A Model for Assessing the Impact of Electronic Commerce On Businesses in New Zealand —A Blend of Multiple Criteria and Structural Equation Modelling Approach

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1. Introduction

This research is inspired by the fast development of electronic commerce (EC) applications and a lack of analysis models of the application in New Zealand. Before adopting EC, organizations need to assess its real business value and benefit, and to compare its costs with those of the associated investment. The intangible nature and multi-criteria nature of most EC benefits may make it difficult to assess an actual business case. Suitable approaches, models and tools are needed to conduct the pre-investment assessment exercise. However, our literature research shows that no comprehensive model has been developed to assess the benefit and cost of EC.

The principal aim of this research project is to develop a model for assessing the impact of EC in businesses of New Zealand. This project will develop a multiple criteria-based benefit-cost model for assessing the impact of EC and evaluating EC investment in business. The model of EC assessment can be applied to assist in obtaining insights on the real benefits, costs and risks of EC investment for business in New Zealand. Such an understanding of the business value of EC will encourage more organizations to effectively plan and implement EC projects. This project will, therefore, contribute significantly to the state of the art of EC applications and research in New Zealand.

2. Literature Review

Literature review shows that the research on EC has been diverse. Most of the research on the adoption of EC has been exploratory in nature. Most researchers have primarily investigated the opportunities and problems with EC as perceived by the participants in the case studies or survey. Suggestions then followed to improve the situation. No comprehensive model was developed to assess the benefit and cost of EC. No causal relationships were developed between the adoption variables and other contextual variables to explain the causes of the failed or successful adoption process of EC. There is a gap between the organization need to assess its benefit for adapting EC and appropriate assessing models. Can a particular business use EC to reduce cost and increase competitiveness? What kinds of cost can be reduced and what kinds of benefit can be increased through developing EC applications? These questions have not been answered so far .

3. Research Methodology

This research will be conducted using a quantitative research method. The primary data will be collected by a survey to companies in New Zealand. The sample size for that has been chosen as 200 organizations involved in EC. The sample will be selected by a stratified sampling method covering the New Zealand businesses who have ventured into some sort of EC. The survey will be conducted in two steps. Step 1 will be a pilot study. Step 2 consists a mail, email and web-based survey. A survey-based database will be developed based on 200 companies that have publicly identified themselves as involved with some aspect of EC development and application in New Zealand. A Structural Equation Modeling (SEM) approach will be taken to develop the valid and reliable measurement model

We have developed an initial conceptual model of EC application. We have identified variables of this model and the contents of the benefit/cost of EC. We are seeking feedback, comments, and suggestions for our research. We also welcome cooperative research proposals from industry, institutions and individuals.