

Enabling e-Business Competitive Advantage: Perspectives from the Australian Financial Services Industry

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ABSTRACT

E-business and associated technologies continue to have a major impact on the way organizations conduct business. However, in the current environment which is conducive for imitative behaviour, organizations find it increasingly difficult to create competitive advantage by simply implementing pervasive e-business solutions. In this paper, we develop a theoretical framework to assess the ability of e-business initiatives to generate competitive advantage in the context of the Australian financial services industry. Results show that e-business applications are considered to be an enabling mechanism that enhances organizational competencies, thereby allowing organizations to deliver traditional and new services more effectively and efficiently. The manner in which e-business systems are used constitutes a source of advantage. It was also found that in an industry where intensive interaction is required among organizations, standardization of e-business systems and collaboration with partners and competitors constitutes a source of advantage. This research contributes to the current ongoing debate concerning the strategic value of IT and how it can be accomplished and serves as a basis of further research in this area.

Key Words: e-business investments, e-business systems, competitive advantage, financial services industry

1. INTRODUCTION

The exponential growth and rapid changes of e-business technologies bring both new opportunities and challenges to businesses. The underlying technologies of basic e-business functions such as data storage, processing, and transport are becoming increasingly indistinguishable among different organizations. This is because they are easily imitable and have become homogenized and are “available and affordable to all” [Carr, 2003, p. 42]. That is, users of these technologies share universal technical standards because of the affordability of computing technology and network communications and hardware and software “vendorisation” [17, 62, 64]. As a result, e-business solutions in particular have become more susceptible to commoditization.

In this context, e-business solutions no longer provide organizations with strategic differentiation. Many argue that investments in e-business are a competitive necessity rather than a source of competitive advantage. Although large amounts of investments are being made in e-business technologies, there is evidence that many are not delivering business value [26, 49, 71, 82, 83].

Even in the cases where e-business was found to enhance an organization’s competitive position, the nature of the interaction between the pre-existing business models, human resources, and e-business applications is poorly understood [27, 78, 90, 91]. Thus, the aim of this paper is to develop and validate a framework about elements that can generate and sustain competitive advantage through the interaction of e-business applications and other organizational resources. This framework is important for information system decision making and to address the research problem of how competitive advantage is generated through e-business applications because it helps in assessing potentially successful strategic e-business investments in organizations, and consequently, reduce the wastage of scarce organizational resources.

The remainder of this paper is structured as follows. First, key concepts and the theoretical background of e-business generated competitive advantage are briefly outlined. A conceptual framework concerning e-business generated competitive advantage is then introduced followed by a description of the convergent interviewing method employed to investigate the conceptual framework in the Australian financial services industry. Next, the framework is revisited in the light of interview findings before concluding remarks are made.

2. THEORETICAL BACKGROUND

The concept of competitive advantage has a long tradition in the strategic management literature. A fundamental goal for businesses is to develop a means by which they can perform better than their competitors. South (1981) defined competitive advantage as “the philosophy of choosing only those competitive arenas where victories are clearly achievable” (p. 15). In light of this philosophy, the identification of sources of competitive advantage has been the focus of academic research. For example, Porter (1985) argues that competitive

advantage can be generated through a cost leadership, a differentiation strategy or a niche market strategy that in turn can lead to better market performance and profitability. Specifically, two mainstream schools of thought provide a theoretical foundation for competitive advantage in previous literature in a business context, namely, the resource-based view and the transaction cost theory. These are discussed in more detail in the sections that follow.

Although there are other theories, such as agency theory and resource dependence theory that are used for explaining competitive advantage, we have not included them as a theoretical base for the framework developed in this paper for the following reasons. First, although agency theory's economics origin is a source of conceptual strength, it is too narrow as it is based only on the price theory. This narrowness limits its usefulness and its explanatory power for fully understanding the complex variables of e-business and its relationship with competitive advantage [8, 32, 36, 69, 84]. Second, the resource dependence theory takes the point of view of a single, focal organization, looking at how it can reduce the uncertainty of the dependencies on the resources that it needs from its environment [12, 20, 33]. In this process, however, it totally ignores cost considerations and it assumes an environment whereby information about other organisations is freely accessible to all and widely available.

2.1. Resource-Based View

The resource-based view (RBV) is perhaps the most influential and diffused theory for understanding strategic management. Proponents of the RBV argue that resources that are valuable, heterogeneous, immobile, owned exclusively by the organization, and hard-to-copy by competitors, are likely to provide positive outcomes, such as reduced costs or increased revenue [54, 95]. According to the RBV, the relationships between resources and outcomes might be determined by causal ambiguity that represents "the relative difficulty of deciphering causal links between organizational resources and outcomes" (Lado et al., 2006, p. 116). Causal ambiguity is considered the major strength of this theory because it constitutes a major barrier to imitation.

However, critics argue that causal ambiguity is a "mixed blessing" (p. 121) because managers of an organization are limited in their ability to understand the source of competitive advantage [48]. That is, the cause-effect relationships between resources and outcomes are opaque and cannot be deciphered accurately [35, 67]. Indeed, recent work on resource-based view suggests that the links among resources, knowledge, and dynamic capabilities – including the capability to learn and to change – reconfigure a firm's competitive advantage [92]. Although resources and capabilities provide directions for a firm's long-term strategy [4-6], the RBV offers little practical insights on how managers should build and sustain competitive advantage [75]. This is likely to frustrate managers' efforts to sustain competitive advantage. Nevertheless, many argue that causal ambiguity can be used strategically [13, 31]. For instance, Eisenberg (1985) suggests that managers can use ambiguity discursively to amplify the stakeholders' existing attributions of cause-effect relationships. Ambiguity, can,

therefore, provide interpretative contexts where organizational stakeholders can create collective understandings concerning complex and conflicting phenomena.

Although RBV argues that causal ambiguity constitutes a barrier to imitation, innovation inimitability does not necessarily generate competitive advantage [38]. The innovation-imitation complementarity may be a source of value when positive network externalities are present [23]. Technological rivalry with competitors can be avoided by sharing innovation-related knowledge with them. Over time this is likely to foster knowledge development [15, 56]. Although innovation inimitability may be important for first movers to protect generated advantage, it has the potential to spur an innovation substitution cycle that cannot protect advantage sustainability. Indeed, Mata, Fuerst and Barney (1995) applied the resource-based view to four attributes of information technology that may be sources of sustained competitive advantage – capital requirements, proprietary technology, technical IT skills, and managerial IT skills – and concluded that managerial IT skills are the only ones that can provide sustainability.

Although resource-based view has been criticized for the imprecision of definition of resources and the static approach that is often taken in competitive advantage research [85], it nevertheless provides a theoretical foundation that is explanatory. In the case of e-business solutions, RBV scholars argue that organizations allocate resources to acquire IT-related products, assuming that investments in these resources provide economic returns to a firm [9, 91]. Organizational performance depends on the synergy generated by the integration of organizational, business, and technological resources [95]. Although resources by themselves can serve as the basic units of analysis, organizations create competitive advantage by assembling these resources in different and unique ways to create specific competencies. When purposively built around tacit organization-specific knowledge, and embedded in organizational processes, these competencies are likely to become “ambiguous,” and as a result, provide advantages that may be in the form of above-average economic returns [81].

2.2. Transaction Cost Theory

The second school of thought is represented by the transaction cost theory (TCT), which focuses on the exchange relations between buyers and sellers where the term transaction represents a transfer of goods “across a technologically separable interface” (Williamson, 1985, p. 1). TCT provides an efficient mechanism for assessing transaction costs and risks of inter-organizational relationships [37, 86]. Transaction costs are associated with economic exchanges that vary independently of the competitive market prices of the goods or services that are exchanged [80]. Typically, transactions costs include search and information costs as well as costs incurred to monitor and enforce contractual performance.

Cost efficiency is critical to the TCT [80]. Accordingly, organizations make decisions to minimize their transaction costs by engaging in exchanges

with other organizations or individuals. Information technology developments allow organizations to be engaged in network behaviour to reduce transaction costs, increase coordination, and thus, efficiency. Electronic interconnection is both possible and desirable. For example, Malone, Yates and Benjamin (1987) argue that market coordination is enhanced through electronic communication, electronic brokerage, and integration effects. Therefore, according to the TCT, the most efficient investments are made for supply chain management systems that reduce transaction costs, and this constitutes a source of competitive advantage [40].

However, the transaction cost theory has limitations that have been highlighted in a growing number of empirical studies [79, 88]. Transaction costs and benefits associated with the exchange process have been recognised as difficult to isolate, particularly when the transactions involve more than two members. The transaction cost theory uses the competitive paradigm to refer to exchange participants as economic units. This is one of its major weaknesses as it ignores the long-term interactions within economic and social relationships [43]. Indeed, exchanges between organizations have become increasingly characterised by non-market governance such as long-term associations, contractual relations, and joint ownerships.

3. DEVELOPING A THEORETICAL FRAMEWORK ABOUT E-BUSINESS-GENERATED COMPETITIVE ADVANTAGE

Used alone, neither the resource-based view nor the transaction cost theory can fully explain how competitive advantage is generated through e-business investments. E-business involves all commercial activities, a dynamic set of technologies, applications, and business processes performed across computer platforms that link organizations to their customers, suppliers, and other business partners through electronic exchange [15]. It not only provides new opportunities to sell goods and services, but also adds value through improvements in supply chain efficiency and effectiveness. However, value will be added only when e-business investments are used as enablers for organizations to realize their objectives. Thus, gaining competitive advantage depends on the extent to which e-business applications can be harnessed to achieve organizational goals more effectively and efficiently than competitors.

Based on extant literature, key factors relating to how e-business can generate competitive advantage for an organization can be identified. These factors are drawn from both the resource-based view and transaction cost theories. The proposed framework postulates that competitive advantage can be generated and depends on the degree of internal and external integration within and between its e-business processes and e-business systems and those of its business partners. Factors that may be integrated to create competitive advantage are complementary to each other. These are summarized in Figure 1 and discussed next.

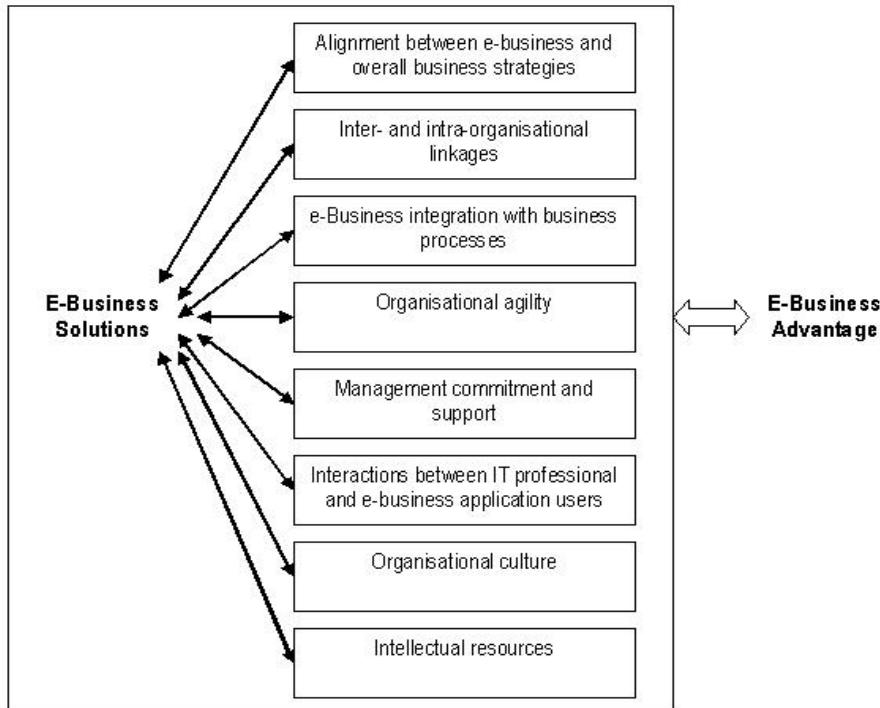


Figure 1. E-Business Advantage Framework Components

Alignment between e-business and overall business strategies. E-business strategies should be consistent and aligned with the overall organization business strategy, if they are to provide a competitive edge to organizations [41, 44, 70]. This alignment is difficult to replicate as both e-business and overall business strategies are likely to evolve uniquely for each organization. E-business applications can support collaboration by bridging the traditionally socially complex gaps between functional departments. This, in turn, can enhance an organization's competitive position and its ability to create strategic value [52, 53, 65, 70, 91].

Inter-organizational linkages. Inter-organizational linkages refer to the organization's ability to strategically use electronic linkages such as EDI and extranets to establish upstream partnerships with suppliers and downstream relationships with customers [21]. Generally organizations are not internally self-sufficient, and thus require resources from the environment. Therefore, organizations become interdependent on organizations with which they exchange resources. Using e-business solutions to enable such linkages is likely to facilitate complex interactions and cultivate collaborative relationships. The way electronic linkages were used in these interactions and to handle environmental

complexity is likely to be unique, and therefore, more likely to survive competitive imitation.

E-business integration with business processes. Business processes can contribute to the overall business efficiency, and therefore, be a source of advantage. Increasingly, business processes are becoming standardized and embedded in e-business applications. As a consequence, these become replicable and subject to competitive imitation. However, innovations in the business processes and in the ways these are integrated with e-business solutions are likely to be organization-specific, and therefore, less likely to be easily replicable by competitors. That is, e-business investments can have strategic effects when addressing sustained initiatives for innovating business processes.

Organizational agility. E-business can be a primary enabler in providing the necessary support for developing the capability to be agile in adapting in an ever-changing environment [9]. This includes flexibility and responsiveness, which are necessary for organizations to respond quickly to the fluctuating customer needs and competitive landscapes. E-business applications can facilitate significant alterations to rigid traditional hierarchies and leadership styles. For example, leadership styles may be easily changed from coercive or directive to consultative or collaborative [24], which in turn can result in effective and efficient team orientations [72]. However, in different organizations, these alterations encounter varying degrees of managerial resistance, flexibility and inertia which are likely to result in different levels of organizational agility. These differences can constitute a source of distinctiveness among organizations.

Management commitment and support. Management commitment and support is important because it has the potential to differentiate successful from unsuccessful e-business investments. Lack of awareness and understanding of the potential benefits and value to be gained by e-business investments can be a significant barrier for successful strategic e-business implementations [65]. Managers with negative orientations toward e-business are likely to exhibit negative attitudes, which adversely affect their commitment to strategic IT implementations, and subsequently, resource availability and deployment [7, 53].

Interactions between IT professionals and e-business application users. Organizational performance is increasingly affected by the nature of the interactions between IT professionals and end-users [25]. Rich, quality, and cooperative interactions can be the source of innovative insights, which are vital for developing supporting e-business solutions, and are therefore considered as a key success factor of e-business investments [76]. However, patterns of interactions between IT professionals and end-users are different in different organizations, a fact that suggests that innovative insights are likely to be unevenly distributed. This constitutes an opportunity for asymmetric

distinctiveness across organizations, and, therefore, the accomplishment of competitive advantage becomes possible.

Organizational culture. Organizational culture is important as it affects employee orientations toward innovations in general [63, 76]. It has even been argued that organizational culture can be a key source of enduring competitive advantage [68] as it creates a climate for either encouraging or discouraging risk-taking and experimentation with e-business solutions [10]. Boddy et al. (2001) argue that there are different types of cultural orientations that can be identified in different organizations. Accordingly, culture is affected by several factors, including the environment, degree of formality, openness, consensus, team and collaborative orientation. All these factors are likely to create unique cultural profiles for different organizations [11, 21].

Intellectual resources. Last, intellectual resources include organizational human resources with technical and managerial IT skills [46]. However, Wade & Hulland (2004) argue that, because of their distinctive and tacit nature and organization-specific interpersonal relationships that take years to be perfected, application development, technology integration skills, corporate-level knowledge assets, and managerial human resources become difficult to acquire and highly complex to imitate by competitors. Therefore, these resources are likely to produce unique idiosyncratic casually ambiguous capabilities that serve as source of sustained competitive advantage [73, 91].

4. METHOD

To investigate the theoretical framework developed above and the issues that are derived from it, an exploratory rather than explanatory approach is chosen, as the phenomena are not well understood and the interrelationships between parts of the phenomena are not clearly established. We are concerned with chief information officers' (CIO) and IT managers' views on the relationships between e-business investments and competitive advantage in organizations operating in the Australian financial services industry [61], as this industry has the largest e-business investments among all industries [2, 74]. Thus, a qualitative method was deemed to be appropriate to explore the complex issues identified in the literature as it allows the researchers to obtain the rich and detailed information to understand how and why competitive advantage is generated from e-business investments.

Specifically, the convergent interviewing method was selected. Convergent interviewing is defined as an in-depth interview method with a structured data analysis process that is used to collect, analyze, and interpret qualitative information about a person's knowledge, opinions, experiences, attitudes, and beliefs through a number of interviews that converge on important issues [60]. Each interview allows refining the content of subsequent ones, also allowing greater control and flexibility in the exploration of the subject matter [29]. Convergence is achieved when no new information is uncovered and when

stability occurs. This also determines the total number of interviews to be carried out [45].

The convergent interviews were undertaken face-to-face either with CIOs or IT/e-business managers in twelve organizations. These informants were key decision-makers for e-business and IS investments in their respective organizations. In qualitative research such as this, the sampling method is purposeful rather than random [66]. The researchers started with a few cases and used them to identify others in the interconnecting network to sample, thereby allowing the sample to grow in size [1, 61]. This snowball sampling technique is appropriate when research is concerned with a small, specialized population of people who are knowledgeable about the topics of interest [1, 51, 56].

Each interview lasted for approximately an hour, during which a semi-structured interviewer's guide was used to ensure a consistent pathway to covering the research issues. Because the nature of the interaction between the pre-existing business models, human resources, and e-business applications is poorly understood [27, 78, 90, 91], we believe that using semi-structured interviews would allow the interviewers to explore unknown issues both in depth and breadth while minimizing interviewer bias.

The semi-structured interviewer guide included two broad categories of factors; namely, human and business factors. Human factors comprised issues such as management support, human interaction, culture, and intellectual resources, whereas business factors comprised factors such as alignment of intra-organizational objectives, inter-organizational linkages, and business process integration and agility, which were broadly defined.

As interviewers raised these issues, interviewees were expected to elaborate them as they applied to their organizational setting. They were also expected to identify emerging issues and explain their relationships with existing ones. To avoid the potential problem of interviewees extending their discussion outside the topics of interest, there was minimal interference from the interviewers from time to time.

To maintain confidentiality, the interviewees' names are disguised with the letters A to L. The categories of services provided by the interviewed organizations are shown in Table 1.

The content of the interview transcripts was analyzed thematically. Codes were developed which provided the basis for cross-case analysis and helped identify and analyze emerging patterns of themes [19, 66, 77]. The usual quality control mechanisms like triangulation were used [19, 39]. Content analysis was used to analyse the collected information, attaching codes to data. A starting list of codes was developed prior to starting the field work and was progressively added to as the interviews proceeded. When coding was complete, matrices were developed to summarize the data [58].

Table 1
Categorization of Participating Organizations

Category	A	B	C	D	E	F	G	H	I	J	K	L
Commercial Banks	√	√		√		√	√			√	√	
Investment & Merchant Banks			√							√		
Independent Financial Advisors			√									√
Issuing Houses and Security Underwriters				√								
Security Brokers				√								
Finance Houses					√						√	
Unit Trust Management					√	√						
Building Societies, Mortgage & Savings Banks								√		√		
Insurance											√	√
E-business Focus												
B2B	√		√	√	√		√			√		√
B2C	√	√	√	√	√	√	√	√	√	√	√	√
Scope of Business												
Australian	√	√	√	√	√	√	√	√	√	√	√	√
International				√		√						√
Total Interviews	12											

Validity was addressed in the interviews and data analysis processes. First, multiple sources of information were used [93]. Although interviews constituted the primary source of information, some of the informants provided supporting secondary data comprising archival white papers, and press releases, software, and web resources. In addition, the investigators themselves identified additional supporting documentation, including materials located at the websites of the informants' organizations and industry publications. The secondary data were used for verifying and triangulating the findings of the interviews. Second, as shown in Table 1, the informants belong to organizations that operate in different categories of the financial services industry in Australia, and, therefore, would provide different perspectives. This constitutes an important type of triangulation of qualitative information sources as it prevents biased opinions [22,66]. Third, two investigators conducted nine of the twelve interviews, and both analyzed all of them [28, 66]. This kind of triangulation reduces the potential bias that is commonly cited as a limitation of interviews [34, 94]. Finally, the chain of evidence, tracing the conclusions to the interview summary and to the interview transcripts, was also maintained.

5. ANALYSIS AND DISCUSSION

The outcome of the interviews is a number of themes progressively raised and converged. Overall, the findings from the convergent interviews provide evidence that managers in the financial services industry do rely on e-business solutions to obtain competitive advantage to varying degrees. Although top management support and commitment vary, most of the interviewed organizations are committed and have invested heavily in e-business. Because they operate in the financial services industry, they consider e-business take-up vital to remain competitive.

Regardless of the level of investments, interviewees converge in the view that e-business solutions do not change the general nature of the business. Most organizations use the e-business models to provide new distribution channels for their existing products. For example, three of the interviewed organizations offer internet-only savings accounts to their customers. Most organizations also agreed that e-business applications were implemented to increase operational efficiency through process automation and aggregation of different systems. Operational efficiency was found to lead to reduced operation costs and improved customer service. The latter was an important benefit, particularly for service-oriented organizations. Start-up firms also sought first mover advantages from their e-business investments. New e-business solutions that may provide opportunities to create completely new products can give organizations an edge over competitors who have not explored these opportunities.

In addition, investments in e-business are driven primarily by business needs, the availability of technology and that of funds to spend on them. Investments in e-business solutions are also driven by external factors, such as competitors' adoptions of e-business solutions, and whether these are diffused to critical mass levels in the industry. For many, the fear of being left behind by competitors was considered to be a significant driver behind e-business investments. Organizations also took into consideration the compatibility of new e-business applications with existing internal or external legacy systems when making e-business investment decisions. The specific findings are listed in the Appendix, and the main factors that are a summary of these findings are discussed below. We argue that these factors constitute the antecedents for successful e-business which may result in cost leadership, increased revenue, a higher quality of services, differentiation and niche market strategies. Because this study is exploratory rather than explanatory, the determination of possible cause-effect relationships between antecedents and consequences falls outside the scope and should be the subject of future research.

Alignment between e-business and overall business strategies. Nine out of 12 organizations stated clearly that their e-business objectives were aligned with their overall corporate objectives. Furthermore, in order to monitor this alignment, most organizations held formal or informal e-business performance reviews periodically for their e-business projects and their ability to accomplish

business objectives. However, most interviewees highlighted the difficulty of evaluating intangible benefits and making the relationship between e-business investments and organization objectives (e.g., profitability) explicit. That is, organizations do not appear to have formal measures to assess e-business investment outcomes. This is consistent with previous studies on e-business/IT investment evaluation and benefit realization [3, 51, 59].

Inter- and intra-organizational linkages. The interviewees were consistent in indicating that their organizations employed inter-organizational systems to forge strong linkages with their partners. Automating communication and maintaining on-going interactions with partners were identified to be the primary factors generating advantages from these systems. Consistent with the literature, improved client service, cost reduction, and revenue growth were the main advantages experienced in the Australian financial services industry as a result of inter- and intra-organizational e-business solutions [57, 87].

Inter-organizational systems generate value in terms of network externalities; however, regulation influences and legislative directives were identified as driving factors particularly among organizations whose partners were central and powerful intermediating institutions such as government regulatory agencies or industry associations. The lack of agreed standards was considered to be a significant barrier in the greater adoption and use of inter-organizational systems particularly in those cases where financial services organizations are involved in intensive interactions with many interlinked partners.

Consistent with recent literature, maturity levels and size of partners were found to be important criteria in assessing partners' take up of inter-organizational systems [50]. These criteria determine how quickly partners can take up these systems and the extent to which such systems can be used by them. Taken together, these criteria were considered to have a direct impact on the strength and the longevity, and therefore on the advantage-generating ability of the inter-organizational linkages.

The importance of intra-organizational systems that connect various departmental units within the organization was emphasized as well. Information sharing and accessibility, as well as staff collaboration, were identified to be the primary benefits driving the adoption of these systems, which were typically implemented as intranets and e-mail applications. These were cited to have a direct impact on efficiency and employee empowerment, a finding consistent with the literature [49]. Further, the timing, consistency, and coordination in the introduction of new intra-organizational e-business systems across various departments within the organization were regarded to be critical for the success of these systems in becoming a source of advantage. Lack of coordination would have serious consequences on the compatibility and duplication of functionality. This was particularly relevant for larger organizations with self-contained and geographically removed departments.

E-business integration with business processes. Most of the interviewees were emphatic in pointing out that, in order to obtain advantages, business processes should dictate e-business initiatives, not vice-versa. This is consistent with previous studies [3, 83], but inconsistent with others that suggest that e-business implementations drive process changes [30, 42]. Generally, the value-adding capability of new e-business solutions and their ability to satisfy business needs were the main criteria against which they would be assessed before their integration with processes is carried out.

However, two interviewees held a different view. In the recent past, e-business investments were driven by the novelty of e-business solutions, rather than their ability to address process needs. An exception was put forward by interviewee F. In her organization, e-business solutions and process enhancements drive each other. This exception could be explained by the fact that the organization that the interviewee represents runs its financial service operations entirely online; thus, the business process is dependent on e-business solutions.

Organizational agility. As suggested in recent literature, most interviewees indicated that the size of organizations is inversely related to their agility [14, 47]. In a rapidly changing environment with sophisticated consumer and technology advances, smaller-sized organizations were more agile in their ability to adopt or develop new e-business systems and this was considered as an important source of advantage. Some interviewees suggested that organizational agility depends on organizational structure as well. Flat organizational structures were more responsive than hierarchical ones in making fast decisions and allowing generated ideas to be implemented quickly. Further, in smaller-sized organizations, departments are likely to collaborate better. As a drawback, however, smaller organizations are more likely to have funding limitations for their e-business initiatives as opposed to their larger counterparts.

Organizational culture. Culture constitutes an important area that determines the success of e-business solutions and as a consequence their ability to generate greater efficiency. In the words of interviewee I, a “fluid culture,” characterized with low turnover and open communication, particularly between e-business developers and users, is vital. All interviewees agreed that their organizational culture was receptive toward the introduction of new e-business systems. Because of the importance management attaches to their people and customer service, new e-business implementations were not considered to be threats by employees. On the contrary, e-business solutions were perceived not only to shield staff from having to carry out tedious and complex tasks, but also to broaden their responsibilities and empower them to manage exceptions which otherwise cannot be handled by e-business applications.

In addition, there are a few other cultural factors that the interviewees perceived to contribute to creating an environment conducive for e-business initiatives. These factors include strong cohesive management leadership,

organizational preparedness to experiment with e-business initiatives, effective internal change management and skill migration, and young, dynamic e-business development teams. Generally, the most common type of resistance came in the form of cynicism about the success of new e-business developers and solutions. This, however, can be minimized if e-business users are involved in development from the start and made to feel they own the e-business outcomes.

Management commitment and support. All interviewees agreed that both management commitment and support are critical if e-business implementations are to become a source of competitive advantage. These are particularly important as they are likely to have a significant impact on e-business funding allocations. These factors are consistent with existing literature [73]. Other factors found to be relevant include management awareness of e-business development across all hierarchical levels and their systematic participation in monitoring e-business development.

Intellectual resources. Intellectual resources were unanimously acknowledged to be one of the strongest assets of the organization and an important source of competitive advantage. Most interviewees indicated that both users and the developers of e-business systems were expected to undergo formal training for the solutions and development environment. This result is consistent with the literature [55]. Only a third of the interviewees suggested that they had encountered problems in recruiting people with specialized e-business skills.

Only two interviewees recognized that, because of its embeddedness in the organizational culture, tacit corporate-level knowledge resources are idiosyncratic to an organization and, therefore, constitute a source of advantage for achieving e-business success. This is consistent with extant literature [91]. Interviewee C substantiates this point by stating:

“I would much rather develop our own people internally. . . because when I lose someone, I lose all that corporate history, I lose that working ability and so I’d much rather make a statement of intent to develop and keep those people than turn people over and get in new people.”

Interaction between IT professionals and users. The interviewees were consistent in revealing that the development of e-business solutions is incremental, with an on-going user engagement from the beginning of application development. The interviewees argued that the benefits of user engagement are twofold. First, with user engagement, developers will understand the user’s needs better, an ability that is vital for identification of the requirements of e-business systems. Second, with their engagement, users are more likely to feel that they own e-business development initiatives and the resulting systems. Taken together, these factors are likely to affect the users’ enthusiasm and acceptance of the new e-business systems, which was seen by some interviewees to be just as important for their success. Other factors identified to be important include the relative size of the e-business development

team and their physical location. Members of smaller e-business development or support teams are likely to create good relationships with the users of their systems, which creates deal-with-people-you-know benefits. These benefits are also created when e-business professionals and users share the same physical location, such as floor in a building. As a drawback, however, members of smaller teams are more likely to have generalist rather than specialised skills.

Standardization and collaboration benefits. All interviewees argued emphatically that, in the banking and financial services industry, standardization, rather than customization and differentiation of e-business solutions, constitutes a source of advantage. This conflicts with the arguments presented in recent literature that standardization of e-business solutions corrodes their ability to provide strategic distinctiveness [16-18, 89].

This argument hinges on three main points. First, with standardization the costs of e-business solutions are minimized. Second, with standardization, e-business solutions or platforms are more likely to be supported by the vendors and industry associations, which support minimizes costs associated with maintenance, future upgrades, and compliance. Third, standardization facilitates integration among partners' systems. This is highly advantageous and enhances internal and external efficiencies, particularly for organizations operating in the financial services industry which are typically highly interlinked with other organizations.

A third of the interviewees indicated that in technology matters they collaborate with their competitors as well. Interviewee A supports this by saying:

“I think there is a pretty open culture in that sense... with the Bank of X, Y Bank, which are our competitors, we are open and talk to each other about different things. There's enough to be gained by sharing... it's not like we're going to get a lot of secrets... it's not like we're Kentucky Fried Chicken or Coca Cola and they [the competitors] are going to find out the secret recipe. A home loan is a home loan.”

Thus, standardization and collaboration with competitors are added to our theoretical framework (as discussed earlier in Section 3) as a potential source of advantage and is a contribution to the existing body of knowledge.

6. CONCLUSION

There is little research about how e-business investments generate competitive advantage for an organization. In this paper, we developed a theoretical framework about factors that may contribute to generating competitive advantage through e-business solutions. This framework is comprehensive and is specifically developed for the financial services industry which constituted a contribution to the existing body of knowledge. The framework is developed using a qualitative, convergent interviewing method. Findings from twelve interviews with the CIOs in the Australian financial service industry showed that the impact of e-business investments on overall business performance varies

among organizations depending largely on the core value proposition and the overall business model. It is the manner in which e-business systems are used that constitutes a source of advantage. Further, the impact of business process improvement on e-business investments and the importance of standardization suggest that government and industry associations may need to provide a sound environment for e-business operations. We believe that these are new findings for the financial services industry.

The major contribution of this paper is the conceptual framework that comprehensively summarizes the sources of competitive advantage that can be generated through e-business solutions and should guide future research in this growing area of academic inquiry. Moreover, drawing on both the resource-based view and transaction cost theories, the framework is investigated in Australian financial service industry and so complements existing theories that are mostly based on U.S. businesses and non-service industries. Further, the framework can be used as a guideline for IT practitioners and policy makers to increase the effectiveness of their strategic IT investments. It is the first step in addressing the gaps in the current literature and also it contributes to the on-going debate concerning the strategic value of IT and how it can be accomplished while serving as a basis of further qualitative and quantitative empirical research.

The implications for practice are a better understanding of competitive advantage generated through e-business investments. Organizations must analyze e-business projects carefully and spend on only those applications that would deliver value (e.g., productivity gains). A disciplined approach should be used in conjunction with innovative management practices. However, like any research, this study has its limitations.

First, it is limited in terms of the number of organizations and of the context studied. The focus of the analysis is the Australian financial services industry. Even in the cases where the companies are international, they operate as a separate business within Australia. In addition, the financial services industry is an information-intensive industry that relies heavily on, and benefits the most from, e-business and information technologies. This constitutes a notable difference between the financial services industry and other industries that may rely on such technologies in different ways. As a result, our findings may be more/less relevant in different contexts, and thus, not readily generalizable [85]. To ensure generalizability, further research is required in other contexts and industries.

Second, although the informants were carefully selected and considered suitable to provide the relevant information, their views represent only the senior management of the respective organizations and may differ from those of the users of e-business applications in the same organization or its business partners.

Nonetheless, these initial findings offer some pertinent insights into how organizations in an important sector of the Australian economy are striving to achieve competitive advantage through e-business. The results of this study point to several issues that managers need to consider when investing in e-business

applications and indicate issues for further in-depth research. Data from various industry sectors and business models need to be collected to see if and how organizations are gaining competitive advantage from e-business. Further research could test the theoretical framework to validate and generalize the findings to broader settings, using a survey methodology for instance.

APPENDIX

	Interviewees											
	A	B	C	D	E	F	G	H	I	J	K	L
Benefits Realised												
Sales revenue	√	√	√	√	√	√	√	√	√	×	√	√
Operational efficiency	√	√	√	√	√	√	√	√	√	√	√	√
Improved customer service	√	√	√	√	√	√	√	√	√	√	√	√
First mover advantage	*	*	*	*	×	√	√	*	*	×	×	√
Drivers for Further Investment in e-Business												
Compatibility with other systems	√	√	*	√	*	×	√	√	√	√	√	√
Keep up with competitors	√	#	√	√	√	×	√	#	×	√	×	×
Keep up with the times	√	√	√	√	√	×	√	√	√	√	√	√
Industry and/or government requirements	√	√	*	√	√	×	√	#	×	×	×	×
To fulfil business needs	√	√	√	√	√	√	√	√	√	√	√	√
Critical mass of adoption of e-business systems in industry	*	√	√	*	√	√	√	#	#	√	×	×
Technology availability	*	*	*	√	√	√	√	#	√	√	×	√
Funding availability	*	*	√	*	*	√	√	√	√	√	√	√
Alignment of e-Business to Overall Business Strategies												
Clear business mission/vision/objectives	√	*	*	*	*	×	*	*	√	×	×	×
e-Business are clearly articulated	√	√	√	*	√	√	√	√	×	√	√	×
e-Business objectives are consistent with overall corporate objectives	√	√	√	√	√	√	√	√	√	√	√	×
Systematic and continuous e-business investment performance reviews	√	√	√	√	√	√	√	#	√	√	×	√
Formal measures to assess e-business investment outcomes	√	√	√	√	*	√	×	√	√	×	×	×
e-Business is part of strategic planning	√	*	√	√	√	√	√	√	*	√	×	×
Inter-organizational Linkages												
Strong external linkages with partners	√	√	√	√		√	√	√	√	×	×	√
Strength of linkages	√	*	*	*	*	√	√	*	*	√	√	√
Cooperate and collaborate with competitors in technology matters	√	√	√	√	*	×	×	√	√	×	×	×

Intraorganizational Linkages												
Internal systems for information sharing, accessibility, collaboration	√	√	√	√	√	√	√	√	√	√	√	√
Timing/coordination in the introduction of new e-business systems across various departments within the organization	√	√	*	*	*	√	√	*	√	√	√	√
e-Business Integration with Business Processes												
Business process needs drive technology investments	√	√	√	√	√	√	√	√	√	√	√	√
Organizational Agility												
Size matters	√	√	*	*	*	√	√	√	*	√	√	√
Flat organizational structure	*	*	*	*	*	√	√	*	*	√	×	×
System development agility (e.g. Build extensible application)	*	*	√	*	*	√	√	√	√	√	√	×
Newcomer advantages	√	√	√	*	*	√	#	*	*	#	#	#
Organizational Culture												
Strong cohesive management leadership	*	*	*	*	*	√	√	*	*	√	×	×
Be prepared to experiment	√	√	*	*	*	√	*	*	*	√	√	√
Emphasis on people and customer service	√	√	√	√	√	*	√	√	√	√	√	√
Technology adoption perceptions	√	√	√	√	√	#	√	√	*	√	√	√
Internal change management/transformation/skill migration	*	√	*	*	*	√	√	√	*	√	√	√
Cynicism about e-business	*	*	*	*	√	×	*	*	*	×	×	×
Young, dynamic, and refreshing IT/e-business development team	*	*	*	*	*	√	*	*	*	×	×	×
Management Commitment and Support												
Management commitment, support, and endorsement	√	√	√	√	√	√	√	√	√	√	√	√
Collaboration among top management	*	*	*	*	*	*	√	√	*	√	√	√
Recognition of e-business power in business	√	√	√	√	√	√	√	√	*	√	√	√
Intellectual Resources												
Formal organizational training	√	√	#	√	#	√	√	√	*	√	√	√
Informal self-training	×	×	√	×	×	√	√	×	*	√	√	√
Lack of specialised e-business skills	*	√	√	*	*	√	×	√	*	×	×	×
Tacit knowledge	*	*	√	*	*	×	√	*	*	×	×	×
Interaction between IT Professionals and Users												
Incremental development with ongoing user involvement	√	√	√	√	√	√	√	√	√	√	√	√
Identifying user's needs	√	√	√	√	√	√	√	√	√	√	√	√
User's enthusiasm for new e-business systems	*	*	*	*	*	*	√	*	*	√	√	×
IT/e-business development team has relatively small size	*	√	√	×	×	√	√	√	√	√	×	×
Physical location	*	√	√	*	*	√	×	√	√	×	×	×

Other Issues												
Outsourcing preferred to in-house development (depends?)	√	√	√	√	×	×	×	√	×	×	×	×
Systems are periodically upgraded	√	√	√	*	*	√	√	*	*	√	√	√
Legacy systems as a barrier to development of e-business systems	√	√	√	*	*	#	×	*	*	√	√	√
Standardization benefits (minimize cost/support/system integration)	√	√	√	√	√	√	√	√	√	√	√	√
e-business enablement/delivery mechanism only	√	√	√	√	√	×	√	√	√	×	×	×
How (not what) systems used constitutes a source of advantage	√	√	√	√	√	×	√	√	√	√	√	√
e-business is a competitive necessity	√	√	√	√	√	√	√	√	√	√	√	√

Notes: √= interviewee is in conformity with the statement
 ×=interviewee is in disconformity with the statement
 * = question had not been raised or
 # =not applicable to the organization

Source: Analysis of field data

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