

SERVICE-BENEFIT-VALUE HIERARCHY: A NEW MODE F CONSUMER PERCEPTUAL PROCESS

CHIN-FENG LIN, National Chin-Yi Institute of Technology, Taiwan

A new consumer perceptual process model (CPP) is proposed for understanding the intangible product (i.e. service) knowledge of customers. Correlation analysis was used to derive the service-benefit-value (S-B-V) hierarchies, yielding to a SBV map. The new map can clearly illustrate useful information concerning customer cognitions regarding services. The purpose of this article is to provide a new insight for understanding the perceptual orientations of consumers as well as their Away of thinking@ with respect to the product or service category.

INTRODUCTION

The purpose of this article is to propose a new consumer perceptual process (CPP) model for understanding the perceptual process of consumers based on consumer product knowledge and a correlation analysis. The CPP model is based on the taxonomy of consumer product knowledge involving three key concepts: services (S), benefits (B), and values (V). The underlying idea is that some service alone or a service supplied with a product yields particular benefits upon consumption, contributing value to consumer satisfaction. In the CPP model, the key concepts are linked hierarchically in consumer cognitive structures.

CPP analysis involves surveying a large number of consumers on their preference and consumption habits and using that data to uncover consumer perceptual hierarchies defined by the concepts and their linkages or connections to each other. Such an analysis leads to a hierarchical service-benefit-value (SBV) map, which is by nature structural and represents the associations among the key concepts. Thus, marketers can decide which service attributes are most

important for attaining the values that the targeted consumers want.

LITERATURE REVIEW

Service, Benefit and Value

In the marketing literature, the purpose of service (an intangible product) design is to provide consumers a positive perception of using a product. Services have four major characteristics that greatly affect the design of marketing programs: intangibility, inseparability, variability, and perishability (Kotler and Armstrong, 1999). Kotler (1997) proposes that service differentiators are: ordering ease, delivery, installation, customer training, customer consulting, maintenance and repair. Using those differentiators to add to the customer's value can create benefits that a company can offer to differentiate themselves from their competitors.

To position a service as exclusive rests on the exclusive value principle which will allow a firm to increase benefits. Benefits are the personal value and meaning that consumers attach to the service attributes (Keller 1998); that is, benefits represent the desirable consequences consumers seek when buying and using tangible/intangible products. Consumers are seeking benefits, such as the belief that they are enjoying a quality product (Edwards 1989). Sometimes price perceptions have a stronger influence on customer value perceptions. Marketers may benefit

from actively managing consumer price perceptions (Varki and Colgate 2001). Affinity marketing can also create both individual and group benefits and add customer value (Macchiette and Roy 1992). Murphy and Enis (1986) presented unified product taxonomy, including convenience, preference, shopping and specialty products, which are based on seeing benefits as a bundle of utilities expected to provide satisfaction (Murphy and Enis 1986). Consumer desired service output levels, the levels of services that customers want and expect when they purchase a product consist of five service outputs in marketing channels: lot size, shorter waiting time, spatial convenience, product variety, and service backup (Stern and El-Ansary 1996).

Value is the consumers' estimate of the product's overall capacity to satisfy their needs, namely, the desirable end goals that consumers want to complete (Peter and Olson 1993). Allee (2000) indicates that a value network generates economic value through complex dynamic exchanges between one or more enterprises, its customers, suppliers, strategic partners, and the community. These networks engage in more than just transactions around goods, services, and revenue. The value exchanges with each and every member of the business or organizational network include three important components: 1. goods, services, and revenue, 2. knowledge, and 3. intangible benefits. In other words, services and benefits are the important factors in the value exchange system.

CORRELATION ANALYSIS

Correlation analysis is a technique for uncovering the relationships between independent and dependent variables. The objective is to measure the relation strength of two subjects based on a correlation coefficient. A simple correlation coefficient probes the relations between the criterion variable and the predictor (Triola 1986). Nowadays, correlation coefficients are widely applied in the following marketing fields: marketing strategy design for small and medium enterprises under globalization (Knight, 2000), relevance between determinants of customer-oriented selling performance and organizational

values (Flaberty et al. 1999), the effect of correlations between price and quality (Ordenez 1998), correlations between coupon characteristics and redemption intentions (Ramaswamy and Srinivasan 1998), marketing channels (Geykens et al. 1998), and consumers' perceptions of quality and value (Teas and Agarwal 2000).

EMPIRICAL APPLICATION

Data Collection

The researcher used "service" items of convenience store chains (CVS) in Taiwan as an example to examine whether the service items can provide consumer benefits and further achieve consumer value demands. In this research, data was collected by two approaches: interviewing consumers singly and in-depth and interviewing consumers based on a structural questionnaire. The researcher collected 100 valid samples of data by interviewing consumers singly and in-depth. The data is based on four questions designed to determine the followings:

1. What services the consumer prefers, and why?
2. What services the consumer prefers after consumption, and why?
3. What are the benefits of these services for the consumer after consumption?
4. What personal values the consumer can have satisfied as a result of the services and their benefits?

The survey results of the in-depth interviewing were summarized into 48 service variables ($S_i; i'1Y48$), 36 benefit variables ($B_j; j'1Y36$) and 22 value variables ($V_k; k'1Y22$) in the Appendix. Using these 48 service, 36 benefit, and 22 value variables, a structural questionnaire was designed. Additional 300 valid samples of data were gathered in subsequent by interviewing consumers based on the structural questionnaire and asking them to state which concepts are important for them in consuming the intangible product. The degrees of agreement or importance are measured by the Likert scale (scale: 1-7).

The Concepts of CPP Model

The research summarized forty-eight service variables into 5 categories, including remittance services, sale-agency services, general services, customer consulting and installation. Thirty-six benefit variables were put into 5 benefit categories: time, environment, convenience, competitiveness and humanization. Twenty-two value variables fell into 2 categories: instrumental value and terminal value (Rokeach 1973). Table 1 lists the definitions of each S/B/V category.

In this research, the CPP model assumes that a reasonably aggregated S-B-V hierarchy can be constructed given data from a set of respondents, even if the set includes individual respondents who are able to articulate only some of the steps in the hierarchy. The CPP model provides an elaborate abstract conceptualization of consumers' product knowledge. Figure 1 illustrates the concepts of the CPP model, which has three levels of abstraction (services, benefits, and values), each divided into 5, 5 and 2 categories, respectively.

At the lowest level are services (see Figure 1), for example, which can be abstract attributes--relatively intangible product characteristics such as customer consulting associated with a physical product. At a higher level of abstraction are benefits, which can be psychological benefits, such as a feeling of convenience or the enjoying of an environment. Finally, at the highest levels of abstraction, consumers can express a product (tangible/intangible) in terms of the "values" that constitutes the "core" sense of self.

Method: Correlation Analysis

The Pearson test was conducted to test the significance of the correlation analysis. The correlation is significant when the P-value of correlation coefficients is less than 0.05. The results indicate that 240, 738 and 652 items are significant for S_i-B_j , B_j-V_k , and S_i-V_k correlation coefficients, respectively. The top 10 percent of each significant S_i-B_j , B_j-V_k , and S_i-V_k correlation coefficient is shown in Table 2, contributing to an analysis of the

S-B-V hierarchies. These hierarchies can be used to derive a hierarchical SBV map (see Figure 2). The SBV map, which graphically represents a set of the CPP model, can be thought of as an aggregate cognitive structure map.

The connections of the S-B and the B-V hierarchies are used to derive a SBV map. The S-B hierarchies are developed from the significantly positive correlation between service and benefit variables. Simultaneously, the B-V hierarchies arise from the significantly positive correlation between benefit and value variables. Thus, the S-B-V hierarchies can be thought of as the aggregate linkages of the S-B and B-V. That is, the S-B-V hierarchies are elicited from the consumer's cognition through a correlation analysis, leading to the development of the hierarchical SBV map.

According to the significant S/B/V correlations in Table 2, the researcher utilized the S/B and B/V correlations to create the hierarchical SBV map. The B-V correlations (see Table 2), for example, 9 benefit variables, B04, B15, B26, B27, B28, B29, B31, B33, and B36, were positively and significantly correlated with 21 value variables. Thus, the B/V correlations could be used to drive all possible B-V hierarchies. However, further observing the S-B correlations (see Table 2), only B04 and B33 had positive and significant correlations with S11, S26, S34, S35, S39 and S40 (service variables). Consequently, the S_i-B04 and S_i-B33 hierarchies were established. Considering the S-B and B-V hierarchical linkages, not all possible B-V hierarchies would be used to derive the SBV map; the researcher would only keep $B04-V_k$ and $B33-V_k$ hierarchical linkages. Again, B04 was positively correlated with V6 and V22, yielding to 2 B-V hierarchical linkages. Simultaneously, B04 was positively correlated with S11, S34, S39 and S40, yielding to 4 S-B hierarchical linkages. Thus, the 4 S-B and 2 B-V linkages created the left hand side of the pyramid in the SBV map (see Figure 2). Moreover, B33 had a positive correlation with 5 value variables, producing 5 B-V linkages; B33 was hierarchically linked with S26, S34 and S35, yielding 3 S-B linkages. These 3 S-B and 5 B-V linkages constituted

Table 1
Definitions of Each S/B/V Category

	Category	Including Variables	Category definition
Services	Remittance services	(S19)(S21)(S26)(S27)(S30)(S31)(S34)(S35)(S37)(S38)	transmittal of money for customers such as traffic fine payments and public utility payment
	Sales-agency services	(S12)(S13)(S20)(S25)(S36)(S40)(S44)	an establishment selling business for another
	General services	(S01)(S02)(S06)(S16)(S18)(S22)(S23)(S24)(S33)(S43)(S47)(S48)	covering regular or not precise services
	Customer consulting	(S09)(S10)(S15)(S17)(S28)(S29)(S32)(S46)	design a definite service for individual customer
	Installation	(S03)(S04)(S05)(S07)(S08)(S11)(S14)(S39)(S41)(S42)(S45)	something installed to serve customers
Benefits	Time	(B01)(B02)(B03)	time-saving benefits
	Environment	(B05)(B06)(B07)(B08)(B12)(B26)(B27)(B28)	providing comfort surroundings
	Convenience	(B09)(B10)(B17)(B18)(B19)(B20)(B21)(B22)	placed near at h and personal comfort for customers
	Competitiveness	(B11)(B13)(B16)(B23)(B24)(B25)	offering more related services to take competitive advantages
	Humanization	(B04)(B14)(B15)(B29)(B30)(B31)(B32)(B33)(B34)(B35)(B36)	designing service quality of being humane
Values (Rokeach, 1973)	Instrumental value	(V04)(V05)(V08)(V09)(V10)(V11)(V14)(V15)(V16)(V17)(V19)(V21)(V22)	the cognitive representations of preferred modes of conduct or behavior.

Figure 1

Table 2
The Significant Correlation Among S, B and V Variables

Service Variable	Value Variables	Service Variable	Benefit Variables
1	2,16----(2)	1	2,3----(2)
3	1,2,14----(3)	4	8,11,13 ---- (3)
4	1,13----(2)	8	11 ----(1)
7	22----(1)	9	8,17----(2)
9	6,10,12,14,15,20----(6)	11	44,11,13,16,23,35----(6)
11	13,22----(2)	14	24----(1)
17	22----(1)	15	6,8,10,17----(4)
32	22----(1)	21	1, ----(1)
34	1,13,22----(3)	22	21----(1)
35	22----(1)	23	1----(1)
39	22----(1)	26	23,33----(2)
40	22----(1)	29	24----(1)
Benefit-Value (B-V) Correlation			
Benefit variables	Value variables		
4	6,22----(2)	32	13,14,16,23,35----(5)
15	11,14,17----(3)	35	13,20,33----(3)
26	9,8,10,11,12,13,14,17,18,19,20,22----(12)	36	14----(1)
27	1,2,3,4,8,9,10,11,12,13,14,15,17,18,19,20,21,22----(18)	37	21----(1)
28	1,2,3,4,8,9,10,11,12,13,14,15,16,17,18,19,20,22----(18)	39	4,8,11,13,16,23,25,35----(8)
29	12,20----(2)	40	4,8,11,13,16,20,23,25,35--(9)
31	6,8,9,12,20,21----(6)	43	1,21----(2)
33	6,7,10,18,22----(5)	44	13,25----(2)
36	2,3,9,12,14,15,18,20----(8)	47	13----(1)

Notes: total number of times S-V significant correlation = 240;
 Listing top 24 S-V significant correlation in the Table;
 The cut off value for S-V significant correlation greater than 0.2090.
 Total number of times B-V significant correlation = 738;
 Listing top 74 B-V significant correlation in the Table
 The cut off value for B-V significant correlation greater than 0.49587.
 Total number of times S-B significant correlation = 652
 Listing top 65 S-B significant correlation in the Table;
 The cut off value for S-B significant correlation greater than 0.242125.
 The sign () represents the total number of times for each row Si-Vk/Bj-Vk/Siu-Bj correlation.

Figure 2

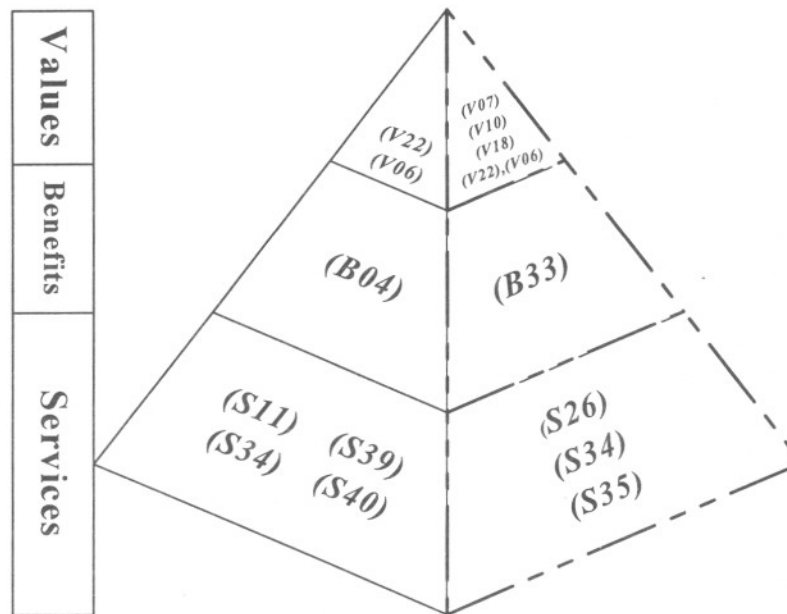


FIGURE 2. THE HIERARCHICAL SBV MAP

the right hand side of the pyramid of the SBV map in Figure 2.

RESULTS

The hierarchical SBV map can be illustrated as two parts (see Figure 2). At the right hand side of the pyramid, "tuition remittance service" (S26), "helping customers to make a hospital reservation" (S34) and "helping apply various certificates and ID" (S35) are positively correlated with "privacy" (B33) and further associated with "easygoing" (V07), "elegance" (V10), "healthiness" (V18), "healthfulness" (V22) and "human longevity" (V06). In Table 1, S26, S34 and S35 are affiliated with the category of "remittance services", and link positively with the category of "humanization" benefits and further satisfy V06, V07 and V18 in the "terminal value" category. In other words, "remittance services" (S) are means for consumers to obtain desired ends, namely, "terminal values" (V) through the "humanization" benefits (B)

of those services. Marketers can emphasize on the "remittance services" to create benefits and satisfy consumer value demands. At the left hand side of the pyramid, "providing coin exercise facility" (S11), "providing entertainment equipment" (S39), "helping customers to make a hospital reservation" (S34) and "deposited goods service" (S40) link positively with "money-saving" (B04) and yield positive hierarchical associations with "human longevity" (V06) and "healthfulness" (V22). These four service variables (S11/S39/S34/S40), belonging to the "remittance services", "sale-agency services" and "installation" (S) categories can attain the "humanization" benefits and satisfy both "instrumental" and "terminal" value categories (see Table 1). Marketers should consider the objectives of their company in designing their service items so to create consumer benefits, in order to achieving their targeted consumer's value satisfactions.

Theoretically, marketers may design their service items for convenience stores simply based on consumer's value satisfactions, that is, only examining the significant and positive correlations between S and V variables. The S-V correlations in Table 2 show that 12 service variables significantly correlate with value variables, and 8 of those have positive correlations with "healthfulness" (V22). Thus, if marketers want to attain consumers' "healthfulness" value demands, they must design or create related service items associated with those 8 service items. Using S-V correlation to design service items is a straightforward method, however it is limited. The S-V correlation cannot provide marketers insights into understanding the consumer perceptual process and give more details and accurate information. By contrast, the S-B-V hierarchies can help marketers to understand consumer's perceptual orientations and product knowledge.

CONCLUSION

"Service" is any act or performance that one party can offer to another. "Benefit" is a motivation for consumption. "Value" is a belief that some condition is preferable to its opposite (Solomon 1999). Allee (2000) proposes that the key to reconfiguring business models for the knowledge economy lies in understanding the new currencies of value including services and intangible benefits. In other words, value is elicited from the consumption of a tangible or an intangible product, which is associated with consumer's benefits. That is, service, benefit and value are linked hierarchically in customer's cognitive structures.

In this paper, the CPP model, based on the S-B-V hierarchies and correlation analysis, can be used to understand consumer's perceptual process. The CPP model positively links services to the benefits for consumers upon consumption and to the personal values they place on its use, which determine whether the benefits are desirable or undesirable. In other words, the hierarchical SBV map derived from the CPP model interprets these positive intangible product-consumer relationships in terms of the values that constitute the consumer perceptual process.

The CPP model can help marketers to develop intangible product (service) strategies. In other words, marketers can use the CPP model to examine consumers' value satisfactions and provide benefits for consumers to increase their brand loyalty. Ultimately, the SBV map derived from the CPP model can be used to develop intangible product-mix strategies through identifying the consumer's characteristics of a targeted market and to offer marketers useful information for intangible product design in targeting a new market.

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Appendix: The Service/Benefit/Value Variables

Service Variables		
	(S01). Zerox-copy	(S25). Providing motorcycle insurance consulting service
	(S03). Providing public toilet facility	(S27). Health insurance certificate replacement service
	(S04). Magazine and newspaper reading area	(S28). Electric equipment repairing service
	(S05). Microwave for heating foods	(S29). Door-to-door delivery service
	(S06). Sale promotion of lower price	(S30). Remittance service for public utility payments
	(S07). Providing locker area	(S31). Remittance service for various taxes
	(S08). ATM	(S32). Valet parking
	(S09). Providing mail-order service	(S33) Money-exchange
	(S10). Wrapping gift service	
	(S11). Providing coin exercise facility	(S35). Helping apply various certificates and ID
	(S12). Movie ticket sale agent	(S36). Ads aid service
	(S13). Vocal concert ticket agent	(S37). Remittance service for sundry payments
	(S14). TV wall	(S38). Help forward registered mail to clients
	(S15). Photo booth	(S39) Providing entertainment equipment
	(S16). Providing missing-elder-line service	(S40). Deposited goods service
	(S17). Help forward registered mail to post office	(S41). Providing handicapped friendly facility
	(S18). Internet consulting information	(S42). Free parking place
	(S19). Remittance services for various fine payments	(S43). Proving uniform invoice prize money exchange
	(S20). Train ticket sale agent	(S44). Flower delivery

	(S21). Remittance service for phone bill payment	(S45). Providing ret place
	(S22). Paid-road-ticket sale agent	(S46). Providing baby-sitter service
	(S23). Recycle (e.g. battery or plastic bottle)	(S47). Water vending machine
	(S24). Providing free transportation information	(S48). Providing film processing service
Benefit variables	(B01). Handiness	(B19). Incidental visit
	(B02). Time-saving	(B20). Without going out
	(B03). Effectiveness	(B21). Nearby
	(B04). Money-saving	(B22). Easy get
	(B05). Cleanness	(B23). Surprise
	(B06). Comfort	(B24). Air-conditioning
	(B07). Decoration	(B25). Informational guidance
	(B08). Easy acquiring information	(B26). Warmth
	(B09). Energy-saving	(B27). Nice environment
	(B10). Numerous store chains	(B28). Good physical condition
	(B11). Killing-time	(B29). Knowledge availability
	(B12). Feeling-good	(B30). Bulk shopping discount
	(B13). Use before payment	(B31). Non-anxiety
	(B14). Non-trouble	(B32). Trade opportunity
	(B15). Environmental protection	(B33). Privacy
	(B16). Amusement	(B34). Handicapped shopping aisle
	(B17). Usefulness	(B35). Life show
	(B18). Effortlessness	(B36). Information availability
Value variables	(V01). Happiness	(V12). Wonder
	(V02). Satisfaction	(V13). Achievement
	(V03). Insurance	(V14). Helpfulness
	(V04). Safety	(V15). Creativeness
	(V05). Relaxation	(V16). Trustworthiness
	(V06). Human longevity	(V17). Ease
	(V07). Easygoing	(V18). Healthiness
	(V08). Energy	(V19). High spirit
	(V09). Feeling-great	(V20). Enriched life
	(V10). Elegance	(V21). Excitement
	(V11). Activity	(V22). Healthfulness