

DEVELOPMENT OF E-BUSINESS MODELS WITH DIFFERENT STRATEGIC POSITIONS AND COMPARISON OF BUSINESS PERFORMANCES WITH THE MODELS

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INTRODUCTION

E-business is different from conventional off-line based business in many ways. Not only the buying and selling of goods and services but also the servicing of customers and the collaboration with business partners are done on the Internet in an e-business. Information is accessed and absorbed more easily on the Internet than off-lines. Information is also arranged and priced in different ways on the Internet. These differences of an e-business relative to a conventional business create plenty of new opportunities for an e-business that may require different business strategies (Useem, 2000). Hence, it is necessary to develop a new business model with different strategy portfolios to seize these opportunities for a business success. The new business model for an e-business should consist of new coherent business strategies that incorporate the different business environment on the Internet, for a strategy is a carefully devised plan of actions to achieve goals of a company (Jutla et al., 1999; Kenneth et al., 1998; Timmers, 1998). The purpose of this study is to develop e-business models with different strategic positions in the value chain that accommodate unique demands in the e-business environment and then examine the association between e-business models and performance measures.

METHODOLOGY

Data Collection

500 survey questionnaires were e-mailed and 210 were mailed to those subject firms in the list of 2001 Annual Membership Directory of the 'Association of Internet Enterprise' in Korea. A

total of 130 responses were received representing a response rate of about 18.3%. 127 questionnaires were used for analysis after 3 survey questionnaires were discarded for incompleteness.

Analysis and Results

Content validity of the survey instruments was established through the adoption of standard instruments, suggestions in the literature, and pre-testing with professionals in the IS field (Kerlinger, 1986). Construct validity was evaluated by discriminant validity that is the degree to which a construct differs from other constructs and is usually verified through factor analysis. From the factor analysis, 6 strategic factors (Comparative advantage, Expansion, Process, Concentration, Low Price, and Product Improvement) with Eigen-value greater than 1 were selected. Since 3 strategic variables such as 'Promoting Advertisement for E-commerce,' 'Product Specialization,' and 'Targeting High Price Market' did not exhibit high discriminant validity (loadings < 0.5), only 19 strategic variables out of the initial 22 were loaded to 6 strategic factors. Internal coherence amongst determinants of each strategic factor was measured by the Cronbach's alpha coefficient, and the coefficients of all 6 strategic factors were larger than 0.5252, indicating that internal coherence among determinants is good (Nunnally, 1978). Each strategic factor identified by factor analysis has its own strategic behavior. These different behaviors are described in Table 1.

Factor	Interpretation
Comparative Advantage	Focus on retaining comparative advantage on diverse fields such as product, cost, price, and human resource
Expansion	Focus on distribution channel and marketing effort to establish reputation within an e-business industry and to enhance customer service
Process	Focus on business process by investing research on business process, innovating the process, utilizing material effectively, and applying strict quality control
Concentration	Concentrate on a certain geographic area, a limited number of product, and inventory control
Low Price	Focus on low price to defeat competitors in e-business market
Product Improvement	Focus on continuous product improvement

Using the cluster analysis introduced by Hambrick (1983), 5 e-business models with various emphases on strategic factors were developed. The result of cluster analysis shows that 4 models (model 1, 2, 3, & 4) take multiple core strategies, while model 5 takes single core strategy, product improvement. Table 2 describes strategic behaviors of each model (cluster) in details. Each model behaves differently for competition.

Cluster	Strategy	Description
1	Comparative Advantage & Concentration	This model focuses on comparative advantage and concentration strategies. Companies utilizing this strategy involve product diversification, product and service development, skilled human resource arrangement, competitive pricing, low cost focus, advertisement, and low inventory level. They also are interested in providing a limited product to a limited market segment to focus on a market.
2	Expandability & Low Price	This model focuses on expandability and low price. Companies utilizing this strategy invest in Internet marketing to establish name on e-business industry, try to set up powerful influence on distribution channel, and expand customer service. They also focus on low price market.
3	Expandability & Product Improvement	This model focuses on expandability and product improvement. Companies utilizing this strategy rely on the expandability strategy and try to improve its product quality.
4	Comparative Advantage & Process Focus	This model focuses on comparative advantage and business process. In addition to the comparative advantage strategy, companies utilizing this strategy invest in research on innovative business process, quality control process, and better utilization of material.
5	Product Improvement	This model focuses only on product improvement. This strategy is simple and also powerful on the product innovation, but has limitations on environmental changes.

Since e-business models are developed and performance measures are measured, the relationship between e-business models and performance measures are investigated. This study conducted MANOVA tests to examine if e-business models affect their business performances. The results from this MANOVA test show that F-value is 8.98 ($P < 0.0001$), which means that the e-business models affect the business performance. Finally, the association between e-business models and performance measures is analyzed using Duncan grouping method where each business model is given a letter grade of A, B, and C for its performance in terms of four different performance measures. As shown in Table 8, Model 4 with the strategic emphases on 'comparative advantage' and 'concentration' has the highest performance mean and hence grade of A in all four performance measures. Model 3 with the strategic emphases on expansion and product improvement has the second highest performance mean in all four performance measures but earns 3 A's with 1 B. Model 2 with the strategic emphases on expansion and low price has the median performance mean but earns only 2 A's with 2 B's. Model 1 with the strategic emphases on 'comparative advantage' and 'concentration' has the second lowest performance mean and earns 2 B's, 1 A, & 1 C. Model 5 with the strategic emphasis on product improvement has the lowest performance mean and earns 2 B's with 2 C's.

Statistic	Value	F Value		Num DF		Den DF		Pr > F	
Wilks' Lambda	0.71693	3.48		12		315.14		<.0001	
		Return on Equity (ROE)		Return on Sale (ROS)		Return on Assets (ROA)		Sales Growth Rate (SGR)	
Cluster	N	Mean	D/G*	Mean	D/G*	Mean	D/G*	Mean	D/G*
4	20	3.9000	A	3.650	A	3.650	A	4.100	A
3	15	3.8000	A	3.467	A	3.533	A	3.667	B
2	26	3.6923	A	3.192	B	3.346	A	3.462	B
1	32	3.2188	B	3.000	B	3.125	A	3.094	C
5	33	2.5152	C	2.546	B	2.364	B	2.546	C

*: Duncan Grouping

CONCLUSIONS AND IMPLICATIONS

This study found that e-business models with dual core strategies outperform e-business model with one core strategy. Among those e-business models with dual core business strategies, model 4 with 'comparative advantage' and 'concentration' as core strategies performs best, which is followed by model 3, model 2, and model 1 in the order of the performance. According to the results of this study, companies should pay attention to the strategies such as 'comparative advantage' and 'concentration' to compete very best with other companies. The findings of the study have interesting implications for practice. E-business companies that want to compete with other e-business companies should focus on multiple core strategies rather than a single strategy. When they select one of e-business models with a strategic consideration, they should check where they put their emphases. The results of this study may be one of the guidelines in practice when companies choose their strategic e-business model.

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