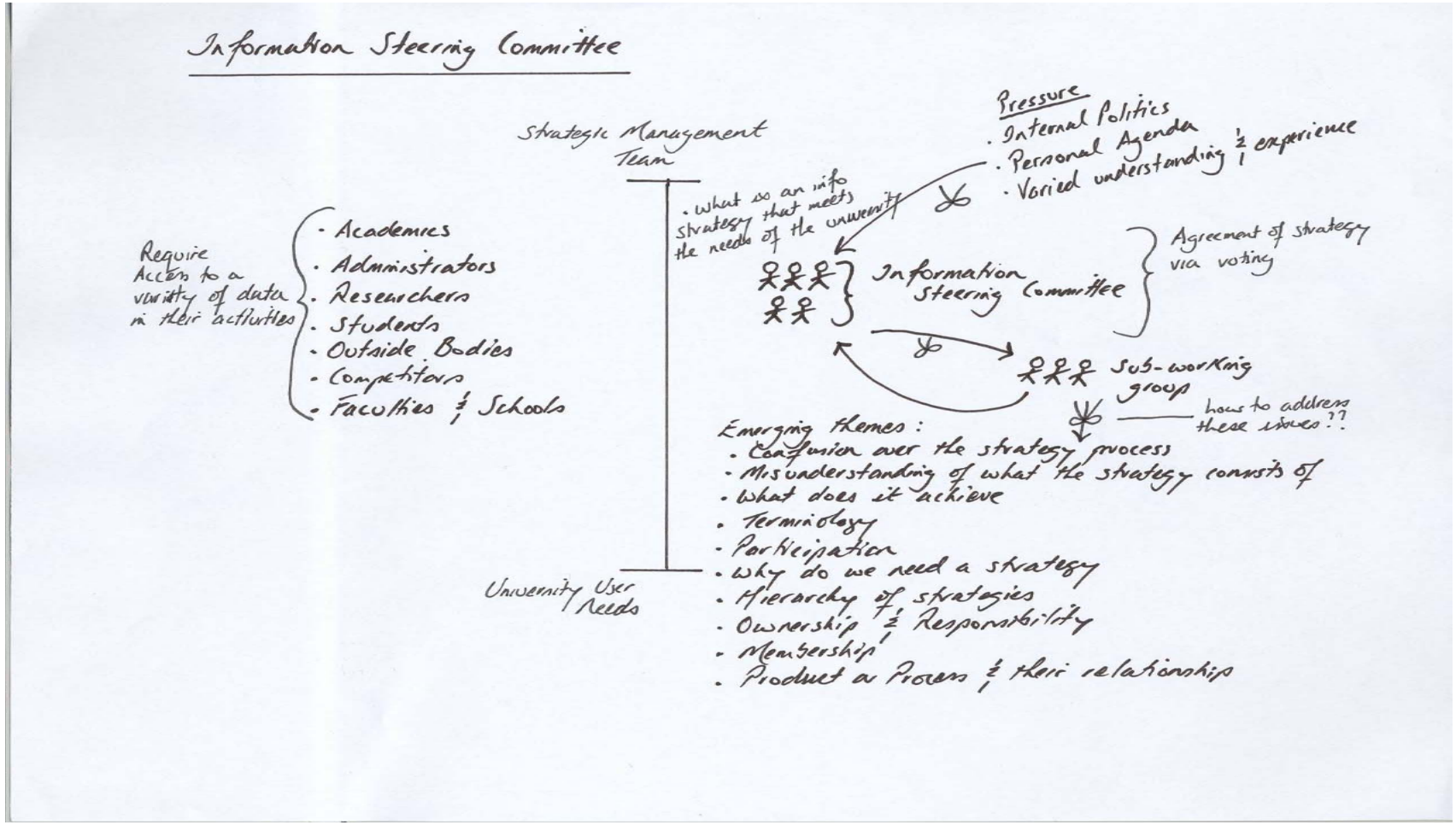
Appendix 9: Hirschheim and Klein's (1989) Four Paradigms of Information Systems Development
Researcher's interpretation



Appendix 10: Initial View of the Information Steering Committee

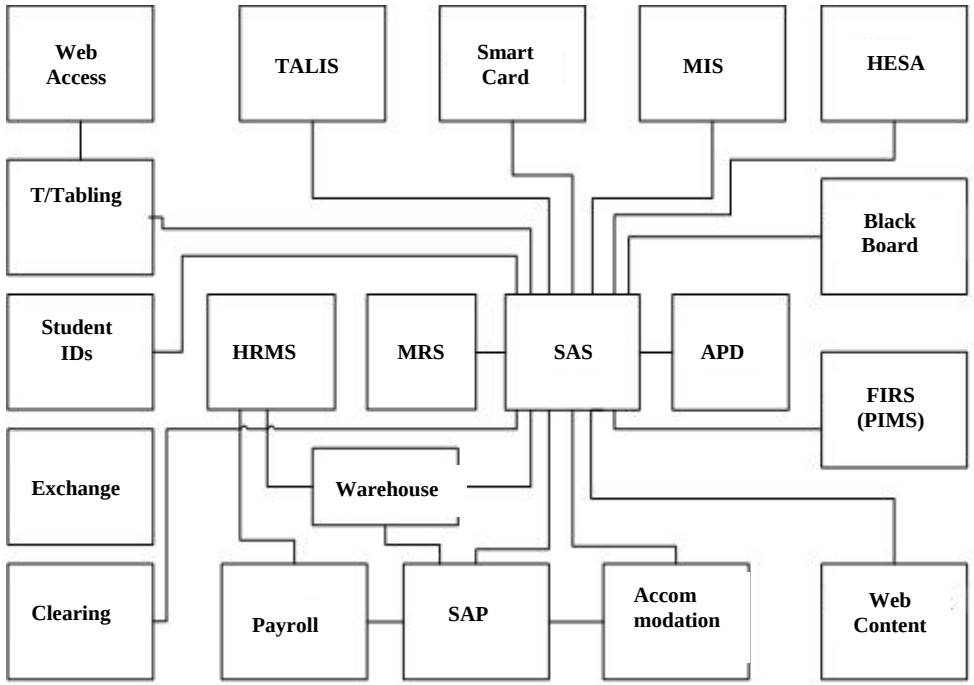


Appendix 11: Information Steering Committee – theme generation



Appendix 12: Overview of Stapleford University's Main System Map as at 2002 and 2004:

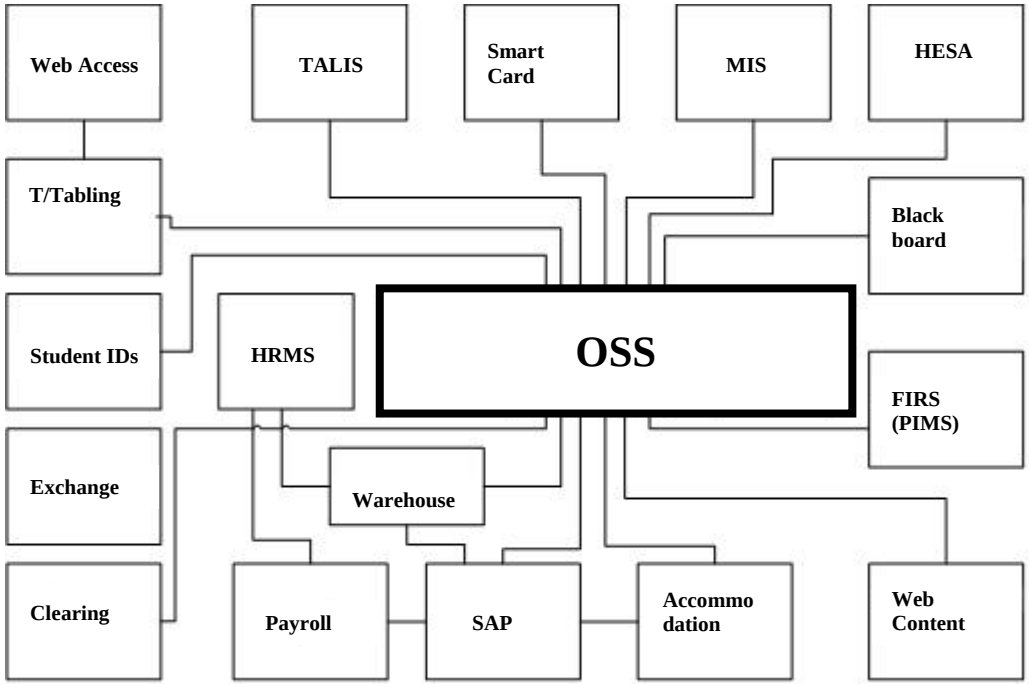
As at 2002



Inclusion in presentation to the ISC June 2004, *Interviewees **F** & **G***

TALIS: Library catalogue and loans recording systems – returns for external agencies
MIS: Management Information System – Resource distribution, Markets database, data warehouse
HESA FDS: Higher Education Statistics Agency – first destinations survey
HRMs: Human Resources Management System – PSF – human resources administration, returns for external agencies.
MRS: Marks Record System – assessment outcome recording, progression and award
SAS: Student Administration System
APDb: Academic Programme Database – units and course structures including historical record. Data for Quality Assurance Agency (QAA).
SAP: Systems Applications and Products – financial accounting and invoicing system, returns for external agencies
FIRS (PIMS): Nursing Students Data System

As at 2004



Student data was held in SAS, SAP, MRS, APDb, T/tabling, TALIS, FIRS and other legacy systems, as well as in individual school based systems. **OSS:** Oracle Student System would alleviate this approach and bring student information under one roof. In essence it would replace SAS and other outdated systems, streamline administration, combine HR functions and provide support to establish more flexible courses.

Appendix 13: JISC *infoNet* - aims and objectives

JISC infoNet aims to be the UK's leading advisory service for managers in the post-compulsory education sector promoting the effective strategic planning, implementation and management of information and learning technology.

The Strategic Aims of the service are:

- *To synthesise and disseminate information about new developments and their strategic implications, particularly the outcomes of JISC Innovation programmes;*
- *To provide an authoritative source of good practice models and guidance based upon the synthesis of proven experience within the sector;*
- *To help institutions embed good practice and build capacity in the sector through the provision of high quality targeted staff development;*
- *To support enhancement of learning providers' core activities through use of technology by encouraging the sharing of knowledge, expertise and experience with an emphasis on addressing human and organisational barriers.*

(http://www.jiscinfonet.ac.uk/about-the-service/mission-statement)

Appendix 14: Initial view of an information strategy

Source: initial presentation to the information steering committee – 11th October 2002

Appendix 15: Initial draft of an information strategy

Principal Responsibilities

- *Executive authority for the Information Strategy lies with the Pro Vice Chancellor (Learning and Teaching).*
- *The implementation of the strategy will be monitored via the Information Committee, reporting to the University Executive.*
- *The Director of Learning Resources and Director of IT Services take strategic and operational roles in implementing the strategy and ensuring the alignment of university services within the strategy.*

Context

- *[Stapleford University] recognises the importance of information, its management, presentation and use. The University has had in place an Information Strategy since 1995. A strategic and academic review of the university alongside significant achievements in the innovation and adoption of information and communications technologies at [Stapleford] have signalled the need to establish a new approach to the Information Strategy.*
- *The scope of the strategy is necessarily broad, encompassing information assets, services, systems and technologies, including communications technologies, which are rapidly converging with information technologies. The strategy provides guiding principles and a framework for the information environment in which [Stapleford University] operates and embraces*

The Objectives of the Information Strategy are:

1. *Ensure that information in all forms is accurate, timely, managed and owned to support decision taking in a transparent, integrated and knowledge driven culture.*
   - o *Audit of information and interviews with university strategy owners to establish ownership and allocation of responsibilities.*

Responsibility: Director of ITS; Director of LR
Date: January 2004

2. *Ensure that the information environment within which the university works is sensitive to the complexity and distinctive needs of the university, whilst reducing duplication, eliminating waste and reworking processes to improve access and sharing of information wherever possible.*
   - o *Establish a working group to have oversight of the development of information systems and processes: new coordinating group (see also objectives 5,6)*

Responsibility: PVC (Learning and Teaching)
Date: December 2003

3. *Ensure that information processes are as seamless, simple and standardised as possible to enhance the student experience and make Stapleford an attractive partner and collaborator.*

Responsibility: Information Committee and University Executive
Date: Ongoing

4. *Support strategic decision-making and the growth, reach and competitiveness of the University in existing and new markets through management information and reporting which will capture current trends and drive insight into existing and future markets and course portfolios.*
   - o *Ensure alignment of Information Strategy with other University Strategies*

Responsibility: Information Committee and University Executive
Date: Spring 2004 and Ongoing

5. *Provide return on investment in information systems and technologies through effective and objectively prioritised selection, management and implementation of information assets, services and systems.*
   - o *Prioritise and co-ordinate projects, irrespective of source of funding, to support the key business and support strategies*
   - o *Monitor and evaluate the implementation of those projects*

Responsibility: New coordinating group (see also objectives 2, 6)
Date: Ongoing

(Stapleford University Draft Information Strategy, 2003: p1-3)

Appendix 16: First Draft of the Information Strategy - comments

First draft of the Information Strategy

A presentation of the proposed Strategy was received. An electronic copy of it is now available in the Committee's Public Folder.

The following comments were made:

(i) *Business decision making process should be listed as one of the key elements of the strategy* [*interviewee* ***E***]

(ii) *It was not clear, where would essential administration of the University fit in within the framework* [*interviewee* ***J*** felt that administration was not represented]

(iii) *Core processes had not been identified due to the fact that the strategy should not be involved with implementation issues* **[***interviewee* ***F*** *&* ***G*****]**

(iv) *Question was raised about unmanaged content and soft intelligence as a very valuable organisational resource* [*interviewee* ***B***]

(v) *It was agreed that the strategy should not be technology driven, but technology and IT advances were needed to deliver other business objectives*

(vi) *Blackboard was used to illustrate good example of new technology enabling the change in the mind-sets, liberating staff to evolve towards more effective learning and student interactions.*

The following actions were agreed:

(i) *The committee's members were asked to feedback their comments to* [*interviewees* ***F & G***] *by Wednesday, 14 May 2003 by close of business.*

(ii) *The task group would distribute activity sheets to all [**Director of I.T. Services**]*

(iii) *Further work was needed to estimate financial baseline taking into account costs and savings.*

(iv) *Final version of the Strategy including recommended actions for implementation is to be prepared for discussion at the next meeting, so it could be presented to the June Academic Board*

(v) *A summary of the strategy (max 2 pages) to be prepared for the SMT [interviewees **F & G**]*

(ISC meeting minutes May 8th 2003)

The comments above highlight the generic nature and focus of the draft strategy submitted for ISC members to comment upon. There seemed view that not much more would be said or forth coming from other member so the ISC

Appendix 17: Synopsis of each strategy in the information strategy

A synopsis of each strategy identified in *figure **22, p121*** relating to Stapleford University's initial information strategy; information strategy 2004 – 2006 document.- Researchers comments, research notes, prompts follow each strategy.

Primary Strategies

The Learning & Teaching Strategy

The core business of the University is Learning and Teaching and so the information strategy will seek to ensure that the actual sources of information required for learning and teaching together with the appropriate technology and access will be available to those that need them. It is not clear from this brief description what these sources are? Or who will need them? Are they an alignment of technology and systems structures? Are they networking issues and access procedures? Are they about who will use them? Nor does it ask or infer what is the information or interpretations of information from those who are formulating the strategy. Identifying what was information or what their individual interpretation of information was - does relate to their teaching and student learning

The Research Strategy

The Research Strategy seeks to *'enhance the University's reputation through increased volume and improved quality of research, consultancy and related scholarly activity'*. Stapleford University is committed to research and *will ensure that researchers will have access to the information required to carry out the research itself but also to information that supports the research process*. Again there is an inference that access to information is about a tangible product i.e. that information is taken as a 'noun' as something that exists and is waiting to be found and giving access to this 'information' will and is the way forward. The fact that technology is the mechanism for dissemination of this research and that it will be freely available to all in an attempt to create a research community seems to be the underlying ethos of this strategy.

The Growth Strategy

The growth strategy seeks to *'grow and diversify the University's income base in ways that generate a sustainable investment capability to support its vision to be one of the world's leading teaching and learning universities'*. Stapleford University's intention is *to grow the student base by 7,000 students over a 5-year period representing a 30% growth in the student population*. The inference from this strategy is that information is equated with data i.e. in collecting and monitoring student numbers; it is a mechanism for counting and monitoring where income is obtained from and to manage this income towards growth. It also projects a view that information binds together both the Learning and Teaching strategy with the Growth strategy of the institution.

The Widening Participation Strategy

Although the documentation identifies this particular strategy, it does not specifically appear on the diagram above. The Widening Participation Strategy seeks to promote *'opportunities and access to students with a variety of ambitions and from different circumstances.' It is built around six major strands that are supported by the Information Strategy.* At closer examination the documentation highlights programmes offered to students, the need to support schools, colleges and relevant agencies and community groups, it is focused on a variety of issues from how to deliver programmes, ensuring the university is meet targets i.e. students finishing on time, through to the need to monitor overseas students, and recruitment targets. All of which revolve around collecting data, categorising data, analysing data through the use of technology. The documentation does not, at any stage, specifically refer to information or the information strategy apart from stating *that it* [the widening participation strategy] *is supported by the information strategy*. This then may be more a kin to an information technology strategy.

The Business Development Strategy

The Business Development strategy seeks to *'develop a greater capability and capacity within the University to leverage additional value from the intellectual capital and assets of the University'* and

this will be achieved by *increasing company start-ups amongst staff and students; increasing the number of patents; increased trading through Stapleford University's Commercial Enterprises; the e-business centre and Knowledge house*. All of which are valiant issues but again there is no direct link to the information strategy or how this will support the business development strategy. At this stage the notion of knowledge is introduced but it is not clear as to what this 'knowledge house' is, where it is located, how it is used is it a database that is made available to all members of the university.

The Support Strategies

The support strategies will place demands upon the information resources and environment of the University.

Human Resources:

In order to plan and manage staff resources, the equal opportunity and diversity agenda, the recruitment and retention targets, the workload framework and succession planning key HR information needs to be made available to senior staff within the University. The inference from this statement is that of managing data and allowing access to the data that staff members (senior staff members) require in the performance of their duties. It seems to focus on data access, the collection of data from various sources, manipulating, collating, analysing, and disseminating this data. It would assist the relationship to an information strategy if it was clear what data, is required, why and how this data would be used would inevitably assist in ensuring that the correct data, in the correct format is collected in the first instance.

Finance:

Stapleford University's *financial information is compiled and distributed monthly through the SAP (Systems Applications and Products) software environment and although there has been a significant improvement in both the quality of the data within SAP and its presentation some staff find current reporting difficult to understand. Further work is required to ensure that financial information is accessible and that staff-take responsibility and are trained to interpret and understand financial reports*. The recognition of staff and their skill base is identified here but clear guidelines seem to be required as to how to interact and use the systems that are currently available. The notion of information literacy i.e. the concept of learning what is it that I need to know and therefore how best collect and identify relevant data and then subsequently how best then to gain benefit from it, seems to be a pertinent issue for the finance strategy.

Estates:

The estates information needs are associated with recording work requests, prioritising tasks, providing audit trails for jobs, providing management information on buildings and maintenance and appropriate facilities for ordering materials. This type of approach seems very much focused on quantifiable data that is needed in various formats. The use of technology is an appropriate mechanism to assist in this process and it may be that that Stapleford University is equating information strategy and the use of technology through an information technology strategy as being highly relevant in this instance.

Regional:

Stapleford University aims to strengthen the economic, environmental and cultural life of the region through opportunities in Higher Education, creating partnerships, integrating with communities, and generating and disseminating valuable knowledge and information. Through the Information Strategy, the required information resources and information infrastructure will be made available to support this aim.

Again, there was the introduction of a specific strategy that did not appear within the diagram relating to information strategy and other university strategies. However, it is explicitly clear in identifying the information strategy as a mechanism that will support this process. This notion of an information strategy linked to 'information resources' and 'information infrastructure' focuses on the technological aspects of networking access and information as an actual 'thing' in terms of a resource. The use of information communication technologies has become so intrinsic and inbuilt to the university's work

that the information strategy is being interpreted as an information technology or information management strategy.

Student Well-being:

The University aims to provide a high quality student experience through a comprehensive network of student support and guidance services and a range of cultural and sporting activities. Information needs to be provided such that a systematic analysis of key areas including applications, offers, enrolments and progression by all students in designated cohorts can be carried out in order to identify any imbalances in expected output.

The focus again returns to data and how data is used, collated, disseminated to all areas of the university. However, it is the use of the term information that equates the information strategy to the student well-being strategy.

The previous descriptions and views of an information strategy identify a strategy [the information strategy] as an 'all-encompassing' overarching strategy. That is, a strategy that impacts on every other strategy but is not necessarily clarified in terms of its own status or its relationship to other strategies, only that it is important, it supports other strategies. Given that a definition of 'information' already exists in other strategies (HR, Finance, Teaching & Learning, Information Technology) this then removes the flexibility to develop an information strategy without being influenced by what is already present i.e. those individuals involved in the creation of other strategies have preconceived ideas of what information actually means and therefore may not question whether there are in fact alternative views or understandings of the an information strategy. This limits the opportunity for the formulation of an information strategy in terms of what does an information strategy achieve and what is the notion of an information strategy. Unfortunately there is an already preconceived idea of what the strategy should consist of and more importantly how it should be developed.

Appendix 18: Other Higher Education Institutions information strategy's

Institution	Working Environment	Brief Descriptor – strategic information initiatives	Information Strategy		
			2004	2008	2013
Institution A1	• [redacted] university with 10,922 (8,500 EFTSU) students and 2200 staff. • Strong research focus. Main campus is just outside city • invited to develop a campus in [redacted] - [redacted] Campus	Information Management strategy is based around need to ask who is the information owner, and organisation of information into coherent clusters ******As at 2013 there is a statement in the University Strategy 2013 – 16, indicating that we *ensure they can gain access to the information they need whenever and wherever they might need it.* The need to collect and disseminate information appropriately is stated in their research and people strategies.	✓	Has a statement – information is managed as a strategic resource to underpin every facet of activity!	******✓
Institution A2	• Single site campus – 33 acre campus in the centre of [redacted]. As at 2000 student enrolments were 16700 and staff 2100	Based on Principles-Strategy-Actions-Agents model. Information Strategy managed by ISG, and seen as at a higher level than the IT Strategy. Detailed, well produced, distributed to all staff, but largely ineffective (product is fine, but the process doesn't deliver). They argue that it needs to be embedded in university and owned by DVC(I).	**X**	No information strategy but does have an information literacy strategy – 2005	**X**
Institution A3	• Students from 120 countries • 12445 students • 830 academic staff • Located in an area of natural beauty • 12 schools as opposed to faculties	The theme that information is available in ever greater forms – the aim is to provide access to, develop competence in the handling of, all relevant forms. The university will seek to provide access to any information which is needed for its effective functioning, and to maximise the extent to which a common infrastructure, with common facilities, is available for this. **The assumed time scale for this strategy is five years**	**X**	No mention of an information strategy X	**X**
Institution A4	• Dual Campus University - comprising 8 sites in and around [redacted]. – arising out recent merger of two antecedent universities (each of which came out of the Polytechnic system • 3200 academic and support staff • 28000 students	Most of the focus to date on Information Systems (as part of the Information sub-strategy). Still sorting out org. structures post-merger. Information Steering Group (which was driving things) went into hibernation when it lost its champion. Has franchises in [redacted] and [redacted]	**X**	not in the public domain X	**X**

Appendix 18: Other Higher Education Institutions information strategy's –cont.

Institution	Working Environment	Brief Descriptor – strategic information initiatives	Information Strategy		
			2004	2008	2013
Institution A5	• 21129 students • staff	Strategy focuses mostly on technology, despite claims to the contrary. Information Strategy Board (ISB) now manages it, but is felt to make decisions without regard of technical issues. Strategy felt not to be working at level of individual staff. The corporate plan for 1999-2004 included the development of a formal information strategy, to improve the quality and effectiveness of data and information required for the operation of the university; the information strategy should provide a clear, agreed and efficient means of: acquiring, validating, securing, storing, manipulating, analysing, retrieving, disseminating, archiving and, when appropriate, destroying information in support of all aspects of the university's work. *Some of the most challenging areas in relation to the information strategy concern the allocation of resources.*	**X**	Uses the info. services strategy as a mechanism to identify other strategies – as at July 2007, near completion of the info strategy – but not in the public domain!!	Info. Services strategy 2007-12 and Info systems security and interception policy – neither of which are an info strategy **X**
Institution A6	• based over seven campuses, five in the [redacted] area • 8000 students and staff • Became a polytechnic in [redacted] and a university in 1992	They have a strategy - http://www[redacted].ac.uk/general information -strategy. shtml - responsibility went to Deputy VC, Heads of Departments, Service Director, Deans of Faculty, PL in information systems, membership changed considerably over the period taken to form the strategy. Top down approach, Tried and failed to follow JISC, view of information as an institutional rather than an individual resource. Strategy not implemented	✓	The information systems strategy supports the information strategy – based on JISC & the Follet Report	No mention of the info systems strategy previously seen on the website **X**
Institution A7	• 23465 students	Very much an IT led strategy initially, attempts to bring it in line with other strategies which are occurring within the university. Currently in consultation with Faculty heads as to what information is needed to operate their area. Initially the information was seen as a key resource JISC Exemplar site	There is a commitment to an info. strategy ✓	not in the public domain **X**	Not mentioned or in the public domain **X**

Appendix 18: Other Higher Education Institutions information strategy's – cont.

Institution	Working Environment	Brief Descriptor – strategic information initiatives	Information Strategy		
			2004	2008	2013
Institution A8	• The has approx. [redacted] physical locations in the UK and [redacted] distributors in non EU – countries • [redacted] students	Strategy focuses mostly on technology, despite claims to the contrary. Information Strategy Board (ISB) now manages it, but is felt to make decisions without regard of technical issues. Strategy felt not to be working at level of individual staff. The university has no information strategy per se JISC Exemplar site	**X**	Has doc. version is 2004 – but doesn't address information per se.	**X**
Institution A9	• A single site campus with 19,000 students and 800 academic staff (unable to find reference to general staff numbers). • Small institution located in socially deprived region of [redacted].	Embedded in Strategic Planning processes for university. Acknowledgements that in trying to create an information strategy, they may in-fact concentrate on current information problems - for which they don't have a solution, instead of focusing on the strategic info needs of the university community. Problems occurred during their implementation stage. Also a realisation that Information Systems and Information technology issues are of secondary importance to the University's Information needs Part of the JISC exemplar case studies institutions	**X**	not in the public domain, nothing relating to information strategy found when searched **X**	Policies relate to info governance only **X**
Institution A10	• 3 main campuses – [redacted] • The majority of students ⅓ - come from within 20 miles • University status [redacted]	Currently have an info strategy. Responsibility went to Head of School, IT Director, Head of Computing and IT - and a steering group. Loosely followed JISC and based on other institutions - strategy based on an external report mixture of top down and bottom up.	✓	Not identified in the public domain **X**	Last mention of information strategy was 2010
Institution A11	• two main centre [redacted] and [redacted] – • 7 faculties – • 23000 students and 3300 staff	They do have in place a strategy, have had one in one form or another since 1985, latest version is 2001, developed by the information services and systems committee of the institution. Developed via a broad vision and objective statement by the team and validated. Very bottom up exercise, groups from across the university inputting and improvements that were then concatenated into a final list of priorities for the period 2002 - 2006. Followed JISC guidelines broadly speaking, reviewing consists of a list of work that is completed on a year by year basis	✓	Incorporates the info strategy as part of the info systems strategy – assumes data and info are one in the same	Info security & records management policy – data not information
Institution A12	• 12000 students , 2100 staff	Responsibility with Director of information services, librarian and project team within information services - high level committee chaired by pro vice chancellor. Developed through a consultation exercise including senior staff by external consultants - draft approved by executive team. Assessed by Q & A built into all projects.	**X**	Sees info strategy and info technology as one in the same	info regulations and policies – data not info strategy

Appendix 18: Other Higher Education Institutions information strategy's – cont.

Institution	Working Environment	Brief Descriptor – strategic information initiatives JISC - Exemplar Sites (2004) & Case Study Institutions (2003)	Information Strategy		
			2004	2008	2013
(CS) Institution A13	• Teaching led university • Located over several campuses • Approximately 5500 students	There is currently an information systems strategy and an information communication strategy. Interesting that there is no information strategy in the public domain given it was one of JISCs case study institutions in terms of implementing and formulating an information strategy.	✓	Not in the public domain **X**	Not in public domain **X**
(CS) Institution A14	• A research driven university • 3500 staff – in total	Identifies information as being very much in line with JISC and reiterates JISCs wording in many places. Refers to information resources and identifies access to information as a priority	✓	Did have an acknowledgement of an info. strategy ✓	Not in the public domain **X**
(CS) Institution A15	• 1995 new structure – modular approach • 12200 students	It has developed an information strategy – it is encapsulated within the framework of an information management strategy (IMS) – the elements of the IMS sets a context and a direction for the management of information – the principles of information management, according to [redacted] – makes a relationship between managing information and the aim to be a knowledge based institution. Nothing available as at march 2008	✓	Not in the public domain **X**	Not in the public domain **X**
Institution A16	• Now part of the London Metropolitan University • 37000 students	Opening line of their 'information strategy framework document' identifies the aim is to define good practice in relation to information management, and to determine quality standards in relation to information, its communication and management But as at March 2008 nothing was available	✓	Not in the public domain **X**	Not in the public domain **X**
(ES) Institution A17	• Research and teaching institute • Approx 19000 students • A college of the University of London	There was an initial information strategy drafted in 1995/96 -this was in essence nothing more than general principles. There was a need to provide a detailed information strategy in the current planning period – 1997 – 2001. Tied in with a new appointment of PVM for communications and information technology – not sure how to implement http://www.[redacted]/aboutus/goverance/policies	✓	Not in the public domain **X**	The policy page has a heading for information. strategy but there is no content!

Appendix 18: Other Higher Education Institutions information strategy's – cont.

Institution	Working Environment	Brief Descriptor – strategic information initiatives JISC - Exemplar Sites (2004) & Case Study Institutions (2003)	Information Strategy		
			2004	2008	2013
Institution B1	• 18 Departments, • 30 Research Centres and institutes • 7000 f/t students and 8000 in total	Never came back or responded to repeated requests for evidence of their activities relating to information strategy formulation. Subsequently, they are acknowledged but did not contribute to the research process.	**X**	No mention of info. strat. only info. systems group, & module [redacted] – strategy & info in title - not public domain **X**	**X**
Institution B2	• Research oriented • 5000 students, made up of both home and international students • [redacted] based	Currently have the process of information strategy as one of their top-level strategies, forming part of the overall strategic plan of the university. Developing through an information strategy group, consisting of VC principle, Pro VC, Director of Finance, Academic representatives, president of the student union, director of computing and his policy manager, and head of library services. Reviewed other strategies from the UK and abroad, plus JISC - implementation through control of the purse strings, interconnectivity with other strategies	✓	"info. should be available & accessible to all" June 2003 - not public domain **X**	No longer mentioned in the strategic plan **X**
(ES) Institution B3	• 30000 students	It does not have an information strategy per se but has both an information literacy strategy and an information technology and systems strategy – both of which are an attempt to incorporate the ethos of an information strategy	✓	not in the public domain **X**	Not in the public domain **X**
(ES) Institution B4	• Two main campuses • [redacted] largest university in [redacted]	No information strategy is forthcoming form their website. They do have a professor of information resources Prof [redacted]. The only mention of information strategy is in a module that is titled the same – [redacted]	✓	not in the public domain **X**	Not in the public domain – info security policy **X**
Institution B5	• [redacted]th oldest university in Britain • 15,000 f/t students, 3000 p/t students • 4200 staff – 1600 academic	In 1997 the university developed an information strategy – relating to information capture, management and exchange; this was in response to their information technology strategy developed in 1992. It was identified that an information strategy underpinned by suitable technologies would be the appropriate response. Therefore, the development of an information strategy demands that functions and procedures are analysed and evaluated in terms of the institution's overall strategic goals to ensure information is handled in an appropriate and cost effective way.	✓	There is a page stating there is an info strategy but it is not in the public domain	Not in the public domain **X**

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																			
'A' – A Conflict of understanding regarding the constituent elements of an information strategy		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• IT/IS confusion – what goes in and what doesn't – what is applicable? -A	●●●●●●●●●			✔																
• "For me it is what it says – it indicates how things will be achieved; it is a framework" (C)	●●●●●●●●●			✔																
• "If you take the IT strategy - that sits within the information strategy it's a strand of it **BUT** I am not sure that everyone would agree with that" (C)	●●●●●●●●			✔																
• "We have either got to bite the bullet and say that 'it is asset of principles' or we have to say it has these strands to it and we are not clear on that"(C)	**26**			✔																
• IT is terribly important and there is a tendency to regard IT as the key and driving aspect of an information strategy **when it isn't**" BUT we do need to understand why we need IT and what it might be able to deliver" (B)			✔																	
• "There is a default tendency to think of information in terms of IT and IT is but one part of an information strategy" (B)			✔																	
• "It is all too easy to see information in terms of the equipment necessary for its storage and transmission – I think people tend to concentrate on what is more visible, more accessible, more easily quantifiable" (B)			✔																	
• "The information strategy is not like a mission statement – this is a different order of generality – the strategy must specify not just the fit between the area, the strategic area and the mission it must seek to go one step further that that and indicate what are the key areas of activity and quite specifically the responsible person, medium level of activity and when actioned, plus date by which it is to be delivered and the mechanism for reviewing" (B)			✔																	
• "Previously I had responsibility for IT, I asked for an information strategy and what came about was a technical document; it was this is what we need to run the business, this is how we are going to get it" (E)						✔														
• "What do people need to operate their departments? How are we going to produce that – that's the' what'? Then the 'how' is the other thing we have to be working on in the information strategy" (E)							✔													
• "There are two strands that I actually see – the information and the technology" (D)					✔															
• "Given the membership of the committee there is a general feeling they should know what an information strategy is - Yet it hasn't been made explicitly clear" (D)					✔															
• "I think that if you asked ten different people you will get ten different answers" (K)												✔								
• "I remember the first presentation, I must admit I didn't understand it – in fact I have it here in front of me and it still doesn't make a lot of sense to me" (K)												✔								
• "To me an information strategy should be something very simple, it should state that we have a firm belief that information should be free across the university" (K)												✔								
• "In the minutes of the last meeting particular issues were discussed about that I didn't think had anything to do with an information strategy but definitely with an IT strategy – there is a difference and whether everyone's perception is the same is not known" (K)												✔								
• "I think there was a feeling that the information strategy in the large respect was aligned to the technology" (N)															✔					
• "it is not a straight forward process not everyone seems helpful or willing to put forward ideas, I feel in terms of being seem to be wrong!"																			✔	

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

'A' - A Conflict of understanding regarding the constituent elements of an information strategy: (cont.)		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "Information strategy, I think, was perceived as some blunt instrument which led to certain structure and that structure was no longer thought relevant; so I would argue that we are looking at an information strategy next generation which is one which is far more business driven" (F)							✔													
• "The other part of an information strategy is how you deliver it, I think it does cover the infrastructure, so obviously it covers the IT strategy, it encompasses the Management information strategy, and it's the vision as well and then at the vision level, I think, it's connected to the T&L strategy" (F)							✔													
• "Essentially an information strategy is bigger than IT and therefore is not an IT strategy" (G)								✔												
• "One thing you haven't heard about is the communication strategy – which the university doesn't have and could argue that it should actually be free standing **BUT** for convenience reasons we are actually going to bundle that into being part of the information strategy" (G)								✔												
• "I just don't see IT strategy, IS strategy and the information strategy as being three separate things" (G)								✔												
• "Are they, the information steering committee, driven by the users, if so they are hellish to construct, because all the users want slightly different things – therefore almost nearly impossible to deliver – **OR** – are they driven from the corporate level and then pushed down and integrated with the users – this is easier to do than the former – I think we are trying to wrestle with this" (I)										✔										
• "Gross miss inefficiencies on how we share data" (H)									✔											
• "There is an issue and a confusion over what the committee sees an information strategy and in information technology strategy as being" (M)														✔						
	26																			

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																			
'B' - Overall order of the information strategy		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "We that is C, F & G think that the overall brief for preparing the Info strategy should be much longer" (C)	●●●●●●●●●			✓																
• "Timing is crucial as it has been escalated"(C)	●●●●●●●●			✓																
• "Information strategy comes last, as it underpins all other strategies"(C)	**17**			✓																
• "There are a series of flanking and supporting strategies and information maps across them all" (B)			✓																	
• "Not so much a conflict but a dislocation between the various strategies" (B) • "Many strategies cut across one another, similarly information must necessarily cut across, underpin and support" (B)			✓																	
• "As the organisation changes, as one strategy is implemented so it will necessarily have implications for its 'fit' with other strategies" (B)			✓																	
• "Yes there is a recognition that in order to flesh out the other strategies, the key strategies for learning and teaching and research and consultancy need to be in place" [other strategies need to be in place before the information strategy] (B)			✓																	
• Which one is the driving strategy will depend on your role within the university, different strategies will have or will be differently important to you, depending where you are placed within the university" (D)					✓															
• " In terms of overall drive, formerly we have the mission statement is the driver behind strategies and strategies flow off that" (D)					✓															
• "If the information systems are not there then the information strategy would fail because you have got no underlining support" That's because I am coming form the aspects of a technologist" (K)												✓								
• "I don't think there is any question that all of our other systems within the organisation need to be underpinned by an information strategy. Whether the information strategy needs to come first or whether it is best developing it later when we know what the rest of our business is about – I don't know, I am not an expert in that area" (N)															✓					
• "I would argue that your expected outcomes, must at some point be related to T&L and research for the whole university so they should be linked to T&L and research strategies" (F)							✓													
• "There is always an argument wherever you come from whether a strategy is supporting or driving. I think the early information strategies **drove** the necessary development of infrastructure now they support" (F)							✓													
• What we are trying to do is to create an umbrella strategy into which other strategies can fit" (G)								✓												
• "So what we are going to do is to position other strategies underneath so that we'll have the encompassing information strategy and below that we are going to have an information technology strategy, also a communication strategy – SO – all of those strategies are going to be part of this overall information strategy" (G)								✓												
• "The information strategy fits into the overall university's strategies which some are formed and some are still being formed: o The growth strategy; o The teaching and learning strategy; o The research and consultancy strategy.								✓												

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																		
'B' - Overall order of the information strategy (cont.)		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "In crude terms the business objectives drive the strategy, which then determine what kind of systems and processes you need in order to deliver the strategy" (I)										✔										
	17																			
"																				

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																		
'C' - Confusion over the strategy		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "I have a little bit of a concern that I am telling you things I should be telling the others"(C)	●●●●●●●●●			✔																
• "The information strategy became escalated and I don't know the whys and wherefores of that"(C)	●●●●●●●●●			✔																
• "I think there is a major, major communication problem with that particular meeting – May 2003"(C)	●●●●●●●●●			✔																
• "My point, at the meeting, was that I don't see where this is going to support the university's administration"(C)	●●●●●●●●●			✔																
• "I mean it is a fairly limited membership and its not going to be presented as a consultation paper – it is presented as these are the principles and this is what we are doing"(C)	●●			✔																
• "The initial meeting was quite discursive – scene setting, but we didn't get very far"(C)	**38**			✔																
• "It is very broad – would it be better – these are the aims, this is where we are going and these are the kind of things we need to do to achieve them"(C)				✔																
• "I think at the moment until we have bottomed out what we want it to be [info strategy] or have thought it through more carefully it won't end up being anything other than a conceptual document"(C)				✔																
• IT can oblige us to think more systematically about how we do things – can we do thinks differently and more effectively" (B)			✔																	
• "The need to see information not in technical terms at all but in terms of the clarity with which we could specify the objectives being pursued by different parts of the university" (B)			✔																	
• "Strategies are not rigid templates which proscribe what individuals are doing week by week, at day basis they are frameworks allowing people to move forward – but these will change overtime" (B)			✔																	
• "I am a little unclear – after nine months when what we call the management information system sits in relation to other parts of the network" (B)			✔																	
• "I don't believe you can write a strategy by committee" (E)						✔														
• "I don't think they know what they are dealing with. Some people there wouldn't know information if it hit them on the head; they don't see the bigger picture" (E)						✔														
• "It has two interrelated strands – one is the information that the university has, uses, - this comes from staff, students, academic programmes perspectives, so there are lots of strands to that; that's part of it and you can't divorce that from the technology so what do we do about our underpinning of technology infrastructure that allows us access to the information that we want" (D)					✔															
• "We are all very familiar with the development of a strategy per se" (D)					✔															
• "If you're primary remit is research your primary interest will be the research strategy. If you are very much involved in T & L and little involvement in research your interest will lie with the T & L strategy - therefore individuals have a local perspective, which will change the on conditions or responsibilities within the university" (D)					✔															
• The strategy is a difficult concept as it doesn't seem to be the same as other resources																				✔

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																		
'C' - Confusion over the strategy (cont.)		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "If you say tell me what should be in an information strategy this is very difficult. If you say look here is an information strategy do you buy into this? That is very different – but you still need people to buy-in at various levels" (D)					✔															
• "I think the angle I am coming from is from the aspect of an IT strategy; because the IT strategy implements the information strategy – that's the way I see it" (K)												✔								
• "We have an interest and a different view point of an information strategy and information delivery because of our experience" (K)												✔								
• "I am coming from a technologists point of view, first and foremost the only evidence that I have seen from the committee, so far, is what people are thinking as an information strategy is definitely different from my perspective of what is an information strategy" (K)												✔								
• "What I am trying to get to with an information strategy is to have the concept to all staff members and students that we will give you access to information, within legal constraints, because until that information is correct there is always going to be a knock-ons that will affect the organisation" (K)												✔								
• "Yes I think I do see the information strategy as almost like a mission statement – it will sit at the top, be very short and very sweet and then there should be pointers from that to various aspects and again very practical" (K)												✔								
• "There is a mix up in what individuals think an information strategy is – initially the discussions identified strengths, weaknesses, opportunities and threats completely valid **BUT** surely that is not part of the information strategy as I see it" (K)												✔								
• "Certainly I felt in the meeting or two that I went to, some confusion as to what it was about" (N)															✔					
• "There was a general feeling that information strategy was a good thing **BUT** there wasn't altogether agreement as to what it meant" (N)															✔					
• "I don't think an information strategy can be particularly detailed, it might have value statements associated with it, it might have some very broad goals and broad deadlines with it – or schedules **BUT** what is more meaningful is the information systems and meaningful to the people who that are actually going **to implement the information systems strategy and the IT strategy**" (N)															✔					
• "Let's not fall into the trap of having an information strategy which is a 'bodged' IT strategy that provides just the infrastructure, PCs and the MIS strategy" (F)							✔													
• "Within the university we process information for purposes other than managing the business – but we still have to manage infrastructure so interfaces and infrastructure (IT issues) might as well be a part of the information strategy" (F)							✔													
• "Let's be fair, as a group the information steering committee are thinking how can we do this? I.e. develop an information strategy" (F)							✔													
• "Historically what we are calling an information strategy would typically have been called something else, probably an 'information technology strategy" (G)								✔												
• "What we are trying to do is make it so the information strategy is not a detailed document, effectively what we want to do is to still have a strategy that will be valid in five years' time" (G)								✔												

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																		
'C' - Confusion over the strategy (cont.)		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "Prior to this process the information committee was formed which replaced a previous committee – ISMCG – (I can't remember what it stands for) it was an IT steering committee, as opposed to an information committee" (G)								✔												
• "I think there is not only confusion about what is an information strategy but also about what is information" (J)											✔									
• "I think there is a confusion inside the committee, probably, by a number of its members because traditionally what went before it was more of a IT strategy rather than an information services strategy; and there is still an uneasy shift between IT and IS issues and it is **not clear to me, as yet, whether this has been resolved in terms of what the committee is trying to achieve**" (I)										✔										
• "From what I have seen so far there is lack of clarity and agreement within the committee" (A)		✔																		
• "Part of the problem is that currently it seems to go on forever, an ongoing kind of thing, we haven't set ourselves what are the end products that we want out of this" (J)											✔									
	38																			

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																		
'D' - What does an information strategy achieve?		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "It needs to set out what is necessary to deliver some of the other strategies – i.e. an electronic graduate school would need a certain level of IT – the strategy should make sure that this is addressed"(C)	●●●●●●●●● ●●●●●●●●●			✔																
• "Specifics of what is going to be done, by whom, and by when – we need that in the strategy" (E)	●					✔														
• "In terms of the overall objectives but links I with wider things like the university mission statement, the teaching and learning strategy; there are lots of drivers behind the information strategy" (D)	**19**				✔															
• "I think an information strategy should be based on practicalities; rather than a cellophane rapped packet that is shelved" (K) •												✔								
• "I firmly believe that if we don't create an information strategy that is completely practical and understood by everybody on the ground then it will remain unimplemented and unimplementable" (K)												✔								
• "Freely available, is the technologist in me saying people should be able to access it" (K)												✔								
• "May be I am coming from a technologists background but we just don't see the same things therefore how do we all buy into it?" (K)												✔								
• "It should be something that can be adopted by an administrator in a school that says these are our systems that we are using, this is what we want out of it, this is what our user's want out of it" (K)												✔								
• "I suppose from my point the information strategy should at least recognise, or go some way to recognising that there are user needs and that there are unsatisfied user needs and to put a framework in place to enable those user needs to be recognised and hopefully addressed" (N)															✔					
• "So the information strategy is really, I think, something that needs to be fairly simple but it is an enabling framework" (N)															✔					
• "Information strategies can be expensive to implement so you need to know why you are doing it and what you expect your expected outcomes are" (F)							✔													
• "What we want out of it is a 'business focussed information strategy' that moves us from point A to point Band we can define what point A is and we know what we want from point B" (F)							✔													
• "The strategy itself, has to deliver something affordable, pragmatic and something in so far as we can future gaze should meet the needs of the university in the future" (F)							✔													
• "For me it is very important to get in there that we are actually doing things which really put the learner at the centre of what we are doing – but how are you actually going to do it?" (G)								✔												

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																		
'D' - What does an information strategy achieve? (cont.)		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "I am not an expert – but I try to take a general view – therefore the information strategy is about the information services which the university needs, i.e. the information production – corporate, daily business, services to students and staff" (J)											✔									
• "There are three users that need to be addressed – the student and academic community, the administration group and business users – the latter gets the short straw" (J)											✔									
• "Information strategies are about values and attitudes – in so far as they are primarily about business objectives and the business objectives always embed themselves in values and attitudes of the organisation" (I)										✔										
• "There is a gap between what we are trying to achieve and will the information strategy cover it o Corporate – what's the information that we need - in my experience we are not always clear as we need to be about what's the essential information o How do we make sense, at the corporate level, of the different and disparate systems we have and the information contained within o How does the collection of data, and making sense of it, at the corporate level, feed back into the user level" (I)										✔										
• "We need clear outcomes so we know when it has been achieved" (H)									✔											
	19																			

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Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																			
'E' - Need for an Information Strategy		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
• "The core business of the university is learning and teaching and research and those strategies generate the need for access to information in a way that is timely, cost effective, up-to-date" (B)			✓																	
• "An information strategy is a necessary supporting strategy for the university to have in place" "It gives a clear specification of what we need to do, how we need to do it, who needs to do it and by when in respect to all matters pertaining to information, its generation, and its dissemination, within the university"(B)	**18**		✓																	
• "A cynical view could be that we have survived for the past years without an information strategy why do we need one now" (E)						✓														
• "It has met external funding bodies requests therefore do I see this as being a necessity within the university – not as important as some of the other issues that I have to deal with" (E)						✓														
• " We spend a lot of time degenerating strategies the strategies are so often detailed and so involved and so complex then not read or they are not understood" (D)					✓															
• " If the strategy is really something to make an impact it depends how well aligned the strategy is with kindly way you are underway shortcoming and how well that represents the attitudes, the values, the approach of the management team and that rolling through the whole institution" (D)					✓															
• " This is a problem that we have with so many strategies that I would doubt, will I will put money on it that there is not one person in this institution who can name already strategies never mind telling you in detail what they are" (D)					✓															
• "It was very important for me that if I were to stay a part of the committee that we were going to do something useful. Often what has happened is that somebody high up in the university had said everybody else has an information strategy therefore we need one – we dust off the old one and see where we are" (K)												✓								
• "It is important to me that if we were to come up with a new information strategy for the university that it could be used by all" (K)												✓								
• "I really think if we can't say it one side/sheet of A4 or on one slide of a PowerPoint presentation, to say our goal is to achieve clear information to all staff and students such that benefits them to support the academic programme – then we are making things too complex" (K)												✓								
• "Surely the whole point of an information strategy is to make information flow around the organisation successfully to enable us to better deliver the academic programme" (K)												✓								
• "Data is held by individuals or departments and it is a political war to get it" (K)												✓								
• "We don't really need a strategy, the strategy is just an enabling framework, it is recognising that these needs exist, and that people need help in addressing them" (N)															✓					
• "Our business is much more corporate and an information strategy is part of being corporate. We didn't have HR strategies, or T&L strategies – now that these are in place I think that's why we have to revisit information strategy; as now we have the business drivers and the resourced management tools to make the information strategy much more refined and more closely connected to the business" (F)							✓													

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																		
'E' - Need for an Information Strategy (cont.)		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	S
• "The information strategy is effectively a stripe through all of the other strategies and effectively tries to bring them all together – therefore mapping things from those strategies onto the information strategy" (G)								✔												
• I think that's something else we haven't been good at we haven't recognised that there are different kinds of information services for different audiences" (J)											✔									
• "Information is being seen more and more as a strategic asset – a new VC with new ideas, the environment is more competitive, we need to provide more information, and as a marketing tool to make others aware" (J)											✔									
• "This is an important issue for the university, it is a strategy that will assist in the university moving forward" (A)		✔																		
	18																			

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																			
'F' - Terminology and education of the committee		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "Terminology was mixed and confused, we had people calling strategies policies and no commonality"(C)	●●●●●●●●●			✓																
• "The problem though until we have ALL got a clear definition, which we are all signed up too i.e. what is the remit of the information strategy? We have a problem as you can't have a strategy until you know what's supposed to focus on"(C)	●●●●●●●●●			✓																
• "It can't just be a document that is hanging there which says we need information" (E)	**18**					✓														
• "I have not really sat down and actually thought about aspects that would actually encompass – i.e. what a good information strategy would actually have BUT the committee like that isn't the forum where you can actually develop that" (D)					✓															
• "It is the forum where you can actually discuss, debate, various issues, agree direction BUT you would look at setting up a task group to implement the design, to implement the information strategy" (D)					✓															
• "We still don't have the recognition across the university departments that a lot of our information is visible" (K)												✓								
• "The biggest thing that worries me about the information strategy is that as far as I am concerned our core business is the academic programme – therefore I consider that to be the 'be all and end all' of why we are here – we are here as a teaching organisation and it is about students – the presentation didn't mention students until slide 18 or 20" (K)												✓								
• "I am sure that there are people who see the information strategy not in terms of a mission statement" (K)												✓								
• "We need to do a lot more training within the university" (K)												✓								
• "The difficulty with a strategy is the more detailed the harder it becomes, and therefore it becomes generic. However the more generic it becomes the more bland it becomes" (N)															✓					
• "There are two views – a business view and a JISC view – now JISC is a business view but pure corporate and software people (IT dominant) talk about information as a commodity and knowledge management who uses it" (F)							✓													
• [redacted] mothballed the old strategy, but still kept the 'information strategy management group' – this group met, allocated money, made sure the infrastructure was kept up to speed, BUT there wasn't a great user focus" (F)							✓													
• "There's a bit of a debate over whether we use JISC definitions and guidelines (hedge your bets as in the T&L and HR strategies) therefore run alongside as long as we get what we want" (F)							✓													
• "You need to know what A is and what B is **BUT** importantly you need to want to go to B" (F)							✓													
• "I think the issue is that information is seen as a bigger thing than the technology side; which is true – but that doesn't mean that an IT strategy is bogged down in technology – I think there is some confusion over that" (G)								✓												

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																		
'F' - Terminology and education of the committee (cont.)		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "Wooliness and fluffiness were mentioned earlier, and in fact at the level of the information strategy things are extremely abstract – therefore due to its generic nature can't we buy one off the shelf – as things like – availability of data, info availability should be the same across the world, not just for universities" (G)								✔												
• "No it isn't a given that everyone on the committee knows what an information strategy is – The VC has said we need it – but some may say this is a business strategy not an information strategy – this is how we need to run the business as opposed to how we handle information" (G)								✔												
• "Information strategies should be as lean as possible in defining what is the essential information which is needed by the business in order to understand its context and deliver its objectives within that context" (I)										✔										
	18																			
"																				

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																		
'G' - Conflicts within the committee		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "It's a concern to me that some of our committees dispense with business rather than deal with business" (B)	●●●●●●●●●●		✔																	
• "The time frame for the post task group and F & Gs requests for comments from members of the task group is impossible"(C)	●●●			✔																
• "I don't think there was the opportunity to raise that kind of fairly basic, fundamental question in the meeting"(C)	**13**			✔																
• "There could be conflicts within the committee – as I sit on the management team but I am not a member of it I can see things from a university perspective"(C)				✔																
• "The university is operating without some key strategies"(C)				✔																
• "If we have an information strategy that is twenty pages long, with lovely high fluting ideas, I personally believe it will just get cellophaned and put in a draw" (K)												✔								
• "I am not going to go up against higher individuals within the committee and say I disagree with this approach – I did try it initially but individuals are very good politicians – they listen and still do it how they think it should be done and that's what they are paid for" (K)												✔								
• "Many of the committee members are working at a higher level, they are used to thinking strategically they are used to writing strategic statements BUT although that is a benefit that is also a hindrance – in that they may not be able to see the woods for the trees" (N)															✔					
• "I don't think you can have an information strategy that ignores users information of various types for academic purposes – but equally we have probably got a key number 200 –3000 (only 2800 staff!!!!) People who have a crucial need about access to information in order that they can do the business – manage the university" (F)							✔													
• "I think Northumbria will move rather quickly as they a strategy but it might be problematical" (F)							✔													
• "I think currently the committee is defining A & B, then having defined them do we want to consult outwith the university on how to make that journey" (F)							✔													
• "There needs to be clarification within the committee – the presentation identified two issues – **firstly** how you build an information strategy (business objectives determine it – I agree) – **the second** – was a process for achieving it – this was massively complex, heavy weight process bound – takes forever" (I)										✔										
• I haven't really had much to do with the committee but can identify the animosity																		✔		
	13																			

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																		
'H' – Ownership and Responsibility		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "In essence it is the university who own the strategy"(C)	[redacted]			✓																
• "This is really coming as a top-down approach, it's not coming as a bottom-up approach, in my view, as we haven't captured all of the needs of the users"(C)				✓																
• "I think people buy in to it, and I don't think ownership is important"(C)	**17**			✓																
• "The ownership of the information strategy still has to come, I don't think we have got it quite right yet – A has responsibility for it in terms of overseeing its development, holds accountability – but A can't do that on his own" (B)			✓																	
• "Those responsible as part of their job should initially report on a regular basis to the committee – F&G (B)			✓																	
• "Officers of the university as part of their job descriptions should be held accountable for the delivery and they should be reporting it to local committees" (B)			✓																	
• "The committee are responsible, they must get a grip on the diverse elements of the strategy (soft knowledge and SAP systems) together with people reporting into the committee who have functional responsibility" (B)			✓																	
• "There is not the drive to ascertain ownership of information, there's not the drive to ascertain correctness of information – whether stories are apocryphal or whether they are true" (K)												✓								
• "I am worried about what is happening within the information committee, because we have had a number of meetings, not masses, and it is almost like it is being pushed down a pre-programmed route" (K)												✓								
• "Ownership should be across the university it shouldn't be with any particular individuals" (K)												✓								
• "How do you get commitment? People must own it at the bottom – that is a difficult 'nut to crack'. Therefore how does a small team who is not necessarily representative of the people at all levels do this" (N)															✓					
• "The first information strategy was done against huge investment by JISC, funding council and JANET – who now takes responsibility for this 'push' forward" (F)							✓													
• "The VC came and had a belief that information is bigger than information technology therefore we didn't need the ISMCG committee (or group). Membership became diluted as it was aimed at senior management but they in turn nominated others to sit in their place – those who don't have the authority of those we actually wanted on the committee" (G)								✓												
• "We need a kind of mediator, interpreter to assist with the committee discussions" (J)											✓									
• "No department takes responsibility for integrating information across all of the university systems" (Q)																		✓		
• "Responsibility lies with the committee and I have development of the strategy as a target" (A)		✓																		
• We don't have that much to do with central systems we tend to keep our own data sets within the department and use specialise software																				✓

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																		
'J' - Reasons for Membership		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "Because of my role within the university"(C)	●●●●●●●●●●			✔																
• The principles we worked to when we had restructuring last year was that individuals would be on committees for their expertise not because of their post that they hold" - therefore I am the expert in respect of that but in reality I am not the detail person as I tend to delegate"(C)	●●●			✔																
• "On a personal point of view I can offer a manager's view and because I have very close links with the schools I can offers views of others"(C)	**15**			✔																
• "I have responsibility for research and as a member of the senior management team share corporate responsibility for delivery of the corporate mission"(B)			✔																	
• "My role is as Dean – therefore to bring the school perspective on how it interacts with, from a management of a school, delivery of an economic programme, management of staff and other activities" (D)					✔															
• "My membership came about in an odd way – I was asked to join as I was involved in the technical infrastructure" (K)												✔								
• "It turned out that we i.e. the department had three members – this has never been explained or made clear as to why" (K)												✔								
• "I have responsibility for staff development, that role does happen to have information strategy, well not strategy but information systems as part of its brief" (N)															✔					
• "I went to the inaugural meeting, unsure as to what other representation there was from the school and discovered that in fact three of us were there from the school – therefore I didn't think it was appropriate – however I am now going to take up my membership more readily given staff movements" (N)															✔					
• "My involvement comes form my role within the university and the fact that 'information' is in the title of both the committee and my job title" (G)								✔												
• "It's not that the membership is ineffective just that they don't have the full authority to represent their school or service department, and at this level of strategy development this is a must" (G)								✔												
• "I am there as my role is to lead the business development side of the university – my belief is that the information strategy should be business led, the business should not be led by the information strategy" (I)										✔										
• I was asked to participate as our regular representative was no longer able to attend due to other more important responsibilities (									✔											
• I am here to ensure that our department is not forgotten or marginalised in the process, to ensure that we still have access to information that we need (S)																				✔
• I only attended as a replacement for the HoD as they were not available, I wasn't really doing that much																			✔	

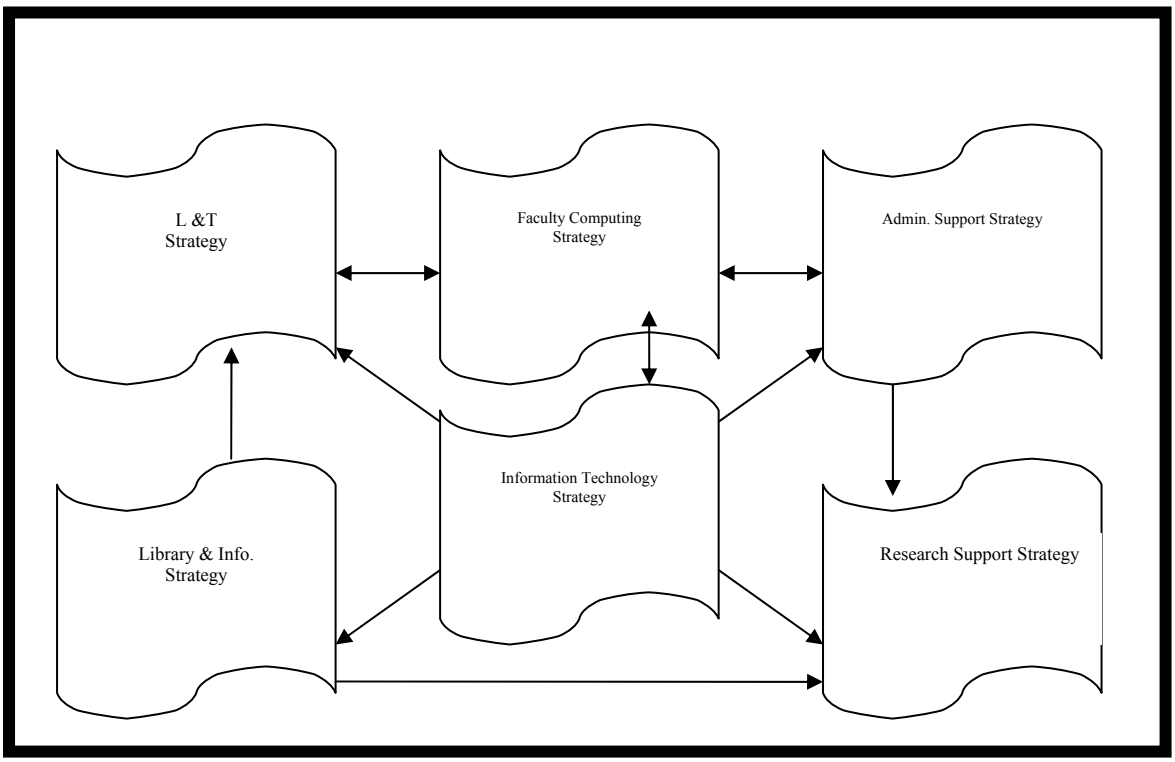
Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																		
'K' - Participation		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "So I didn't meet the deadline so I didn't comment"(C)	[redacted]			✓																
• "It has just gone by me I have other priorities" and I suspect other people are in the same boat" (C)				✓																
• **"I am not sure what I can contribute to the document as it currently stands"(C)**	**18**			✓																
• "There has not been very wide consultation, not even all members of the ISC were there, and I think that in itself will tell you something"(C)				✓																
• "The information committee is not representative and again it is not meant to be as we can't represent everyone – therefore consultation needs to go much wider, every school, service department – it will be a huge exercise – a tremendous job but I haven't envisaged what is intended"(C)				✓																
• "I am a little anxious that participation in senior committees by the academics of this university is not as good as it should be" (B)			✓																	
• "I have only attended one meeting, as I didn't see it as a priority" (E)						✓														
• "What the committee is about – again I haven't check the terms of reference, so I am quoting from memory of a committee that I haven't actually attended now for quite a number of months because of either it has been cancelled or my diary " (D)					✓															
• "I wasn't exactly sure what the purpose of the information SC actually was" (E)						✓														
• "One of the problems of putting things out to consultation is how do you actually engage in that consultation. Because if you said I want to have a meeting of university staff to discuss the information strategy it will be on a certain time well you could guarantee that most people wouldn't be able to go as they have something else arranged (if they didn't they would say they have) because didn't want to go as they are so busy with wine about the and remit, the and responsibilities and what they need to deliver on they haven't got time to worry about something which basically is not directly impacting on them" (D)					✓															
• "Staff have other prioritised agendas" (D)					✓															
• "This participation affects the discussion process you are not going to get the breath of discussion and you run the risk of getting a self-selecting group" (D)					✓															
• "I was surprised that I was there and after one meeting I was even questioning should I be there?" "However I feel that I do bring pragmatism to the committee" (K)												✓								
• "I haven't been to the last two meetings, as there is, in my mind, a slight confusion as to why I am on that committee" (N)															✓					
• "I am not sure that the committee is desperately representative there were not enough academics there nor academics who could talk about the simple aspects of information provision, and information processing which a strategy like this may help" (N)															✓					
• "The question is not of product or process but how are we not to do what we are doing at the moment? We have a figure head but the work is done within the committee" (G)								✓												
• "I am more concerned with the lack of cross-expertise, it is good that we have different kinds of expertise, but I think we have great difficulty putting ourselves in the other persons place and we haven't got perhaps a facilitator who can do that for us" (J)											✓									
• "The issue for me is about serving other communities not the university" (Q)																		✓		

Appendix 19: Analysis of Case Study Interviews – Developing Emerging Themes

Quotes linking to themes	Occurrences	Correlation with Interviewee's Responses																			
'L' - Is the development of an information strategy a process or a product		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**
• "I would say it is more of process but you could also say it's a product - it will set out what we are going to achieve"(C)	●●●●●			✔																
• "I can remember surveys, that were done but I never really thought that they got to the 'hub' of what we were about in terms of information needs, information storage, and information dissemination" (N)	7														✔					
• "By buying a strategy off the shelf you actually miss the benefit of the process and the benefits of the process have been worthwhile" (G)								✔												
• "I would see information as being a product and we see information strategy as a process" (G)								✔												
• "I am actually attracted by the idea of it being a product – as it becomes tangible – if you treat it as a process it somehow lacks guts" (J)											✔									
• I haven't really thought about this or really understand what it means, can you explain? (P) & (R)																	✔		✔	

Appendix 20: Functional View of Library & Information Strategy



(Stapleford University Information Strategy documentation file – 2002/03)

Appendix 21: Analysis using isomorphic templates with emergent themes

Theme	Description	Mimetic, Coercive and Normative Discussion		
1	**Confusion over the strategy development process**	**Mimetic**	**No**	**General Management** - members of the ISC didn't play a huge role apart from acting as a 'sounding board' when the two tasked members reported back to the committee. From the GM perspective they were not developing the strategy but were there to see that a strategy was produced – their mimetic isomorphic template was based on the fact that 'others' had a strategy therefore they too required one! So although they were aware of other strategies they were not ready just to copy off others, hence NO.
			Yes	**Library & Information Science** – reliance upon their role within the organisation and the fact that an information strategy seemed to be 'part of their remit' and only having one LIS member there was a tendency to identify what was happening within other areas – IT and then develop from there. There was support from JISC but this was very much a 'stated guideline' and not an explanation of what or how to do it!
			Yes	**I.T / I.S**.- They seemed to have the strongest link to mimetic isomorphism – as the strategy in previous manifestations had a strong technological bias and hence the opportunity to copy what was already 'out there' became apparent and also the focus seemed to infer that they 'the technologists' were best place to inform the ISC and understood what an information strategy should look like. Taking what was already there an 'tweaking' it seemed appropriate.
		Coercive	**No**	**General Management** - It was difficult for the 'task members' to know what to feed back to committee members to show progression and hence the repetition of much of the initial outside consultant's presentation was apparent on a number of occasions. There was an element of coercive isomorphism as they (as a collective) were responsible to the executive committee to produce a strategy but not individually so not shown or evident.
			Yes	**Library & Information Science** – Again, across the board there was an element of coerciveness in that the new executive committee had acknowledged that in order to be competitive and move forward an information strategy was seen as part of the 'set' of new strategies that Stapleford University required. As a 'tasked member' huge responsibility was evident -
			Yes	**I.T. / I.S.** – In line with other disciplines there was feeling of being 'pressurised' into producing a strategy and they were part of the 'main' team that had to produce!
		Normative	**No**	**General Management** - Different members would ask about the process but none were forth coming in taking on the responsibility, it was therefore given to two individuals to guide the committee. So this template was not really considered in terms of the strategy formulation process
			Yes	**Library & Information Science –** Given that much of the guidance on information strategy formulation was coming from library related areas it was apparent that outside influence was considered.
			Yes	**I.T. / I.S.** – backgrounds, experience and professionalism dictate how IT viewed what was being referred to an information strategy, there seemed little need to move away from this understanding; as it provided legitimacy. So this template was considered important in the formulation process

Appendix 21: Analysis using isomorphic templates with emergent themes – cont.

Theme	Description	Mimetic, Coercive and Normative Discussion		
2	**Conflicting views of the constituent elements of an information strategy**	**Mimetic**	**No**	**General Management** – there was no real consideration of this within the steering committee from those deemed to be within the GM faction. They viewed it in generic terms and were unable to 'drill down' ; along with very little or any strategies in existence outwith Stapleford University to copy meant that this was not considered.
			No	**Library & Information Science** – there were no real examples of strategies to copy – even JISCs guidelines acknowledge that different institutions will approach and interpret an information strategy differently and that institutions will design strategies that are appropriate for their needs.
			Yes	**I.T / I.S**. – there was an element of copying what others had done, in terms of following tested examples from the outside consultant's presentation – this acknowledged that an information strategy was 'tied' to technology and this approach didn't need to change – legitimacy was an outcome of this view.
		Coercive	**No**	**General Management** – there may have been elements of a coercive template present but in terms of conflicting views it was not shown to be relevant.
			No	**Library & Information Science** – This too was acknowledged but it was not seen as relevant as there were no other parties trying to coerce them into taking a different view – GM didn't have the strength or ability to articulate an argument for something different
			No	**I.T. / I.S.** – Again, the nature of historical events and current interpretation , supported by the outside consultant, meant that little outside influence was being placed upon the IT discipline to change elements of the strategy.
		Normative	**Yes**	**General Management** – there was evidence that management viewed the strategy in much the same way as other strategies, that of managing resources to support an outcome. The need to provide information upon which to base decision-making was part and parcel of their professional make-up and hence that template was evident and shown during each meeting in terms of questions and direction that they wanted to move – it was about control and monitoring
			Yes	**Library & Information Science** – the director of learning resources felt that there were clear guidelines as to an information strategy from the professional discipline but getting others to identify relevance was not straight forward. Getting them to accept a narrow library perspective seemed inappropriate and created conflict
			Yes	**I.T. / I.S.** – that emphasis on information being managed and manipulated through technology plays a huge role in the interpretation of an information strategy and one which aligns with their professional understanding and guidance

Appendix 21: Analysis using isomorphic templates with emergent themes – cont.

Theme	Description	Mimetic, Coercive and Normative Discussion		
3	What an information strategy will achieve	Mimetic	Yes	**General Management** – although the researcher would acknowledge that this template existed, it was present but not shown – in so much as there were other strategies within the institution that management copied and held as their own in terms of achieving that process of managing – this strategy was seen as no different to other institution wide strategies – so there was an element of copying what had gone before – generic outcomes!
			Yes	**Library & Information Science** – they were in essence copying other institutions in terms of going through the process but as no one had actually provided a strategy to copy, nor was it deemed appropriate to do that it was the enactment of the process that was copied
			Yes	**I.T / I.S**. – the overall aim was to have clear and concise information that was available to all who needed it whether on site or remotely, therefore the mimetic nature was to provide a mechanism to do this – again it was about copying a process that others were going through, this was based on providing technological solutions to the needs of the organisation.
		Coercive	Yes	**General Management** – There was a strong factor from GM that they felt they should own the strategy, once implemented. That is, the coercive element was about owning and controlling the strategy so that information was in essence owned and managed by management, with IT playing a supporting role. The notion of coercion was based upon their own value of being in control and using their power within the institution (their role and level of responsibility) as senior members of the institution as a mechanism to exert power over others.
			Yes	**Library & Information Science** – the generic rhetoric from outside bodies was about providing greater access, to acknowledge their role as custodians of information and to promote their role within the institutional hierarchy. This coupled with elements of funding, through the institution having an information strategy, created a coercive template that infers having an information strategy will be rewarded.
			No	**I.T. / I.S.** – there was no sign of this template being evident, no coercive force was in play regarding what the strategy was to achieve.
		Normative	No	**General Management** - in the broad sense of other organisations gaining competitive advantage – or so it was assumed – through having an information strategy but in reality there was no presence of this template – it was present but not of a concern to management
			Yes	**Library & Information Science** – it was the generic view that the library was a pivotal player in the strategy formulation process given its acknowledged relationship to information. Given its historical involvement in information strategy development there was an 'unwritten' but accepted view that they knew what the end result would be.
			Yes	**I.T. / I.S.** – Again there was evidence of this occurring through the view that being in control of the infrastructure of the university, IT services were following and providing services that other institutions were also trying to provide i.e. remote access, electronic access to informational resources, upgrades and software availability

Appendix 21: Analysis using isomorphic templates with emergent themes – cont.

Theme	Description	Mimetic, Coercive and Normative Discussion		
4	Terminology and education of committee	Mimetic	No	**General Management** – There was focus upon management needs and types of information required to do their job. There was no acknowledgement or attempt to understand other terms, or there was an underlining assumption that everyone knew what people were referring too! GM were more concerned about ownership and control and access to information as a controlling mechanism that allowed – sarcastically 'boxes to be ticked'
			No	**Library & Information Science** –present but not shown – that is, commonalities within the LIS discipline and terminology abound but this was not specifically copied from other institutions.
			No	**I.T / I.S**.- present but not shown – that is, the IT division have terms and meanings used that are unique to their role but this was not copied from outside bodies it is just the terms that those within the discipline would have been used to using and would use as common terms – it does create an element of elitism / exclusivity.
		Coercive	No	**General Management** – no level of coercive template was evident but what was evident was the need for 'task members' to articulate their 'reasoning' and 'understanding' in a format that was acceptable to GM ISC members – this given the technological approach didn't work and also due to the 'generic' approach also left members asking questions about understanding .
			Yes	**Library & Information Science** – being part of the 'tasked team' to provide the information strategy placed the Director of Learning Resources in an influential position and role. In one way that assisted but in another it created a level of responsibility that meant that creating buy-in to the strategy from other members of the ISC was not straight forward, if at all – so it was present but not always acknowledged – not as a discipline template
			Yes	**I.T. / I.S.** – Much of the presentations were technologically based, leaving lots of committee members 'switching off'. Either due to a lack of understanding and not willing to ask clarification questions or to a general mistrust and lack of interest in what was being said. Presentations to the ISC were based on systems and technology that was being introduced, such was their role that this was accepted without question even though it did not relate to the information strategy per se.
		Normative	No	**General Management** - there was a general feeling that other disciplines – via the 'tasked members' would provide a strategy that GM would then in turn own and control. No real elected affinity with terminology that related to an information strategy but an awareness of other views.
			Yes	**Library & Information Science** – obviously there was an affinity with terms and understanding that were inherent from their professional disciplines. The fact that the LIS field was well organised and successful there were terms and discussions held within the LIS discourse that related to information strategy but on very much their understanding and terms – all of which naturally related to the library and its activities.
			Yes	**I.T. / I.S.** – In the general sense that IT were responsible for providing infrastructure and that they had their own terminology, acronyms and meaning that would be found in any specialised field. This understanding was more about technology and the notion of information was just something that was part of that 'field' but from a technological perspective.

Appendix 21: Analysis using isomorphic templates with emergent themes – cont.

Theme	Description	Mimetic, Coercive and Normative Discussion		
5	**Levels of participation**	**Mimetic**	**No**	**General Management** – the notion that the strategy was common place and this strategy was no different to any other strategy created an internal mimetic template that the ISC were in essence just copying what had been done before the only difference was the content but that didn't make much difference as the process was the same! So the template was present but not of a concern. But lack of involvement and engaged meant that GM members participation started to dwindle early on in the process.
			Yes	**Library & Information Science** – No real evidence of mimetic isomorphism in terms of 'levels of participation' only the fact that having been responsible for previous strategies – not such high profile ones – meant that there was an element of wanting to be seen to be successful and this created the nature level of participation
			No	**I.T / I.S**.- Given that the strategy was seen as IT dependent there was an element of 'turning up' to show support and that IT were willing members of the strategy process but again this could be seen as just being there in body as a representative.
		Coercive	**Yes**	**General Management** – the chair of the committee was concerned that there was apathy towards the strategy formulation process, seen in the levels of attendance and participation form other members. This then created an internal coercive template where individuals were encouraged to participate – unfortunately this was not successful for a number of reasons – individual and divisional autonomy, priority of responsibilities.
			Yes	**Library & Information Science** – In reality there was a high level of participation as the 'tasked member ' was from this discipline and being the only representative meant that they played a pivotal role – as without them, as in ISC meeting May 2003, the committee could not go ahead, such was the reliance on their role in the formulation process.
			Yes	**I.T. / I.S.** – As with LIS the other 'tasked member' was from IT services this then created a level of participation in an attempt to get things done – but only on their terms i.e. the focus was on technology – there was support from other technologically based members but this was only a support and did not necessarily increase participation from others.
		Normative	**No**	**General Management** – Again from a GM perspective this template was not necessarily evident, only in the fact at senior management level there is a need to be seen to be involved with strategic decisions that are being made and that representatives from non-academic areas need to participate in strategy development.
			Yes	**Library & Information Science** – there was an expectation from their professional body that the Library and their discipline would be at the forefront of information strategy development. So there was a strong involvement and belief that this was part of their role.
				I.T. / I.S. – Yes the fact that the strategy title was also part of their divisional and role title an expectation from their discipline would be to be involved in this specific strategy formulation to guide the technological discussion

Appendix 21: Analysis using isomorphic templates with emergent themes – cont.

Theme	Description	Mimetic, Coercive and Normative Discussion		
6	**The need for an information strategy**	**Mimetic**	**Yes**	**General Management** – The fact that the new VC had had an information strategy as his previous institution meant that there was an element of copying what another institution had done - but in terms of the needs of Stapleford University. There was no discussion as to what this previous strategy 'looked like' only that it existed.
			Yes	**Library & Information Science** – only in so far that other institutions, as part of the JISC pilot scheme, were also going through a similar process – so the fact that others were trying to formulate an information strategy created that element of copying outside activities.
			Yes	**I.T / I.S**. – there was an aspect of creating an information technology by another name – an information strategy as for all intents and purposes they were doing what they had always done and in doing this they were also managing the resource known as information.
		Coercive	**Yes**	**General Management** – senior level management were extremely focussed on having an information strategy so there was a high level of internal coercion from executive management – this was seen a one of the new strategies and on that would 'make a difference'!
			Yes	**Library & Information Science** – the role of information being seen as an important strategic resource meant that there was an internal coercion to formulate an information strategy – the need was acknowledged and the Library were part of that process
			No	**I.T. / I.S.** – present but not shown , they were seen as part of the process and were there to provide technical support and advice – so internal coercion
		Normative	**No**	**General Management** – only in so far as the information strategy was becoming, at the time of the case study, an important strategy that was on the agenda of many institutions both public and private – present but not shown
			No	**Library & Information Science** – again there was an acknowledgement of the importance of the information strategy and recognition that it was part and parcel of their remit but there was no authoritative need to have one. There was however, a need to promote information literacy and the skill set that custodians of information held, linking these with information policies and information strategy seemed a natural relationship
			No	**I.T. / I.S.** – again an element of doing what had been done previously – so present but not of a concern

Appendix 21: Analysis using isomorphic templates with emergent themes – cont.

Theme	Description	Mimetic, Coercive and Normative Discussion		
7	**Hierarchy and order**	**Mimetic**	**Yes**	**General Management** – There was an element of where did the information strategy fit within the 'bundle' of strategies that the organisation had, was it a part of them, was it a subset, was it an overarching strategy, did it support them, - did it come before or after other strategies, were all questions that GM were unsure of and therefore wanted to copy what others were doing.-
			No	**Library & Information Science** – guidance from outside bodies was not necessarily forthcoming and /or informative. There was no understanding of where the information strategy would be located and or in what order it should be written – did cross over other strategies as all strategies had elements of information within them. Therefore, was it a strategy in its own right or a part of other strategies? Present but not shown
			No	**I.T / I.S**.- the fact that information strategies that were present were in fact information technology strategies or information systems strategies meant that there was an element of following on from previous work or activities, nothing was really changing from an IT perspective.
		Coercive	**Yes**	**General Management** – what was delivered to the ISC was based on a historical information strategy and an outside consultant's presentation. This meant that whatever transpired throughout the process was inadvertently influenced by these activities. This can be seen through the different pictorial representations the ISC have produced.
			Yes	**Library & Information Science** – there was an influence from both the literature and the outside consultant's interpretation of what an information strategy should look like. The need to present a strategy to the ISC meant that an element of coercive isomorphism was apparent as the outside consultant influenced and directed how the information strategy was development in the early stages of the formulation process.
			No	**I.T. / I.S.** – Although there was guidance given the evident historical approach to managing information based on a technology focused approach indicates the template was present but not of a concern to the discipline
		Normative	**No**	**General Management** - no real acknowledgement of this template being present in terms of hierarchy and order GM were concerned with having the strategy as a mechanism to undertake their roles and responsibilities and the need to meet outside requirements
			No	**Library & Information Science** – only that the strategy was often located within the realms of LIS but the notion of hierarchy seemed to be a strategic decision that they were not part of.
			No	**I.T. / I.S.** – no real concern for it in terms of order as they envisaged that the strategy would encompass other strategies, be part of other strategies and would ultimately 'fit' into the general strategy process

Appendix 21: Analysis using isomorphic templates with emergent themes – cont.

Theme	Description	Mimetic, Coercive and Normative Discussion		
8	**Ownership and responsibility**	**Mimetic**	**Yes**	**General Management** - Except that there was an element of various members promoting their own interest, wanting to have control of the 'system', wanting to manage and have responsibility for the information contained within the system and wanting to own the strategy as it meant that their position within the organisation was ensured and promoted. The realisation that 'information' was seen as power and this was apparent across institutions. There was a feeling that 'time was of the essence' and Stapleford did not have an information strategy.
			No	**Library & Information Science** – there was an acknowledgement that responsibility lay with information specialists but other ISC members also felt a level of ownership and responsibility not for formulating the strategy but for owning the end product as such there was a recognition of the template in what others had done but nothing was forthcoming
			No	**I.T / I.S**. - there was responsibility through the involvement in the process but no real evidence of its presence.
		Coercive	**Yes**	**General Management** – wanted to hold control of this strategy as their argument involved responsibility to outside government bodies, therefore this was too big a responsibility to be given to those who did not hold that outside involvement and legal requirement to report to government bodies. Internal coercive approach to ownership and responsibility
			No	**Library & Information Science** – the committee as a whole placed responsibility upon specific individuals in an attempt to remove 'blame' if anything didn't come to fruition. So an element of coercion was present but not acknowledged
			No	**I.T. / I.S.** – a level of responsibility was evident but no evidence of it was identified
		Normative	**Yes**	**General Management** – 'information is power' so maintaining control over this strategy that would manage information was seen as an important management process and not one that GM were likely to relinquish to either LIS or IT. Recognition of this template and relevance through legal requirements. issues of custom and practise and historical roles within the institution
			No	**Library & Information Science** – evidence was present to indicate that lots of individuals and divisions wanted control of this strategy – LIS were no different - template present but not shown
			No	**I.T. / I.S.** – no real evidence, apart form the need to protect fiefdoms and maintain their role within the formulation process.

Appendix 21: Analysis using isomorphic templates with emergent themes – cont.

Theme	Description	Mimetic, Coercive and Normative Discussion		
9	**Conflict within the committee**	**Mimetic**	**No**	**General Management** – custom and practise within the ISC indicated how the formulation process should proceed, this did not change so there was the presence of the template but it was not seen as a concern
			No	**Library & Information Science** – The use of the outside consultant and the alliance built between LIS & IT was the mechanism to show what needed to be done. Again the template was present but not a concern
			No	**I.T / I.S**.- As stated above that relationship with LIS maintained an element of copying what was out there, even it was limited, and this provided the impetus to deal with conflicts that were arising.
		Coercive	**Yes**	**General Management** – There were internal coercive pressures which revolved around members wanting to ensure that they would not be marginalised by the information strategy in terms of ownership and management - so 'self-preservation' was a strong focus that instigated the conflict.
			Yes	**Library & Information Science** – used the template to legitimise what the strategy should look like. Based upon current thinking and historical documents and the fact that changes were occurring within the Library in relation to access to information, electronic databases etc. – all meant that their interpretation of an information strategy needed to reflect what they were doing and how they wanted to move forward.
			Yes	**I.T. / I.S.** – again an internal coercive template was present as IT required the information strategy to reflect elements that they could manage, as they certainly felt that they would end up being responsible for it. So ensuring that their view prevailed was important and fuelled the conflict within the ISC
		Normative	**Yes**	**General Management** – there was a strong affinity with professional bodies and when in difficulty there was often a need to revert to what their governing would disseminate; this maintained a level of professionalism and correctness for actions taken or proposed – even that was a lack of engagement in the committee.
			Yes	**Library & Information Science** – Lots of the literature relating to information strategy came from this discipline so there was justification for LIS to use this to manage conflict within the committee.
			Yes	**I.T. / I.S.** – As with LIS there was some understanding from historical activity that IT had a justified approach. What they did in reality was to marginalise other committee members as the focus on technological issues removed discussion and/or involvement from other members in so much as they focussed upon their own areas and responsibilities therefore leaving the information strategy to certain members.

Appendix 21: Analysis using isomorphic templates with emergent themes – cont.

Theme	Description	Mimetic, Coercive and Normative Discussion		
10	**Issues of membership**	**Mimetic**	**Yes**	**General Management** - as they identified as being part of a number of strategies within the organisation, this approach and involvement was something that was copied from previous activity – an element of internal mimetic isomorphism - that element of traditional involvement and representation on other strategy bodies continued with the information strategy.
			Yes	**Library & Information Science** – There was not really a choice as they were seen as the foundation of formulating an information strategy – other information strategy processes at other organisations had LIS at the heart of the process and this was no different at Stapleford University so that element of copying was present.
			Yes	**I.T / I.S**. - The IT Services was again an important part of the process and held responsibility for the strategy. As the strategy was technologically focussed elsewhere there was a need for IT to be part of the process. However, other members of the committee who were also aligned with IT but not necessarily IT Services felt a lack of affinity with the committee and the process.
		Coercive	**Yes**	**General Management** – there was recognition that all areas of the university were to be involved in formulating the information strategy - this recognition came from a more senior area of the institution and so there was an internal coercive pressure to be involved.
			No	**Library & Information Science** – the actual 'tasked member' of the ISC was seen to have internal coercive pressures in terms of their involvement but they were the only representative from LIS that was involved in the strategy process – so in general this was present but not identified
			No	**I.T. / I.S.** – as above there was an element of internal coerciveness for the Director of IT Services to be involvement and participate but as for the main body of the IT department , this was not necessarily apparent
		Normative	**Yes**	**General Management** – As identified under the mimetic template above the individuals felt a need to be part of this strategy in terms of ensuring however it was implemented would not impinge on how they managed their areas of responsibility and undertook their work. Ensuring they would not lose any access, or level of responsibility in relation to information that they required. This was then viewed from their professional status that they needed to be involved in such an important strategy that would affect the whole institution.
			Yes	**Library & Information Science** – their discipline and professional status was heavily motivated in terms of information strategies, along with LIS formulated bodies also promoting information strategies this was a foregone conclusion that they would be a part of the process. Again the Director of Library and Learning Resources was the only representative, there were other LIS members but not on the ISC committee.
			Yes	**I.T. / I.S.** – tasked member was influenced by the normative template but other IT specialists didn't identify any reasoning as to why they were involvement and often felt 'surplus to requirements'

Appendix 21: Analysis using isomorphic templates with emergent themes – cont.

Theme	Description	Mimetic, Coercive and Normative Discussion		
11	**Product or Process view of information strategy**	**Mimetic**	**No**	**General Management** – there was no clear guidance as to how this should be interpreted and the majority of members had not recognised or thought about information or an information strategy in this way. Although one member (*interviewee **B**)* did highlight the need to view information from different perspectives.
			Yes	**Library & Information Science** – Historical accounts related information as a resource and this was concept was carried into the formulation process within Stapleford University.
			Yes	**I.T / I.S**.- Yes, this was evident in their approach to viewing the management of information would naturally occur through the evolution of information technology – so information and its management was seen as a by-product of technological development.
		Coercive	**No**	**General Management** – no identification of this being present within the members belonging to this discipline – what was identified was the strategic approach to strategy formulation that highlighted a top down approach
			Yes	**Library & Information Science** – there was identification of views outwith the university that viewed information as a product, that it was about custodian ship of information and about promoting their skills in information management, location and storage – information literacy, so there was outside influence from their professional alignments that viewed information and information strategy in a strong resource based view.
			No	**I.T. / I.S.** – The members had not really viewed information in this way but acknowledged that they saw the management of information through the role that technology played within the organisation. – present but not of a concern
		Normative	**No**	**General Management** – no real identification of this template being present within the committee in relation to viewing information or information strategy from these perspectives.
			No	**Library & Information Science** – Although recognised there was not a view of product or process per se
			No	**I.T. / I.S.** – Again no specific view of this was evident from the committee members from this discipline.

Appendix 22: Research Questions used within the Interview Process

Below are the guiding questions used in an attempt to engage committee members in both the notion of information and their interpretation and use of an information strategy.

1. Could you explain your role within the information steering committee and why you think you were asked to be part of that committee?

2. How would you describe data, information and knowledge? Why do you think they are so important to a higher education institution?

3. How would you describe an information strategy? What is its purpose and where does it fit into the wider strategies held by the university?

4. Do you identify a relationship between information and an information strategy? If so what is it?

5. Do you feel there is a clear remit and that everyone within the committee is in agreement or understands that remit and their role? What do you think the committee is trying to achieve by formulating an information strategy?

6. Given you have identified where the information strategy 'sits' do you see it as coming prior to other strategies or after? Why? Who holds the responsibility for formulating the strategy and who will take ownership of that strategy and why?

7. How will you know when the strategy is completed or is it a rolling continuous strategy that continues to evolve? Therefore ownership and responsibility become important issues; out are the outcomes and how will it be measured?

8. Is the information strategy seen as a means to an end or as a final product? Leads on from the previous question. Identifying whether or not the information strategy seen or viewed as a process or as a product.

9. How do you envisage the information strategy evolving? When will it be completed?

10. Why do you feel the strategy process has not necessarily moved forward as quickly as first intended?

11. Looking at previous attempts at information strategy formulation how do you see or identify the changes to the present process occurring?

Appendix 23: A selection of minutes of meetings

[redacted]

INFORMATION COMMITTEE

Minutes of the meeting of the Information Committee held on Friday 11 October 2002

Present: [redacted]

Apologies:

Secretary:

In attendance [redacted]

02.01 **Terms of reference**

The committee reviewed its terms of reference. The amendments suggested were added directly to the Powerpoint slides being used to present the terms of reference.

Resolved: that the amendments suggested by the committee to its terms of reference be communicated to the Vice chancellor and University Secretary.

02.02 **Key issues for the Information Strategy**

The committee noted that, although the university does have an Information Strategy, it is obsolescent and not properly deployed. A new Information Strategy should be developed that should take into account the latest thinking in this area. The university should look at other institutions which have good information strategies or who use information well. However, it was felt that this search for best practice should not be restricted to HE institutions but should cover comparable organisations in the public and private sectors.

The committee discussed how an Information Strategy should be developed. The use of an outside consultant was discussed but there was a strong feeling that internal expertise should be used wherever possible. It was agreed that there was a need to set up a working group to address the issues in detail and members were asked by the Chair to consider who should be on this group.

Resolved: that a working group should be established to develop the Information Strategy and related issues.

02.03 **Any other business**

There was no other business.

[redacted]

INFORMATION COMMITTEE

Minutes from the Information Committee held on Friday 31 January 2003.

Present: [redacted]

Apologies: [redacted]

Secretary: [redacted]

Invited: [redacted] of [redacted]

Action

02.04 Minutes of the meeting of 11 October 2002

The minutes were agreed.

02.05 Matters arising from the Minutes

Arising from minute 02.02, [redacted] reported that she was convening the Information Strategy working group. [redacted]

02.06 A presentation by [redacted] of [redacted]

[redacted] gave a presentation on Developing Information & Information Technology Strategies. Both Powerpoint presentation and notes were tabled and are now available in the Committee's Public Folder.

02.07 A presentation by [redacted] on the OSS Project

(i) [redacted] gave a presentation on the OSS Project Implementation. Electronic copy of it is now available in the Committee's Public Folder.

It covered the original objectives, updated on the changes to the implementation team, recent progress of the project and future milestones.

(ii) During the discussion following both presentations the following issues were raised:

- Data cleansing and duplicate records
- Courses' set up changing to programme with routes, rather that separate programmes
- Extra IT support needed during the implementation stage
- Staged implementation rather than 'big bang' approach
- Possibility of implementing Oracle payroll system
- Decision on underlying schools' structure is needed
- **Agreed:** that CPD will prepare proposals in February to be discussed with the Deans at a later stage
- The range of reports generated by the system and implications for data definitions should be co-ordinated between MISDU, Registrars and CPD

- SMT confirmed full commitment to the implementation of this stage and further development of the system to include additional interfaces
- **Agreed:** that Schools' Management Groups need to be kept updated on the implementation issues of the OSS
- Ownership of student records and possibilities of updating them through a number of interfaces i.e. Tallis, Smart Card System.
- Self enrolment module was considered for the next year's development

Other Relevant Business

There was no other business.

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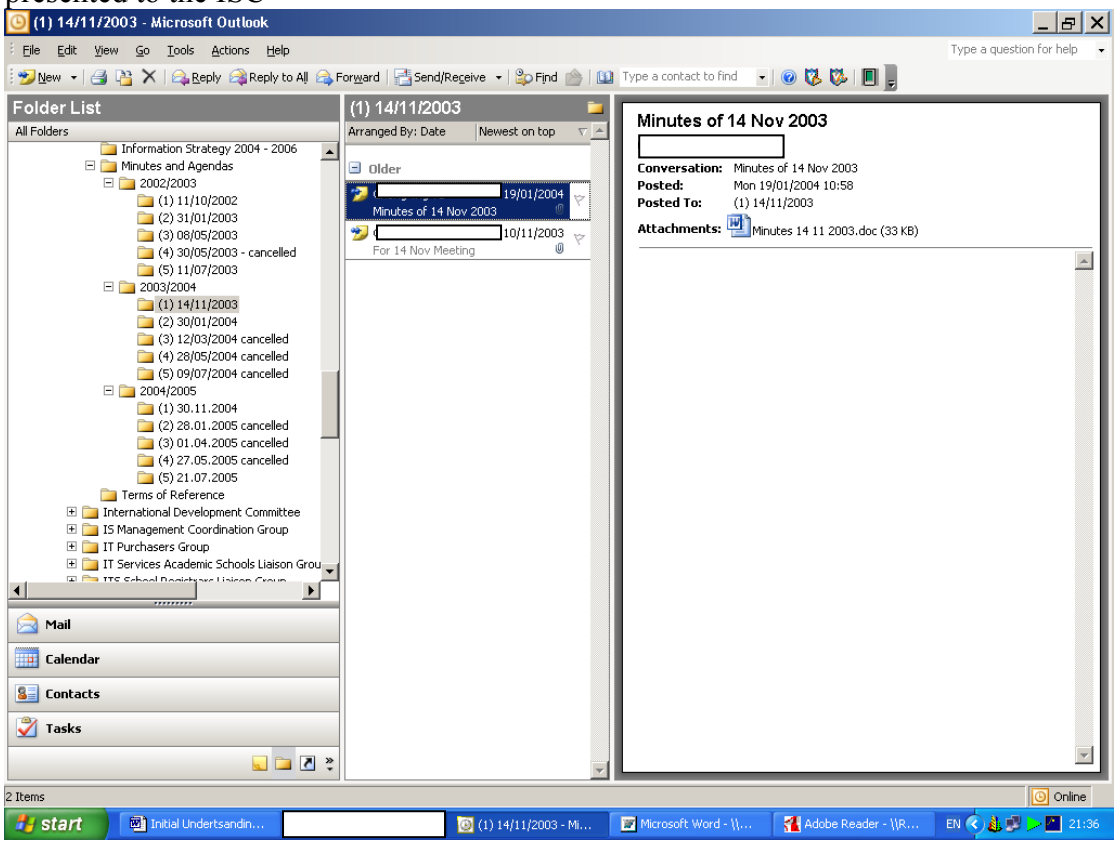
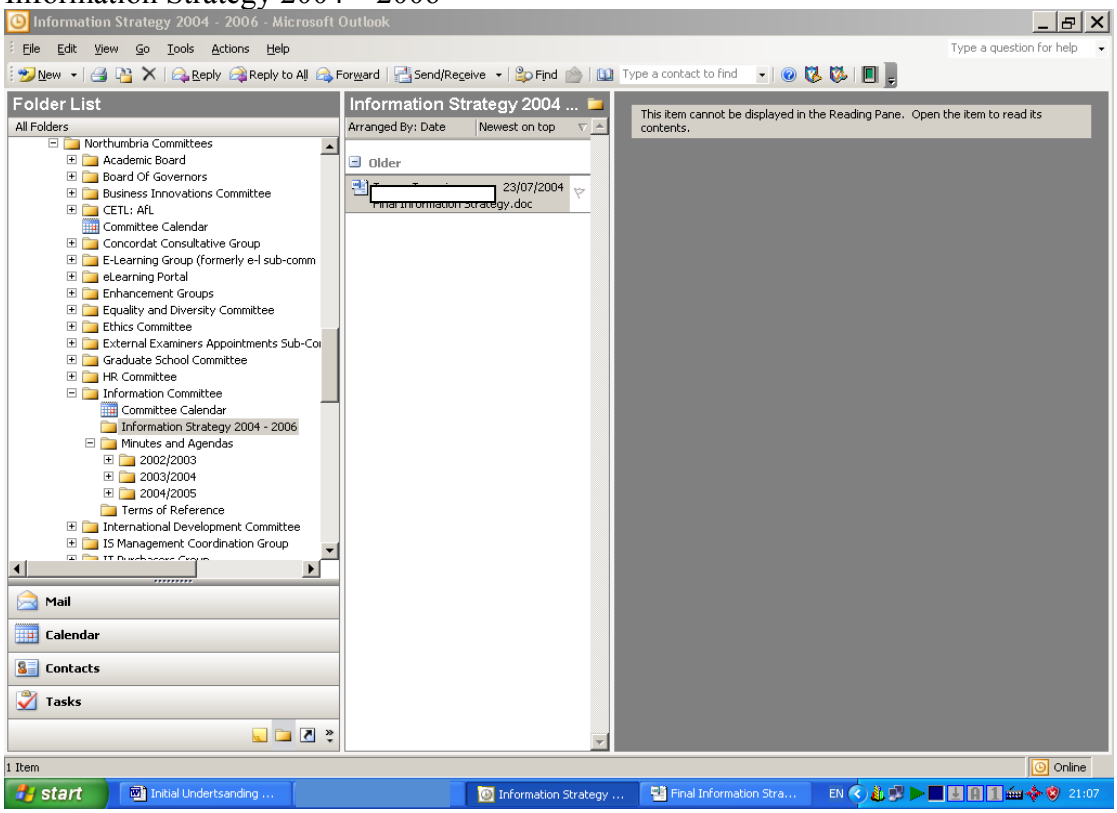
The presentation was the terms of reference presentation found at the end of the public folder list for the information steering committee.

This is important as it includes a discussion of the actual information strategy that was presented to the ISC



This document was contained within a separate folder within the information steering committees public folder. Submitted 23rd July 2004

Information Strategy 2004 – 2006



Appendix 24: The Alignment of disciplines, information and technology