

# Do E-Business Investments Create Competitive Advantage: Perspectives from the Australian Banking and Financial Services Industry

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**Abstract:** Are advantages provided by e-business vanishing as IT becomes ubiquitous and affordable? Is it losing its strategic value and, therefore, its potential for strategic differentiation? This paper proposes a conceptual framework to assess strategic IT investments for e-business. The framework captures several business, human and time dimensions. It is argued that the interaction of these dimensions with IT is hard to be imitated by competitors, and has therefore, the potential to generate and sustain competitive advantage. We attempt to answer these questions by using the perspectives of IT practitioners in Australian financial service industry in the first of a multi-stage study.

**Keywords:** e-business, e-commerce, competitive advantage.

## I. Introduction

The underlying technologies of e-business, such as computing technology, network communications, etc. are developing at exponential rates and becoming cheaper [6,27,29]. These technologies underlie basic e-business functions such as data storage, processing and transport. Currently, these functions are easily imitable and have become homogenised and “available and affordable to all” (Carr, 2003, p. 42). These are, therefore, becoming increasingly indistinguishable among different organisations. Because of the ‘vendorisation’ of hardware and software, universal technical standards are now forced onto users [6]. Hardware and software costs have decreased, and therefore, IT has become more susceptible to commoditisation, and is likely to become like rail transport, electricity or telephone service.

As e-business models are heavily reliant on IT, they may no longer provide firms with strategic differentiation. Many argue that investments in e-business are a competitive necessity rather than a source of competitive advantage. These views are also substantiated in recent e-commerce research with specific applications of IT, such as enterprise resource planning systems (ERP) [11,21,33]. For instance, Lengnick-Hall et al. (2004) argue that on their own, ERP systems are insufficient to provide sustainable competitive advantage. Also evidence suggests the average Fortune 200 organisations spend 20-40% of their budget on IT just to

stay competitive [26].

Even in the cases where e-business was found to enhance competitive position, the nature of the interaction between pre-existing business and human resources on the one hand, and e-business applications on the other, is poorly understood and has not been clearly specified [12,37,41,42]. Thus, the aim of this paper is to propose a conceptual framework which consists of factors that can generate and maintain competitive advantage through the quality interaction of e-business applications and other resources. This is expected to be the first step in addressing the gaps in the current literature. Preliminary findings of research carried out with firms operating in the Australian banking and financial services industry are also reported.

## II. Key Concepts and Literature Review

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 it as “the philosophy of choosing only those competitive arenas where victories are clearly achievable” (p. 15). Much of the focus of recent research has been on identifying such sources of competitive advantage. For example, Porter (1985) argues that competitive advantages can be generated through a cost leadership, a differentiation advantage which will in turn lead to relatively higher performance. That is, productivity, performance and profitability are the antecedents of competitive advantage [31,40].

There are two mainstream schools of thought in theory development of IT-generated competitive advantage. The resource-based view essentially argues that firms allocate resources to acquire IT-related products because it is assumed that these investments provide economic returns to a firm. There are a number of resource typologies. For example, resources can be organisational, business and technological. Organisational performance depends on the integration of resources across these categories. Some of these resources interact with IT to produce sustainable advantages. Grant (1991) and Makadok (1991) emphasise that while resources by themselves can serve as the basic units of analysis, firms create competitive advantage by assembling these resources to create firm specific capabilities. These capabilities, embedded in organisational processes, provide economic returns because the firm is more effective than its competitors in deploying resources [14,23].

The second school of thought is represented by the

transaction cost theory which focuses attention 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). Firms make decisions in order to minimise their transaction costs by engaging in exchanges with other firms or individuals. Therefore, markets and hierarchies represent polar extremes on a continuum of exchange [24,44,45]. The choice an organisation can make between these two extremes depends on the outcome of the interaction between "human elements" and "environmental factors". Information technological developments allow organisations to be engaged in network behaviour to reduce transaction costs, increase coordination, 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.

However, the transaction cost theory has limitations which have been highlighted in a growing number of empirical studies. 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. 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 [18]. Indeed, exchanges between firms have become increasingly characterised by non-market governance such as long-term associations, contractual relations and joint ownerships.

### III. Developing a Theoretical Framework

Based on extant literature of the two schools of thought a theoretical framework can be proposed. This is important because the framework constitutes an attempt to reconcile aspects of different schools of thought into a single synthesis. The factors in the proposed framework are discussed next.

**Alignment between e-business and Overall Business Strategies.** E-business strategies should be consistent and well matched with the overall organisation business strategy, if they are going to provide competitive edge to organisations [17,19,32]. Consistency should also exist between business strategic planning and e-business planning [3]. However, consistency may be necessary but not sufficient. For instance, Powell and Dent-Micallef (1997) examine numerous sources which conclude that e-business and overall business strategy can become a symbiotic integration, and therefore, constitute a "potential advantage-producing complementarity" (p. 381). This alignment is likely to be difficult to replicate because both e-business and overall business strategies are likely to evolve uniquely for each organisation. E-business applications can support collaboration by bridging the traditionally socially complex gaps between functional departments. This, in turn, can enhance an organisation's competitive position and its ability to create strategic value in several ways, including productivity enhancement and service quality [22,25,30,32,42].

**Inter-Organisational Linkages.** Inter-organisational linkages refer to the organisation's ability to strategically use electronic linkages such as EDI and extranet to establish

upstream partnerships with suppliers and downstream relationships with customers [8]. Generally organisations are not internally self-sufficient; this requires resources from the environment. Therefore, organisations become interdependent with those elements of the environment with which they exchange resources. Organisational and ecological theorists argue that organisations develop internal and external strategies seeking to minimise the uncertainty arising from dependence on the environment for resources [15,16].

Using e-business applications to enable such linkages is likely to facilitate complex interactions and cultivate collaborative relationships. The nature of these interactions as well as the way these are used to handle environmental complexity are likely to be unique, and therefore, more likely to survive competitive imitation. From an e-business perspective, the value chain model highlights the interdependence between organisations along the value chain where competitive strategies can be best applied and e-business is likely to have strategic impact. Recent research, however, shows that trust is essential if partnerships and relationships are to be effective and enduring in generating competitive distinctiveness [38].

**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 standardised 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 are likely to be organisation-specific, and therefore, less likely to be easily replicable by competitors. It follows that e-business investments can have strategic effects when addressing sustained initiatives for innovating business processes [39]. Marchand et al. (2000) substantiates this idea with examples of banks that "have focused on getting e-business support for key processes in place to manage customer and product information for sales support, cross-selling, and customer service. From this base, they [19] have developed sophisticated systems and databases for management support, product innovation and business strategy formulation." (p. 75).

**Organisational Agility.** E-business can be a primary enabler in providing the necessary support for developing an organisational capability to be agile in adapting in an ever-changing environment [2]. This includes flexibility and responsiveness, which are necessary for organisations to respond quickly to the fluctuating customer needs and competitive landscapes. E-business applications can facilitate significant alterations to rigid traditional hierarchies. For example, the intranet can assist in the development of "shallow structures [which] may increase likelihood of success since they may improve communications, help achieve process orientation, and indicate less bureaucratic management." (Chaffey, 2004, p. 445).

Leadership style may also be easily changed from coercive or directive to consultative or collaborative [9], which in turn can result in effective and efficient team orientations [34]. E-business applications also facilitates, rapid project development and deployment and the capability to undertake strategic change [2]. However, in different

organisations, these alterations encounter varying degrees of managerial resistance, flexibility and inertia which are likely to result in different levels of organisational agility. These differences can constitute a source of distinctiveness among organisations.

**Management Commitment and Support.** Management commitment and support is important because it has the potential to differentiate successful from unsuccessful e-business investments. Research shows that 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 implementations [30]. 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 [1,25]. This suggests that lack of management support is likely to have little impact on competitive position. In contrast, strong management support is likely to affect organisation-level competitive advantage positively [42].

**Interactions between IT Professionals and E-business Application Users.** Organisational performance is increasingly affected by the nature of the interactions between IT professionals and end-users. When interactions are based upon rich and cooperative dialogue, end-users are more likely to enhance their understanding of the potential IT has to offer. Likewise, IT professionals are more likely to better understand the problems the end-users face [10]. Consequently, rich and quality interactions can be the source of innovative insights, which are vital for developing supporting applications, and are therefore, considered as a key success factor of e-business investments [36]. However, patterns of interactions between IT professionals and end-users are different in different organisations which suggest that innovative insights are likely to be unevenly distributed. This constitutes an opportunity for asymmetric distinctiveness across organisations, and therefore, the accomplishment of competitive advantage becomes possible.

**Organisational Culture.** Organisational culture is important as it affects the employees' orientation towards innovations in general [28,36]. It also creates a climate for either encouraging or discouraging risk taking and experimentation with e-business applications [3]. Boddy et al (2001) argue that there are different types of cultural orientations that can be identified in different organisations. Accordingly, culture is affected by several factors, including the environment, degree of formality, openness, consensus, team and collaborative orientation [25]. All these factors are

likely to create unique cultural profiles for different organisations [5,8]. Consequently, these profiles affect e-business decisions and use patterns in inimitable ways, therefore creating a potential for strategic differentiation among organisations.

**Intellectual Resources.** Intellectual resources include organisational human resources with technical and managerial IT skills. The relatively high mobility of IT employees suggests that some e-business skills may become accessible to competitors [20]. However, Bharadwaj (2000) and Wade & Hulland (2004) argue that due to their distinctive and tacit nature and organisation-specific interpersonal relationships which 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 which serve as source of sustained competitive advantage [35,42].

In table 1 we summarise the factors discussed above into two major categories, namely, business and domain factors.

We argue that the factors themselves should be assessed both qualitatively and quantitatively in terms of the reactive nature of interactions among the factors and the extent to which competitive advantage is generated and sustained. Black & Boal (1994) suggest that the result of the interactions includes three types of relationships, namely, compensatory, enhancing, and suppressing. A compensatory interaction exists when a change in one factor is offset by a change in another factor. An enhancing interaction exists when the presence of one factor amplifies the effect of another factor. Suppressing interactions exist when the presence of one factor adversely affects the impact of another [4]. Further, the factors identified above can affect competitive position in different ways. For example, while organisational linkages may be relatively strong in creating competitive advantage, they may also be relatively weak in sustaining it because they may be easily imitated by competitors. Efforts have been made to assess the ability of e-business to generate and sustain competitive advantage. However, these are only hypothesised rather than proven [42]. In addition, the time dimension over which competitive advantage persists may depend on several factors, including but not limited to industry specific variables, product lifecycle, intellectual property copyrights and patents [43]. Therefore, the measurement of the contribution of time dimension requires special consideration as well.

Table 1 – Business and Human domain factors

Business Domain Factors	Human Domain Factors
- Alignment between IT and overall business strategies (ALIGN)	- Management commitment and support (MGT)
- Inter-organisational linkages (LINK)	- Interaction between IT professionals and end users (INTERACT)
- IT integration with business processes (PROCINTEG)	- Organisational culture (CULTURE)
- Organisational Agility (AGILITY)	- Intellectual IT resources (INTELRES)

#### IV. Methodology and Results From Pilot Interviews

To explore the factors included in the proposed framework, the qualitative methodology of convergent interviewing was used. This choice of methodology was justified for its theory-building capability [7]. This research is exploratory because we need to gather insights into the phenomenon and to provide a better understanding of the issues involved. The convergent interviewing process involved conducting a series of in-depth interviews in which data was collected during each interview, analysed and used to refine the content of *subsequent* interviews. That is, the process was structured although the content of each interview remains unstructured or semi structured to allow for the flexible exploration of the subject matter without determining the answers [7,13]. This process identified important information on which further research may be based (Dick, 1990). The convergent interviews were undertaken with Chief Information Officers (CIOs) and IT managers of the companies in the Australian banking and financial services industry. These managers are key informants because they are closely involved in e-business planning and implementing process in their respective firms and had an understanding of the entire decision making process. A number of 9 interviews have been carried out so far. Participants were from a variety of financial service firms including investment and merchant banks, mortgage and savings banks, building societies, credit unions, and insurance. There are signs of convergence in terms of data patterns on most issues.

Overall, the findings from the convergent interviews provided evidence that e-business application do provide competitive advantages to varying degrees for different organizations, depending on how they have been integrated with the identified factors in the framework. However, e-business applications do not change the general nature of a business. For example, one interviewee commented: "the term e-business can be misleading...there is only business, not e-business...e-business applications are simply tools that a business can use to improve its performance." a

Although top management's support and commitment vary at times, most firms in the financial services industry are committed to e-business and have invested heavily into IT and e-business applications because e-business take-up is considered crucial in this industry. Nevertheless, several participants were consistent in indicating that investments in e-business solutions should be made if they add value to the business rather than to just "stay up to date". The impact of e-business investment on overall business performance vary amongst firms depending largely on the core value proposition and the overall business model. For example, for a startup online bank, success planning and implementation of e-business applications is considered vital as one of the participant stated, "it is a matter of surviving or dying...". Most of the participants took the periodical, systematic

review approach to updating e-business systems. However, IT practitioners generally experience difficulties in keeping up with e-business application developments. One way of doing that is through industry forums where they meet on a regular basis and discuss relevant issues. Although some of the participants encountered resistance from users in the organization in implementing new e-business applications, they generally overcome the resistance rather effectively through structured training programs and providing rationale for the new application well in advance.

There was a general consensus that e-business solutions should be customer-centric and service-oriented. Business process improvement was seen as the main driver of e-business investments. Further, in organizations where working legacy systems are still in use, e-business solutions were seen a means towards their aggregation with the aim of improving business process automation and overall information accessibility. In addition, crucial determinants of the successful implementation and use of e-business systems were a fluid business culture and a continuous involvement of key stakeholders in the development of e-business solutions.

Generally, the preliminary findings described in this paper are consistent with the literature. However, after the research issues have been fine-tuned in stage one, stage two will test for statistical generation across the population of the organisations in the Australian financial services industry, using the methodology of a Web survey. Multiple regression will be used to analyse the survey data to examine the interdependencies of variables.

#### V. Conclusion

There is a general consensus that e-business has become pervasive and relatively easy to acquire in competitive markets. This, however, does not mean that e-business has lost its potential to provide competitive advantage. We argue that potential for distinctiveness exists in the way e-business applications interact with a selected, but non exhaustive list of business and human domain factors within specific time frames. Such interactions are unique and may result in organisation-specific capabilities which may be hard to duplicate. As such, unique interactions constitute a source of competitive advantage. Clearly more systematic empirical study and more detailed formal analyses are needed to confirm and measure these interactions and their resulting contribution to enhance organisational competitive position.

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