

# **Which B2B E-Business Model: The Case of Australian Agribusiness Organisations**

Eric Ng  
University of Southern Queensland

Meredith Lawley  
University of the Sunshine Coast

Jane Summers  
University of Southern Queensland

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## **Abstract**

The growing importance of B2B e-commerce has seen the need for the development of a model to assist in the choice of e-business models. This paper explores the internal and external factors influencing the choice of e-business models using depth interviews and case studies conducted with Australian agribusiness organisations. Sixteen factors, were identified with only 11 regarded as important to the selection of e-business models.

## **Introduction**

E-business is of growing importance with organisations increasingly conducting their activities in the electronic environment (Kalakota & Robinson 1999). This trend is particularly significant in the business-to-business segment where e-business has grown significantly (Strauss & Frost 2001) and is expected to reach approximately US\$2.4 trillion worldwide by the year 2004 (eMarketer 2002). The use of technology has played a major role in many strategic initiatives (such as reengineering and cost-cutting) where attempts have been made to use the benefits of e-business to strengthen customer and supplier relationships, and establish new markets (Hackbarth & Kettinger 2000). E-business requires existing business models to be rethought to reflect the transformation required by organisations to take advantage of this new environment (Barnes & Hunt 2001). Organisations are faced with a wide range of e-business models, with many factors influencing their ultimate choice. The relative newness of e-business and the resulting lack of empirical research to assist organisations in making these choices are issues addressed by this paper. This phenomena is particularly evident in the Australian agribusiness industry.

The Australian agribusiness industry is a significant contributor to the Australian economy, particularly in Queensland, where it accounts for one-third of exports and employs over 80,000 people (Queensland Government, Department of State Development n.d.). Although this industry consists of a large number of small enterprises, many are supportive of the adoption of e-commerce techniques (The Australian Electronic Business Network 1998). The industry also has a high reliance on accurate and timely information, such as weather data and stock information, and large distances between producers and customers further make this sector conducive to the benefits of e-business (Allen Consulting Group 2000). Agribusiness organisations have already utilised e-business to market their products on a global basis

(Allen Consulting Group 2000). Hence, this paper will address the question *'What factors influence the choice of B2B e-business models used by Australian agribusiness organisations?'*

### **Preliminary model**

Current literature on both strategic decision making and B2B e-business models does not adequately address the many complexities facing today's agribusiness organisations. Indeed, the literature is somewhat disparate in that it addresses how organisations should make strategic decisions in general (Song, Calantone & Di Benedetto 2002), and the detail and development of e-business models (Wise & Morrison 2000; Rappa 2001) but nowhere have the two disciplines been combined. Further, the practical and operational issues impacting such decisions for agribusiness organisations, have not been addressed.

While there is no single unique classification system for the types of B2B e-business models (Rappa 2001; Timmers 1999), they are generally grouped into four generic categories. These are: merchant models, manufacturer models, the buy-side model and brokerage models, with the brokerage model having seven distinct sub-models (Rappa 2001; Timmers 1999; Strauss & Frost 2001).

In addition to the complexity of the models themselves, many factors are known to influence the strategic decision making process of organisations (Eisenhardt & Martin 2000), which are also likely to affect the choice of B2B e-business models. The choice of e-business model is a strategic decision as the model chosen will form the framework for the organisation to pursue its business activities in the e-business environment and will also affect an organisations' overall strategic direction (Nwachukwu 2002; Malhotra 2000).

The factors influencing choice of e-business models can be classified into two categories; internal and external (Papadakis, Lioukas & Chambers 1998). The literature suggests 16 influencing factors, of which nine are internal and seven are external in nature (see Figure 1). Based on the literature, a preliminary model was developed suggesting that although the choice of B2B e-business models is a unique strategic decision, traditional factors (both internal and external) that would normally impact such a decision will apply in this context. Further, we intend to examine the relative importance of each of the factors in the strategic decision process as it is our supposition that some of these factors may be more important than others, and in addition differences may also occur based on size and sector.

### **Methodology**

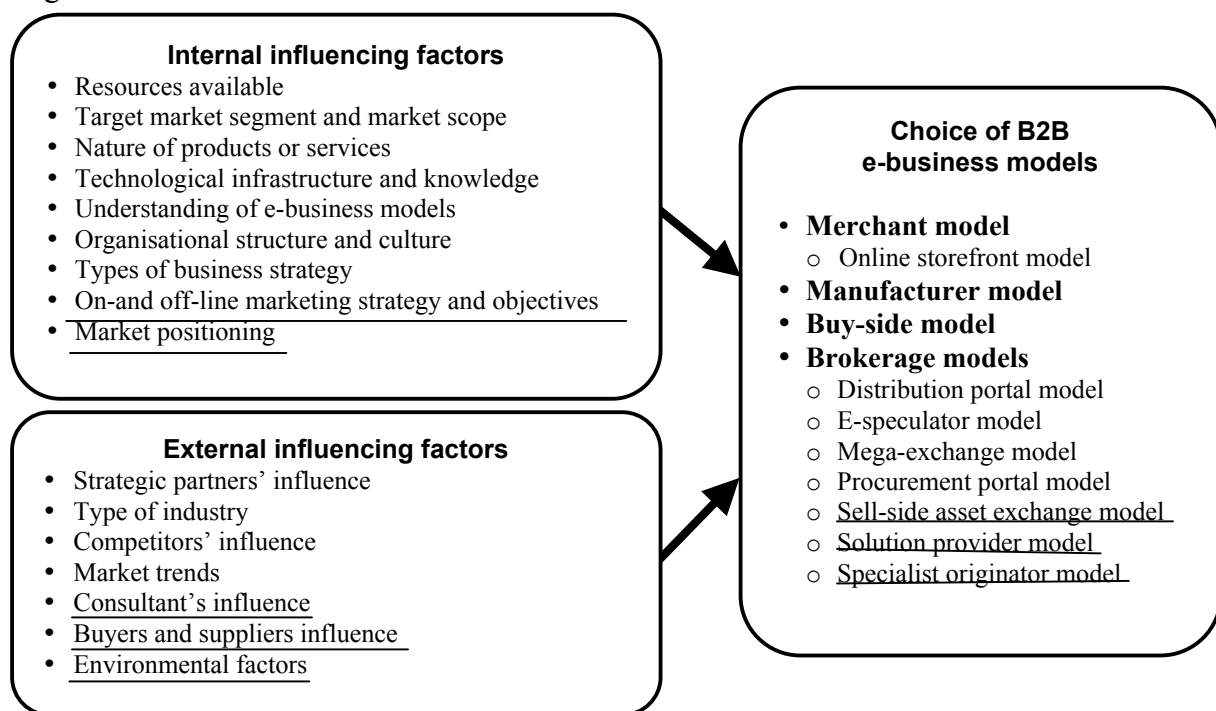
Research for this study was exploratory and was conducted in two stages. Stage one took the form of depth interviews, whilst stage two used a case study methodology. Six depth interviews with e-business experts and industrial professionals were used to investigate the appropriateness of those factors identified in the preliminary model. Furthermore, organisational size and industry sector were also identified as possible influencing factors to the choice of model. Case study research was then used to assist in confirming or disconfirming the preliminary model as several sources confirm the appropriateness of a case study methodology when building theory as in this research (Yin 1994; Perry 1998). Six cases across two sectors, grain and cotton, with organisations that were either intending to conduct, or who were currently conducting B2B e-commerce were selected judgementsly. Two interviews were conducted in each case with the managing director or equivalent and a

middle level manager or operational manager. The findings of this research will be addressed next.

## Results

Based on the results of the depth interviews, three possible changes to the preliminary model were identified. First, five e-business models (the buy-side model, the e-speculator model, the solution provider model, the sell-side asset exchange model and the specialist originator model) within the four generic categories were mentioned by two of the depth interview respondents and hence could possibly reduce the list of models to be investigated. Second, one external influencing factor (environmental factors) could possibly be deleted from the model, as this too was mentioned by two of the depth interview respondents. Finally, the influencing factors have been ordered from most frequently mentioned to least frequently mentioned. However, the full preliminary model will be used as the basis for the next stage of the research where comparisons could be made with findings from the depth interviews (see Figure 1, which includes those factors and models that have been crossed out).

Figure 1: The final model for the selection of B2B e-business models



Source: analysis of field data

Note: influencing factors (internal and external) that have been crossed out are regarded as less important to the choice of B2B e-business models.

Note: models that been crossed out are regarded as less likely to be adopted in the agribusiness industry.

The findings in the second stage of the research supported the 16 factors (internal and external) developed in the preliminary model as influencing the choice of e-business models. However, five of the 16 influencing factors were identified in this study as being of lesser importance to the selection of B2B e-business models with the internal factors appearing to be more influential than the external factors.

Seven of the nine internal factors were identified as important to the selection of e-business models. Respondents suggested that *resources available* and *technological infrastructure and knowledge* were critical in determining the organisation's capability to develop and support the selected e-business model. For example, the mega-exchange model would be suitable for SMEs as this model required a lesser commitment (such as financial and human resources) from these smaller organisations. *Target market segment and market scope* were essential to organisations where customers' needs in the various target market segments must be met with specific models while it was also important that organisations select models that matched the *nature of the products or services* they offered. For example, the solution provider model might be more appropriate in a niche market since organisations could use this model to offer unique and valuable services to specific target markets. A good *understanding of e-business models*, including the nature and benefits of the various e-business models, would provide organisations with theoretical and technical knowledge to determine the suitability of the model to be adopted. Finally, the *types of business strategy* and *organisational structure and culture* were important in setting the foundation for the models to be adopted in order to achieve overall strategic goals. For example, organisations (suppliers) pursuing a defensive strategy of strategic alliance might adopt the distribution portal model as this model would enable suppliers to work as a group where relationships and mutual understanding could be developed and enhanced.

Four of the seven external influencing factors were identified as important in the selection of e-business models. *Strategic partners* were regarded as important since these types of partnerships were formed to achieve common goals and therefore decisions were mutually influential. For example, an organisation (suppliers) that insisted on adopting the distribution portal model might not have the support or agreement of their strategic partners if their intention was to swap orders among themselves to gain efficiency. Therefore, relationships between strategic partners under such circumstances could be damaged. Another important factor was the *type of industry* where organisations would tend to select models that were similar in nature to those used by others in the industry that they were operating in. For example, agribusinesses that offered commodity like products (which required no product differentiation) may find the sell-side asset exchange model suitable as this model enabled the swapping and reselling of orders among a group of suppliers. Finally, *market trends* and *competitors* were seen as essential influencing factors as they could indicate the models that were common and successful while maintaining competitiveness in the industry. For example, organisations that sought to adopt newer e-business models (such as the e-speculator model) were considered to be technologically advanced and capable of keeping up with the market changes.

There were differences in responses for 10 of the 16 factors based on organisational size, current state of e-business model adoption and management perspective. Respondents from large enterprises regarded the types of business strategy and the type of industry as two critical factors in their choice of B2B e-business models, as they acknowledged the importance of the inclusion of e-business activities in the business plan and recognised that specific industry characteristics would influence the nature of the enterprise and thus choice of a suitable e-business model. In contrast, respondents from SMEs were more concerned with three other factors; understanding of e-business models, on-and off-line marketing strategies and objectives and market trends, as they believed that these factors could further enhance the competitiveness of their organisations.

Respondents in organisations that had adopted an e-business model, agreed that the organisational structure and culture, type of industry and competitors' influence were critical to their model selection. Respondents revealed the importance of mission and vision statements in the e-business models selection process and the need to continually observe competitors. On the other hand, respondents in organisations that were intending to adopt e-business models suggested that the on-and off-line marketing strategy and objectives and market trends were crucial because of the need to keep up with market trends. From the management perspective, respondents believed that consultant's advice was important. Respondents agreed that consultants had the expertise and knowledge to provide them with suggestions to assist in making better decisions. In contrast, respondents from operational roles indicated that consultant's influence was not essential as these respondents had minimal involvement in their respective organisations' strategic planning. In addition, respondents suggested that they had very few opportunities to interact with consultants, therefore diminishing the potential influence.

In comparing the preliminary model from the literature with the results from the depth interviews, the findings in this stage of the research confirmed that environmental factors were unimportant to the choice of e-business models. In addition, the findings also suggested that two other external factors (consultant's influence and buyers and suppliers influence) and two of the internal factors (on-and off-line marketing strategy and objectives and market positioning) were also not considered important to the selection of e-business models.

### **Conclusions and implications**

In conclusion, this paper has explored the factors influencing the choice of e-business models for conducting B2B e-commerce in Australian agribusiness organisations. The final model (Figure 1) highlighted the relative importance of those influencing factors and helps to provide a framework to an agribusiness organisation to assist them in making decisions about selection of the most appropriate e-business models. From this framework, managers are able to consider and question the relevance of these criteria and determine the essential factors that require consideration during their selection processes. For example, managers from SMEs might consider resources available to be critical to their selection of models whilst managers from large enterprises would regard organisational structure and culture as important to their choice of models.

This study was exploratory in nature and further conclusive explanatory research is needed to be able to provide a more generalisable model of the factors influencing the choice of B2B e-business models for Australian agribusiness organisations. The final model proposed in this study could also be replicated in other agribusiness sectors, such as the seed sector and the beef sector which were frequently mentioned in either the in-depth interviews or the case studies interviews as potentially involve in e-business. As such, comparisons to the findings could be made to determine if any significance existed between these sectors on the factors influencing the choice of B2B e-business models. In addition, other industries (such as the telecommunications industry) or other countries (such as the United States) could also benefit from considering the implications of this study to their particular contexts since they were regarded as active participants of e-business and findings could also be tested from other perspectives.

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