Processual Perspectives of IST Strategic Initiative Development and Implementation

Paul Robinson
Lancaster University

David Brown
Lancaster University

Follow this and additional works at: http://aisel.aisnet.org/amcis2004

Recommended Citation
http://aisel.aisnet.org/amcis2004/464

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2004 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.
Processual Perspectives of IST Strategic Initiative Development and Implementation

Paul J Robinson
The Management School
Lancaster University
paul.robinson@charteris.com

David H Brown
The Management School
Lancaster University
d.brown@lancaster.ac.uk

ABSTRACT
The development and implementation of IST strategic initiatives is of paramount importance for organisations as it enables the integration of IST and business processes. However, many organisations still struggle with the development and implementation of IST strategic initiatives which can lead to large over-runs in budget & time and a technology platform not supporting the business strategy. The research presented within this paper utilises established processual models of strategic change to map and investigate the strategic development and implementation of two IST strategic initiatives over an eighteen-month period. The results of this research – which are part of a wider three year research program – illustrate that the complexities of inter-dependent levels of activity, evolutionary characteristics and various levels of appreciation all affect the ability to development and implement IST strategies.

Keywords
Processual Perspective, Strategic Initiatives, IST Strategy, Development and Implementation.

INTRODUCTION
Information Systems and Technology (IST) strategies are critical to an organisations strategic development, as they provide the template for integrating Information Technology (IT) into business processes through IST strategic initiatives and projects. The adoption and exploitation of Information Technology (IT) has been an accelerating feature in organisations for over 40 years and although the technologies have advanced and matured, strategists and senior management still face many problems with the successful implementation of IT at both the strategic and operational levels. Since the advent of IT, academics and practitioners have wrestled with both the technical and organisational issues involved in a successful strategic implementation. Although the adoption of IT into organisations can bring with it many opportunities, it can also lead to major problems and issues if not developed and implemented correctly. For many organisations the failure to successfully implement their IST strategy can have major implications for them as investments into IT are generally of a strategic nature and involve large sums of money (Easterby-Smith, 1996). If this investment is not deployed around the organisation in an effective and coherent manner, the effects can be catastrophic. The list of UK organisations that have experienced major IST strategic failures is a long one, including The Stock Exchange, The Ambulance Service, The Passport Office and the Aviation Authority. For these organisations, the failures of their IST strategy not only cost the organisation large sums of money but also actually restricted the organisations ability to perform in the future. Although insightful contributions have been made to the IST strategy domain by authors such as Galliers (1991, 1999), Galliers and Baets (1998), Earl (1993) and Doherty et al (1999) there is still much to discover about IST strategy development and implementation.

The research presented within this paper is part of a three-year research program being conducted at Lancaster University by the two authors with seven collaborating case organisations. Stage one of this research (2000-2001) was a pilot study that tested some of the key issues within IST strategy development and implementation. Stage two (2001-2002) focused on a selection of key areas identified in stage one. Results of both stage one and two, illustrate that IST strategic development and implementation is a complex, iterative process to undertake and incorporates a degree of uncertainty created by new technologies for the organisations involved (Brown and Robinson, 2001a; and Brown and Robinson, 2001b; Robinson and Brown 2002a; Robinson and Brown 2002b; Robinson and Brown 2003). The research presented in this paper forms part of the final phase of this research program and focuses on a detailed account of one of the case organisation’s attempt at developing and implementing two IST strategic initiatives over a 18-month period. The structure of the paper is as follows. Firstly, the research will be placed in context. Following this, a brief insight into the intellectual framework will be discussed. This will then lead onto the case analysis and the final conclusions, which will summarise the paper.
CONTEXT

As IT becomes more deeply embedded into business models and processes, its role becomes more crucial to an organisation's success. For IT executives and strategists, this increased dependence on IT within both the existing business processes and the new IT dependent business models, such as e-business, creates a complex situation where there is a need to sustain existing systems but also to develop new IST approaches. The complexities faced by organisations are therefore formidable and ever changing. Failures due to technology, flawed systems development, poor choice of application or combinations of these can have major implications for organisations:

“Chemicals giant ICI saw nearly 40% wiped off its share value last week because of business process problems arising from a new IT implementation ICI pays price for side-effects of IT project”

Computer Weekly (8th April 2003)

“A £2.3 billion plan for the NHS Computer System has been branded a farce”

Computer Weekly (3rd June 2003)

As IT becomes increasingly integrated into business processes, the evaluation of both business and IST strategic initiatives needs to reflect the technical and organisational issues involved. For this reason, these issues can longer be delineated and treated as technical issues subservient to the business needs but must be viewed as a complex area of concern. The problem is exacerbated even further by the fact that IT, and the means by which it can be made available to organisations, are subject to continuous and sometimes rapid change. This change may or may not prove to be significant to any given situation but it cannot be ignored and requires investigation.

INTELLECTUAL FRAMEWORK

Undoubtedly, strategies walk on two feet – one deliberate and one emergent (Mintzberg, 1987). The deliberate foot can be classified as the strategic intent of the strategy. The emergent foot is then the aspect of change and adaptation required by the organisation as they attempt to move towards their strategic intent as the strategy unfolds. However, as noted by Webb & Pettigrew (1999), there is a tendency in the strategic literature to focus on strategy typologies which only depict strategy in static terms. Strategic research therefore tends to be ahistorical, aprocessual and acontextual (Pettigrew, Ferlie & Mckee, 1992 and Pettigrew & Whipp, 1991). Ideally, strategic development is best made sense of when it is observed longitudinally. The resulting strategic formulation and re-formulation can usefully be viewed from three inter-related dimensions – process, content and context (Pettigrew, 1988) – as illustrated in figure 1.

This processual view of strategic change enables the researcher to examine IST strategy as an unfolding organisational process driven by individuals and groups. In the processual view, strategy process is defined as how strategies come about, including decisions and actions taken by the actors involved. Strategy content is then defined as the objectives/outcome of the strategy. Finally, strategy context is defined as the set of circumstances that influence process and content. Within each of these dimensions, there exists various key aspects which help reveal the unfolding strategic activity – as illustrated in table 1.
The processual perspective offers an alternative view of strategic activity whereby a more subjective, interpretative stance is acquired. Additionally, Vickers appreciative model is one model that can help structure insights into some of the more subjective aspects of IST strategy activity, and complement the processual view of strategic development. In Vickers work (1968 and 1963), the foundation of the appreciative system is that actors are continually appreciating reality and making judgements about that reality as time develops. This appreciation can be characterised as two strands of rope, which represents the interacting flux of events and ideas within an organisation. Essentially, the appreciative system stays the same, but the content and contexts that surround the appreciative system will change. As the flux of events unfold, the decisions, actions and ideas, which unfold, will impact on and change the flux of events. This process unfolds continuously and both ‘strands’ affect each other. This cyclical process of events driven by individuals will affect their own actions, decisions and ideas, and also those of other individuals.

Table 1 – Example Areas of a Processual Perspective of IST Strategic Activity

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Possible Aspects</th>
</tr>
</thead>
</table>
| Content   | The strategies central objectives.  
The dominating frames of thought.  
The source of the strategy.  
The extent to which the strategy anticipates the means of implementation. |
| Process   | The main decisions, timings and action taking of individuals.  
The rich interplay of individuals, communication and information.  
The standards, judgements and levels of activity. |
| Context   | IST stages of evolution.  
Influence of business and IST impacts.  
General and sector specific IST and business implications.  
Organisational/IST situation, structures, practices and past decisions. |

At its core the strategy process consists of decisions and actions – an understanding of which is crucial as strategic change unfolds (Chakravarthy and White, 2002). The management of strategic change is a complex process, incorporating technology, organisational and human issues – as illustrated in the previous section. Prior to strategic reorientation occurring, organisations will be in what Doz and Prahalad (1988), call the incubation stage. This is where the current strategy has become stable and is an intellectual construct (their frame of thought) – it is the explicit model of what to do, how to mobilize the organisation and commit resources. This frame of thought must be changed to ensure strategic reorientation can start. In order to change the existing frame of thought, it must be challenged by new visions and ideas. In fact, ‘political’ behaviour is a key aspect of achieving this as the actors’ involved attempt to gain support for their ideas and influence others.

Doz and Prahalad (1988) also argued that during strategic development – not necessarily strategy implementation – those managers will continually seek legitimisation for their new ideas and visions. Again, to achieve this, pressure has to be generated and support sought for the idea/vision. Ultimately, this will lead to reallocating power through complex social processes which may be unfolding during strategy development. Instead of adopting the use of the formal recognised procedures and structures, actors could in fact use social and political manoeuvring to achieve their goals. This may not necessarily occur linearly but can be simultaneous. For this reason people, their relationships and roles affect the strategy process. More importantly, each persons background, leadership style, views of IST, significance of IST and congruence of views will impact on the strategy process (Feeny, Edwards and Simpson, 1992).

As the strategy process unfolds, change may not necessarily be incremental and there will be periods of stability (at various levels), which can occur prior to any action being taken. In fact:

“A critical proposition within our research is that the formulation and implementation of strategy is a continuous and iterative process”

Whipp, Rosenfield and Pettigrew (1988, p. 20)
In the appreciative system value and reality judgements are inter-related and define each other as the world of events and ideas interact as a continuous cyclical process of purposeful human activity (Checkland and Caesar, 1986). The source of standards is the previous history of the system itself. As individuals appreciate the flux of events and ideas, the standards can and do change. Not only will the strategists be exposed to and in turn influence their appreciative setting but this process will occur at the lower levels of the organisation as well. In fact, as Lewis (1991) argues, organisations adapt to change through making judgements about reality. Actors establish facts about their situation; they will allocate meaning to those facts and make a comparison of the results. If required, the actors will take action based on these results. In this sense, the appreciative system:

“…may guide decision makers to recognise particular aspects of a situation as relevant and to a particular view of what data is needed and how the decision should be made”

Lewis (1991, p. 39)

As Vickers (1968) argues, most problems, which humans try to solve, are set by their own appreciative judgements and cannot be guessed without making assumptions about how reality judgements are formed. The basis of this view is grounded in the recognition of the key influences on decision-making of past events and ideas. But also, with the influence of present decision-making on future decisions and also on the social processes which comprise the world of events and ideas. Reality and value judgements inter-relate during the process of appreciation. Each one serves as a basis for the other. Their interaction is influenced by the appreciative settings, which dictates the current state of readiness to see and value things one-way rather than another. The appreciative setting comprises the observed, the communicated and the experienced world, on one hand, and the degree of freedom on the other. Reality judgments refer to facts. They are easier to prove but depend on their relevance to a value judgement. Value judgements refer to norms. They can only be approved or condemned by other value judgements. They consist of ideal norms, standards, commitments and enjoyments.

Within the second component of the regulative cycle, the instrumental judgements are supposed to be demonstrable after the event. They involve commitment of resources such as time and capabilities. The appreciative system – combined with the processual model - illustrates a more realistic perspective of decision-making and action taking within organisations – one that does not depend on the classical model based on the economic man (Lewis, 1991). Although this perspective clearly represents a more social view of organisational life, one cannot simply neglect the more objective and rational aspects of organisational change. It is the recognition of both the objective, rational and the more subjective, social perspectives which should provide a more realistic view of IST strategic initiative development and implementation.

CASE ORGANISATION

Company X is a global insurance business. The company is over 50 years old, employs over 40,000 people around the globe and has a turnover of approximately £2.5 billion. The business is structured divisionally with each of the main business divisions being supported by a corporate structure, incorporating centralised support areas such as Human Resources and Information Systems. In order to provide global IST services to all business divisions the IS department is segregated into the key IST services ranging from project management through to systems development and architecture management. All business divisions are allocated a dedicated IS Account Manager who provides the integration between the IS department and the business divisions.

Throughout the year the IST and business strategies are implemented within the organisation through the development and implementation of new IST strategic initiatives. During the time spent within the organisation, two major strategic initiatives were observed. The first is a new insurance administration system. Following rapid business growth over the preceding years, the existing insurance application system was starting to show signs of weakness. For a number of months, the senior management within this division had been receiving information from various sources about major problems with the existing system. A decision to replace the existing system was taken by the Managing Director of the business division and was outside the annual formal IST strategic review. The initial concern towards the problems were fairly operationally based and focused on the lack of functionality of the legacy systems. However, as the ideas developed, two major issues became the focal point:

- In order to ensure future growth of the business division, a standardised application portfolio would be required.
- In order to meet future business needs, the new system would require extensive flexibility.
Once the decision to proceed was taken (by the Managing Director of the business division), the initiative was then integrated into the overall IST strategy. Due to the requirements of this system, the integration into the strategy meant a major IST reorientation was required for this business division as this initiative became a major stream of IST activity – approximately £10 million.

At the commencement of the initiative, the solution was only being discussed in conceptual terms. Although the intent was known, the ability and mechanisms needed to deliver this intent were extremely vague. As the initiative developed, major issues of lack of certainty and scope became apparent. Throughout the initiatives development, major phases of work required redefining and recommencing as they had gone seriously out of scope and budget. As these phases of reorientation occurred it became apparent that the initiative was too focused towards the high-level conceptual aspects and not the more explicit systems development issues required to deliver the initiatives intent. This led to a major reorientation of the initiative. To date, the core systems have been implemented creating the standardised application platform but the business flexibility has not been delivered. This business intent is now being developed through a new extended phase of the initiative.

Initiative two – named DDA - aims to replace a series of manual business processes used to authorise and initiate direct debit mandates, by integrating Company X’s system with the UK’s central banking clearance house. Again, this initiative seems an operational issue. However, the new system would have a major strategic impact on the organisation as this form of payment generates at least 80% of this business division’s income and it is therefore crucial for an effective and efficient process. This was a major initiative for the business division which had a strong business case from the start as it would not only create a more efficient business operation but also ensure income is captured at source.

The main phase of this initiative generation coincided with the annual formal IST strategic review but was again developed outside the formal decision making processes. The issues/problems associated with the existing manual system had been apparent for many months. However, for the majority of this time the focus was on a simple improvement of operational needs. It soon became apparent that the potential savings and strategic value from implementing an automated system would be immense. The initial costs were expected at £500,000 with an expected return on investment within 18 months.

For the business division concerned this was a major undertaking for them and resources were allocated and systems development work commenced immediately. Even though the initiative scoping was unfolding, the main focus from the business senior management was just to implement the solution as quick as possible. This attitude placed pressure on the development team and throughout the development phase the focus from the business was not the operational requirements of delivering the system but just on the desired business state. This meant that as the initiative developed, it took a considerable amount of time and resources to refine the actual system and deliver the intent required. This meant that the initiative under went a series of reorientations in order to deliver a solution that would enable the business value to be delivered. Since its conception, the costs of this initiative have doubled. However, following implementation the desired business intent has been delivered by the initiative and the expected ROI is now approximately three years.

KEY OBSERVATIONS AND DISCUSSION

Tables 2 and 3 present key processual observations from both initiatives at Company X.

The new Core Administration System was driven by the rapid business growth of the organisation and continued assimilation of competitors by Company X. Existing systems were fairly dated and required replacing. As the initiative developed the main influences tended to be more situational and organisational as the management of the initiative unfolded. For the DDA initiative rapid business growth had led to the recognition of the need for this solution. Additional to this, internal efficiency requirements were also a major key influence for the conception of the initiative. Throughout the systems development phases the main contextual factors tended to be organisationally based – such as initiative structures, teams and leadership.

Both initiatives had a strong strategic impetus in the early stages. For the DDA initiative this was driven by the Finance Manager and an IST Account Manager. For the Core Administration System, the Managing Director was the main driver of the initiative. In both initiatives the early strategic objectives were only focused on the desired situation with little insight into the solutions required to obtain this position. As the initiatives developed this vagueness of objectives became apparent as the actors involved were experiencing difficulty in translating the objectives into systems development capabilities. For the DDA initiative the constant changing of key personnel meant that the initiative lacked direction and laboured considerably.
The appreciation of existing inefficiencies in the internal manual processes and the increased business growth, led to the DDA initiative. Key senior managers brought together the various information about the issues being highlighted and consolidated it into a potential idea. At this stage the information was fairly conceptual in nature and resources were spent on...

---

Table 2. Processual Observations in the DDA Initiative

<table>
<thead>
<tr>
<th>Phase</th>
<th>Contextual</th>
<th>Content</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Initiative Development</td>
<td>Main considerations: gaining capital approval, resource availability, initiative structures &amp; schedules, team structures, business impact and leadership.</td>
<td>Implementation issues now becoming apparent as difficulty in the early stages to translate objectives into systems development capabilities. No real dominant direction with continuous change in direction.</td>
<td>Various decisions made throughout the initiative to adjust direction caused by a variety of problems in developing the system capabilities due to poor development of technical issues. Business pressure meant the development of scoping information could not occur, leading to poor development of requirements specification information.</td>
</tr>
<tr>
<td>Strategic Initiative Development</td>
<td>Main considerations: rapid business growth, desire to improve efficiency, capturing income at source and reducing lost business.</td>
<td>Source of the strategic initiative from the IST Account Manager and Finance Manager. The strategic objectives focused mainly on the potential solutions to be delivered from the initiative. No issues of implementation considered.</td>
<td>Decision to proceed with the initiative as part of the IST strategy taken based on information provided by the IST Account Manager and Finance Manager. Little knowledge existed about the potential solutions as the main focus was on the potential benefits to be delivered from the initiative.</td>
</tr>
</tbody>
</table>

---

Table 2. Processual Observations in the Insurance Administration Initiative

<table>
<thead>
<tr>
<th>Phase</th>
<th>Contextual</th>
<th>Content</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Initiative Development</td>
<td>Considerations: rapid international business growth, assimilation of competitors, dated systems, application standardisation and organisational integration required.</td>
<td>Source of the strategy from Managing Director. Development of the idea did not consider implementation issues. Dominating frame of thought on the desired solution.</td>
<td>Identification of initiative and strategic agenda setting unfolded in one phase, based on judgements of the Managing Director. The initiative was identified and incorporated into the business strategy quickly in response to rapid business growth. Initially all judgements and information focused towards business issues only.</td>
</tr>
<tr>
<td>Strategic Initiative Implementation</td>
<td>Main considerations: location &amp; management of external resources, understanding the technology, resource availability, initiative structures &amp; schedules, team structures, business impact and leadership and organisational integration.</td>
<td>Implementation driven by strategic objectives but difficulty in the early stages to translate these objectives into systems development capabilities. No real dominant frame of thought throughout the initiative with implementation drastically being affected by changing objectives.</td>
<td>Extremely conceptual focus towards the initiative with little or no consideration of technical issues. Considerable amount of time spent on the functional specification with various decisions made throughout the initiative to adjust the direction of development from outsource to in-source. Little development of the functional specification. Various problems throughout the initiative in developing the system capabilities led to a major restructure in the initiative.</td>
</tr>
</tbody>
</table>
trying to develop the ideas prior to seeking formal approval from the board. The main sources of information came from the two key actors who controlled the initiative in the early stages. As the initial analysis work unfolded the influx of new information and the development of the existing information soon highlighted the complexity of the initiative which was underestimated in the early stages. Little knowledge existed within the organisation about this type of solution so numerous value judgements were being made throughout.

For the Core Administration System a number of similar events occurred. In the initial stages, the idea was extremely unstructured and the decision to proceed was based on conceptual understanding only. Judgements being made were not supported by information relevant to the decisions taken. Lack of technical understanding and poor structuring of information concerned with the functional specifications caused various problems. These problems led to delays and issues and major reorientations occurred on a number of occasions in order to bring the initiative under control. A final decision was taken to separate the technical and business capabilities and implement them over a number of phases to reduce the complexity of the initiative.

PRACTICAL IMPLICATIONS

Although this paper only provides insights into one case organisation over an eighteen-month period, a number of initial practical implications can be drawn from this research. However, it must be noted that the research presented within this paper is part of a wider research program where in fact seven case organisations have been engaged with and therefore the results of the wider research program will now more conclusive. Therefore caution must be taken when digesting the following practical implications, as the main research program is still ongoing. However, the main implications from this paper are as follows:

- Formal strategic processes can be overridden in order to commence strategic initiatives. However, concern must be taken to ensure the initiatives concept considers and can be legitimised for both technical and business implications.
- Although the delivery of the strategic intent may evolve and change throughout time, care and consideration must be placed on ensuring that new initiatives are capable of delivering their strategic intent otherwise there is an obvious knock-on effect with the IST strategy.
- Commencing strategic initiatives based on decisions made without sufficient structure can be a risky approach to take and can invariably impact on the development of the actual initiative as it unfolds during systems development cycles.
- Ensuring both technical and business information develops in cohesion at the initiative level is crucial for not only ensuring alignment of the initiative but also to ensure the more operationally explicit systems development needs can be met.
- The focus of strategic initiatives can vary from conception through to implementation. Although the demands of the business may be fairly operationally focused, an initiative commenced to fulfill these needs may take on a more strategic focus in order to gain business/technical support and acceptance.
- Strategic objectives (either at the abstract level or within the portfolio of initiatives) must be transformed into more operationally focused systems development capabilities in order to deliver the desire intent.

As mentioned above, the implications highlighted in this paper are only based on evidence obtained from one case organisation. However, the experiences observed from Company X still illustrate an extremely complex and multi-disciplinary process unfolding which eventually leads to the implementation of the intended or adjusted strategic intent.
CONCLUSION

To conclude, it is evident from the case insights that IST strategic initiative development and implementation is still a complex task to undertake. The strategic initiatives and processes discussed in this paper illustrate a high-level of complexity and uncertainty. Establishing the IST strategic intent through formal processes is of paramount importance, as it establishes the abstract IST and business capabilities and setting the IST agenda. However, delivery of this intent is highly dependent on the organisations ability to develop and implement the portfolio of IST initiatives, which unfold throughout the year. Without a doubt, it is the portfolio of IST initiatives, which ultimately determines the ability to deliver the desired – or adapted – strategic intent. For business, the acknowledgement of this complexity is required as developing and implementing IST strategic initiatives is no longer just a technical issue but is in fact an organisational wide issue. In summary, number of key learning points can be drawn from this paper:

- Various levels of activity lead to the development and implementation of the IST strategy through IST strategic initiatives.
- The nature of how people interact and take action within the various levels and phases of activity is key to ensuring the strategic intent is delivered through the IST strategic initiatives.
- New IST initiatives can commence throughout the year and may ultimately lead to a IST strategic reorientation.
- Strategic development and implementation is not just concerned with the high-level abstract perspective of an organisation, but must be reflected at the initiative and systems development levels.

REFERENCES

8. Computer weekly - 8th April, 2003, ICI pays price for side-effects of IT project