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## Article

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## The Moderating Effect on Purchasing Intention in the Health Food Industry

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The principal objective of this study was to investigate the consumers' purchase experience and analyze the relationship between consumer perceived value and purchase intention. Data were collected from 356 individuals with a wide experience of purchasing health food products. The data were analyzed using AMOS 18 software. Our findings demonstrated that perceived product attributes have positive and significant effect on consumer purchase intention. Consumer perceived value has a positive and significant effect on the consumer purchase intention. Additionally, consumer perceived value moderates the causal relationship between products perceived attributes and consumer purchase intention. To facilitate consumers' positive consumption motivation, the causes of negative emotional effects created by hygiene factors must be eliminated. Motivator factors, particularly the positive and moderating effect of consumer perceived value on purchase intention, are the key to increase intention to purchase and satisfaction. From a long-term perspective, the hygiene factors must be satisfied for staying in competency and keeping customers.

*Keywords:* Product perceived attributes, perceived value, two factor theory, purchase intention, health food

*JEL:* L66, M31

Along with the booming global economy, flourishing biotechnologies, and thriving health care applications, disposable income of people has increased. In addition, changes in consumers' lifestyles and job types have resulted in consumers preferring convenient and nutritional health food that meets their nutritional needs, improves their bodily functions, and prevents lifestyle diseases. The World Health Organization (WHO, 2015) has estimated that 1.2 billion people will be over 60 years of age by 2025, which doubles the figure estimated in 2006, whereas, the Taiwan's Department of Statistics (2014) estimated that Taiwan will become an aged society and a hyper-aged society in 2018 and 2025, respectively. These predictions demonstrate the increasingly serious problem of population aging in Taiwan. Meanwhile, some developed countries have already become aged societies, and as average life expectancy is increasing, people are no

longer adopting a passive approach to stay healthy through illness prevention, instead taking a proactive approach by positively maintaining their health and physique. Consuming health food has become one of the principal methods for busy consumers to pursue health (Doyon and Labrecque, 2008), and increased health awareness has augmented the global market for health food from US\$155.9 billion in 2007 to US\$243.4 billion in 2015 (Global Industry Analysts, 2016).

Consumers use health food to improve their bodily functions. In contrast with drugs, which may cause side effects, most consumers consume health food because of their lacking health or their need for the food. In addition, they believe that persistent use of health food will yield the desired health benefits (Childs and Poryzees, 1998). When purchasing health food, which exposes consumers to more factors of uncertainty, consumers want health food manufacturers to provide subjective and objective messages guaranteeing product quality or performance. With combination of all explicit features (like price etc.), intrinsic features (like flavor etc.) and properties of the product, the product perceived attributes can be perceived by the consumers objectively. The product perceived attributes are the basic and necessary information about the product (Richardson *et al.*, 1994). Efforts to endorse products subsequently shape consumers' perceived value of the products (Roselius, 1971), increasing their purchase intention (Yeung and Morris, 2001).

Most existing health food marketing-related studies have focused on investigating organizations' performance at managing marketing channels (Yeung and Morris, 2001) or have employed merely one set of attribute factors to explore consumer's purchase motivation during the "demand confirmation stage". Few studies have adopted a customer-oriented perspective to examine consumers' consumption motivation during the "assessment stage". Unlike general food, health food is generally consumed not for its pleasurable taste but rather its uniqueness and functionality in maintaining health. The value and demand for health food are specific. Therefore, in health food-based consumer behavior studies, investigating factors that affect consumers' perceived value of a product (an internal variable) and a product's perceived attributes (an external variable) become particularly critical (Childs and Poryzees, 1998). In this study, two-factor theory was used to evaluate the participants' consumption motivation during the assessment stage as well as clarifying their hygiene and motivator factors.

Traditional motivation hypotheses focus on using hygiene factors to boost consumption motivation. However, by merely satisfying the hygiene factors of health food, it may have the dissatisfaction and negative consumption motivation be eliminated but does not mean that the feelings of satisfaction and positive consumption motivation can be evoked. The aforementioned satisfaction of the hygiene factors is just a neutral feeling of being neither satisfied nor dissatisfied. This study makes some novel contributions to our current understanding of consumers' purchasing intention. On the basis of this logical linkage, we attempt to determinate whether the product perceived attributes can influence purchasing intention. Further, we attempt to evaluate the relationship between the product perceived attributes and purchasing intention in accordance with the levels of perceived value. We applied each theoretical framework to formulate research model. In this study, two-factor theory was applied to evaluate the participants' consumption motivation during the assessment stage as well as clarify their hygiene and motivator factors, combined with a literature review of marketing and consumer behavior-related studies, it transcended its original domain of application and verified the positive moderating effects of motivator factors on hygiene factors.

## LITERATURE REVIEW

### **Health Food**

The legal definition and concept of health food were introduced by Japan in 1962. The Ministry of Health, Labor, and Wealth formulated labeling regulations for foods for specified health use in 1991, in which these foods were classified in four categories (food for special dietary uses, food for specified health uses, food with nutrient function claims, and general food) in the Nutrition Improvement Law. "Food for specified health uses" is defined as food taken in daily life for specific health purposes and that improve bodily functions or have special health effects (National Institutes of Health, 1994). Health food must pass safety and health effect assessment tests with scientific evidence; be proven to be harmless to the human body; and contain ingredients that match health food specifications set by the central competent authority (Debasis, 2008). Health food can be thought of as general food with drug-like benefits; it serves as functional food or nutritional supplement and has effects of preventing diseases and maintaining health. In this study, health food is defined as food that is suitable for consumers with specific health needs, that has the ability to

regulate body functions, and that is not used to treat diseases (Childs and Poryzees, 1998).

### **Two-Factor Theory**

The two-factor theory (Herzberg, 1968) divides behavioral motivation into hygiene factors and motivator factors according to empirical data. Hygiene factors are factors that do not lead to higher motivation, even though dissatisfaction results from their absence. When discussing general products, hygiene factors are external factors whereas motivator factors are internal factors. Motivator factors, also called satisfaction factors, are factors that motivate people to improve and take actions to realize their goals. The biggest dissimilarity between Herzberg's two-factor theory and traditional motivation theories is that the former contends that human motivation and satisfaction are governed by two groups of factors, not one, and that satisfaction and dissatisfaction do not coexist in a single continuum but rather in two separate continuums. The two-continuum concept indicates that a person can experience feelings of both satisfaction and dissatisfaction, simultaneously. In this study, consumers' purchase intention when purchasing health food products was investigated. Following literature review, this study adopted product perceived attributes as a hygiene factor and consumer perceived value as a motivator factor. In other words, when consumers assessed whether to purchase health food, the absence of hygiene factors induced consumer dissatisfaction and negative purchase motivation; however, the presence of the hygiene factors did not necessarily stimulate positive motivation. By contrast, the presence of motivator factors stimulated their positive motivation and enhanced their purchase intention.

### **Product Perceived Attributes**

With combination of all explicit features (like price etc.), intrinsic features (like flavor etc.) and properties of the product, the product perceived attributes can be perceived by the consumers objectively. The product perceived attributes are the basic and necessary information about product (Richardson *et al.*, 1994). Consumers consider all products as a combination of attributes (Aaker, 1991; Kotler, 1997; Stanton and Etzel, 1991). These product attributes bring benefits to consumers, including functional, experiential, and symbolic benefits (Aaker, 1995). Companies provide product attributes affecting consumers' attitude toward the products (Levy and Weitz, 2004), same as the effect of hygiene factor. When evaluating their product

needs, consumers do not consider all product attributes but rather select a number of attributes from the attributes set. Some of these attributes refer to objective data, whereas other attributes are abstract or are based on subjective feelings. Almost all products have multiple attributes. Nevertheless, only a fraction of a product's attributes is generally evaluated by consumers because consumers assess only a product's perceived attributes when determining whether to make purchase in addition to considering their needs (Reynolds and Wells, 1977). To consumers, perceived product attributes are hygiene factors (external factors); the absence of these basic attributes causes consumer dissatisfaction and negative attitude. Accordingly, H<sub>1</sub> was posited:

H<sub>1</sub>: Perceived product attributes have a significant and positive effect on consumer purchase intention.

### **Perceived Value**

Perceived value is a compromise between “giving” and “taking” (Dodds *et al.*, 1991). Perception is a psychological process of selecting, organizing, and interpreting information (Kardes *et al.*, 2011). Perceived value also involves making an overall internal assessment in which a choice between perceived interests and perceived sacrifices is made (Engle *et al.*, 1994). This assessed utility, or transaction utility, is a product's perceived value (Thaler, 1985); transaction utility thus significantly and positively affects consumer choice and intention (Zeithaml, 1988; Zeithaml and Bitner, 2000). Therefore, perceived value is a kind of motivator factors that elicits positive emotions in consumers, increases their purchase intention, and results in higher satisfaction (Teas and Agarwal, 2000). Accordingly, H<sub>2</sub> was proposed:

H<sub>2</sub>: Consumer perceived value has a significant and positive effect on purchase intention.

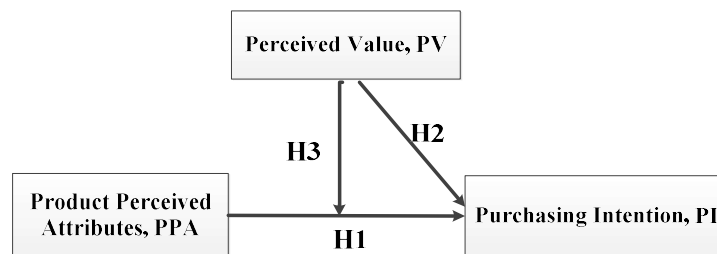
### **Moderating Role of Perceived Value**

Purchase intention indicates consumers' willingness to purchase products (Dodds *et al.*, 1991). In the context of a purchasing process, purchase intention is consumers' degree of preference for a product between the time that they make a purchase evaluation to the time that they actual purchase the item. Thus, purchase intention can be used to predict consumers' subjective tendency to engage in purchase behavior (Fishbein and Ajzen, 1975).

Perceived value reflects consumers' reaction to motivation. Previous studies have generally combined perceived value with other variables to form mediating variables (Zeithaml, 1988; Zeithaml and Bitner, 2000). Consumers' consumption intention is shaped by their assessment of the product, attitude toward the brand, and various external factors (Schiffman and Kanuk, 2007). Once consumers have carefully evaluated a product and chosen the product, they develop an intention to purchase the products (Kardes *et al.*, 2011). Thus, purchase intention is normally created when purchase motivation matches hygiene factors including product characteristics and product features (Kardes *et al.*, 2011). As stated, consumers' purchase intention is formed by their assessments of related products, attitude toward brands, and their exposure to other motivator factors (internal factors). Accordingly, H<sub>3</sub> was proposed:

H<sub>3</sub>: Consumer perceived value moderates the causal relationship between perceived product attributes and consumer purchase intention.

The conceptual model employed in this study is presented in Figure 1.



*Figure 1. The Conceptual Model*

## METHODOLOGY

### Research Design

Literature shows that Muijs's (2011) comprehensive work is useful to understand participants' consumption motivation in health food industry. Data collection was based on Sedgwick (2014) i.e. a cross-sectional design, data from the sample were obtained at a single point of time,

typically collected from multiple groups or types of people. Cross-sectional studies are generally quick, easy, and less expensive to conduct and often based on a soft or hardcopy questionnaire survey. To analyze the data, we conducted Structural Equation Modeling (SEM) by using AMOS V.18 software.

### **Sample and Data Collection**

A part of population called sample may estimate something about the whole population (Battaglia, 2011). The purposive sampling was applied to determine the respondents following the selection criteria i.e. the respondents must have self-health awareness and willingness to select with more nutritional values to meet their health needs rather than traditional food. An online survey was used to tap responses. The descriptive advantages of the online survey are following: first, study subjects can respond and complete the questionnaire anytime and anywhere. Second, the online survey can efficiently save research cost by transforming paper format into an electronic medium (Yun and Trumbo, 2000). Third, online survey provides opportunity to give a range of answers. Fourth, online survey is easier to access particular population's interests, attitudes and values (Wright, 2005). The online survey provides researchers to collect data with a convenient way. Besides, participants can easily get the online web links and fill the questionnaire. The survey was sent to subjects and gotten back May 1 to June 30 of year 2014. A total of 496 questionnaires were distributed and 356 were received back, with a response rate of 72 percent.

### **Questionnaire Development**

The questionnaire was designed by keeping two main objectives in mind. First, to maximize the proportion of subjects answering the questionnaire; second, to obtain accurate information for the survey (Leung, 2001). The questionnaire consisted of four sections. The first section addressed the demographic variables of the consumers, including age, gender, education level, occupation, and income. The second section involved consumers' product perceived attribute (three items). The items were based on the literature (Aaker, 1991; Kotler, 1997; Stanton and Etzel, 1991). The terminology of the attributes was modified. The third section involved consumers' perceived



value (three items). The items were based on the literature (Zeithaml, 1988; Teas and Agarwal, 2000). The fourth section involved consumers' purchase intention (three items). The items were based on the literature (Kardes *et al.*, 2011). In regard to the second section and third section of questionnaire, the product perceived attributes reflect the basic and necessary information about product (Richardson *et al.*, 1994). Therefore, it was reasonable to combine the definition of product perceived attribute and hygiene-factors in items' statement. All survey items were measured on a 7-point Likert scale, except for the demographic characteristics.

### **Data Analysis**

Each scale was first investigated using confirmatory factor analysis (CFA) to test the reliability and validity of the latent variables. The descriptive statistics for each scale included sex, age, education background, annual income, and job. A measurement model using LISREL with maximum likelihood estimation was used to estimate fitness and to test causality among the variables. A multi-group comparison of structural equation modeling was applied to test the moderating variable of this study (Jöreskog and Sörbom, 1996).

## **RESULTS**

### **Sample Characteristics**

A total of 356 responses were received back via online platform in Taiwan. Descriptive statistics showed that 59.4 percent of the respondents were female and 40.6 percent were male. The majority of the respondents lied between the ages of 30 and 39 (28.8%). In descending order, the other age groups were as follows: ages 20-29 years (16.1%), ages 40-49 years (23.1%), ages 50-59 years (22.7%), below age 15 years (1%), and over age 60 years (8.3%). Additionally, the educational background of respondents was the following: college level (76.9%), high school (6.2%), junior high school or lower (1.6%) and Master's degree or higher (15.3%). The main professions of the respondents were the following: service industry (30.8%) and the financial industry (24.2%), followed by primary industry (Agriculture, forestry, fishing, animal husbandry)

(13%), military, civil service, and education sector (12.2%), manufacturing industry (10%) and commerce (9.8%).

### Measurement Model

Next, rigorous structural equation modeling was employed to perform statistical analyses and tests on the measurement and structural models. Target coefficients were then selected as the evaluation criteria, in which the first-order dimensions of the study model, namely, perceived product attributes and consumer perceived value, were replaced with multiple-order dimensions (Marsh and Hocevar, 1985). A confirmatory factor analysis was performed on the various dimensions to ensure questionnaire reliability and validity. In the reliability analysis, all observed variables were required to have a factor loading (Hair *et al.*, 1992) and squared multiple correlation (SMC) greater than .5 (Bagozzi and Yi, 1988). In the convergent validity analysis, the reliability, composite reliability, and average variance extracted (AVE) of each individual item was considered (Hair *et al.*, 1998), as shown in Table 1 (see Appendix-I). In the discriminate validity analysis, the square root of the average variance extracted (SQAVE) was required to be greater than the correlation coefficients of other dimensions (Hair *et al.*, 1998), as indicated in Table 2.

Research Construct	Product Perceived Attributes (PPA)	Perceived Value (PV)	Purchasing Intention (PI)
Product Perceived Attributes (PPA)	.73		
Perceived Value (PV)	.62	.86	
Purchasing Intention (PI)	.68	.71	.79

**Table 2. Discriminate Validity Analysis**

*NOTE:*

1. The value of the diagonal elements (the part of shadow): AVE square root.
2. Off-diagonal elements: The correlations among the constructs.
3. Distinguish the discriminant validity: The value of the diagonal elements should be larger than the off-diagonal element.

### Structural Model

Results demonstrated that all of the path coefficients of the model achieved statistical significance ( $p < .05$ ), supporting H<sub>1</sub> and H<sub>2</sub>. All the observed variables demonstrated a squared

multiple correlation equal to or greater than .60, indicating that the model explained the latent variables adequately (Figure 2.).

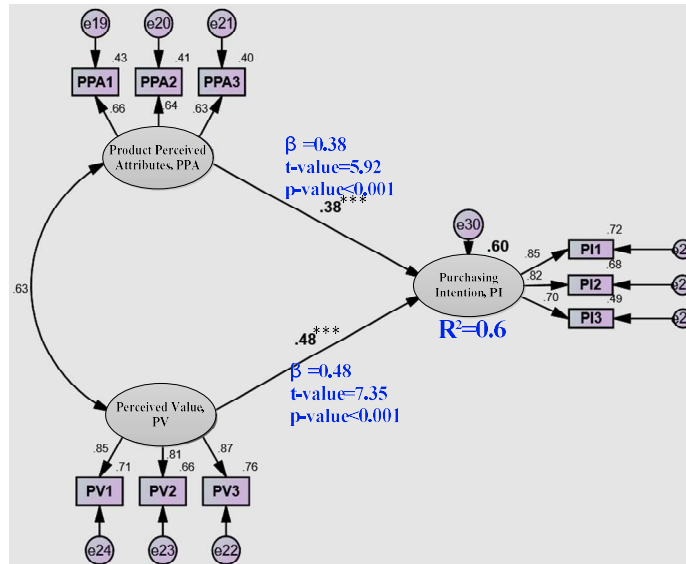


Figure 2. Structural Model Testing

To ensure that the proposed model exhibited favorable external quality, assessments were made to determine the fitness of the overall model with the observed data, and the empirical results were discovered to match that of the theoretical model (Table 3, see Appendix-II).

### Testing the Moderating Effects of Perceived Value

Testing H<sub>3</sub> involved examining whether perceived value exerts a moderating effect on the relationship between product perceived attributes and purchase intentions. In other words, high perceived value decreases the relationship ( $\beta$ ) between products perceived attributes and purchase intentions, whereas low perceived value increases the relationship ( $\beta$ ) between products perceived attributes and purchase intentions. Perceived value exhibits a strong moderating effect on the relationship between products perceived attributes and purchase intentions. To test this hypothesis, we used a multi-group comparison of structural equation modeling as suggested by Jöreskog and Sörbom (1989). The *K*-means method was used for

clustering based on the respondents' average perceived value scores to divide the respondents into two groups: a low-perceived value group ( $n = 129$ ) and a high-perceived value group ( $n = 227$ ). The centroid scores of the low and high-perceived value group were 4.05 and 5.71, respectively. In addition, we also used an independent  $t$ -test to compare the high and low-perceived value groups to verify that significant differences exist between the two groups. The results indicated that the average of the high-perceived value group (5.71) was significantly higher than that of the low-perceived value group (4.05;  $t = 24.76$ ,  $p < .001$ ), indicating a significant difference. Based on these results, we subsequently compared the causal relationship between products perceived attributes and purchase intentions to determine whether the high and low-perceived value groups differed significantly. Prior to testing the path invariance of the moderating effects, we were required to determine whether the goodness-of-fit indicators of the high and low-perceived value groups reached acceptable levels. The fit of the high-perceived value group was  $\chi^2/df = 1.85$ , GFI = .95, CFI = .95, NFI = .90, NNFI = .89, IFI = .95, SRMR = .053, and RMR = .037. The correlation coefficient between the products perceived attributes of the high-perceived value group and purchase intentions was .65. The fit of the low-perceived value group was  $\chi^2/df = 3.15$ , GFI = .90, CFI = .84, NFI = .87, NNFI = .84, IFI = .85, SRMR = .081, and RMR = .088. The correlation coefficient between the products perceived attributes of the low-perceived value group and purchase intentions was .60. Table 4 shows related result indicating that the fit for the high and low-perceived value groups was satisfactory. Therefore, we continued to the next stage, which was the path invariance test.

In the path invariance test, the path coefficient of the moderating effect is assumed to contain no invariance to obtain a chi-square value and its corresponding degrees of freedom value. This is known as the baseline model, which can be subsequently applied to models of various samples. A constraint is then added so that the path coefficients of the high and low groups equaled. Another  $\chi^2$  value and corresponding  $df$  value can be obtained by re-estimating the model. This is referred to as the moderating model. The  $\chi^2$  value of the baseline model is subtracted from

	<b>Product Perceived Attributes→ Purchase Intention</b>	$\chi^2/df$	GFI	CFI	NFI	NNFI	IFI	SRMR
Overall Sample	.24**	4.36	.90	.90	.90	.86	.90	.088
High-Perceived Value Group	.33***	1.85	.95	.95	.90	.89	.95	.053
Low-Perceived Value Group	.42***	3.15	.90	.84	.87	.84	.85	.081

\*\* $p < .01$ ; \*\*\* $p < .001$

**Table 4. Fitness Assessment of the Overall Sample and the High- and Low-Perceived Value Groups**

the  $\chi^2$  value of the moderating model to obtain a chi-square difference value ( $\Delta\chi^2$ ). If the  $\Delta\chi^2$  results indicate a significant influence, a moderating effect can be inferred. This is primarily because when the  $\Delta\chi^2$  is significant, suggesting that the hypothesis postulating equal path coefficient cannot be accepted. At varying levels of moderating variables, the path coefficients of the same path differ significantly. Therefore, a moderating effect exists (Bollen, 1989). Table 5 shows that the  $\chi^2$  value of the baseline model in this study was 192.739 ( $df = 76$ ). The  $\chi^2$  value of the moderating model was 196.682 ( $df = 77$ ). The difference between the two models was 1 degree of freedom ( $\alpha = .05$ ), with a  $\Delta\chi^2$  of 3.943. Therefore, the chi-square difference was significant, implying that the baseline model and the moderating model differed significantly. Therefore, consumers' perceived value significantly influenced the relationship between products perceived attributes and purchase intentions. In regard to the influence coefficient of the relationship between products perceived attributes and purchase intentions, the coefficient of the high-perceived value group ( $\beta = .33$ ,  $p < .001$ ) was lower than the coefficient of the low-perceived value group ( $\beta = .42$ ,  $p < .001$ ). Therefore, H<sub>3</sub> was supported.

## DISCUSSION

On the basis of the empirical results of this study, we obtained few key finding from our tests of

	$\chi^2$	<i>df</i>	$\Delta\chi^2$
Model 1: Baseline model	192.739	76	--
Model 2: Moderating model	196.682	77	3.943*

\* $p < .05$ 

**Table 5. Path Coefficient Invariance of the High- and Low-Perceived Value Groups**

the hypotheses. In regard to the influence coefficient of the relationship between products perceived attributes and purchase intentions, the coefficient of the high-perceived value group ( $\beta = .33$   $p < .001$ ) was lower than the coefficient of the low-perceived value group ( $\beta = .42$   $p < .001$ ). Therefore,  $H_3$  was supported. This result suggests that the health foods consumers should be in the inner emotional state of high perceived value. Based on the moderating effect test, the research found that satisfaction with the demands for a product' s perceived attributes are essential. If failed for satisfying demands, the marketing managers will bring consumer dissatisfaction and negative purchase motivation.

However, successfully satisfying the demands will only cause limited, short-term motivation. This finding provides guidelines to the marketing managers for further establishing a response mechanism. In general, purchase intention is normally created when purchase motivation matches hygiene factors including product characteristics and product features (Kardes *et al.*, 2011). To facilitate consumers' positive consumption motivation, the reason of negative emotional effects created by hygiene factors must be eliminated. Besides, the motivator factor-based marketing strategies must be differentiated according to the target consumers who can be satisfied. In highly business competition and the hygiene factors becoming essential requirements, companies devoted to improving motivator factors will take a considerable competitive advantage. Furthermore, the psychological motivation evoked by uniqueness, brand image, or experience-related perceived value can be further researched.

## CONCLUSION

The core contribution of this study is application of the two-factor theory to demonstrate the perceived attributes and perceived value of health food products, which acted as hygiene factor and motivator, respectively. This study could fill the research gap because the most existing health food marketing-related studies focused on investigating organizations' performance at managing marketing channels (Yeung and Morris, 2001) or employed merely one set of attribute factors to explore consumer' purchase motivation during the demand confirmation stage. Rare studies applied a customer-oriented perspective to explore consumers' consumption motivation during the assessment stage. On the basis of the empirical results of this study, we obtained several key findings from our tests of hypotheses. First, perceived product attributes have a significant and positive effect on consumer purchase intention. Second, consumer perceived value has a significant and positive effect on the consumer purchase intention. Third, consumer perceived value significantly moderates the causal relationship between product's perceived attributes and consumer purchase intention. The aforementioned finding may provide to marketing managers for external stimulation. Based on the findings of this study, the satisfying demands for a product's perceived attributes are essential. However, our results demonstrated that consumers with successfully satisfying the aforementioned demands will only cause limited, short-term purchasing motivation. To facilitate consumers' positive consumption motivation, the reason of negative emotional effects created by hygiene factors must be eliminated. Traditional motivation hypotheses focus on using hygiene factors to boost consumption motivation. On the basis of our results, we believe that motivator factors, particularly the positive and moderating effect of consumer perceived value on purchase intention as the key factors in purchasing and developing a satisfaction toward. Additionally, from a long-term perspective, that hygiene factors must be satisfied for staying in competency and retaining customers. On the other hand, only by creating motivator factors, such as internal factors, and utilizing the moderating effect of customer perceived value can improve continuously positive consumption motivation and actual purchase intention.

The two-factor theory, which was originally developed to assess the relationship between work motivation and work performance in the workplace, was applied to investigate consumers' health food consumption motivation. Some behavioral science scholars asserted that consumers from varying occupations or social status may express the dissimilar or overlapping positive emotional reactions toward motivator and hygiene factors. Additionally, the divergence in their emotional reactions is determined by their environment and psychological state.

### IMPLICATIONS

The two-factor theory can be used to favorably explain the complex consumption motivation of health food. The theory posits that concerning customer satisfaction, hygiene factors are consumers' demands on the external aspects of health food, whereas, motivator factors induce positive emotional connections between consumers and health food. Satisfying consumers' external demands eliminates their negative motivation and stimulates their external motivation, indirectly satisfying their consumption motivation. By contrast, by satisfying consumers' emotional connections with products, consumers' internal motivation is elicited, directly satisfying their consumption motivation. With combination of all explicit (like price etc.), intrinsic features (like flavor etc.) and properties of the product, the product perceived attributes can be perceived by the consumers objectively. The product perceived attributes are the basic and necessary information about product (Richardson *et al.*, 1994). Therefore, it is reasonable to combine the definition of product perceived attribute and hygiene-factor in items' statement. That's same case in regard to the perceived value and motivator. In this study, the two-factor theory was used in a different domain and, when combined with a literature review of marketing and consumer behavior-related studies, it transcended its original domain of application and verified the positive moderating effects of motivator factors on hygiene factors. The principal conclusion was thus that the marketing managers can create and maintain positive health food consumption motivation by enabling consumers' emotional connections with their products.



Traditional motivation hypotheses focus on using hygiene factors to boost consumption motivation. Consumers have specific demands for health food because of its ability to improve health. However, by merely satisfying the hygiene factors of health food, only dissatisfaction and negative consumption motivation can be eliminated and feelings of satisfaction and positive consumption motivation cannot be evoked, engendering a neutral feeling of being neither satisfied nor dissatisfied. Drucker (1973) mentioned that the purpose of a company's existence is to create satisfied customers and maintain their satisfaction. Based on the moderator effect test, the perceived value plays the role of motivator inferred from two-factor theory. Thus, satisfying customers should be the foundation of company operations, and on this basis, a balance between the public interests of society and the private interests of the company can be achieved. Thus, marketing and company managers must recognize that hygiene factors must be satisfied to stay competitive. Only by creating motivator factors (internal factors) and utilizing the moderating effect of customer perceived value can increase positive consumption motivation and actual purchase intention be improved continuously.

#### **LIMITATIONS AND FUTURE DIRECTIONS**

The scope of this study is limited to a specific demographic structure and lifestyle. In addition, the sample belongs to a gradually aging society with busy schedule. For other countries with different demographic characteristics, economic and lifestyle patterns are still required to conduct further research. Many studies explored consumer behavior, which has specific functional requirements for health food, but rarely applied cross-domain framework to explore the two-factor theory of individual work motivation. Therefore, the generalized explanatory power of the conceptual model of this study may be limited, and could be more extensive and in-depth in future research. However, individuals, whether they are working or consuming decisions, need to be motivated, so the challenge to this study is still optimistic.

Several avenues exist for future studies to extend the present study. First, other cross-

sectional studies can be performed in different regions and with more participants in order to discover new key factors. However, the result of quantitative research would have probably limited contribution compared to qualitative research. Further studies could be performed as well to combine close-ended and open-ended questionnaire because it helps to get more insights and open more discussions which could establish our conceptual model progressively.

## REFERENCES

- Aaker, D.A. (1991). *Managing brand equity*. New York: Free Press.
- Aaker, D.A. (1995). *Building strong brands*. New York: Free Press.
- Bagozzi, R.P. & Yi, Y. (1988). On the Evaluation of Structural Equation Models. *Journal of the Academy of Marketing Sciences*, 16(1): 74-94.
- Battaglia, M.P. (2011). *Research methods*. UK: SAGE Publications.
- Bollen, K.A. (1989). A new incremental fit index for general structural models. *Sociological Methods and Research*, 17(3): 303-316.
- Childs, N.M. & Poryzees, G.H. (1998). Foods that help prevent disease: consumer attitudes and public policy implications. *British Food Journal*, 100(9): 419-426.
- Debasis, B. (2008). *Nutraceutical and Functional Food Regulations in the United States and Around the World*. Academic Press.
- Dodds, W.B., Monroe, K.B. & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research*, 28(3): 307-319.
- Doyon, M. & Labrecque, J. (2008). Function foods: A conceptual definition. *British Food Journal*, 110(10): 1133-1149.
- Drucker, P. (1973). *Management: Tasks, Responsibilities, Practices*, Harper & Row Publishers. New York.
- Fishbein, M. & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Global Industry Analysts. (2016). Search - A global strategic business report. Retrieved from [http://www.strategy.com/Starch\\_Market\\_Report.asp](http://www.strategy.com/Starch_Market_Report.asp).
- Hair, J.F., Anderson, R.E., Tatham, R.L. & Black, W.C. (1992). *Multivariate data analysis (3rd ed.)*. New York: Macmillan.
- Hair, J.F., Anderson, R.E., Tatham, R.L. & Black, W.C. (1998). *Multivariate data analysis (5th ed.)*. New York: Macmillan.
- Herzberg, F. (1968). One more time: How do you motivate employees? *Harvard Business Review*, 40(1): 53-62.
- Kardes, F., Cronley, M. & Cline, T. (2011). *Consumer Behavior*. Mason, OH: South-Western Cengage.
- Jöreskog, K.G. & Sörbom, D. (1989). LISREL 7: A guide to the program and application. Scientific Software International, Chicago.
- Jöreskog, K.G. & Sörbom, D. (1996). LISREL 8: User's reference guide. Scientific Software International, Chicago.
- Kotler, P. (1997). *Marketing management: Analysis, planning, implementation and control (9th ed.)*. New Jersey: Prentice-Hall Inc.
- Leung, W.C. (2001). How to design a questionnaire. *Student British Medical Journal*, 9, 187-189.
- Levy, M. & Weitz, B.A. (2004). *Retailing management*. Boston: McGrawHill/Irwin.
- Marsh, H.W. & Hocevar, D. (1985). Application of confirmatory factor analysis to the study of self-concept: First- and higher order factor models and their invariance across groups. *Psychological Bulletin*, 97, 562-582.
- Muijs, D. (2011). *Doing quantitative research in education with SPSS*. London: SAGE Publications.
- Department of Statistics, Ministry of Economic Affairs. (2014). Population and housing census. Retrieved from <https://eng.stat.gov.tw/mp.asp?mp=5>.
- Reynolds, F.D. & Wells, W.D. (1977). *Consumer behavior*. New York: McGraw-Hill.
- Richardson, P.S., Dick, A. & Jain, A.K. (1994). Extrinsic and intrinsic cue effects on perception of store brand quality. *Journal of Marketing*, 58, 28-36.
- Roselius, T. (1971). Consumer rankings of risk reduction methods. *The Journal of Marketing*, 35(1): 56-61.

- Schiffman, L.G. & Kanuk, L.L. (2007). *Consumer Behavior (7th ed.)*. UpperSaddle River, NJ: Pearson Education.
- Sedgwick, P. (2014). Cross sectional studies: advantages and disadvantages. *British Medical Journal*, 348, 2276.
- Stanton, W.J. & Etzel, M.J. (1991). *Fundamentals of Marketing (9th ed.)*. New York: McGraw-Hill.
- Teas, R.K. & Agarwal, S. (2000). The effect of extrinsic product cues on consumers' perceptions of quality, sacrifice, and value. *Journal of the Academy of Marketing Science*, 28(2): 278-290.
- Thaler, R. (1985). Mental accounting and consumer choice. *Marketing Science*, 4, 199-244.
- U. S. National Institutes of Health, (1994). Dietary supplement health and education act of 1994 public law. Retrieved from [https://ods.od.nih.gov/About/DSHEA\\_Wording.aspx](https://ods.od.nih.gov/About/DSHEA_Wording.aspx)
- World Health Organization, WHO. (2015). Ageing and health. Retrieved from <http://www.who.int/mediacentre/factsheets/fs404/en/>
- Wright, K.B. (2005). Researching internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication*, 10(3): 00-00.
- Yeung, R.M.W. & Morris, J. (2001). Food safety risk: Consumer perception and purchase behaviour. *British Food Journal*, 103(3): 170-186.
- Yun, G.W. & Trumbo, C. (2000). Comparative response to a survey executed by post, e-mail and web form. *Journal of Computer-Mediated Communication*, 6(1): 00-00.
- Zeithaml, V.A. (1988). Consumer perceptions of price, quality and value: A mean-end model and synthesis of evidence. *Journal of Marketing*, 2-22.
- Zeithaml, V.A. & Bitner, M.J. (2000). *Services marketing: Integrating customer focus across the firm*. Madison: McGraw-Hill.

Research Construct	Observed Variable	Factor Loading ( $\lambda$ )>0.5 (Hair <i>et al.</i> , 1992)	Squared Multiple Correlation (SMC)>0.5 (Bagozzi & Yi, 1988)	Composite Reliability (CR)>0.7 (Hair <i>et al.</i> , 1998)	Average Variance Extracted (AVE)>0.5 (Fornell & Larcker, 1981)
Product Perceived Attributes (PPA)	PPA1: The price of health food with reasonable is basic and necessary information.	0.71	0.51	0.77	0.52
	PPA2: The flavor of health food with acceptable is basic and necessary information.	0.71	0.51		
	PPA3: It is essential and necessary to purchase health foods to present personal lifestyles.	0.73	0.53		
Perceived Value (PV)	PV1: Eating health foods can make me feel healthier.	0.84	0.72	0.89	0.73
	PV2: Buying health foods allows me to get social recognition.	0.82	0.67		
	PV3: I feel right about the decision to buy health foods.	0.89	0.8		
Purchasing Intention (PI)	PI1: I am willing to buy health foods to maintain health.	0.84	0.7	0.83	0.62
	PI2: I recommend that others to buy health foods	0.72	0.5		
	PI3: I am willing to pay more for health foods than for normal foods.	0.82	0.65		

**Table 1. Reliability and Convergent Validity Analysis**

Model Fit Index	Ideal	Scholars	This Study
$\chi^2$	The Smaller, the Better	Joreskog & Sorbom (1996)	<b>102.6</b>
d.f. ratio	--	--	<b>30</b>
$\chi^2 / \text{d.f. ratio}$	<5	Wheaton (1987) ; Bollen (1989) ; Hair <i>et al.</i> (1998)	<b>3.43</b>
GFI	>0.9	Gefen <i>et al.</i> (2000) ; Hair <i>et al.</i> (1998)	<b>0.95</b>
AGFI	>0.8	Gefen <i>et al.</i> (2000) ; Hair <i>et al.</i> (1998) Joreskog & Sorbom (1996 )	<b>0.92</b>
SRMR	<0.1	Hu & Benteler (1999)	<b>0.07</b>
CFI	>0.9	Gefen <i>et al.</i> (2000) ; Hair <i>et al.</i> (1998) ; Bagozzi & Yi (1988)	<b>0.96</b>
RMSEA	$\leq 0.08$	Browne & Cudek (1993) ; Jarvenpaa <i>et al.</i> (2000)	<b>0.08</b>
NFI	>0.9	Bentler & Bonett (1980)	<b>0.94</b>
NNFI	>0.9	Bentler & Bonett (1980) ; Tucker & Lewis (1973 )	<b>0.95</b>
IFI	>0.9	Bentler & Bonett (1980)	<b>0.96</b>

**Table 3. Overall Model Fit Index**