The Moderating Effect of Over-Service on Customer Value: The Case of the Restaurant Industry in Taiwan

Shuo-Chang Tsai, Yuan-Jun Chen, and Jin-Hsiang Wang

Abstract—**Today's marketing concept has combined the "relationship marketing-oriented" view of maintaining long-term relationships with customers. Many companies introduce the "Customer Relationship Management" (CRM) system, which enables companies to accurately target customers and improve customer satisfaction and loyalty. In other words, meeting the needs of the *consumer* market and pleasing consumers has become the mainstream thinking of marketing. The practice of pleasing customers is becoming popular. In addition to increasing the extra cost of the company, does the company have to solve the real problem of customers? In particular, recent studies have pointed out that after providing services to consumers to a certain extent, the provision of more services may result in no significant increase in satisfaction, but rather negative emotions in consumers, resulting in "over-service" phenomena. In the past, research has rarely explored the negative effects of over-service and the main reasons for the negative impact. This is the main research purpose of this study. This research is based on the service of Wowprime Group's restaurant chain business. Construct a "customer service industry loyalty model", including customer cognitive value, loyalty, and satisfaction. Over-service is used as an interference effect to clarify the correlation analysis between over-service and satisfaction. After verification by structural equations, the research shows that emotional value, social value, price value and quality value have a positive impact on satisfaction. Over-service has interference effects on emotional value, price value and quality value, especially on emotional value, indicating that over-service in the process of customer's meal does affect customer satisfaction and loyalty. However, over-service has no disruptive effect on social value and satisfaction.**

Index Terms—**Over-service, customer value, customer satisfaction, customer loyalty.**

I. INTRODUCTION

In recent years, with the growth of social economy, the restaurant industry has been booming. In addition to paying attention to the restaurant environment and the quality of food and beverage, consumers pay more attention to service quality, and also enable companies to take the customer-oriented business philosophy to do their best to please consumers, and to provide consumers with high-quality services to improve customer satisfaction and loyalty. However, in the past, the literature on service quality mentioned that when service providers provide services to consumers to a certain extent, more service offerings may not significantly increase consumer satisfaction, and thus cause consumers to have negative emotions [1]. The idea that

companies must please customers is deeply rooted, so managers rarely think about it. Customer loyalty depends primarily on how well the company performs when it performs basic or even the simplest service, not how the service is amazing. But most companies ignore this, so they waste a lot of resources and lose customers at the same time. Past research has focused on how to please customers to increase loyalty and satisfaction, rarely to explore the negative effects of over-service and the main reasons for the negative impact, which is one of the motivations for triggering this research. There are also many cases of over-service in daily life, such as (1) restaurant staff welcoming guests in an exaggerated way, or squatting to help customers order food. (2) The company keeps up to date with the latest news and offers via email or mobile phone newsletter. (3) When purchasing goods in the store, the clerk tends to pay attention to the product information. (4) The waiter actively recommends the meal. (5) Invite everyone to sing happy birthday songs together. These kinds of service methods have positive and negative feelings for consumers. Therefore, based on the customer perception value model proposed by [2], this study will further explore the most positive impact on the positive or negative direction of consumers. We hope that this research can make some slight contribution to the service industry, which is the second motivation to trigger this research.

In the booming service industry, the restaurant industry is the most competitive, and the most frequent contact with consumers. According to the statistics of the Ministry of Economic Affairs, the turnover of Taiwan's restaurant industry grew from NT$497.9 billion in 2014 to NT$638.9 billion in 2018, a growth rate of 22.07%, from which it grew NT$141 billion from 2014 to 2018. Nowadays, under the fierce competition of the restaurant industry, there has been a great growth every year. How to stand out and retain customers has become an important issue. Therefore, this study takes the restaurant industry as the research object. Based on the above research motivation, this study uses "over-service" as the research target, and analyzes which service behavior will make customers experience different feelings, and analyzes it with perceived value model. The purpose of this study is summarized as follows: (1) Construct a loyalty model of the restaurant industry with customer value to complete the customer's loyalty model to the restaurant industry. (2) Verify the interference effect of over-service in the restaurant industry on customer satisfaction, to clarify the difference between over-service and cognitive value. (3) Proposing the management implications of over-service in the restaurant industry and providing a service projects strategic reference.

II. Literature Review

A. Customer Value

Customer Value is a kind of value perceived by the customer, and the overall evaluation of the product's effectiveness after payment and acquisition. Refers to the gap between the customer's perceived pay and access [3]. Reference [4] believes that customer value is the choice preference generated by consumers after evaluating the attributes of the goods. Reference [5] proposed that the customer value of the tourism industry refers to a customer's overall assessment of the product or service. Reference [6] believes that customer value is the overall difference in feelings that consumers receive and compare. Reference [7] believes that customer value is the value that consumers receive from goods or services. Reference [8] believe that customer value refers to the value generated by consumers through experience, and also affects consumers' preferences and behaviors. Today's customers face a variety of choices, and the industry is a highly-contact service. How to improve the value of customers' products or services provided by the company is a very important issue?

B. Over-Service

Over-Service is the service that the company provides to exceed customer expectations, and the customer may not be satisfied, which has the opposite effect. Nowadays, the restaurant industry has experienced excessive service, without considering the customer's feelings. Whether the service is provided too much makes the customer feel unpleasant, which in turn affects the overall performance of the company. Reference [9] believes that over-service makes some customers accept some products or services, but some features or functions of products or services are not used at all, but these features increase their purchase costs. Reference [1] believes that over-service is for a variety of reasons, the industry provides a private space that does not accept, recognize or interfere with the customer, thus affecting the customer's service behavior, content and methods of normal consumption in the store.

C. Customer Satisfaction

Customer satisfaction is the consumer's own feeling. Customer satisfaction is the ratio of actual contact to expected psychology. The change in feeling satisfaction is the result of emotional reaction [10]. Due to the fierce competition among modern enterprises and the rise of consumer awareness, customer satisfaction has become the focus of corporate competitive advantage and the key factor for sustainable management. Reference [11] believes that customer satisfaction will be a key factor in business success, because customer satisfaction will directly affect brand loyalty, word of mouth and market share, so companies regard customer satisfaction as a market competition target and lasting competitive advantage. Reference [12] also believe that satisfaction is the overall evaluation or satisfaction of visitors to the recreation process, so it can be said that overall satisfaction is a holistic measurement of the consumer's overall use of the product. In the tourism and leisure industry, satisfaction is often regarded as a holistic concept [13].

D. Customer Loyalty

Reference [14] argues that Customer Loyalty is that despite environmental changes and the potential impact of competitors' efforts on consumer conversion behavior, consumers are still willing to purchase or repurchase their preferred product services in the future. Repetitive purchases of the same or same group of brands. Today's companies are committed to the pursuit of customer loyalty, their customer loyalty will affect the customer's behavioral outcomes, and the behavioral results are closely related to the company's long-term profitability and sustainable business. Reference [15] argues that in a highly competitive market, the cost of developing a new customer is five times the cost of maintaining an old customer. Therefore, companies are particularly important to enhance existing customer loyalty.

III. Methodology

A. Research Framework

Based on research motivation and purpose, this study takes emotional value, social value, price value, quality value, over-service, satisfaction and loyalty as the research construct. Emotional value, social value, price value, and quality value are the core items of the restaurant industry. They are used as a relationship that affects customer satisfaction, and whether or not loyalty is generated to check whether satisfaction is consistent with loyalty. The core issue of this research is the "over-service" construct, whether it has a disruptive effect on the relationship between customer value and satisfaction. For the above reasons, the model of this study is shown in Fig. 1.
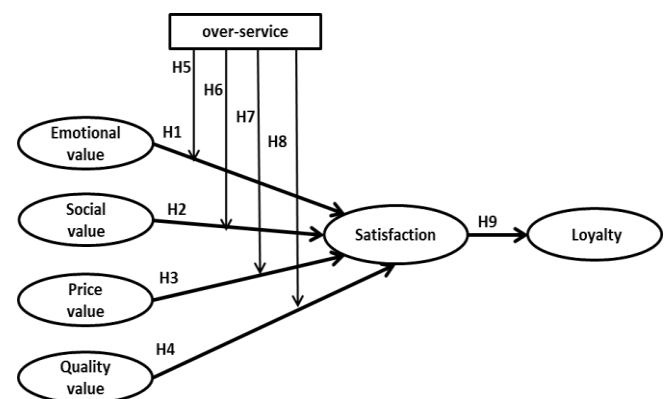

Fig. 1. The theoretical framework.

B. Research Assumption

1) The relationship between customer value and customer satisfaction

In the process of service, the interaction between the services provided by the company and the customers will affect the satisfaction and will lead to changes in the customer's cognitive value. Reference [16] believes that satisfaction and value are completely different, but they are inextricably linked. One possible reason is that "satisfaction" is a result, and customers can get satisfaction from value. The customer's perceived value is the benefit that the customer derives from the product or service provided by the manufacturer, relative to the cost of the customer. Customer satisfaction is the net value of the customer's perception of the product or service provided by the manufacturer, a positive or negative overall feeling. Therefore, customer value represents the customer's perception of the exchange relationship between the customer and the manufacturer, and customer satisfaction reflects the overall feeling that the customer has obtained from the manufacturer [4]. Through literature

review of customer value and satisfaction, it was found that scholars [17]-[19] also proposed the relationship between customer value and satisfaction. They all believe that customer value is highly correlated with customer satisfaction, so hypothesis H1-H4.

H1: Emotional value has a positive impact on satisfaction.
H2: Social value has a positive impact on satisfaction.
H3: The price value has a positive impact on satisfaction.
H4: Quality value has a positive impact on satisfaction.

2) The effect of over-service on the perceived value of customers

When a company provides services that exceed customer expectations, it may not necessarily satisfy customers. The value that the customer perceives after giving and receiving, and the overall evaluation of the product's effectiveness, refers to the gap between the customer's perceived pay and the acquisition [3]. Therefore, the customer's feelings will be evaluated through the four facets of the customer's value. In order to fill the theoretical gap, the hypothesis H5~H8 is proposed.

H5: Over-service has an interference effect between emotional value and customer satisfaction.

H6: Over-service has an interference effect between social value and customer satisfaction.

H7: Over-service has an interference effect between price value and customer satisfaction.

H8: Over-service has an interference effect between quality value and customer satisfaction.

3) The relationship between customer satisfaction and customer loyalty

The relationship between customer satisfaction and customer loyalty has developed quite maturely, and scholars have also put forward many theories. Satisfaction will be a key factor in business success, as customer satisfaction will directly impact brand loyalty, word of mouth and market share [11]. Therefore, companies should regard satisfaction and loyalty as the competitive targets of the market, in order to obtain a lasting competitive advantage. Reference [18] believes that customer satisfaction will improve customer loyalty, avoid customer turnover, reduce customer sensitivity to price, reduce marketing and cost of creating new customers, reduce operating costs due to increased customer numbers, enhance advertising effectiveness and enhance corporate reputation. Although the relationship between satisfaction and loyalty has been controversial in recent years, satisfaction has certain influence on loyalty, but this study believes that satisfaction has a positive impact on loyalty, so hypothesis H9 is proposed.

H9: Customer satisfaction has a positive impact on loyalty.

4) Sampling

The survey respondents were consumers who had consumed in the Wowprime Group. Wowprime Group is the leader of the Taiwanese restaurant chain group and has been operating in the market for more than 26 years. At present, Wowprime Group has a total of eighteen food and beverage brands in Taiwan: Wangsteak, Tasty, Tokyia, Yakiyan, Giguo, ikki, Chamonix, Pinnada etc. The pasture is the scope of research for this study. Then, the weight of the monthly average passenger volume of each restaurant brand of Wowprime Group is taken as a sampling index, and the

questionnaires are distributed to the customers after the consumption of each restaurant brand, and then the data analysis is carried out. According to the statistics of the research, the total number of passengers per month of Wowprime Group is 46,429, of which the proportion of the Tasty is the highest. This study has successively collected sample statistics of other food and beverage brands of Wowprime Group, which are described in the following Table I.

TABLE I: SAMPLE STATISTICS

Restaurant name	Number of store	APV* (months)	The proportion	Number of samples
Wangsteak	14	4683	10.1%	35
Tasty	37	8437	18.2%	63
Tokyia	30	7910	17%	59
Yakiyan	18	4166	9%	31
Giguo	27	3052	6.6%	22
ikki	10	5328	11.5%	40
Chamonix	12	7004	15.1%	52
Pinnada	22	5849	12.5%	43

* Average Passenger Volume

IV. RESULT

Data analysis was performed using partial least squares (PLS), a structural equation modeling (SEM) technique that has become widely accepted for its accuracy and utility. The PLS uses a least squares estimation procedure, allowing the flexibility to represent both formative and reflective latent constructs, while placing minimal demands on measurement scales, sample size, and distributional assumptions. Data analysis proceeded in two stages: (a) we tested the measurement model by subjecting our measures to a series of confirmatory factor analyses (CFA); and (b) we developed a structural model to test our hypotheses.

A. Measurement Model

In order to make the results of the formal survey scale of this study reliable, a reliability analysis was conducted before the statistical analysis of the data to determine whether the results obtained by the study were consistent. The reliability analysis of Cronbach's Alpha is 0.962 for emotional value construct, 0.881 for social value construct, 0.934 for price value construct, 0.955 for quality value construct, 0.916 for over-service construct, 0.961 for customer satisfaction construct, and 0.961 for customer loyalty construct. The reliability of Cronbach's Alpha is higher than 0.7, which has a better criterion [20]. The constructs of this study are all higher than 0.7, which meets the appropriate reliability standard.

The reliability and validity of the structural model are determined by the Measurement Model. The results of the constructive validity analysis show that the model standardization factor load is between 0.81 and 0.97, which is consistent with the specification between 0.6 and 0.95. It can be seen that the observation items of each construct of this study have good convergence validity. In the reliability analysis of the composite of the study, the composite reliability of the potential constructs is higher than the specification of 0.5, indicating that the study has good reliability. Described as follows in Table II.

TABLE II: FACTOR LOADING, COMPOSITE RELIABILITY (CR), AND AVERAGE VARIANCE EXTRACTED (AVE)

Constructs items	Factor loading	CR	AVE	Constructs items	Factor loading	CR	AVE
Emotional value		0.9641	0.8996	*Quality value*		0.9561	0.8791
Emotional value1	0.929			Quality value1	0.918		
Emotional value2	0.970			Quality value2	0.968		
Emotional value3	0.946			Quality value3	0.926		
Social value		0.8902	0.7306	*Customer satisfaction*		0.9174	0.7352
Social value1	0.826			Customer satisfaction2	0.855		
Social value2	0.923			Customer satisfaction3	0.886		
Social value3	0.811			Customer satisfaction4	0.850		
Price value		0.9342	0.8258	Customer satisfaction5	0.838		
Price value 1	0.885			*Customer loyalty*		0.9279	0.8112
Price value 2	0.945			Customer loyalty1	0.876		
Price value 3	0.895			Customer loyalty3	0.949		
				Customer loyalty	0.875		

B. Structural Model

In the overall structural model, the chi-square value was significant (χ^2 (345) =1627.753, p=0.00), while the other fitting indicators CFI=0.95, GFI=0.85, RMSEA=0.063, showing the structural pattern have sufficient compatibility. In terms of path analysis of structural models, the results of the estimation from standardized parameters show that emotional value has a positive and significant impact on customer satisfaction ($\gamma11$= 0.488). Social value has a positive and significant impact on customer satisfaction ($\gamma12$ = 0.064). Price value has a positive and significant impact on customer satisfaction ($\gamma13$ = 0.373). Quality value has a positive and significant impact on customer satisfaction ($\gamma14$= 0.584). Customer satisfaction has a positive and significant impact on customer loyalty ($\beta21$= 0.876). Therefore, it is assumed that both H1-H4 and H9 are supported, and thus the quality value is the most effective way to link customer satisfaction in the restaurant industry. Described as Table III and Fig. 2.
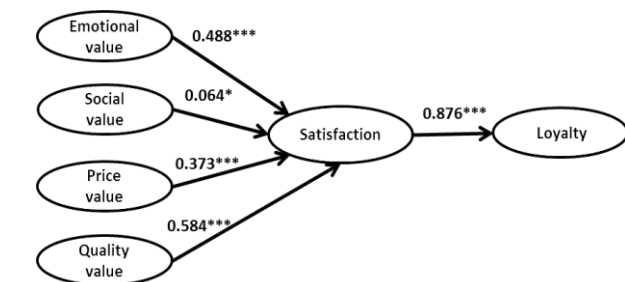
* p<.05, ** p<.01, *** p<.001

Fig. 2. Results of the model.

TABLE III: RESULTS OF HYPOTHESIS TESTING

Path	S.E.	p-Value	Result
H1: Emotional value ->Satisfaction	0.488	0.000	Supported
H2: Social value ->Satisfaction	0.064	0.038	Supported
H3: Price value ->Satisfaction	0.373	0.000	Supported
H4: Quality value ->Satisfaction	0.584	0.000	Supported
H9: Satisfaction ->Loyalty	0.876	0.000	Supported

In this study, interference was mainly discussed with over-service. In the part of the interference pattern analysis in the structural model, 241 of the 345 samples were considered to be over-serviced. It can be seen from Table IV that under the comparison of the two groups of samples, the difference in the coefficient of emotional value, price value and quality

value indicate that there is interference effect, and the emotional value has the highest interference effect. The social value is not much different from each other in the comparison of the two groups of samples, which means that there is no interference. The results, found in Table IV, provide support for H5, H7 and H8, while H6 was not supported. Described as follows in Table IV.

TABLE IV: INTERFERENCE PATH ANALYSIS

Sample groups	Path	Path estimate
Whole samples (n=345)	over-service->Emotional value	0.59
	over-service->Social value	0.04
	over-service->Price value	0.46
	over-service->Quality value	0.55
Samples who believe that there is over-service (n=241)	over-service->Emotional value	0.37
	over-service->Social value	0.02
	over-service->Price value	0.28
	over-service->Quality value	0.34

V. DISCUSSION AND IMPLICATIONS

This study builds a research model based on the literature of customer cognitive value, over-service, satisfaction, and loyalty. Structural equation analysis is used to characterize the difference between the sample and the model. The research results show that the customer's cognitive value has a positive impact on the four facets and customer satisfaction, so the research hypothesis H1-H4 is supported. From the results of this study, it can be seen that the most important part of the customer's dining in the restaurant is mainly from the quality value of the restaurant, followed by the emotional value, price value and social value. In terms of over-service, from the perspective of interference path estimation, the results show that over-service has interference effects on emotional value, price value and quality value. However, over-service has no interference effect on social value. Therefore, the study hypothesized that H5, H7 and H8 were supported, and H6 failed to obtain support. This result is an important finding of this study and also infers that when consumers are over-serviced, they are most affected in terms of emotional value.

A. Theoretical Contributions

The loyalty model of the previous the restaurant industry mostly explores how to improve customer satisfaction and thus enhance customer loyalty. However, today's restaurant industry still fails to find more effective factors to improve customer satisfaction. Therefore, customer perceived value is an area that has not yet been integrated into the restaurant industry. Therefore, the important contribution of this research is to study the customer's perceived value that has been less discussed in the past, in order to complete the customer's loyalty model for the restaurant industry.

B. Managerial Contributions

The discussion of over-service is the main purpose of this study. The sample object is a consumer that has been consumed in Wowprime Group. The research results show that over-service has a distracting effect between customer perceived value and satisfaction. The restaurant's approach to making customers happy has become a major competitive advantage, but is this really true? When the customer is likely

to dine in the restaurant, the service provided by the restaurant cannot improve the customer satisfaction. For example, the restaurant will provide some eye-catching celebrations of birthdays, so that some customers may feel a little uncomfortable. Over-service may just cause a more unpleasant effect. This study suggests that restaurants must put resources and service methods in the right place, which is conducive to sustainable business operations. In particular, the restaurant industry is a highly alternative industry. How to retain customers is the primary condition for enterprises.

C. Future Research

Because the research object is to select consumers who have had over-service experience in the restaurant industry to investigate, there is no detailed discussion on whether there are differences in the over-services of different industries. Therefore, it is recommended that future research can investigate the scope of other industry categories and compare the over-service models of different industry categories with different results.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Shuo-Chang Tsai conducted the research; Jin-Hsiang Wang analyzed the data; Yuan-Jun Chen wrote the paper.

REFERENCES

[1] H. T. Feng, "The exploratory study of excessive service," Unpublished master's thesis, Yuan Ze University, Taiwan, 2011.
[2] J. C. Sweeney and G. N. Soutar, "Consumer perceived value: The development of a multiple item scale," *Journal of Retailing*, vol. 77, no. 2, pp. 203-220, 2001.
[3] V. A. Zeithaml, "Consumer perceptions of price, quality, and value a means-end model and synthesis of evidence," *Journal of Marketing*, vol. 52, no. 3, pp. 2-22, 1988.
[4] R. B. Woodruff, "Customer value: The next source for competitive edge," *Journal of the Academy of Marketing Science*, vol. 25, no. 2, pp. 139-153, 1997.
[5] H. Z. Al-Sabbahy, Y. Ekinci, and M. Riley, "An investigation of perceived value dimensions: Implications for hospitality research," *Journal of Travel Research*, vol 42, no. 3, pp. 226-234, 2004.
[6] S. C. Chang, "The relationships among perceived value, customer value, customer satisfaction and behavioral intentions: An empirical study of Penghu tourism," *Marketing Review*, vol. 3, no. 2, pp. 169-194, 2006.
[7] H. C. Chian, "The effect of customer value, price perception, customer satisfaction and switching cost on customer loyalty-an empirical study of hypermarket," Unpublished master's thesis, National Cheng Kung University, Taiwan, 2006.
[8] C. C. Shen, J. K. Chen, Y. T. Huang, and T. A. Tseng, "Experience as leisure involvement's mediator that influences customer value: A case study in hot spring tourists," *Journal of Tourism and Travel Research*, vol. 6, no. 1, pp. 79-96, 2011.
[9] R. Jia, *Marketing of Safe Secure Distribution-How to Get Rid of Corporate Marketing Risk and Crisis Problems [Dictionary of the Simplified Chinese Language]*, China: China Social Sciences Publishing House Pub, 2008.
[10] T. Chikara and T. Takahashi, "Research of measuring the customer satisfaction for information systems," *Computers Industrial Engineering*, vol. 33, no. 3-4, pp. 639-642, 1997.
[11] W. Muller, "Gaining competitive advantage through customer satisfaction," *European Management Journal*, vol. 9, no. 2, pp. 201-221, 1991.
[12] J. E. Bigne, M. I. Sanchez, and J. Sanchez, "Tourism image evaluation variables and after purchase behavior: inter-relationship," *Tourism Management*, vol. 22, no. 6, pp. 607-616, 2001.
[13] S. T. Cole, J. L. Crompton, and V. L. Willson, "An emperical investigation of the relationships between service quality, satisfaction and behavioral intentions among visitors to a wildlife refuge," *Journal of Leisure Research*, vol. 34, no. 1, pp. 1-24, 2002.
[14] R. L. Oliver, "Whence consumer loyalty?" *Journal of Marketing*, vol. 63, no. 4, pp. 33-34, 1999.
[15] P. Kotler, *Marketing Management*, 11th ed. Prentice Hall International, Inc, 2003.
[16] R. L. Oliver, "Measurement and evaluation of satisfaction process in retail settings. Experience as leisure involvement's mediator that influences customer value: A case study in hot spring tourists," *Journal of Retailing*, vol. 57, no. 3, pp. 25-48, 1981.
[17] K. Albrecht and R. Zemke, *Service America: Doing Business in The New Economy*, Homewood, III: Dow Jones-Irwin, 1985.
[18] C. Fornell, "A national customer satisfaction barometer: The Swedish experience," *Journal of Marketing*, vol. 56, no. 1, pp. 1-22, 1992.
[19] M. B. Holbrook, *Consumer Value: A Framework for Analysis and Research*, New York, NY: Routledge, 1999.
[20] J. C. Nunnally, *Psychometric Theory*, 2nd ed. New York, NY: McGraw-Hill, 1978.

Shuo-Chang Tsai was born in Taiwan in 1965. He graduated from National Chung Hsing University with a master's degree and PhD in agricultural economics. He is currently an associate professor in the Department of Business Administration at Asian University. He teaches marketing management, economics, and managerial economics courses. His major research areas are marketing, economics and quantitative methods. In recent years, companies have often used innovative products to fit consumer demand and have become a major market competition strategy. However, product development often starts from the consumer needs perceived by the company, but ignores the true nature of the consumer's needs. So he recently researched consumer innovativeness, focusing on three topics include consumer innovation model, consumer innovation cognition and consumer innovation measurement. To understand how consumers can make decisions independently when they are buying innovative products, without being influenced by others, and to adopt innovative products earlier.
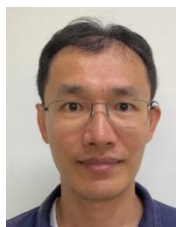
Yuan-Jun Chen was born in Taiwan in 1976. He graduated from National Taiwan University with a master's degree in agronomy in 2002. He is mainly engaged in research in the field of rice genetic analysis. He is a doctoral student in the Department of Business Administration at Asian University in Taiwan from 2015 till now. He is mainly engaged in research in agricultural management and market. He works for the Department of Agricultural Economics Division, Taiwan Agricultural Research Institute, Council of Agriculture, Executive Yuan as an assistant researcher from 2010 till now. His main work is to implement the planning of agricultural technology courses; the research plan of farmers' adjustment behavior under the global climate change situation; the planning of agricultural business model courses, and the counseling work of farmers' groups.

Jin-Hsiang Wang was born in Taiwan in 1989. He completed a master's degree in business administration at Asian university in 2013. His main research areas are advertising marketing and market management. After graduation, he was the head of the quality control department at Largan Precision Co., Ltd from 2013 to 2014. At that time, he was responsible for controlling the shipment quality of the IPhone mobile phone lens and the staff training for the foreign workers. After leaving Largan Precision Co., Ltd, he started his marketing career and currently works for the vice-president of the Taipei Digital Group. He has implemented many different industries, from boutiques, steam locomotives, games, movies, department stores, EC, finance and other industries, with considerable advertising proposals and implementation experience