The Analyses of Causality Relationships for Service Brands Development

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Abstract—**The globally intensive competition of the business environment has forced the service corporations to gain the trust customer relationship. Developing the service brands and effective management will achieve the customer trust and intimate customer relationship. How to successfully build the service brands is a critical issue for the service industries. In this research, we want to examine the core capability of the brand development for service organizations. Based on the literature review and experts interviews, we can develop an integrated model, which is constituted by five constructs: business model, brand development, service quality, customer value, and business performance.**
Based on the integrated model, a structure equation model (SEM) can be proposed, which is used for the causality analyses for service firms to build their owned brand, and then we conduct the related empirical study. Based on the statistic analyses, the causalities among the constructs of SEM model can be confirmed. 'Business model' is the fundamental force for the brand development, which can result in better 'customer value' and then the 'business performance', especially the financial performance. Besides the brand marketing, the service firms need to realize the practices of quality management and customer relation management.

Keywords-component; service industries; brand development; customer value; SEM model

I. INTRODUCTION

Going to the new century, 'service' plays a crucial role, and is also an important source of economic growth for most countries across the world (Sohel-Uz-Zaman & Anjalin, 2011). Which can be evidenced from three perspectives; (1) The current marketing has moved from a goods-dominant focus to a services-dominant focus (Vargo & Lusch, 2004). (2) The service industries contribute to huge part of GDP, and they are also the biggest contributors to the labor employment in most countries (Sohel-Uz-Zaman & Anjalin, 2011). (3) The manufacturing enterprises raise their competitive advantage through providing value-added services along with their core products (Sohel-Uz-Zaman & Anjalin, 2011).

Many new service industries have been emerged due to the needs of new services (Sohel-Uz-Zaman & Anjalin, 2011), and huge amount of new rivals enter the existing service industries. As a result, the service industries have been forced to a intensely competition caused by the fast changing business environment. How to raise the competitive advantage becomes the critical strategy for the service industries. They are aware of the changing from product/service-focused to customer-focused. A firm's competitive advantage can be resulted in with developing intense customer relationship (Palmer, 1996). Since service is non-physical and intangible, the consumers can not pre-see the service contents and the delivery ways, and the service outcomes are also uncertain. It means that 'service buying' embeds a high degree of buyer uncertainty, which is a risk for consumers (Palmer, 1996). Thus the service providers use the pursuit of intimate customer relationship to reduce the risk of 'service buying'.

The service branding can be acted as a substitute for the customer relationship in reducing buyers' exposure to risk (Palmer, 1996). Service branding can be found to simplify the consumers' decision-making process, since the branding can provides a sense of security and consistency to customers, which may be absent outside a relationship between service providers and customers (Palmer, 1996). As a result, many service providers develop their owner brands, they have intended to raise their competitive advantage during the process of globalization. But 'brand development' is not an assurance of better customer loyalty and good business performance. It is therefore that 'service brand' is a critical issue which is worthy to pay attention on the related researches.

There are several important researches related to 'service brand', which can be referred by this research. Palmer (1996) research studied the synthesis of the relationship marketing and brand building. Dall' Olmo Riley, & de Chernatony (2000) utilized the expert interviews to study the service marketing, and they found that the service brand can be acted as a 'relationship builder'. Cheng et al. (2005) proposed a three stages model of international brand development, and conducted the case study with using eight firms in South Korea and Taiwan. Brodie et al. (2009) discussed the understanding of branding from the service perspective and how the customers' brand image influence the customers' perceived value and customer loyalty.

He et al. (2012) proposed an integrating brand identification model, and conducted the related empirical studies. They confirmed that brand identification can result in direct and indirect effects on customers' perceived value, satisfaction and trust, which are the antecedents of customer loyalty. Santos-Vijande (2013) developed a multidimensional brand management system (BMS), which comprises three constructs: brand orientation, internal branding, and strategic brand management. BMS can sustain brand-building activities and brand equity creation.

These researches emphasized that if the service industries can integrate brand building, brand identification, relationship marketing, develop BMS and really implement it, then they will raise the customers' perceived value and loyalty. Thus it is an essential strategy for the service industries to develop their own service brands. However, there are very few service enterprises that successfully develop their service brands. Therefore in this research we want to discuss the causality relationships among the key constructs for service firms to build their owned brand. We first try to develop an integrated business model. Then we will propose a structure equation model (SEM) based on this integrated business model. This SEM model can be used to identify the causality relationships for successfully develop the service brands.

II. THE DEVELOPMENT OF RESEARCH MODELS

In order to develop an appropriate analytic model, we first refer several critical researches. Johnson (2008) developed a successful business model which can fulfill a customer value proposition (CVP) based on the profitable ways using certain critical resources and key processes. The brand management system (BMS) proposed by Santos-Vijande (2013) comprising the dimensions: brand orientation, internal branding, and strategic brand management. Their conceptual model shows that the effective implementation of BMS is driven by 'innovativeness' and 'market orientation', and will result in 'customer performance', and then contributes to business performance (Santos-Vijande 2013). The conceptual model and hypotheses of customers' brand perceptions developed by Brodie et al. (2009), which consists of 'brand image', 'company impact', 'employee trust', and 'company trust'. This conceptual model shows the customers' perceptions of brand how to affect the service quality-customer value-customer loyalty process. Besides these critical researches, we also refer several related researches mentioned in the above section.

We then develop a 'service brand building and business management model' as the research model based on the referred researches, especially the work of Brodie et al. (2009). We originally consider five constructs: business model, brand development, goods/services development, customer value, and business performance, in which each construct constitutes three to five evaluation items. In order to develop an appropriate model, we held two times panel discussions. We invited ten high managers and professors with enough experience or research in brand management, marketing, or business management: two professors, three general managers, four vice general managers, and one consultant, as the participants. During the panel discussions, the constructs and the related items are deeply discussed, constructs 'brand development' and 'goods/services development' are revised as 'brand strategy' and 'service quality' respectively, and several items in these constructs are also revised. Based on the unanimity of the participants, the final constructs and their elements are as follows:

- Business model: company vision, leadership, businessoperations, and key resources and key processes;

- Brand strategy: brand concept, brand development, and brand marketing;

- Service quality: service features, value-added services, and service commitment;

- Customer value:commitment to customers, innovativecustomer service, customers' perceived value,customerrelationship management(CRM),and loyalty management;

- Business performance: brand identification, companyimage,financialperformance, and stakeholders' satisfaction.

In order to analyze the causalities among these constructs, and want to determine the critical elements which can be considered as the core capability for the service brand development and business management, we propose a structural equation model (SEM) by using LISREL terminology (see Figure 1), which can express the causal relationships among these five constructs. Since 'business model' is very critical for the brand development, and the creation of business performance, 'business model' is considered as the latent independent variable in this proposed model, and the other four constructs are the latent dependent variables. The key parameters in this SEM are:

- ξ_1, which is the latent independent variable;

- X1…X4, which are the observed variables for this

- independent variable;

- $\eta_1…\eta_4$, which are the four latent dependent variables,

- and

- Y1…Y15, which are the indicators of these dependent variables.

Using LISREL model, the latent variables are measured by a varying number of corresponds to two or four questions considered in the questionnaire. The latent variables and their related manifest variables are listed in Table 1.

Utilization of SEM has the theoretical support. The structural equation model consists of two parts (Bollen, 1989). The first part is the structural equation for the latent variables model as follows:

$$\eta = B\eta + \Gamma\xi + \zeta \qquad (1)$$

In which:

η is the vector of latent endogenous variables (four atent dependent variables);

B is a coefficient matrix for the latent endogenous variables;

ξ is the vector of the latent exogenous variable (thelatent independent variable); and

Γ is a coefficient matrix for the latent exogenous variable; and

ζ is the error term included in the structural equation. The second part of SEM consists of the structural equations for the measurement model;

$$X = \Lambda_X \xi + \delta \qquad (2)$$

$$Y = \Lambda_Y \eta + \varepsilon \qquad (3)$$

In which:

X is the vector of the observed indicators of ξ (the latent exogenous variables), there are 6 indicators of ξ in the present study;

Y is the vector of the observed indicators of η (the latent endogenous variables), there are 15 indicators of η ;

Λ_X and Λ_Y are the coefficient matrices that link the latent variables and manifest variables in equations (2) and (3) respectively;

δ and ε are the error terms of equations (2) and (3) respectively.

TABLE 1: LATENT AND MANIFEST VARIABLES.

Latent variable	Manifest variable	Number of questions
Business model	Company vision (X_1)	3
(ξ_1)	Leadership (X_2)	3
	Business operations (X_3)	4
	Key resources & key processes (X_4)	3
Brand strategy	Brand concept (Y_1)	3
(η_1)	Brand development (Y_2)	5
	Brand marketing (Y_3)	3
Service quality	Service attributes (Y_4)	3
(η_2)	Value-added services (Y_5)	2
	Service commitment (Y_6)	4
Customer value	Commitment to customers (Y_7)	3
(η_3)	Innovative customer service (Y_8)	2
	Customers' perceived value (Y_9)	2
	Customer relationship management (Y_{10})	3
	Loyalty management (Y_{11})	2
Business performance	Brand identification (Y_{12})	2
(η_4)	Company image (Y_{13})	2
	Financial performance (Y_{14})	2
	Stakeholders' satisfaction (Y_{15})	4

III. THE EMPIRICAL STUDY OF SEM

Usually questionnaire survey is the research tool used in the SEM methodology and the related LISREI analyses. In this section we will state the questionnaire survey including the questionnaire design, sampling, and survey.

A. Questionnaire design

In the panel discussions, we also determined the questions used to express the contents of the manifest variables in each latent variable. Using these questions, the questionnaire was developed, which was used to test the causal relationships of the latent variables and manifest variables within the SEM. The format of the questionnaire is aimed to show the implementation level and performance degree of each variable (and constituent items), which were measured on a five-point Likert-type scale. Respondents were asked to indicate their actual implementation level or performance degree of each measurement item. A pre-test was conducted with nine experts to confirm the validity of the proposed questionnaire.
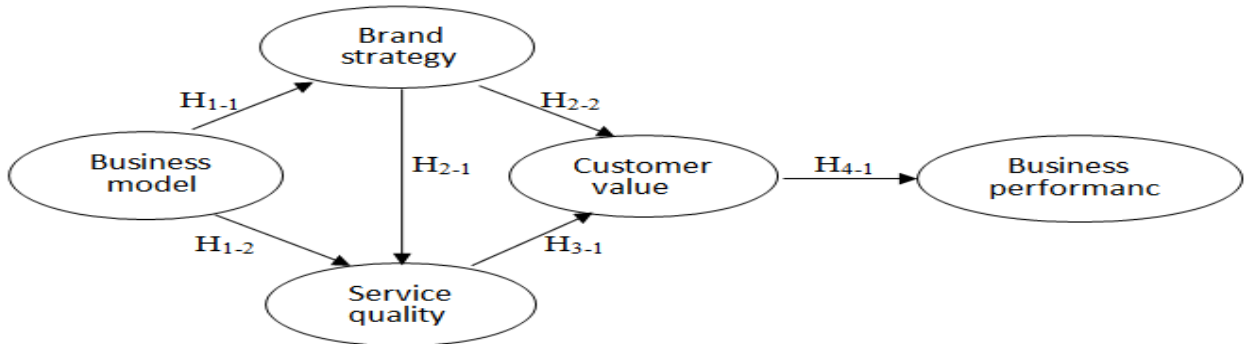

FIGURE 1: THE SERVICE BRAND BUILDING AND BUSINESS MANAGEMENT MODELUSED FOR SEM

B. Sampling and survey

We considered the service companies in Taiwan, which have their owner brands or plan to develop the brands as the participants. Though it is very difficult to find the suitable potential respondents, we obtained many assistance from governments, and the Chinese Productivity Center (CPC) and the Corporate Synergy Development Center, both of which are

non-profit consultant organisations supported by the Taiwan government. We sent about 700 questionnaires to the potential samples These agencies supplied 856 samples in these three scientific parks from March, 2013 to Lune, 2013 by e-mail or post-mail. A total of 278 responses were received, of which 261 were considered valid for further analysis. As shown in Table 2, these 261 respondents were distributed across a range of service sectors.

IV. THE ANALYTIC RESULTS

In this section we first discuss the reliability and validity, and the evaluation of goodness-of-fit results of the statistical analyses. After these critical assessment and evaluation are confirmed, then the main analyses of causal relationships and the finding of critical elements of core capability for service brand building can be conducted.

A. Reliability and validity

Since there are 261 valid respondents, it is enough for the analysis of SEM (Hair et al., 1998; 2006), and the application method of maximum likelihood estimation (MLE) is very appropriate. In this research the statistical software LISREL is used to analyze the casual relationships.

The assessment of the reliability and validity of the constructs is the prerequisite for the further analyses. The reliability can be confirmed when Cronbach's alpha coefficient for all the latent variables was found to be well above the accepted threshold value of 0.75 (Cronbach et al., 1965; Litwin, 1995). In this research, the Cronbach's alpha coefficients are ranged from 0.906 to 0.920, so the reliability is accepted.

The assessment of validity includes the content validity and the construct validity. The content validity can be assumed because the design of the questionnaire was based on the well-developed constructs and their related elements, which had discussed by the panel discussions. Construct validity can be confirmed by factor loading the corresponding endogenous and exogenous latent constructs. In this research, the values of factor loading of the latent constructs are ranged from 0.762 to 0.856, which are greater than the threshold level of 0.4 proposed by Nunnally and Berstein (1994). These results demonstrated the convergent validity, and then the identification of the measurement model can be accepted (Kellowway, 1998).

B. Evaluation of goodness-of-fit

The evaluation of goodness-of-fit is very critical for the developed SEM model (Hair et al., 1998). There are several evaluation methods used to evaluate the goodness-of-fit, which are divided into three kinds: measure of absolute fit, incremental fit measure, and parsimonious fit measure (Hair et al., 1998). In the present study, we use eleven evaluation methods included in these three kinds, which are commonly used by the researchers, see Table 2. All the evaluation values

are well satisfied the recommended values proposed by several researches (Hair et al., 1998; Kelloway, 1998; Doll et al., 1994; Salinas and Perez, 2009; Hu and Bentler, 1999; Mulaik et al., 1989). Thus these measures indicate that this model is acceptable and well developed

TABLE 2: THE "GOODNESS-OF-FIT" INDICES FOR DEVELOPED SEM.

Measure index	Value	Recommended value
Measure of absolute fit		
Chi-square	472.27	
p-value	0.00	
Degree of freedom	147	
Normed chi-square	3.213	$2 \leq df \leq 5$
GFI	0.84	≥ 0.8 or 0.9
RMSEA	0.092	≥ 0.08 and ≤ 0.10
Incremental fit measures		
NFI	0.96	≥ 0.9
NNFI	0.97	≥ 0.9
CFI	0.97	≥ 0.9
IFI	0.97	≥ 0.9
RFI	0.96	≥ 0.9
Parsimonious fit measures		
PNFI	0.83	≥ 0.5

C. The causality relationships

In this research, we analyze the causality relationships among the latent variables and their involving items by using JISREL software. The analytic results are displayed in Figure 2, and the convergent validity and reliability of the scales are listed in Table 3.

From Table 3, it can be concluded that the convergent validity of all the constituent elements of the latent variables are significant. Besides, all the composite reliability coefficients (CRC) are greater than 0.6, and the extracted variance analysis (EVA) were greater than 0.5. These results satisfied the requirements of convergentvalidity of the measurement model (Salinas and Perez, 2009). As a result, the proposed model 'The service brand building and business management model' is thus confirmed, and the latent exogenous variable 'business model' drives all the endogenous variables: brand strategy, service quality, customer value, and business performance.

The path coefficients of the SEM are shown in Table 4. These results indicate that:

- 'Business model' strongly affected both the 'brand strategy' and 'service quality';

- 'Brand strategy' had a direct and significant influence on 'service quality', but only had a moderate influences on 'customer value';

- 'Service quality' had a direct and positive influence on the 'customer value';

- 'Customer value' had a direct and strongly positive influence on the 'business performance'.
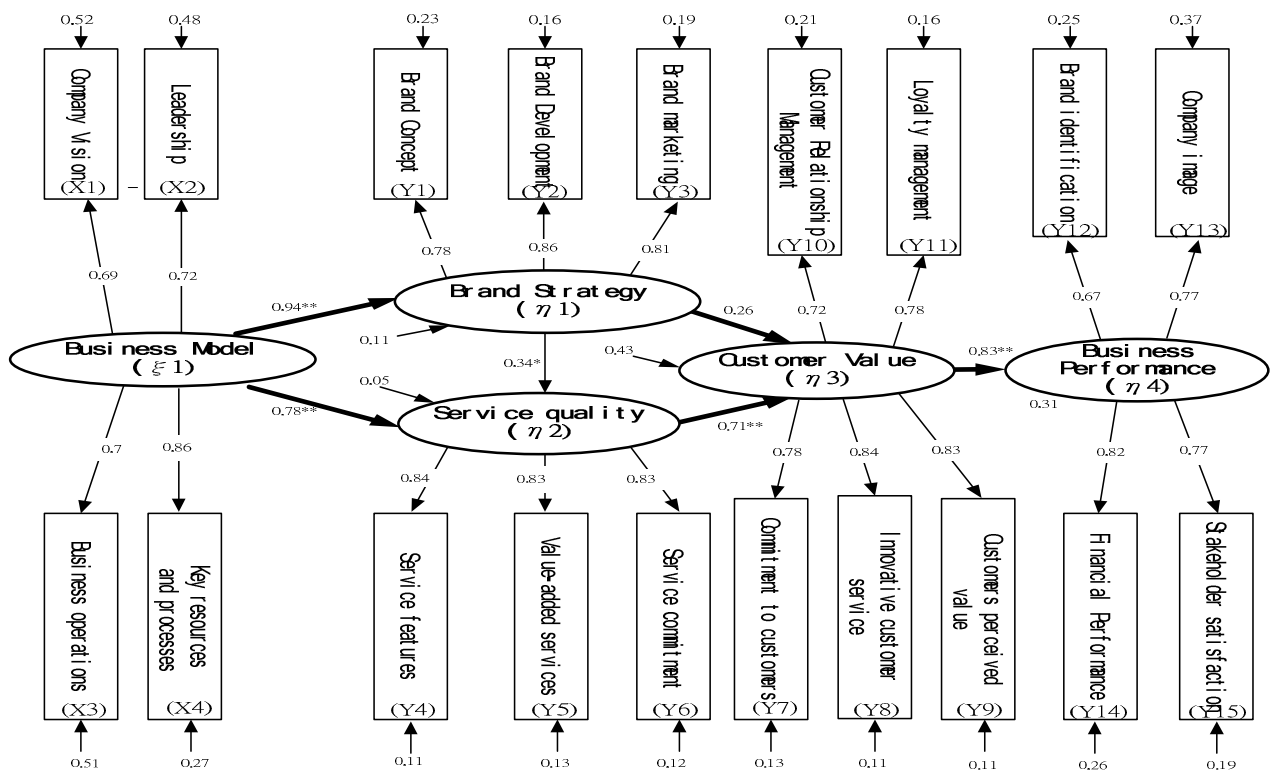
FIGURE 2 THE ANALYTIC RESULTS OF THE SEM

NOTE: ** is p-value < 0.01 , * is p-value < 0.05

TABLE 3: CONVERGENT VALIDITY AND RELIABILITY OF THE SCALES

Latent variable	Item	Convergent validity		Error	Reliability	
		λ (>0.5)	α ($\leq$.05)	ε	CRC(>0.6)	EVA(>0.5)
Business model	X_1	0.70*	0.04	0.52	0.836	0.561
	X_2	0.73*	0.04	0.47		
	X_3	0.70*	0.04	0.50		
	X_4	0.86*	0.04	0.27		
Brand strategy	Y_1	0.78*	0.01	0.39	0.857	0.667
	Y_2	0.81*	0.04	0.34		
	Y_3	0.86*	0.04	0.27		
Service quality	Y_4	0.84*	0.01	0.29	0.875	0.70
	Y_5	0.84*	0.03	0.30		
	Y_6	0.83*	0.03	0.31		
Customer value	Y_7	0.78*	0.01	0.39	0.893	0.627
	Y_8	0.84*	0.03	0.29		
	Y_9	0.83*	0.03	0.30		
	Y_{10}	0.72*	0.04	0.48		
	Y_{11}	0.78*	0.04	0.40		
Business performance	Y_{12}	0.82*	0.05	0.32	0.845	0.579
	Y_{13}	0.77*	0.05	0.40		
	Y_{14}	0.67*	0.01	0.55		
	Y_{15}	0.77*	0.05	0.41		

TABLE 4: PATH COEFFICIENTS (T-VALUES) FOR STRUCTURAL MODEL SEM

Path	Causal relationship	Path coefficient	t-value	Statistic test
γ_{11}	Business model → Brand strategy	0.94**	13.44	very significant
γ_{12}	Business model → Service quality	0.78**	12.19	very significant
β_{12}	Brand strategy → Service quality	0.34*	6.01	significant
β_{13}	Brand strategy → Customer value	0.26	1.12	not significant
β_{23}	Service quality → Customer value	0.71**	10.43	very significant
β_{34}	Customer value → Business performance	0.83**	10.37	very significant

V. MANAGEMENT IMPLICATIONS

From the research results, we can conclude that 'business model' is the fundamental force to drive the practices of the four constructs, in which 'company vision' and 'key resources and processes' are the critical factors. If a service firm want to develop its owner brands successfully, then it needs to manage the suitable business model. In Table 4, only the path coefficient 'brand strategy → customer value' is not significant. It means that brand strategy does not assure the better 'customer value', but the building of brands will push the improvement of service quality. As the service quality has raised, the customers will perceive high value. As a result, 'brand strategy' has indirect effects on the 'customer value'.

During the brand development, the brand marketing is very critical. Usually the customers do not easy to accept the new brands. It is therefore that the firms need to enhance customers' brand identification through promotion and marketing of the new brands. They also improve the service quality and implement the CRM system simultaneously, in order to raise the customers' relationship and their perceived value of the new brands.

VI. CONCLUSION

More and more service companies wand to develop their owner brands, since the successful brand building will result in huge business performances, especially the financial performance. But several researches asserted that the success rate of brand building is very low. The results of this study can provide valuable suggestions to the service industries.

Based on the causality analyses in this research, the firms need to set up and organize a suitable business model, which must successfully utilize the key resources and processes.

'Service quality' and 'customer relationship' are the key determinants of 'customer value', which is the critical factor for managing the customer loyalty. Besides the brand marketing and promotion, the service firms must to realize the practices of quality management, for examples, provide attractive and/or innovative quality, unique business model, implement CRM system, and realize quality improvement.

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