19

Insights into IST and E-business Strategy Development

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Abstract: As organisations move further into the e-business era they face new opportunities and challenges in developing their business to accommodate this evolving environment. Of considerable importance is the development of IST and e-business strategies. Instead of just focusing on the phenomenon of the virtual world this research takes a wider perspective of strategy development by exploring the themes from both a business and IST strategy perspective, whilst incorporating key areas of the e-business domain. The experiences discussed in the paper illustrate the need for direction and flexibility; the importance of formal planning and an evolving relationship between information technology and business.

1.   INTRODUCTION

The setting for this paper is a now familiar one – the continuing extraordinary commitment by organisations to e-business despite the recent failures of many internet companies. In 1999 business-to-buisness (B2B) and business-to-consumer (B2C) transactions were estimated to be £2.8 billion and these are expected to grow tenfold by 2002. Globally this figure is likely to exceed £650 billion (Financial Times, 2000). For these organisations the decision to engage in e-business was invariably a strategic level commitment and would lead to major implications for suppliers and customer relationships, internal organisational processes and information systems and technology (IST). The latter is crucial since without appropriate IST provision there can be no effective e-business. So how do these organisations come to commit the resources needed to become e-enabled? To what extent were these initiatives business or technology led, or neither?

These questions sit at the core of this paper which presents the results of a pilot multiple case-study research project to explore the IST strategy development

processes in organisations that have developed e-business initiatives. The area of IST strategy formulation has long proved a difficult one for organisations (for example, see Earl, 1989 and Ward, 1996). As information technology (IT) becomes increasingly integrated into organisational processes then the evaluation of how IT dependent initiatives – such as e-business – needs to reflect the organisational and process implications. No longer can the problem be delineated and treated as a technical one subservient to the business case. The problem is further exacerbated by the fact that IT, and the means by which it can be made available to organisations, are both subject to rapid change. This change may or may not prove to be significant to any given organisation but they cannot be ignored and need to be evaluated. In an interconnected world (locally and globally) externalities may require an organisation to change its technology, or processes, or both.

Within such a context, unravelling and comprehending the processes that lead to strategic commitments is difficult but necessary if future decisions are to be better informed. Even if organisations have an audit trail in the form of policy documents, business proposals and meeting minutes the passage of time, and the politicisation in the decision process, make the final interpretation of events problematic. The advent of e-business initiatives, however, offers an empirical opportunity which this ongoing research seeks to exploit. By definition e-business initiatives are recent and in the companies considered all occurred in the last two years. The possibility existed therefore, to explore the organisational processes leading to the strategic IT based commitments through recent documentation and the testimony of the actors in the situation. The organisations chosen for the research are those that have traditionally traded in the 'physical' world and are now transitioning into the 'virtual' world. This meant a realistic view of IST and e-business strategy development was taken without the risk of distortion from the dot.com start-ups, which, in the main, have had quite different strategic justifications.

The structure of the paper is as follows. To place the research in context the paper commences with an overview of the impacts of e-business and provides an insight into e-business strategy development. Following this the main concepts of business and IST strategy literature are discussed which lead into a brief discussion of the research approach undertaken. The main discussion focuses upon the empirical results obtained from the three case organisations and relates them to the main strategy concepts previously highlighted. Bringing together the main points discussed and highlighting areas of further research concludes the paper.

2. IMPACTS OF E-BUSINESS

In the e-business era, organisations are able to utilise modern technologies to conduct business in new and innovative ways over the World Wide Web. For the purpose of this research a generic definition of e-business will be used, as follows:

> "...the seamless application of information and communication technologies from its point of origin to its endpoint along the entire value chain of business processes conducted electronically and designed to enable the accomplishment of a business goal. . ."
>
> Wigand (1997, p 5)

This includes B2B, B2C, e-service, e-trading and e-commerce. Since the potential of e-business was realised there has been a plethora of articles and books describing how this new paradigm can affect business, markets and industry. This paper does not attempt to cover all the available literature but will merely highlight some of the major impacts and forces summarised from various authors and researchers. The potential impacts of e-business are seen to be:

– **Increased acceleration of change** – Technology driven growth and change is accelerating (Ticoll et al, 1998). The internet could lead to product life cycles being reduced with more frequent introduction of products (Sawy et al, 1999). Customer's needs could change more rapidly, making them difficult to predict (Barabba, 1998).
– **Cost Reduction** – Utilising internet technologies can reduce the costs of communication between suppliers and customers, allowing for cost effective customer service and market research (Bickerton, 1998). Transaction costs can be dramatically affected during the purchase of products (Wigand, 1997).
– **Value Chain Changes** – Electronic business could lead to the disintermediation and reintermediation of intermediaries in the value chain, along with increased empowerment for customers (Bakos, 1998). This would lead to major changes in the value chain.
– **Blurring of industry and organisational boundaries** – Boundaries of industry and organisations could be blurred due to the convergence of technology. Technology could essentially redefine the nature of competition (Barabba, 1998).
– **Market Impacts** – Bakos (1998), summarises a number of key points on how markets could be affected by e-business. These impacts include: changes in product offerings, impact of information goods, lowering of search costs, facilitation of information sharing and new types of price discoveries.
– **New Interorganisation business forms** – As a direct result of the internet new cost effective interorganisational systems have led to the development of new

internet based communities. Current examples include Portals, Virtual Trade Communities and Guaranteed Electronic Markets (Ticoll et al, 1999; Lockett and Brown, 2000)

The above impacts and forces illustrate that organisations are facing not only potential opportunities but also major challenges as the e-business era develops. As argued by Chen (2000) the validity of being a purely web-based business is now being questioned. As the economy is calming down from the initial dot.com furore, traditional organisations are under increased pressure to move into the virtual world alongside their physical world. Bickerton (1998), notes that many organisations in the UK (and possibly around the world) are assessing how best to use internet technologies to improve business. As argued by Hitt (1998), Earl (2000) and Venkatraman (2000), organisations now face more complexity and uncertainty. Even though there have been major developments in the area of e-business there are still great challenges ahead for organisations. Venkatraman (2000, p 16) summarises this succinctly:

"... the business landscape is fuzzy and fast changing – we are navigating unchartered waters...".

Downes and Mui (2000), argue that strategy development in the e-business era needs to be approached from a creative angle. Many authors believe that traditional approaches to strategy development are no longer suited to the modern turbulent environment. The model advocated by Downes is one that proposes organisations can shape the environment in which it exists. The three phases of strategy development include reshaping the landscape, building new connections and redefining the interior. This model attempts to create the building blocks to allow lucky foresight to occur, instead of creating a deliberate strategy.

Venkatraman (2000), argues for the need to develop strategies that simultaneously builds on current business models and creates new business models. Both Venkatraman and Downes emphasise the need for experimentation during the strategy development process to allow for flexibility and the testing of ideas. As a contrast, Timmers (2000), shows in his e-business research that formal planning still has a major role to play in strategy development. However, organisations are struggling to integrate legacy and new strategies. In terms of IT usage Wigand (1997) and Earl (2000), both argue that a key element is the organisational processes. IT fulfils a two-way role in organisations that enables value to be delivered. Not only does the business strategy and organisational processes define IT but IT is also an enabler for new business processes and strategies.

3.   ASPECTS OF BUSINESS AND IST STRATEGY DEVELOPMENT

The term IST strategy is used to emphasise both the Information Systems (IS) and IT aspects of the organisation. Checkland conceptualised the role of IS in organisations in terms of a 'serving' and 'served' system. The 'served' system is the actual business, which is served by IS within the organisation, the 'serving' system. This concept is illustrated through the work of Earl (1989, developed in Galliers, 1991 and extended in Galliers, 1999). This work denotes that business needs are essentially the 'why' and the IST strategy comprises the 'what', 'how', 'when' and the 'who' of the organisation. IST strategy is therefore concerned with ensuring the business strategy can be implemented successfully.

The need to align both IT and business has been discussed for many years by many authors (for example, see Scott Morton, 1991; Ward, 1996 etc). As noted by Earl (1999) 90% of IST strategy literature discusses this area which underlines its relevance to effective IST strategy development. Put simply, without alignment the 'why' of the organisation cannot be fulfilled.

De Wit & Meyer (1995), have provided a useful three dimensional framework for the debate on strategic development:

– Strategy Process – 'How' strategies come about
– Strategy Content – The output of the strategic process, the 'What'
– Strategy Context – The set of circumstances which both Process and Content were determined, the 'Where', 'When', 'Who' and 'Why'

Ideally all three dimensions will feature in the strategy development process. This paper makes use of the Dewit & Meyer framework to structure the discussion. Having determined the context in the previous section, the following discussion focuses upon the process and content aspects of strategy development. The aim of this section is to highlight the key debates in order to determine their role in the IST and e-business strategy development process. The forces of e-business mean that as organisations experience both continuous (steady and evolutionary) and discontinuous (radical and intermediate) change the impacts on their strategy development will vary. During times of continuous change the impacts may not be too fierce and may mean a slight reorientation of the strategy. However, now and then this relative stability is punctuated by a major event within the environment (e-business) and suddenly evolution turns into revolution, as organisations need to take a 'quantum leap' to adapt to the changes occurring (Mintzberg, 1987).

As noted by Nutt (1998), the activation for change can develop from both the internal and external environments. More specifically, Trompenaars (1996), argues that organisations interact with transactional, socio-political and contextual environments. Within these environments there are various forces impacting on the

organisation that affect strategy development, including internal forces (information constraints, politics and history) and external forces (legal, fiscal and legitimacy constraints). When coupled with the forces created by e-business the pressures facing organisations are great, as noted by Hamel (1997, p. 1):

> *"... the economic sea change now under way will drive an extraordinary amount of wealth creation over the next few decades ...   wealth will also get destroyed, as new business models drive out the old. That much is obvious... "*

Hamel points out that strategy is a key element for an organisation to be able to take advantage of business opportunities. The process of development can take many forms and as noted by Chase (1998), organisations are unique, therefore no two strategies will be the same. This is also supported by Ansoff (1994), who argues that organisations can take different strategic approaches depending upon the varying environmental challenges that they experience. Traditional approaches to strategy development have emphasised the importance of strategic planning. Quinn (1994), argues that planning is important as it creates discipline to look towards the future, expresses goals, allocates resources and helps to instil a long-term perspective in the organisation. However, planning approaches have been criticised for being to rational and deliberate. Mintzberg (1985), argues that it is actually difficult to follow a purely deliberate approach to strategy development as precise intentions would need to exist, be common and be realised as exactly as intended within the organisation. He notes that planning is important but is not the whole process because an element of flexibility is needed to allow for changes in the environment (continuous and discontinuous). Mintzberg believes that strategies need to incorporate both deliberate and emergent aspects to allow for control *and* flexibility, as intended strategies are not always realised as planned (Mintzberg, 1987).

Heracleous (1998) argues that it is important to incorporate strategic thinking in the strategy process. He notes that strategic thinking questions the strategic parameters currently in place. The planning aspect implements the direction chosen (derived from the strategic thinking) and helps to configure the organisation. Fowler and Lord (1998) also accept the role of strategic thinking in strategy development. They note that executives tend to use intuition to develop strategies and do not necessarily rely on sophisticated formal techniques.

With regards to strategy content, the main concern in the literature tends to focus upon whether an outside-in or inside-out approach is taken. The outside-in perspective is based around the concept of positioning. This determines whether an organisation's profitability is above or below industry average (Porter, 1985). Porter (1979), argues that the essence of strategy is coping with competition by matching the organisations strengths and weaknesses to the environment. The approach attempts to position the organisation to take advantage of opportunities in the environment so that a competitive advantage can be developed through various

strategies. Porter (as discussed in Clarke, 1994), argues that organisations can develop competitive advantages by assessing the five forces within their industry and taking their strategic stance. The competitive advantage is delivered through how activities are arranged and performed in the value chain of the organisation relative to its industry in which the organisation exists.

IST strategy development has been heavily influenced by the work of Porter (Clarke, 1994). Using Porters work as a basis, IT was believed to be a key enabler of competitive advantages for organisations. As noted by Lambert and Peppard (1993) and Clarke (ibid), the traditional view of IT is one that emphasises IT being aligned with business needs. The Business Strategy essentially drives the IST strategy. However, IT has developed and matured considerably over the years.

In more recent years the inside-out perspective has developed. Hamel (1993), believes too much focus has been placed on environmental fit and not enough on resource leverage. Itami (1987), argues that various internal assets are in fact a source of competitive advantage. The key to the inside-out approach is based on leveraging resources, capabilities and competencies that are used to create a sustainable competitive advantage. Schoemaker (1992,) illustrates that the outside-in and inside-out approaches can in fact be integrated, as they are complimentary approaches. The model he proposes revolves around four key processes, which are: generating scenarios; conducting competitive analysis; analysing the organisations and competitor's competencies; and developing a vision by identifying strategic options. This approach utilises key aspects of both outside-in and inside-out perspectives. Earl (1999), proposes that strategists need to view IT from an 'opportunity' perspective. In this view, IT should be used to open up new ways of doing business (inside-out). This view is even more important in the e-business era as IT could have more influence over business because of the reliance of IT in order to implement an e-business approach. This now brings into play the investment aspects of IST strategy. With IT becoming more critical to organisations the investments in this technology can be classified as 'strategic' in that it will affect and contribute to the organisations future growth (Easterby-Smith, 1996). An investment so critical would need to be reflected in the strategy development process and would have major influence on the direction taken. However, due to the uncertainty surrounding e-business benefits and technology, it could be difficult for organisations to justify and make these strategic investments.

4.   RESEARCH APROACH

The empirical research was conducted using a multiple case-study approach. Guidelines for adopting this approach are those provided by Yin (1994). Three case organisations were selected from a range of possibilities. Table 1 shows a high-level comparison of the case organisations used for this research project. The

organisations are all placed in different industries and differ in terms of size and turnover.

Table 1: Comparison of Case Organisations

Industry	Retail – Food	Retail – General	Printing,
Location	UK	UK – Northwest	Multi-national
Turnover	£1,917.7 million	£787 million	Europe = $5.3 billion
No. of employees	20,000	10,500	UK – 4000 (Global = 94000)
E-business Initiative	Product purchasing and delivery	Product purchasing and delivery	Product purchasing and delivery
Structure	Centralised	Divisional	Centralised

The actual data was collected from a number of sources including, websites, annual reports, company documents and primarily performing semi-structured interviews within the three organisations. These organisations have been chosen for a number of reasons:

– They are all established organisations (Bricks and Mortar)
– They have developed e-business initiatives within the last 2 years
– They are drawn from a cross section of organisations and industries

Within these organisations key personnel were selected to conduct interviews with. The choice of sample was directed by their involvement in one or more of the following areas:

– General business strategy development
– IST strategy development
– E-business initiative

The use of semi-structured interviews was chosen for their qualitative fit in the research approach. Wherever possible multiple interviews were conducted which allowed the different perspectives and key issues to emerge. These were complimented with document analysis. They allowed the research to gain greater depth and help to discover the views, the experiences and how the interviewees made sense of the situation.

5.   RESEARCH RESULTS AND DISCUSSION

A number of themes have emerged from the research, which deals with the trigger for change, mechanisms for implementing the decision, and the perspective and integration of IT into the business strategy. Each of these themes will be discussed separately in this section. Table 2 illustrates the main findings from the three case organisations.

Table 2. Main Research Findings

	FoodCo	**RetailCo**	**PrintCo**
Trigger of Change	CEO intuition	CEO intuition	Operational needs
View of IT	Opportunistic and support	Opportunistic and support	Opportunistic and support
Relationship between IT and Business	IT and business influence each other	IT and business influence each other	IT and business influence each other
Focus of IST	IT and processes to deliver advantage	IT and processes to deliver advantage	IT and processes to deliver advantage
Strategy process directed by	Business and IT Directors	Senior Planning Manager	Use of strategic intent
Role of Planning	Control and communication	Control and communication	Control and direction
Flexibility of planning	Quarterly reviews	Decisions made outside the process	Decisions made outside the process
Strategy Focus	Outside-in and inside-out	Outside-in and inside-out	Outside-in and inside-out
Investment Focus	Investment not that severe	Difficult to justify - uncertainty	Operational

5.1   Trigger for change

All case organisations experienced the 'punctuation' phenomenon caused by e-business. Having traded through a period of relative stability, the organisations strategic direction was impacted on in a major way by the need to develop an e-business approach. The significance of this move is apparent because developing e-business facilities within these cases was not just concerned with simply implementing a web site to communicate to the outside world. As noted earlier, the opportunities and challenges created by e-business are great, not only as another sales channel but also in terms of the impacts this approach can have on the whole organisation.

The trigger for change differed between organisations. The literature emphasises the need for formal analysis of the organisational environments to determine the future direction of the business. In all cases the trigger of change was not the result of formal analysis. For Retailco and Foodco the trigger for change came from the CEO of the organisation. He had 'decided' that e-business facilities were needed

within the business. The decisions by the CEO's were believed to have been influenced by the strategic moves of competitors and also through informal discussions within their social network. In this sense the move to e-business was seen to be a competitive move and not just for operational needs. Printco's move to e-business was triggered in a slightly different way. This was not the result of a decision from the CEO but was influenced by the operational needs of the organisation. Prior to moving into e-business, Printco found themselves under increasing pressure from suppliers and customers to develop an e-business approach. The main reason for this pressure was to reduce operational costs. All three examples illustrate the impact e-business can have on organisations. Not only is there pressure from competitors who are developing new and innovative approaches to conduct business. There is also pressure from within the value system to ensure e-business facilities exist so that operating costs can be reduced across the whole system.

5.2   Mechanism for implementing the decision

Following the 'official' decision to adopt an e-business approach the case organisations illustrated distinct approaches during the initial stages of strategy development. Foodco tended to tackle the situation from an operational angle. Basically, they would incorporate the operational requirements of the initiative within their current business model. As the initiative developed the role and direction would be slowly integrated in the strategy development process. Retailco attacked their initiative from a more radical stance. To allow for flexibility of the development they completely relaxed the traditional internal business controls to allow the experimentation of ideas. Once Printco had realised the requirement of e-business it was immediately integrated within the strategy development process.

Although each organisation expressed that the initiative did impact on them, the level of impact varied between organisations. For Foodco, the impact was less severe then that felt by Retailco and Printco. Prior to the e-business initiative launched by Foodco they had spent a number of years developing various approaches to customer delivery facilities. This meant that e-business was more of a technical issue for them to develop, as the logistical infrastructure was already in place. A major concern for Foodco was therefore integrating the new technology into their traditional business. Within Printco and Retailco, the punctuation caused by e-business was viewed as major event in terms of organisational impacts. Retailco felt the issue was so important that a new business division was initiated to develop this new approach. They believed it was important to allow for the testing of new ideas without impacting on other areas of the business.

For all case organisations formal planning played a major role in the development of IST and e-business strategies. Planning in these organisations was not the whole strategy process but created the capability to allocate resources,

communicate ideas and provide control (as noted by Quinn, 1994). The creative thinking of the strategists drove the strategy development process. Foodco and Retailco both emphasised the need for creative thinking. The strategists were questioning the strategic parameters currently being followed in their organisations. Planning was used as a tool to configure the organisation and implement the direction that had been decided.

Although concern is expressed about the rigidity of planning in strategy development, it seems in reality that planning does not necessarily have to restrict the flexibility of the strategy process. The planning processes in all cases were annually based. FoodCo's flexibility in its planning process was evident by performing a quarterly review of the strategy plan; essentially a smaller version of the annual planning process was completed every three months. Both PrintCo and RetailCo also had flexibility in their process to make decisions outside the planning process. Any major decisions made would then be fed back into the strategy process as and when required. This degree of flexibility also supports the earlier discussions on strategies being both deliberate and emergent. The planning process was seen as a key element but all cases acknowledged the importance of a certain amount of flexibility to respond to the changing business needs. This allowed all cases to respond to both continuous and discontinuous change in the environments they interact with.

In terms of strategy focus, all organisations showed signs of incorporating both an inside-out and an outside-in approach. The general focus in all cases was one that reflects the model proposed by Schoemaker (1992). Scenario planning was used (in various forms) to generate potential futures. Detailed analysis of competitive moves, internal and competitor's capabilities and technological trend was conducted. This was not a linear process but was iterative as the strategy process was unravelled. Competitive and IT analysis was used to determine the strategic use of IT within the organisation. However, the high-level role of IT was an implicit given, as the e-business initiative would not be possible without some level of IT. The main focus was on the business capabilities that IT could deliver and ultimately the potential advantages to be gained from using this technology.

Although all organisations adopted a combination of inside-out and outside-in approaches only Foodco emphasised the potential advantages that could be gained from focusing on the inside-out approach. The majority of their effort was focused towards a combination of both approaches. However, at various times the focus would shift towards purely an inside-out approach as they attempted to influence the market. The evidence of this is illustrated in the success of their e-business initiative in their industry sector as they have led the market in e-business with many competitors adopting their business model.

5.3   **Perspective and integration of IT into the business strategy**

With the advent of the e-business initiatives within the case organisations there seemed to be a slowly changing perception of the role of IT in these organisations. All cases, especially FoodCo illustrated a view of IT that places it firmly in what Earl (1999), calls the 'opportunity' approach. Here IT is not simply viewed as a supporting role (which was also evident) but in fact IT is the driver of new opportunities and business models. This perspective illustrates an evolving role of IT within the case organisations. IT was no longer viewed as being submissive towards business needs, as in the traditional view discussed by Lambert and Peppard (1993). With the advent of e-business this relationship changed from being simply a one-way influence were the business strategy drove the IST strategy. The role of IT in the cases organisations is one were IT would actually drive some business capabilities. Alignment of the two domains is therefore essential. Without it the capabilities offered by e-business could not be fulfilled. The key leverage that brings together the two areas of IST and business is essentially the processes that need to be fulfilled in the organisations. This supports the model proposed by Wigand (1997) in that process is the central linkage of business and IST capabilities. The strategic process undertaken within the cases was an iterative one that allowed them to develop the capabilities required.

Even though this view was evident, there was also concern expressed towards the uncertainty surrounding the capabilities of e-business technologies. To overcome this problem great emphasis was placed upon the assessment of the external and internal IT environments. This was to ensure the technological capabilities existed and also that the case organisations had the resources and capabilities to implement such technologies. The uncertainty aspect was also reflected in the approach taken to making 'strategic' investments. For Retailco the relaxing of internal controls meant that it was difficult to justify the investment made. Because of the impact of e-business the organisation followed a 'wait and see' approach to investment. Foodco's investment approach was less severe due to the logistical infrastructure already in place. Finally, Printco felt they could justify the investment, as the e-business facilities were needed for operational requirements.

The above discussion highlights some key high-level aspects of IST and e-business Strategy development. This research illustrates that some of the traditional aspects such as formal planning and competitive advantage are being integrated with more creative and IT driven approaches to strategy development. As the business environment becomes more complex and turbulent, the strategy development process requires creativity and flexibility but also direction, control and focus offered by the more 'traditional' strategy aspects. It seems as though the focus of many recent publications believing that 'traditional' approaches to strategy are no longer useful maybe too generalised as the case organisations illustrated a combination of a number of strategy development aspects.

6.   CONCLUSION

This paper has discussed how a number of organisations have developed IST and e-business strategies over the last few years. Using a number of core literature domains the research highlighted how strategy development could occur within the business world. The concepts and theories were then tested within three case organisations that have developed e-business initiatives over the last 24 months. The results of this research make interesting reading and can be summarised as follows.

First, it is evident that the role of IT is evolving within the organisations, no longer is the business strategy leading the IST strategy. The two domains are starting to influence each other as the dependence on IT becomes greater due to e-business requirements. Second, there is great uncertainty regarding the technological capabilities currently available. This is reminiscent of the early days of IT when IT graduated out of the 'back office' onto the desks of users. In time, as technologies develop the confidence in the new technologies may also develop. Third, to cope with this uncertainty, internal controls were relaxed to allow for flexibility. Forth, formal planning during IST strategy development still plays an important role for organisations. However, it is important that a degree of flexibility exists in order to cope with both continuous and discontinuous change occurring in the environment is which the organisations interact. Fifth, strategic investment perspectives can vary depending on the uncertainty of the initiative. Finally, there exists a view that strategy development (e-business and IST) incorporates both elements of the outside-in and inside-out schools.

This research is part of a three-year program investigating strategy development in the e-business era. This paper has highlighted a number of questions to be addressed in further research. Initial questions include ones concerned with the strategic learning and decision implementation within organisations. Examples of these questions are: Following a major strategic re-orientation, such as e-business, has the organisations learnt from the experience for future changes? What implications restrict the translation of the initial strategic idea into reality? How are strategic ideas justified to the organisational members who decide on its feasibility? The next stage of the research is to conduct action research within a global organisation that is moving into the e-business domain. The research conducted in this paper will therefore help to focus future research being undertaken.

7.   ACKNOWLEDGEMENTS

8.   REFERENCES

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