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Distributed Batch Processing for Consumer's Behavior

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Abstract
This study presents a distributed batch processing model for understanding consumers purchase behavior. An intelligent system was developed and conducted to test the model. The results indicate that corporate social responsibility has a positive impact to purchase. Consumer's progressive decision making orientation has a positive impacts on purchase behavior. Social planning, and stakeholder integration positive impact to purchase behavior. According to the results of empirical study, implications and suggestion for future research are discussed.
Key words: *Artificial intelligent；Distributed；Batch Processing；Big Data*

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I. Introduction

During the process of online shopping, if the information sending system combined with biological characters and précising marketing could be developed, it would be helpful for the retailers to hold all situations about their consumers. Retailers can understand their consumers' buying online through computers, and mobiles tools simultaneously or asynchronously.[1]. Kopf et al.[2] use a standard technique to estimate scene depth, but assign depths to image gradients rather than pixels.

Sun and Chen[3][4]use the window media play in the protocol of RTP/RTSP, Client/Server embedded intelligent analysis and sending intelligent agent to make it smart. Chen combines the swarm intelligence and Web Services to transform a conventional library system into an intelligent library system having high integrity, usability, correctness, and reliability software for readers [5][6].

This study presents a distributed batch processing model for understanding consumers biological purchase behavior. An intelligent system was developed and conducted to test the model. We test that if corporate social responsibility, consumer's progressive decision making orientation, social planning, and stakeholder integration impact to purchase.

Theoretical Background and Research Model development

We review the literature related to our main constructs before detailing research model development, suggesting that corporate social responsibility, consumer's progressive decision making orientation, social planning, and stakeholder integration positively associate with purchase. Figure 1 presents the nomological model of this study.

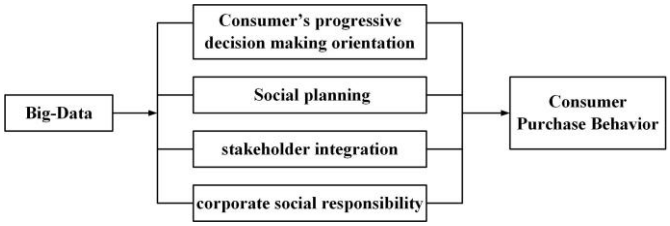

Figure 1 nomological model

First, the integration of multiple stakeholders needs to take place when important stakeholders (employees, customers, community organizations, perhaps even government regulatory agencies) directly interact with each other. For the firm, the capability of stakeholder integration refers to "the ability to establish trust-based collaborative relationships with a wide variety of stakeholders" [7]. Effective stakeholder integration makes the use of strategic positioning more likely as the firm is sensitive to the interrelatedness of its stakeholders.

Research indicates that effective collaboration with stakeholders generates significant economic benefits for firms[8]. For example, a supplier may work with the firm in project teams that seek to make the supply chain eco-efficient. Such joint action may induce innovation that reduces costs for both firms. The social issues that arise in such situations are complex and often need the participation of diverse stakeholders[9]. Firms that know how to engage their stakeholders effectively through dialogue and joint problem solving are more likely to achieve a strategic social positioning.

The capability of continuous innovation also plays a key role in obtaining a strategic social positioning. Both process and product innovations are vital to creating social and economic value for firms in competitive markets[10]. Hart [11] originally wrote of "continuous improvement" in relation to the impact of total quality management capabilities on environmental management. This article follows Sharma and Vredenburg[12] by using the term "continuous innovation" and adapts it to refer to the firm's ability to experiment and continuously improve social projects, impacts, and stakeholder relationships. Such innovation enables the firm to obtain a market position as a cost leader or product differentiator[13]. Growing research confirms the tight link between research and development and corporate social responsibility[14]. The direction of the causality appears to be two way. On the one hand, firms can use social objectives to motivate product and process innovation[15]. General Electric (GE)'s Healthy imagination and Ecomagination initiatives represent the investment of billions of dollars in research and development in order to achieve social and environmental objectives. Furthermore, social and environmental programs may stimulate the development of competitively valuable resources and that will allow the firm to create economic value. On the other hand, firms that possess a capability for continuous innovation in developing new products and services for the market are more likely to use that same capability in other arenas, such as its positioning with respect to changing social expectations and issues in ways..

Social strategy generates economic value through social projects via strategic social positioning and social planning. The presence of powerful stakeholders and corporate values increase the use of social planning, while the industry competitive environment and firm resources drive strategic social positioning. Generally speaking social strategy creates economic value for the firm via improved firm reputation[16], product differentiation[19]or process innovation. Social positioning may provide additional avenues for value creation. There appears to be a tight link between proactive business strategies and proactive social and environmental strategies [17]. Although the relationship among proactive business strategy, social positioning, and value creation is unclear, there is evidence that firms can obtain first-mover advantages by making environmental investments before the competition[18].

II. Research methodology and design

Data collection and research design

This study is based on an online questionnaire and selected sample firms from the Information Management Association (IMA), International Service Industry Association (CISA), and International Trade Executives Association (ITEA) from July 2013 to October 2014. Recipients of the survey are CEOs or senior managers of sample firms (Manufacturing sector 21.7%, Information Technology sector 12.6%, Food and beverage service sector 12.1%, Others service sector 10.6%, Tourism sector 10.6%, Finance and insurance sector 9.2%, Medical Treatment & Health Care sector 8.2%, Logistic retailing sector 10.2%, Trading sector 4.8%).

According to the sample plan, the sample company adopts method of questionnaire survey, and the sampling sample is 300. Sampling yields 297 useful questionnaires, a response valid rate of 97%.We design the questionnaire by considering related works and experts' views. After the first draft is completed, a pretest is undertaken with established leaders in outsourcing value co-creation in the IT industries to amend any part perceived to have a dubious presentation. Therefore, questionnaire recipients could understand the questions in the official survey, and a satisfactory completion of the questionnaire is ensured. All aspects are assessed using a five-point Likert scale from 1 = 'strongly disagree' to 5 = 'strongly agree'.

Analysis method

The method chosen to analyze the data is the structural equations method, using the Partial Least Squares (PLS) technique. This technique is designed to reflect the theoretical and empirical characteristics of social sciences and behavioral characteristics, in which we often find theories with insufficient support or little information available. More specifically, we use Smart PLS 2.0 build M3.

III. Research Results

Structural equation modeling (SEM) technique is used to test the hypotheses. SmartPLS software is used to analyze the data.We first examine the instrument (the measurement model) to assess reliability and validity before testing the structural model using the level of significance of the path coefficients and the variance explained (R square measures).

Measurement model

We assess Cronbach's alpha, the composite reliability of constructs, average variance extracted (AVE), R square, and communality to test convergent validity. As shown in Table 2, the Cronbach's alpha values of all constructs range from 0.573 to 0.980. Composite reliability values range from 0.782 to 0.987 and are above the benchmark value of 0.70, suggesting acceptable degrees of internal consistency of each construct. AVE values range from 0.643 to 0.962. Communality values range from 0.841 to 0.964 and are above the benchmark value of 0.50. This will indicate that the model explains most of the variation for those variables.

The second criterion requires that the square root of AVE shall be greater than the correlations between the constructs. As seen in Table 3, the square roots of AVEs (diagonal elements) are higher than the correlation between constructs (off-diagonal elements). The results support the discriminant validity of the scale used. These results indicate that the measurement model has satisfactory convergent validity.

IV. Discussion

We formulate four hypotheses and conduct a field study to develop our understanding of how corporate social responsibility, consumer's progressive decision making orientation, social planning, and stakeholder integration t impact consumer purchase in an organizational context. We might this understanding inform managers about appropriate strategies for leveraging IT outsourcing as part of a value-creating strategy for consumer purchase.

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