Perceived and Realisation of Business Value as a Facilitator of E-Business Progression in Australian SMEs

Adi Prananto 1
Dr Judy McKay 1
Assoc Prof Peter Marshall 2

1 School of Information Management and Systems
Monash University
e-mail: adi.prananto@sims.monash.edu.au
e-mail: judy.mckay@sims.monash.edu.au

2 Mt Eliza Business School
University of Queensland
e-mail: pmarshal@mteliza.com.au

Abstract
As part of our study on the applicability of the Stages of Growth for e-Business (SOGe) model to chart the progression of e-business maturity in Small and Medium Enterprises (SMEs), we encountered several interesting issues that act as “triggers” and drivers that influence the rate of an organisation’s e-business progress. Most prevalent of these issues are the perceived business value of the proposed IS/IT or e-business initiative(s) as well as the result of the previous IS/IT or e-business engagement. This paper outlines the importance of perceived and realised business value of IS/IT or e-business when an organisation decides to embark on its e-business journey. Most importantly, top management of the organisation need to be convinced that the proposed e-business initiative will bring value, whether it is tangible or intangible, to the organisation. Lastly, the paper also advocating the need of benefits management as a way of ensuring the realisation of the perceived benefits or value of the e-business initiative.

Keywords
Stages of growth, benefits management, business value, e-business, IS/IT, interpretive research, multiple case studies, small medium enterprises (SMEs)

INTRODUCTION
There are numerous reports and literature highlighting the potential benefits of e-business, especially for organisations classified as Small and Medium Enterprises (SMEs) (EITIRT, 1997; AeBN, 1998; NOIE, 1998; DFAT, 1999). As an organisation enters the world of e-business, there are a range of issues to think through as well as the challenges and opportunities presented by e-business. More interestingly is how these challenges and perceived opportunities affect the progress of an organisation’s e-business.

In our endeavour to understand why SMEs progressed at a different rate when it comes to e-business, we found four prevalent issues that act as facilitators and drivers of such progression. These are the availability of resources, stewardship of e-business, external consultants and outsourcing vendors, and the perceived business value of e-business (Prananto et al., 2003a). While the issues of resource poverty, IS/IT champion and the role of external expertise have been the subject of many discussions (refer to Thong et al., 1996; Armstrong & Sambamurthy, 1999; Caldeira & Ward, 2002), there are comparatively view publications regarding SMEs’ perception of business value of their IS/IT investment. To say the least is the effect of perceived and realised business value in driving the pace of e-business initiatives, hence, emphasising the significance of this research.

In order to determine the pace of such e-business progression, a stage model was developed and used as a framework to chart the trajectory of maturity of e-business initiative within the company. This model was also used to assist in identifying and understanding the issues surrounding the e-business progression within a company. The following sections will discuss the concept of a stage model followed by some explanation of the stage model developed and used in this research.

STAGES OF GROWTH
The concept of stages approach in IS/IT can be traced back to the late 60s from the work of Churchill et. al. (1969) who postulated the concept of stages of computer development. However, the stages concept did not get...
wide exposure until Nolan proposed his “stage hypothesis” (Nolan, 1973). Nolan’s stages of growth model, which was later extended by Gibson and Nolan (1974), attempts to relate the transition of IT management processes to the maturity of IT. The stages hypothesis brought with it a lot of debate and attention from the practitioners and members of the academic community (Benbasat et al., 1980). Regardless of the criticism on the stages theory in Information Systems (Benbasat et al., 1980; King & Kraemer, 1984, 1987), the stages of growth model is a popular framework for describing the typical development patterns of organisational information systems (Benbasat et al., 1980; Saaksjarvi, 1985; King & Teo, 1997). Despite arguments being expressed both for and against the concept of stages, there have been comparatively few empirical studies into aspects of this theory, with typical conclusions drawn arguing that the stages concept is useful in a pragmatic sense in that it appeals to managers. The authors’ recent endeavour on the stages model and e-business found that the stages model is a useful framework to describe an organisation’s current position as well as a range of possible position in the future in terms of their e-business maturity (Prananto et al., 2002; Prananto et al., 2003b). Hence, the stages model is also acknowledged as having partly descriptive and partly prescriptive nature (Earl, 2000; Prananto et al., 2001, 2003a).

The emergence, rapid growth and interest in the Internet and e-commerce have seen the parallel development of a number of stages of growth models trying to capture and describe the various phases involved in moving towards greater sophistication with respect to the use and management of IT in the new E-business environment. Amongst these are the E-Commerce Maturity Model (KPMG, 1997), the Commitment-Implementation Matrix Model (Stroud, 1998), the E-Commerce Levels (O’Connor & Galvin, 1998), the E-Business Lifecycle Model (Berryman, 1999), and the Internet Commerce Maturity Model (Poon, 1999).

All of these models are premised on the idea that organisations pass through notional ‘stages’ of maturity or sophistication with respect to the way they use and manage IS/IT to support and facilitate business activities, processes and operations. The work by Greiner (1972) and Quinn and Cameron (1983) indicates that there is a consistent pattern of development that seems to occur in organisations over time, in which the organisational activities and structures in one stage are not the same as the activities and structures present in another stage. Hence, the authors of the stages theory suggest that changes that occur in organisations follow a predictable pattern that can be characterized by developmental stages (Quinn & Cameron, 1983). These stages are sequential in nature, occur as a hierarchical progression that is not easily reversed, and involve a broad range of organisational activities and structures (Lavoie & Culbert, 1978). The progression through the stages can occur in rapid sequence or they can be very slow in developing (Cameron & Whetten, 1981). It is also suggested that there are inherent problems and issues in each developmental stage that the organisation needs to resolve before successfully advances to a more mature stage (Greiner, 1972).

**STAGES OF GROWTH FOR E-BUSINESS**

In order to explain the progression of e-business in the context of Australian SMEs, we have developed a stage model, dubbed the “Stages of Growth for e-Business” (SOGe) model. As with all other stages of growth models, the SOGe model assumes that a normal progression is from a less mature to an increasing sophistication over time. Being at a more mature level assumes an accumulation of the knowledge, experience, skills and expertise of all the previous levels. An important new dimension of the SOGe model however, is to recognise that within the same organisation, there may exist different levels of maturity for the different characteristics. It is conceivable that an organisation may be at Stages 3 or 4 with respect to its e-business systems, but may still be at Stage 2 (for example) with respect to its maturity in staffing/skills criterion (McKay et al., 2000; Prananto et al., 2002). A summary of description of the SOGe model and its characteristics can be found in Appendix 1.

Our recent research suggests that the SOGe model is useful as a framework to help practitioners understand and describe the current state and position of an organisation with respect to e-business. Further, a clear understanding of the current position, together with the prescriptive value the model provides, can guide future planning and strategy formulation with respect to e-business initiatives. Thus the model could be viewed as a guide to understand, diagnose and evaluate the current position as well as providing insights and guidance on future progression and direction in e-business, including the realisation of potential business benefits.

Like the stage model developed by Galliers and Sutherland (1994; 1999), the SOGe model acknowledges that organisations may “jump” over levels. The authors would assert however, that to be able to do this successfully, an organisation would have to possess (or have access to) the requisite skills, knowledge and experience needed to achieve such revolutionary transition. We would also want to acknowledge that there are extreme circumstances which may cause an organisation to regress to a less mature stage. Such extreme circumstance might be the result of the departure of the e-business champion, the decaying of the stewardship of e-business, e-business failures, or even the effect of an economic recession.
RESEARCH DESIGN

In order to achieve a deeper understanding of the variations in the progression of e-business and the applicability of the SOGe model to explain such progression, it was decided that interpretive case studies (Cavaye, 1996) would be conducted. The interpretive-qualitative case studies were seen as providing invaluable rich insight and in-depth understanding (Chadwick et al., 1984; Galliers, 1991; Sproull, 1995; Neuman, 1997; Denzin & Lincoln, 1998) of the issues surrounding e-business progression. As the research is within the domain of an interpretive paradigm, criteria set by (Guba & Lincoln, 1989) were used to ensure the quality of the case study research instead of a more positivist criteria mentioned by Yin (1989; 1993).

Although the focus of this paper is the result of the multiple case studies, the findings are a subset of a larger study utilising a multi-method research approaches. A brief description on the overall research is provided in appendix 2.

Selection of Cases

The selection of the companies for the case studies was mainly based on the representativeness of the potential participant to the six stages of SOGe, in which, each stage of SOGe should have at least 1 corresponding organisation. Such a sampling method, referred to as theoretical sampling (Glaser & Strauss, 1967; Eisenhardt, 1989), would allow the research to glimpse at the unique characteristics of each company in each stage, as well as to observe the effect of the perceived business value in the organisation’s e-business progression.

Data Collection

The interviews were arranged after the key informant had been identified, usually the IS/IT manager of the organisation, with one exception in which the financial director was interviewed as the company does not have an IS manager. In one occasion the CEO of the company was interviewed in tandem with the IS manager as they were both involved directly in the e-business initiative.

The semi-structured interviews, comprised of a series of open-ended questions developed from the literature and issues/themes identified during the preliminary case study and the survey (refer to research design section and appendix 2), were divided into 2 sections. The first was to gain insight on the current state and history of e-business within the company, future or planned initiatives, as well as various issues of interest (e.g. problems, barriers, outsourcing, etc.).

In the second part of the interview, informants were asked to examine the SOGe model depicting the description of the stages (refer to Appendix 1) and to discuss the relevancy of the model with their e-business experience. More importantly, the informants were asked to chart their planned e-business initiatives and to consider a plethora of issues such as barriers, challenges, benefits and resources needed to advance to the desired stage. Special emphasis was given to the discussion of resources, stewardship of e-business, external consultants, perceived and realised business value, and other relevant issues that influence the rate of progression.

The interviews were taped and then transcribed. The interview transcripts were returned to the participants for reviewing purposes and to ensure their accuracy and veracity (Klein & Myers, 1999). The eight organisations and their brief description can be found in table 1 while description of the state of IS/IT/e-business within these organisations is presented in Appendix 3. The companies are listed as C1-C8 according to the order they were approached and studied.
Table 1. Company details

Data Analysis

Content analysis was used to analyse the interview transcripts. The responses from the informants were categorized based on various themes and criteria, analysed using content analysis (Neuman, 1997). Some of the criteria and themes, as well as how the cases compared with each other, are presented in table 2.

**Table 1. Company details**

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<table>
<thead>
<tr>
<th>IT/e-Business within the Organization</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
<th>C7</th>
<th>C8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top management involvement in e-business is high</td>
<td>●</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>IT has a good working relationship with the rest of the business</td>
<td>●</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>○</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>E-business planning session involve both business and IT people</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Business and IS/IT/e-business plan are closely interconnected</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>IT manager is a member of senior management</td>
<td>Y</td>
<td>N/A</td>
<td>N/A</td>
<td>Y</td>
<td>N/A</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>IT &amp; e-business are seen as having strategic value by the top management</td>
<td>Y</td>
<td>N</td>
<td>○</td>
<td>Y</td>
<td>N</td>
<td>○</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>IT &amp; e-business are seen as providing competitive advantage by the top management</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

**Table 2. Comparison on a range of issues surrounding the state of e-business**

<table>
<thead>
<tr>
<th>Challenges and Barriers of e-Business Progression</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
<th>C7</th>
<th>C8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of commitment from top management</td>
<td>●</td>
<td>Y</td>
<td>○</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Lack of clear vision and goal for e-business initiatives</td>
<td>N</td>
<td>Y</td>
<td>○</td>
<td>N</td>
<td>Y</td>
<td>○</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>No stewardship of e-business</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>○</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Limited resources</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Lack of appropriate staff and skills</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>○</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Lack of perceived potential e-business benefits</td>
<td>N</td>
<td>○</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Lack of know-how in integrating IT/e-business with business processes</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>○</td>
<td>○</td>
<td>N</td>
</tr>
<tr>
<td>IT infrastructure does not support e-business initiatives</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>○</td>
<td>N</td>
</tr>
</tbody>
</table>

**Business Value of IS/IT & e-Business**

| IT & e-business are seen as providing business value by the top management | ●  | ●  | ●  | ●  | ●  | ●  | ●  | ●  |
| Perceived potential of IT & e-business by top management | H  | L  | ○  | H  | L  | ○  | H  | H  |
| Establishment of business realisation processes | ○  | N  | N  | Y  | N  | N  | ○  | Y  |
| Active engagement in seeking additional business value of IS/IT & e-business | Y  | N  | ○  | Y  | N  | ○  | Y  | Y  |

*(N/A=Not available, Y=Yes, N=No, H=High, L=Low, ○ = Medium/partial agreement)*

Table 2. Comparison on a range of issues surrounding the state of e-business

**CASE STUDY FINDINGS & DISCUSSION**

**Influence of the Perceived Business Value on the Rate of Progression**

Responses from the participants of the study, as shown in table 3, strongly support the relationship between the progressions of e-business initiatives with the perceived business value of e-business. Understandably, as noted by C1, a small and medium sized company with limited resources would want to get a faster turnaround of any investment it made. In most cases, the companies expressed the need to have noticeable short-term benefits. The comments made by C1 and C2 provide a clear indication that the organisations, being small and medium organisations, have limitation in terms of their financial ability. Hence, they would want to be certain that the benefits generated by the e-business initiative would outweigh the investment poured into the initiative. On the extreme, when an organisation such as the case of C5 could not convince itself of the benefits of conducting e-business, be it tangible or intangible, there is little or no progress would be made by the company.

Specific comments (refer to table 3) were made to emphasise the need to deliver tangible benefits from e-business initiative in order to persuade others to advance further to the next stage. Further analysis indicates that such sentiment derived from the need to convince management to commit the resources needed for further e-business initiatives. Arguably, the more attention and resources allocated by the management to the initiative the faster the progress would be. Look at the case of C7 for example, its top executive became more than supportive of the e-business initiative after the IT manager, working with the top management, presented the tangible
benefits of the proposed initiative. Since then, more resources have been allocated to fast-tracked the project, more importantly, the CEO became more attentive towards the e-business initiative and became the steward of e-business at the top executive level. Not only that such top level involvement is crucial in the progress of e-business, it is also imperative in ensuring the delivery of benefits to the organisation (Peppard et al., 2000).

<table>
<thead>
<tr>
<th>Company</th>
<th>Comments on business value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>“as a small company, we have limited budget and resources, we need to ensure we get value for every dollar we spend.”</td>
</tr>
<tr>
<td></td>
<td>“There were several heads shaking at first, it was not until they were convinced that there would be benefits of the project in terms of greater exposure, more versatility in trading with overseas partners, and ability to trade through the e-trading facilities that they agreed.”</td>
</tr>
<tr>
<td>C2</td>
<td>“well, it has to give us something in return. I would advice the director not to involve in such venture if we are not convinced we can have a good outcome of our investment. We are just a small company, comparatively small to some of our competitors, we have financial limitation to spend on this, so we need to maximise our gain while at the same time minimising our expenses and investment.”</td>
</tr>
<tr>
<td>C3</td>
<td>“basically I want to see a direct result from what I put into my e-business, be it increased sales or [a] decrease in workload, whatever it is I need to be able to say to myself that the investment was not for nothing.”</td>
</tr>
<tr>
<td>C4</td>
<td>“the delivery of business value, added value, is absolutely important for this company. When we sit down to discuss our steps [of e-business initiatives] we weigh carefully the question of ‘what’s in it for the business?’.”</td>
</tr>
<tr>
<td>C5</td>
<td>“I had 4 inquiries from [the] online shop and 3 sales. The money for the internet connection alone was greater than the profit from those sales. There’s no benefit at all…”</td>
</tr>
<tr>
<td>C6</td>
<td>“There was a great interest from the top executives in the mid 90s to engage in e-business with our partners. You can say that they were ‘lured’ by the prospect of a more efficient and more profitable trading… although they are interested on the potential savings and profits, they are not totally sure that we will get what we pay for… so we are now progressing very slowly”</td>
</tr>
<tr>
<td>C7</td>
<td>“we have to have some kind of return in our investment, in this business, we can’t afford not to, and this project is no exception. I spent quite a lot of time talking to people, head of departments, our CEO, to convince them of the benefits that we may gain from this system… this includes faster processing time, less manual work so less mistake will be done, more appeal to our large trading partners, etc. It caught their attention when we start linking these to the dollar value, profits, savings…”</td>
</tr>
<tr>
<td>C8</td>
<td>“…if the management have difficulties in seeing the potential benefits of e-business it’d be a different scenario altogether. We wouldn’t be going as fast as we are going right now.”</td>
</tr>
<tr>
<td></td>
<td>“in most cases, they want to see the dollar value returned from their e-business investment. Some intangible benefits would be nice, but it’s the dollar sign that encouraged the initiatives in the first place.”</td>
</tr>
</tbody>
</table>

Table 3. Selected quotes on the need of business value

Consequences of Undelivered Promises

The case which generates a great interest involves the company C5. During the e-commerce boom in the mid 90s, C5, attracted by the hype of the benefits of e-commerce, invested in an online presence with e-commerce capability. C5’s e-business maturity at the time was consistent with the stage 3 of the SOGe model in all dimensions, in which it was operating in a “technology-centric” state than driven by a matured business strategy. After a couple of years without any significance sale, the owner decided to abandon the e-shop and reverted back to its pre-e-commerce state.

When IT or e-business failed to deliver business value, scepticism of IT/e-business arose. Such scepticism increased the scrutiny of any IT or e-business investment in the future. In the case of C5, as the e-business initiative failed to deliver adequate sale, the business owner then decided to rolled-back the initiative and not to engage in any e-business related activity. Hence, we can conclude that the decision for future e-business initiative depend on the decision maker’s perception and satisfaction of the previous IS/IT or e-business investment (Cragg & King, 1993).

The Need for Benefits Realisation Processes

It is interesting to note that although all of the companies involved in the research expressed the need to gain tangible business value from their e-business investment, not many of them actually have some mechanism to ensure that benefits are being delivered from their e-business initiative. Of all the cases presented in this paper, C4 and C8 are the only two organisations actively pursuing the benefits realisation of their e-business activities. However, as indicated by the managers of C1 and C7, they are increasingly aware of the importance and are currently engaging in establishing a process to ensure that they gain the best possible outcome of their e-business venture. The activities of ensuring benefits realisation might be one of the main contributor to these
organisations’ achievement in terms of their e-business activity (Remenyi et al., 1993; Ward et al., 1996). Consequently, by having actual benefits delivered consistently by their e-business initiative at every stage, these four organisations have been progressing at a much faster rate than their other counterparts.

CONCLUSION

The paper highlighted the varying pace of e-business progress in eight organizations. Our study revealed that such variation might be caused by the ability of each company in facing and resolving the challenges and barriers in planning and implementing e-business. One prevalent challenge is to prove the business value of the e-business initiative. However, the lessons learned from the cases suggest that in order to progress further, organisations need to have some tangible benefits from its e-business investment. In order to achieve these benefits, organisation ought to adopt and implement a benefits realisation mechanism to ensure the delivery of perceived benefits of their e-business initiative. To conclude, we would argue that although the perceived benefits at the beginning of the initiative is of a great importance to gain the political support and the resources needed to start and fast-track the project, the subsequent efforts to ensure and ascertain the realisation of those perceived benefits are even more crucial, in the long run, to the organisation.

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**APPENDIX 1**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
<th>Stage 5</th>
<th>Stage 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Char Description</td>
<td>There is no clear direction for your organisation’s e-business initiatives.</td>
<td>E-business initiatives are increasingly considered to be an important component of your organisation’s business. However, there is no proper planning and a lack of direction for IS/IT development and implementation.</td>
<td>E-business initiatives are considered an important component of your organisation’s business. There is a clear direction for the development of e-business initiatives within the organisation. However, e-business development is still focused much on technology-centric perspective and not</td>
<td>E-business adoption and development is becoming more business-focused. There is a move towards integration and greater coordination between the components of e-business (e.g. IS/IT and Internet) and the organisation’s business processes.</td>
<td>Integration between traditional business processes and activities and e-business processes and activities, creates seamless communication and flow of processes within your organisation. E-business initiatives aim to provide strategic benefits by building strategic systems.</td>
<td>E-business is deeply embedded throughout every aspect of the organisation. There is a strong integration between the components of e-business and business processes within the organisation as well as with those of its suppliers and business partners. E-business initiatives are aimed to create</td>
</tr>
<tr>
<td>Strategy</td>
<td>No strategy and planning for e-business development and implementation</td>
<td>Ad hoc strategy. No formal strategy, but there is some sense of direction for e-business initiatives</td>
<td>There is a formal strategy for e-business initiatives with a technology-centric tendency which has little or no consideration for business strategy</td>
<td>E-business initiatives and activities support the achievement of business goals. There are attempts to integrate and coordinate e-business initiatives with business strategy</td>
<td>Strategy is regularly reviewed and updated. Strategy review sessions involve participation from IS/IT and business people, initiatives are influenced by business needs. Strategy for e-business may aim to seek and evaluate new opportunities to provide strategic value for the business</td>
<td>Constant and dynamic strategy and planning sessions that include both IS/IT and business people. On-going strategic conversation within the organisation and externally with suppliers and business partners to use e-business initiatives as a source of competitive advantage</td>
</tr>
<tr>
<td>Systems</td>
<td>Uncoordinate d and unconnected systems with limited applications</td>
<td>Increasing use of IS/IT in many aspects of the business, but little input from business strategy in making IS/IT investments</td>
<td>Greater infusion and diffusion of IS/IT with some input from business strategy</td>
<td>Greater inputs from business strategy, but still some IT-driven investments</td>
<td>Systems are focused on internal organisational activities to provide added value to business activities. IS/IT systems are highly integrated with various parts of the organisation which results in a seamless information exchange within the organisation</td>
<td>Systems are focused on seamless interorganisational activities. Corporate systems are highly integrated internally as well as externally, reaching out to business partners’ corporate systems</td>
</tr>
<tr>
<td>Staffs/ Skills</td>
<td>No formally appointed staff to handle e-business initiatives</td>
<td>Designated staff with expanded responsibility to develop and maintain e-business initiatives</td>
<td>Dedicated staff with technical expertise but without sufficient business knowledge</td>
<td>Dedicated staff with technical expertise with the help of, or together with, business-oriented staff</td>
<td>A team of staff from different departments of the organisation manage the e-business initiatives. A steering committee may be formed to oversee the development of e-business initiatives</td>
<td>Management is committed to an e-business vision and involved in its implementation. The organisation has access to all requisite skills and knowledge for the e-business initiatives</td>
</tr>
<tr>
<td>Bus Proc</td>
<td>E-business initiatives are seen as having no impact on existing business processes. Traditional business processes are unaffected by e-business initiatives</td>
<td>E-business initiatives are seen as having little impact on existing business processes</td>
<td>E-business initiatives are seen as having considerable impact on existing business processes and may require process changes</td>
<td>E-business initiatives are seen as a driver of business process reengineering. Reengineering of business processes to accommodate the integration of between IS/IT, Internet based systems, and various parts of the organisation</td>
<td>E-business initiatives play a vital role in streamlining the organisation’s internal operations and reorganising of business functions to shorten process cycle time and deliver value to customers</td>
<td>E-business initiatives play a vital role in restructuring the processes linking external business network members to accommodate interorganisational systems. Integration of the e-business initiative and business processes between the organisation’s and its business partners</td>
</tr>
</tbody>
</table>

**APPENDIX 2**

<table>
<thead>
<tr>
<th>Comp.</th>
<th>Description</th>
<th>Notes on IS/IT/e-Business issues within the company</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Medium size manufacturing and service organisation</td>
<td>IT manager reports to the board of executives.</td>
</tr>
<tr>
<td>Company</td>
<td>Industry and Services</td>
<td>Notes</td>
</tr>
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<td>---------</td>
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<td>----------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| **C2**  | Small sized freight forwarding company, providing logistical services such as order expediting, air/sea freight, customs clearance, PSI (pre-shipment inspection), vessel/aircraft chartering. | - There are no dedicated IT staffs, all IT-related activities (i.e. installation of PCs, software, internet, and use of emails) were being supervised by the finance director.  
- Currently there is a minimal exposure of IT, where IT/internet usage is limited to conducting online business via a much cheaper channel than the VAN EDI.  
- Albeit the reluctance to invest in e-business and IT infrastructure, there has been an increasing pressure to have a streamlined electronic documents exchange from Customs, air/sea ports, and business partners both in Australia and overseas. |
| **C3**  | Company three is a retailer of computer products and accessories. This company actively seeking tender opportunities both from the private sector or government tender. | - Business owner has had some exposure to and understand the role IS/IT might have for a small retail business.  
- There was a problem regarding inventory, copy of receipts, dispatch documents, copy of invoices, etc. In the past many advertised items was apparently not available in the inventory, resulting loss of potential sales and a waste of advertising cost, as the ad-space could have been used to advertise other items. This was solved with the purchase of inventory and accounting software which was then customized to suit the company’s business. |
| **C4**  | A family-owned engineering company with primary activities of distribution and calibration of sensitive engineering and measurement equipment. | - IS/IT has been deemed as vital to the continuity of the business and its innovation. A long and strong tradition of IS/IT involvement in many aspects of business operations. IS/IT department is recognized as partners not merely technical support providers.  
- The IT manager constantly and regularly involved in the company’s planning processes and strategic discussions.  
- In-house IS/IT/e-business development team. Constantly seeking advantage over competitors by utilizing IS/IT & the Internet which lead to a couple of successful e-business initiatives. The latest e-business initiative, an equipment & service data warehouse application, accessible via the internet, has been hailed as a very successful e-business application by the company and its business partners. |
| **C5**  | Company five is a family-owned and operated computer retailer. | - Little or no regards for IS/IT beyond stock and invoice-generating application.  
- In the midst of e-commerce boom, lured by the hype, there was an eagerness from the owner to have an online presence/onine catalogue. The son of the owner was charged to establish an online shop, and an effort was made by the owner to learn ‘e-commerce’. After a year, with great disappointment, the website was disabled and the company reverted back to its pre-e-commerce state. |
| **C6**  | A manufacturer of household and bodycare products, mainly for the consumption of Australian population although several products were exported to New Zealand and several Asian countries. | - IS/IT department has been regarded as a cost centre by the organization and received very little funding prior to 2000 which resulted in the deteriorations of the IS/IT infrastructure over the years.  
- Great reluctance and hostility towards the (re)building IS/IT, especially during the time when the company seemed to have quite a healthy growth in profits even without a reliable IS/IT.  
- A slow and step-by-step rebuilding of IS/IT took place between 2000-2003, while at the same time efforts were made to convince management of the importance of a reliable IS/IT and its contribution towards the organizational goals and objectives. |
| **C7**  | Company seven is a contract-manufacturer chemist. Its line of business includes the manufacturing and packaging of various household automotive and industrial products. | - IS/IT is deemed to be vital for the business operations. However, the in-house built, 20 years old, computer system is becoming increasingly inefficient in handling large volume of processes and fast changing requirements.  
- A decision was made to replace the current computer systems with a more efficient and more adaptive systems, at the same time carefully and cautiously exploring the possibility of conducting transactions with its clients and suppliers through a more cost effective channel such as the Internet |
| **C8**  | A well-established and reputable food manufacturing company. Its line of business includes the manufacturing and packaging of various food items such as ice creams, tacos, jams, and cookies. | - IS/IT has been regarded as one of the pillar in successful business operations. A long history of IS/IT usage throughout the company and externally with business partners by using a VAN based EDI to conduct transactions.  
- In 2001, after a couple of years of careful consideration and lured by the prospect of conducting online business via a much cheaper channel than the VAN EDI, the company took a first step of joining EANNet.  
- Steps were taken to ensure that a new platform be developed to integrate the new internet-based front-end to the back-end system before the company initiate a meeting with its business partners to phase out VAN EDI and use the new Internet-based trading system. |
APPENDIX 3

The Overall Research Design

Operating under the umbrella of an interpretive research, the research was designed as multi-method research utilising survey and case study as the main research approaches. Started with a preliminary in-depth case study, the research then employed a two-pronged approach by conducting a survey and several case studies. The following sections briefly describe the three research phases.

Phase 1. Preliminary Case Study

The preliminary research, in the form of an in-depth case study, was conducted to test the research constructs (Eisenhardt, 1989) and to reformulate a tentative stage model developed based on various literature on IS/IT and organisational maturity. The result of the first phase is the “refined” Stages of Growth for e-Business (SOGe) model, including a description of each stage’s characteristics as indicators of relative maturity of the organisation with respect to its IS/IT. In addition, valuable insights into various issues and problems faced by an organisation while progressing with its e-business initiatives were gained. More importantly, the lessons learned from conducting the preliminary case study were used to remodel the subsequent research design.

Phase 2. Survey

The survey was aimed at validating the SOGe model and to collect other data that may explain the progression (or regression) of IS/IT within an organisation from a wider population. Although the survey produced mostly quantitative data, some of the most valuable findings came from the qualitative components of the survey.

Phase 3. Multiple Case Studies

The third and final phase involved a multiple case studies approach. The aim of the last phase is to explain how organisations (represented by its IS/IT managers and/or business managers) progress with regards to their IS/IT/e-business as well as to gain an in-depth knowledge of the facilitators and inhibitors or the progression and how they perceive the usability of the SOGe model to chart their progression and assist them in determining the “next phase” of their e-Business initiatives.

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