The Impact of Marketing Strategies and Satisfaction on Student Loyalty: A Structural Equation Model Approach

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Abstract

The dynamic changes in higher education observed over the last 20 years have transformed the educational market. The potential value of promoting student satisfaction and loyalty in higher education has become a significant issue. This study investigates the directions and strengths of the relationships among marketing strategies, student satisfaction, and loyalty in Taiwanese higher education. Structural equation models were used to validate the measure and test the proposed relationships. The study tested two hypotheses: marketing strategies are positively related to student satisfaction (H1), and student satisfaction is positively related to student loyalty (H3). These findings indicate that student satisfaction is a key intermediate variable for marketing strategies and student loyalty. This study's results provide several important implications for managers in higher education.

Keywords: marketing strategy, higher education, satisfaction, loyalty, Taiwan

1. Introduction

Over the last decade, escalating costs and declining resources have forced higher education institutions to examine strategies for strengthening community support and enhancing their image. The management of higher education has become one of the most important issues facing educators, who are under unprecedented pressure. Taiwanese higher education institutions are facing an increasingly competitive environment due to the nation's dramatically reduced birth rate and the growth in students' school options. The growing number of students has led to a rapid expansion of Taiwan's higher education institutions and a mass hiring of new teachers and staff (Ministry of Education, 2013), while Taiwan's population reduction is the steepest among Asian countries.

The word "marketing" used to be jargon confined to the business world and alien to higher education. Now, however, it is considered part of developing a knowledge society (Ramachandra, 2010). Kotler and Fox noted that marketing is important in today's institutions and that this has grown out of a mission to serve the community's education needs (Mulnix, Cojanu, & Pettine, 2011). Higher education is a stressful experience that forces one to deal with new environments. As higher education is now acknowledged as a major service good and students are seen as customers and clients, a study of the factors driving customer satisfaction and student loyalty would seem valuable (Brown & Mazzarol, 2008, p. 82). Student loyalty has recently become an important strategic theme in higher education (Helgesen & Nesset, 2007). The importance of customer satisfaction has also been recognized by higher education, as in other business sectors, and school administrators have adopted student satisfaction as a cornerstone of their competitive strategy (Helgesen & Nesset, 2007). Elliot and Healy (2001) indicated that student satisfaction is a short-term attitude resulting from students' evaluation of the education service they received (Helgesen & Nesset, 2007). Student satisfaction is also an important theme in higher education.

Thus, marketing strategies, student satisfaction, and student loyalty have become very important strategic themes in higher education. However, there is little research on these topics in the context of Taiwanese higher education. A study of those three factors, investigating whether certain marketing strategies contribute to student satisfaction and student loyalty, would be valuable.

This study explores the relationship among marketing strategies, student satisfaction, and loyalty in Taiwanese

higher education institutions. The author collected questionnaires for four weeks. Total sample was composed of 1,000 surveyed students from 20 universities, and 692 students answered the questionnaire of which 671 answered all questions for this study. This represented a success rate of more than 69%. A research model of marketing strategies, student satisfaction, and loyalty was proposed and tested by using a Structural Equation Modeling (SEM) approach. The structure of this article as follows: A literature review is discussed in "Literature review and hypotheses development" section, including marketing strategies, student satisfaction, customer loyalty, and hypotheses development. In "Method" section, the data sample, measures and data analysis are described. Next, in "Results" section, the author described validity and reliability, measurement model, and structural model. Based on these results, the results provide higher education managers with a guide for use in deciding whether to initiate marketing strategies and how to improve student satisfaction and loyalty.

2. Literature Review and Hypotheses Development

2.1 Marketing Strategies

Marketing plays a central role in today's economy and is crucial to organizational success (Kotler, 1994). Though education marketing has been discussed in the education field in many Western countries since the 1980s, it is rarely discussed in Eastern countries (Li & Hung, 2009). Marketing strategies are powerful processes that give an organization a competitive advantage and deliver products that satisfy customers. On the whole, faculty members and administrators at higher education institutions are no longer disdainful of such traditional marketing principles as positioning, the strategic management of resources, effective pricing, and promotion (Mulnix, Cojanu, & Pettine, 2011).

A marketing strategy is composed of several interrelated components called the "marketing mix." The marketer McCarthy proposed the "4P" classification in 1960 (McCarthy, 1960), which expanded to 5P, 6P, and 7P (Armstrong & Kotler, 2006; Kotler & Keller, 2009; Walker & Mullins, 2008). Marketing strategies differ depending on each organization's situation. This study focuses on seven key marketing strategies: place, promotion, price, product, people, market position, and physical evidence. Each is explained below:

1) Place: This key marketing-mix tool comprises the various activities an organization requires to make their product accessible and available to the target customers (Kotler, Ang, Leong, & Tan, 1999). In higher education, a place strategy is designed to attract students to a specific university. A good placement can establish a brand and differentiate it from the competition.

2) Promotion: Promotion involves selling products, services, or ideas through a website, radio, or advertisements. The traditional promotional tools are standard mass media advertising and hard-copy promotions. Moogan (2011) indicated that students, especially undergraduates, preferred a greater use of electronic sources. Selecting the right promotion strategy for a university is very important. Good promotion strategies can attract more attention to a university as well as new students and their parents.

3) Price: Price is an important marketing strategy since Taiwanese students are offered variable tuition fees for similar programs across universities. Average tuition and costs depend on whether the institution is public or private. The private higher education sector is responsible for about 50 to 60% of total enrolment in Taiwan. Some schools have scholarship programs to help tide students over during temporary financial embarrassments.

4) Product: Products, the vital ingredients of a market offering, are anything that can be offered to a market to satisfy a want or need (Kotler, Ang, Leong, & Tan, 1999, p. 447). A product is the object of the exchange process, the thing the producer or supplier offers to a potential customer in exchange for something the supplier perceives as having equivalent or greater value (Hollensen, 2010, p. 393). Marketers have traditionally classified products into three groups—nondurable goods, durable goods, and services—according to durability and tangibility (Kotler & Keller, 2009). In higher education, as in this research, both curriculum and students are considered products.

5) People: People are the staff, teachers, management, and everybody else involved in higher education institutions. They are among the few elements that students can see and interact with. The right people must be recruited, motivated, and trained to create a competitive advantage.

6) Market position: Market position differentiates a product and brand from those of other schools. In today's competitive higher education marketplace, institutions must justify their existence and stand out from the crowd (Maringe & Gibbs, 2009). Marketing position plays an important role in meeting consumer needs, increasing profits, retaining customers, and developing focused marketing communications.

7) Physical evidence: Physical evidence is where the service (or product) is being delivered from and the way this distinguishes a school from the others. Students will judge a school based on its physical evidence. For

example, if the school is dirty or unsafe, students will be unfavorable to it.

2.2 Student Satisfaction

Customers are the most important stakeholders in commercial companies. Studies have emphasized consumers' purchase process and attitudes (Domino et al., 2006; Kim, Ferrin, & Raghav, 2008; Lin & Sun, 2009). Students are the most important stakeholders in higher education institutions, as they are the primary generators of tuition revenues. In an environment that acknowledges higher education as a major service good and students as customers, student satisfaction has become a major strategic goal for many higher education institutions (Brown & Mazzarol, 2008; Lee & Anantharaman, 2013). The importance of customer satisfaction has been recognized by higher education institutions, and administrators have adopted it as one of the cornerstones of their competitive strategy (Lee & Anantharaman, 2013). Satisfaction with their university affects student performance and helps schools become more competitive and attractive to students (Lee, Jolly, Kench, & Gelonesi, 2000; Sojkin, Bartkowiak, & Skuza, 2012; Tinto, 1993).

Measuring customer satisfaction is critical since it is a post-activity measuring index that influences customer decisions (Lin & Sun, 2009). Student satisfaction is not a short-term evaluation but an enduring attitude developed through repeated experiences with higher education. Athiyaman (1997) and Szymanski and Henard (2001) indicated that student satisfaction is a favorable cognitive state resulting from students' evaluation of their experience. Students evaluate their schools on several levels, including physical evidence, price, people, and product. Therefore, this study considers student satisfaction the positive attitude that encapsulates students' general feeling about their experiences of higher education.

Brown and Mazzarol (2008) developed a satisfaction scale comprising two dimensions—evaluative and emotion. The scale examined issues such as students' "enjoyment and surprise" and "what they needed." To measure student satisfaction, the author used a modified version of the model in Brown and Mazzarol (2008).

2.3 Customer Loyalty

Customer loyalty is perceived and defined in various ways—for example, as a "deeply held commitment to re-buy, re-patronize a preferred product, or a high price tolerance" (Helgesen & Nesset, 2007; Dick & Basu, 1994; Oliver, 1997). Oliver (1997) identified customer loyalty as a commitment to re-buy or use a preferred service (product) consistently despite situational influences and marketing efforts to cause switching behavior.

Knowing what influences student loyalty is a key issue for higher education institutions. Student loyalty is not only related to short-term effects but also influences teaching quality positively through active participation and committed behavior (Helgesen & Nesset, 2007). Brown and Mazzarol (2008) developed a loyalty scale that included measures for students' willingness to recommend a course or institution to others, maintain contact with the faculty, select the institution again for future study, and join the alumni. Li and Hung (2009) developed a scale to measure parents' loyalty, including items such as "I will continue to let him/her attend the same school," "This school will be my first choice," and "I will voluntarily recommend this school." This research measured customer loyalty using a four-item scale similar to those used by Brown and Mazzarol (2008) and Li and Hung (2009).

2.4 Hypotheses Development

An increasing number of higher education institutions are adopting business perspectives, realizing that they are in a competitive service industry (Lee & Anantharaman, 2013, p. 191). Good marketing strategies can have a positive impact on customer satisfaction, and students are viewed as customers. Research on customer satisfaction indicates that marketing strategies are important factors in success (Li & Hung, 2009). When students perceive better marketing strategies (such as place, promotion, price, product, people, market positioning, and physical evidence), they will feel more satisfied. Thus, the author proposes the hypothesis below:

Hypothesis 1: Marketing strategies are positively associated with customer satisfaction.

Marketing principles' potential to help solve problems in higher education has been investigated (Fram, 1973). Good marketing strategies can have a positive impact on student loyalty. Li and Hung (2009) indicated that marketing tactics predicted the perception of school image and customer behavior. When students perceive better marketing strategies, they will feel more satisfaction with and loyalty to their school. Leverin and Liljander (2006) indicated that marketing activities should be targeted at the most profitable customers in order to increase their satisfaction and loyalty. Ndubisi (2007) and Ginsberg and Bloom (2004) have also shown that marketing strategies are positively related to customer loyalty. Thus, this study proposes the following hypothesis:

Hypothesis 2: Marketing strategies are positively associated with customer loyalty.

Student satisfaction and loyalty have recently become very important themes in higher education. Student loyalty is seen to be positively related to student satisfaction and to the performance of an educational institution (Athiyaman, 1997; Brown & Mazzarol, 2008; Helgesen & Nesset, 2007; C. Schertzer & S. Schertzer, 2004). Brown and Mazzarol (2008) suggested that students' loyalty to a university is determined by their overall level of satisfaction. C. Schertzer and S. Schertzer (2004) showed that student satisfaction is positively related to student loyalty. Consequently, this study proposes the following hypothesis:

Hypothesis 3: Student satisfaction is positively related to student loyalty.

3. Method

3.1 The Data Sample

The author collected questionnaires for four weeks, from March 1 to March 30, 2013. The target population comprised students in Taiwanese higher education institutions. Using purposive sampling, the author selected 20 universities (out of 161 higher education institutions in Taiwan) for study. One month later, the author had collected 692 responses. After data screening, 21 questionnaires were excluded from the analyses, resulting in a total of 671 valid questionnaires. The descriptive statistics of the sample are provided in Table 1.

Table 1 contains descriptive information on the demographic variables of the sample used in this study. There were 671 responses to the survey, yielding a 67% response rate. Of these, 72.1% (410) were female and 27.9% (159) male. There were 396 (69.6%) participants from public universities and 173 (30.4%) from private universities. Respondents divided into Education (44.1%), Science (10.4%), Humanities and Liberal Arts (21.4%), and Management (8.6%) programs and into freshman (32%), sophomore (27.6%), junior (6%), and senior (2.8%) grades.

Table 1. Descriptive statistics of respondent characteristics

Characteristic	Number of times (n=671)	Percentage (%)
Gender		
Male	159	27.9
Female	410	72.1
University		
Public	396	69.6
Private	173	30.4
College		
Education	251	44.1
Science	59	10.4
Humanities and Liberal Arts	122	21.4
Management	49	8.6
Others	88	15.5
Grade		
Freshman	125	22.0
Sophomore	155	27.2
Junior	115	20.2
Senior	106	18.6
Graduate	68	11.9

3.2 Measures

Questionnaires are the most widely used data collection methods in educational research in Taiwan. A pilot study was conducted to test and refine the instruments prior to final use in this research. It was conducted on 103

students in order to develop, test, and refine the questions. A few modifications were consequently made to the study's instrument. The questionnaire used three latent constructs—marketing strategy, customer satisfaction, and loyalty—each measured through several factors. The survey consisted of 51 items and a four-item demographic tool developed by the author consisting of gender, university, college, and grade.

Most of the 51 items in this study were adapted from the relevant literature, and all were measured on seven-point Likert-type scales, with responses ranging from "strongly agree" (7) to "strongly disagree" (1). The scales were developed and employed by the author through the process described below:

1) Marketing strategy: Marketing strategy is the exogenous variable in this study, in a modified form of the 5P, 6P, and 7P types (Armstrong & Kotler, 2006; Kotler & Keller, 2009; Walker & Mullins, 2008). Marketing strategies are powerful processes that give the university a competitive advantage and deliver products that satisfy customers (students). The author selected seven key elements—place, promotion, price, product, people, market position, and physical evidence—to stand as representative marketing strategies. These were then measured using a 43-item scale keyed to the 7P type.

2) Student satisfaction: This was an endogenous variable in this survey, measured with a modified version of the model in Brown and Mazzarol (2008). Students are the most important stakeholders in higher education institutions, and their satisfaction has become a major strategic goal for many higher education institutions. In this scale, the four items examined issues such as the students' "enjoyment" and "satisfaction" and whether they considered the institution "what they needed" and "the right choice."

3) Student loyalty: Student loyalty is not only related to short-term effects but also influences teaching quality positively through active participation and committed behavior. Student loyalty was also an endogenous variable, measured with four items adapted and modified from Brown and Mazzarol (2008) and Li and Hung (2009). These included measures of the students' willingness to recommend the school to others and select the institution again.

The last part of the questionnaire gathered personal information about the students, including their gender, college, grade, and whether their universities were private or public. As illustrated in Figure. 1, the research model suggests that students' loyalty to a higher education institution is determined by their overall level of satisfaction and the schools' marketing strategies.

3.3 Data Analysis

To assure the reliability and validity of the measurements, the author used Cronbach's alpha(α) and a confirmatory factor analysis (CFA). Cronbach's α was derived to ascertain the internal consistency of items, and CFA can be used to compute indexes of reliability for the measure of a factor. To establish convergent and discriminant validity as well as reliability, the author used composite reliability (CR) and average variance extracted (AVE).

Structural equation modeling (SEM) is a general term used to describe a large number of statistical models for evaluating the validity of substantive theories with empirical data (Lei & Wu, 2007). The author used SEM to evaluate whether this study's theoretical model is plausible when compared to the observed data. This process allows the author to represent the hypothetical constructs explicitly and distinguish the key relationships among marketing strategy, customer satisfaction, and loyalty.

4. Results

4.1 Reliability and Validity

Reliability assessments are used to test the stability or consistency of research results. Measurement reliability addresses the consistency of the instrument's measurement: other researchers must be able to perform exactly the same experiment under the same conditions and generate the same results. This can be tested by using correlations or methods such as Cronbach's α. This, the most common method for internal consistency reliability analysis, is the average of all possible split-half correlation coefficients, the value of which varies from 0 to 1. Cronbach's $\alpha > 0.7$ indicates satisfactory internal consistency reliability (Nunnally & Berstein, 1994). The Cronbach's α of marketing strategy, customer satisfaction, and loyalty were 0.917, 0.935, and 0.877, respectively, in this survey, indicating satisfactory internal consistency reliability.

The author also employed multiple measures of reliability; CR values were used to assess the component reliability. This study's CR values ranged from 0.869 to 0.928, exceeding the recommended 0.70 threshold (Bagozzi & Yi, 1988). The author used AVE values to assess construct discriminant validity. The AVE values of the constructs, ranging from 0.612 to 0.762, exceeded the acceptable value of 0.50 (Fornell & Larcker, 1981). All

CR values were greater than the recommended AVE values (Byrne, 2010). These figures indicate satisfactory reliability and validity.

Table 2. Standardized loading, AVE, CR, and Cronbach's α of the constructs

Construct	Factors	Standardized loading	AVE	CR	Cronbach's α
Marketing strategy	Place	0.78	0.612	0.916	0.917
	Promotion	0.68			
	Price	0.67			
	Product	0.89			
	People	0.77			
	Market positioning	0.81			
	Physical evidence	0.85			
Customer satisfaction	Satisfaction	0.89	0.762	0.928	0.935
	Enjoyment	0.86			
	Need	0.83			
	Right choice	0.91			
Customer loyalty	Recommend	0.90	0.629	0.869	0.877
	Select again	0.89			
	No transfer	0.69			
	Price tolerance	0.66			

4.2 Measurement Model

Each latent construct is usually associated with multiple measures in SEM. Researchers must link the latent constructs to their measures through a factor analytic measurement model before constructing the structural model. The CFA is a special form of factor analysis, most commonly used in social research (Kline, 2010). The CFA model was used to measure the theoretical variable and factor analytic measurement model in this study. The author conducted the CFA using LISERAL to evaluate how well the 51 items fit the previously observed and theoretically based model.

In the first step of the SEM, the author used CFA to test the measurement models. Three measurement models were constructed: marketing strategy, customer satisfaction, and loyalty. The LISERAL was used to analyze the survey data, and a goodness of fit test was conducted using the following criteria: GFI (goodness-of-fit index), NFI (normed fit index), RFI (relative fit index), CFI (comparative fit index), and IFI (Incremental Fit Index) values above 0.90 (values close to 1 indicate a perfect fit while values close to zero indicate a poor fit); a relative χ^2/df ratio under 5; an RMSEA (root mean square error of approximation) below 0.080 (close to 0); and an RMR (root mean square residual) below 0.05 (Bentler, 1990; Browne & Cudek, 1993; Halim, Meerah, Zakaria, Abdullah, & Tambychik, 2012; Schumacker & Lomax, 2004; Meyers, Gamst, & Guarino, 2006). Based on the above criteria, the three test measurement models are described below:

1) Marketing strategy: The author conducted a CFA using LISERAL to evaluate how well the 43 items fit the previously observed theoretically based seven-factor structure. The p-value reached a significant level (p=0.000), and the relative chi-square (χ^2/df=3.68, ≤ 5) indicated a good fit. The test results revealed that evaluation indexes GFI = 0.97, NFI = 0.99, NNFI = 0.99, IFI = 0.99, CFI = 0.99, and RFI = 0.98 all exceeded 0.90. The RMR index was 0.022, lower than the recommended maximum of 0.05. The PNFI = 0.66 exceeded 0.50 and was well within acceptable guidelines. The RMSEA = 0.069 approached the standard of experience value. Hence, the seven-factor model fit well and represented a reasonably close approximation to the population.

2) Customer satisfaction: The result showed that the hypothesized measurement model had an overall good fit (χ^2/df =1.548, GFI = 1.00, AGFI = 0.99, NFI = 1.00, NNFI = 1.00, IFI = 1.00, CFI = 1.00, RFI = 1.00, RMR = 0.0096, SRMR = 0.0058, and RMSEA = 0.031). The GFI, AGFI, NFI, NNFI, IFI, CFI, and RFI were all above 0.9, and other goodness-of-fit indices indicated good fit between the hypothesized model and the data structure.

3) Customer loyalty: The measurement model fit indices of customer loyalty showed an adequate fit (GFI = 0.98, AGFI = 0.91, NFI = 0.99, NNFI = 0.96, IFI = 0.99, CFI = 0.99, and RFI = 0.96). The GFI, AGFI, NFI, NNFI, IFI, CFI, and RFI were all above 0.9, indicating good fit between the hypothesized measurement model and the data structure. Thus, the four-factor model fit well and represented a reasonably close approximation to the population.

4.3 Structural Model

After running the CFA to test the three measurement models (i.e., marketing strategy, customer satisfaction, and loyalty), it was concluded that the models fit well and represented a reasonably close approximation to the population. In the second step of the SEM, the author tested the structural model with LISERAL. The structural model was constructed as follows: marketing strategy as an exogenous latent variable affecting seven exogenous observed variables; customer satisfaction as an endogenous latent variable affecting four endogenous observed variables; and customer loyalty as the ultimate endogenous latent variable, affecting four endogenous observed variables. The author used the same criteria to determine good model fit: GFI, NFI, RFI, CFI, and IFI above 0.90; a relative χ^2/df ratio less than 5; an RMSEA below 0.080 (close to 0); and an RMR below 0.05, (Bentler, 1990; Browne & Cudek, 1993; Halim, Meerah, Zakaria, Abdullah, & Tambychik, 2012; Schumacker & Lomax, 2004; Meyers, Gamst, & Guarino, 2006).

Table 3 shows the model-fit effectiveness of this survey through the evaluation indexes χ^2/df = 4.58, RMSEA = 0.79, RMR = 0.074, SRMR = 0.042, GFI = 0.91, NFI = 0.98, NNFI = 0.98, IFI = 0.98, CFI = 0.98, PGFI = 0.66, and PNFI = 0.81, all of which approached the standards of experience value. The AGFI was slightly lower than 0.90, because the AGFI (0.88) value is strongly influenced by variations in sample size and measurement non-normality. Some researchers have recommended AGFI as an alternative measure of fit (Burton, Lichtenstein, & Garretson, 1998). Hence, this structural model fit well and represented a reasonably close approximation to the population.

All of the paths estimated were significant, and two of the hypotheses underlying this model were supported at the 0.01 level of significance (see Table 4). In this study, the expected effect is evident: marketing strategy is positively associated with customer satisfaction (H1), and customer satisfaction is positively associated with loyalty (H3). However, H2 is not supported: marketing strategy is not positively associated with customer loyalty, indicating that a higher perception of marketing strategy improves customer satisfaction and that customer satisfaction significantly and positively influences image brand. In this survey, customer satisfaction can act as an intervening variable.

Table 5 shows the direct, indirect, and total effects among the observed variables. Marketing strategy had a direct effect on customer satisfaction (0.81). Customer satisfaction also had a direct effect on loyalty, as shown by the path coefficient of 0.91. The total effects of marketing strategy on customer loyalty are 0.74. Thus, marketing strategy and customer satisfaction are two important influences on loyalty. Among the three variables, customer satisfaction is an important intervening variable. Figure 1 reports the results of the full model.

Table 3. Goodness-of-fit indexes of model

	χ^2/df	RMSEA	RMR	SRMR	GFI	AGFI	NFI	NNFI	IFI	CFI	PGFI	PNFI
Experience value	<5	<0.08	<0.10	<0.08	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	>0.50	>0.50
Model	4.58	0.79	0.074	0.042	0.91	0.88	0.98	0.98	0.98	0.98	0.66	0.81

Table 4. The result of the structural model

Hypothesis	Paths	Path coefficient	Results
H1	Marketing strategy →Customer satisfaction	0.81**	Supported
H2	Marketing strategy →Customer loyalty	-0.01	
H3	Customer satisfaction →Customer loyalty	0.91**	Supported

**$p < 0.01$.

Table 5. Direct, indirect, and total effects

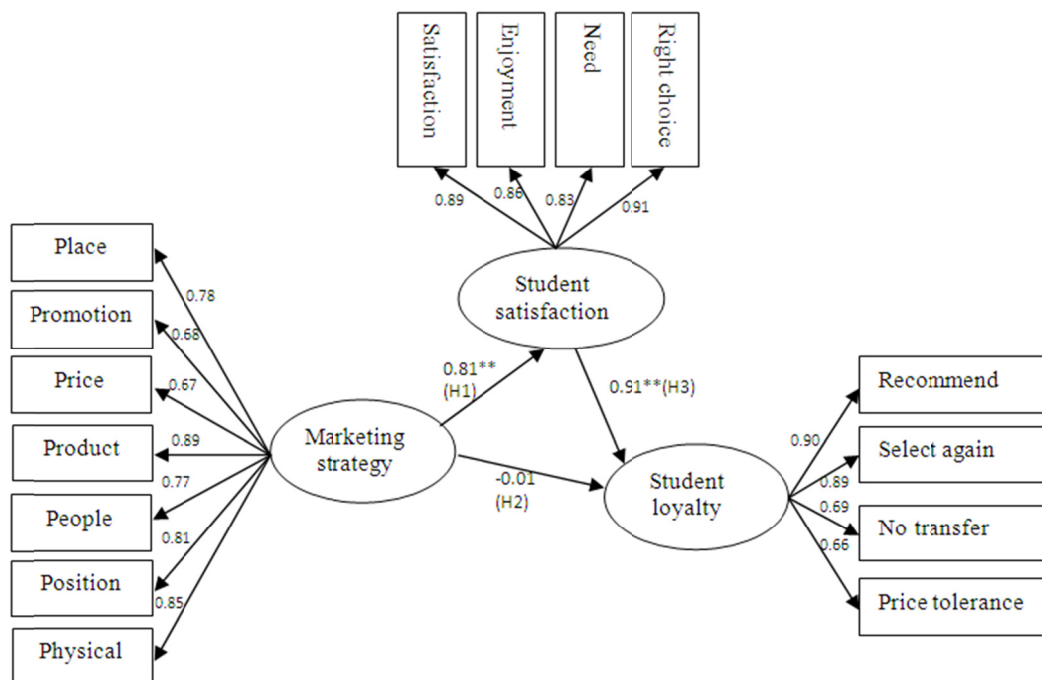| Construct	Direct	Indirect	Total
Marketing strategy → Customer satisfaction	0.81	--	0.81
Customer satisfaction →Customer loyalty	0.91	--	0.91
Marketing strategy → Customer loyalty	0.81	0.91	0.74

Figure 1. Results of full model

5. Conclusion and Implications

The purpose of this investigation was to explore the relationship among marketing strategy, student satisfaction, and student loyalty in higher education. Three latent constructs were associated with multiple measures in SEM. The CFA results showed that the three-factor measurement model fit well with the empirical data. The measurement models employed were marketing strategy, customer satisfaction, and loyalty. From the marketing strategy perspective, the most powerful variable was measured using place, promotion, price, product, people, position, and physical. A good "Place" can establish a brand and differentiate it from the competition. Good "promotion" strategies can attract more attention to a university as well as new students and their parents. "Price" and "Product" are also important marketing strategies in higher education sectors. "People" are everybody else involved in higher education institutions, and must be recruited, motivated, and trained to create a competitive advantage. Higher education Institutions must justify their existence and stand out from the crowd to make their "Market position". Finally, students will judge a school based on its "physical evidence". From the student

satisfaction perspective, the most powerful variable was measured using (a) satisfaction, (b) enjoyment, (c) need, and (d) right choice. From the student loyalty perspective, the most powerful variable was measured using (a) recommend, (b) select again, (c) no transfer, and (d) price tolerance.

Loyalty, marketing strategies, and satisfaction are likely to be just as important for universities as for other types of commercial organizations. Drawn from the research, two hypotheses were tested in this study: marketing strategies are positively related to student loyalty (H1), and student satisfaction is positively related to student loyalty (H3). Hypothesis 2 was not supported. These findings provide evidence of the importance of student satisfaction as a key intermediate variable for marketing strategies and student loyalty. The findings offer several implications for managers of higher education institutions.

First, the results of this study suggest marketing strategies for administrators of higher education institutions. Universities should maintain and develop seven key marketing strategies elements: place, promotion, price, product, people, market position, and physical evidence.

Second, the empirical results indicate that marketing strategies have a strong influence on student loyalty in higher educational institutions. Today's competitive educational market forces higher education institutions to adopt a customer-oriented strategy that differentiates their offerings from those of their competitors (Lee & Anantharaman, 2013). Therefore, marketing strategies and loyalty play important roles in higher education institutions.

Third, the author built an integrated framework to shed light on the relationship among marketing strategy, student satisfaction, and loyalty. The findings offer important insights into student satisfaction with higher education institutions: as marketing strategies are not positively associated with customer loyalty, universities should therefore foster students' satisfaction in order to increase their loyalty.

6. Limitations and Future Research

The author acknowledges that this research has several limitations that future research should address. First, the sample was drawn from a single industry. While the final sample was a good representation of the student population within Taiwan's higher education sector, future research should aim to replicate the results using other student populations on different education levels. Future research should test this study's hypotheses at other educational levels, such as junior and senior high schools, or in other industries.

Second, although higher education situations in other countries are different from those in Taiwan, this study is limited to students from higher education industries in a country-specific context. The data were collected in Taiwan, and the extent to which these findings can be extended to other countries is questionable. Therefore, this research should be expanded to other countries offering higher education.

Finally, the topic discussed in this study is still evolving. Student loyalty has recently become a very important strategic theme in higher education, and loyal students are positively influencing teaching quality. Thus, studies should continue to explore this topic by adding other variables, such as the social and cultural factors affecting student loyalty. This will enrich the literature on the higher education sector.

References

Armstrong, G., & Kotler, P. (2006). *Marketing : An introduction*. Upper Saddle River, N.J.: Pearson Prentice Hall.

Athiyaman, A. (1997). Linking student satisfaction and service quality perceptions: The case of university education. *European Journal of Marketing, 31*(7), 528-540. http://dx.doi.org/10.1108/03090569710176655

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structure equation models. *Journal of the Academy of Marketing Science, 16*, 74-94. http://dx.doi.org/10.1177/009207038801600107

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*(2), 238-246. http://dx.doi.org/10.1037/0033-2909.107.2.238

Brown, R. M., & Mazzarol, T. W. (2008). The importance of institutional image to student satisfaction and loyalty within higher education. *Higher education, 58*, 81-95. http://dx.doi.org/10.1007/s10734-008-9183-8

Browne, M. W., & Cudek, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, & J. S. Long (Eds.), *Testing structural equation models*. CA: Sage.

Burton, S., Lichtenstein, D. R., & Garretson, J. A. (1998). A scale for measuring attitude toward private label products and an examination of its psychological and behavioral correlates. *Journal of the Academy of Marketing Science, 26*(4), 293-306. http://dx.doi.org/10.1177/0092070398264003

Byrne, B. M. (2010). *Structural equation modeling with LISREL, PRELIS, and SIMPLIS: Basic concepts, applications, and programming*. Mahwah, NJ: Lawrence Erlbaum Assoc Inc.

Dick, A. S., & Basu, K. (1994). Customer loyalty: Toward an integrated conceptual framework. *Journal of the Academy of Marketing Science, 22*(2), 99-113. http://dx.doi.org/10.1177/0092070394222001

Domino, S., Libraire, T., Lutwiller, D., Superczynski, S., & Tian, R. (2006). Higher education marketing concerns: Factors influence students' choice of colleges. *The Business Review, 6*(2), 101-111.

Elliot, K. M., & Healy, M. A. (2001). Key factors influencing student satisfaction related to recruitment and retention. *Journal of Marketing for Higher Education, 10*(4), 1-11. http://dx.doi.org/10.1300/J050v10n04_01

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable and measurement errors. *Journal of Marketing Research, 18*(1), 39-50. http://dx.doi.org/10.2307/3151312

Fram, E. H. (1973). *Positive steps for marketing higher education*. Paper presented to the Annual meeting of the American Association for Higher Education (28th), Chicago, IL, March 11-14.

Ginsberg, J. M., & Bloom, P. N. (2004). Choosing the right green marketing strategy. *MIT Sloan Management Review, 46*(1), 79-84.

Halim, L., Meerah, S. M., Zakaria, E., Abdullah, S. I. S. S., & Tambychik, T. (2012). An exploratory factor analysis in developing pedagogical content knowledge scale for teaching science. *Research Journal of Applied Sciences, Engineering and Technology, 4*(19), 3558-3564.

Helgesen, Ø., & Nesset, E. (2007). What accounts for students' loyalty? Some field study evidence false. *The International Journal of Educational Management, 21*(2), 126-143. http://dx.doi.org/10.1108/09513540710729926

Hollensen, S. (2010). *Marketing management: A relationship approach* (2nd ed.). Edinburgh Gate (Harlow), England: Pearson Education.

Kim, D. J., Ferrin, D. L., & Raghav, R. H. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Decision Support Systems, 44*(2), 544-564. http://dx.doi.org/10.1016/j.dss.2007.07.001

Kline, R. B. (2010). *Principles and practice of structural equation modeling* (3rd ed.). New York, NY: Guilford Press.

Kotler, P. (1994). *Marketing management: Analysis, planning, implementation and control* (8th ed). Englewood Cliffs, NJ: Prentice-Hall Inc.

Kotler, P., & Keller, K. L. (2009). *Marketing management* (13th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

Kotler, P., Ang, S. H., Leong, S. M., & Tan, C. T. (1999). *Marketing management: An Asian perspective* (2nd ed.). New York, NY: Pearson Prentice Hall.

Lee, G., Jolly, N., Kench, P., & Gelonesi, B. (2000). *Factors related to student satisfaction with university*. Paper presented at The Fourth Pacific Rim–First year in Higher Education Conference: Creating futures for a new millennium 5-7 July 2000. Brisbane: Australia.

Lee, J., & Anantharaman, S. (2013). Experience of control and student satisfaction with higher education services. *American Journal of Business Education, 6*(2), 191-200.

Lei, P. W., & Wu, Q. (2007). Introduction to structural equation modeling: Issues and practical considerations. *Educational Measurement: Issues and Practice, 26*(3), 33-43. http://dx.doi.org/10.1111/j.1745-3992.2007.00099.x

Leverin, A., & Liljander, V. (2006). Does relationship marketing improve customer relationship satisfaction and loyalty? *International Journal of Bank Marketing, 24*(4), 232-251. http://dx.doi.org/10.1108/02652320610671333

Li, C. K., & Hung, C. H. (2009). Marketing tactics and parents' loyalty: The mediation role of school image. *Journal of Educational Administration, 47*(4), 477-489. http://dx.doi.org/10.1108/09578230910967455

Lin, T. R., & Sun, C. C. (2009). Factors influencing satisfaction and loyalty in online shopping: An integrated model. *Online Information Review, 33*(3), 458-475. http://dx.doi.org/10.1108/14684520910969907

Maringe, F., & Gibbs, P. (2009). *Marketing higher education: Theory and practice*. New York, NY: The McGraw-Hill companies.

McCarthy, J. E. (1960). *Basic Marketing. A Managerial Approach*. Homewood, IL: Richard D. Irwin.

Meyers, L. S., Gamst, G., & Guarino, A. J. (2006). *Applied multivariate research: Design and interpretation*. Sage, CA: Thousand Oaks.

Ministry of Education. (2013). *Number of Schools at all levels*. Retrieved from http://www.edu.gov.tw

Moogan, Y. J. (2011). Can a higher education institution's marketing strategy improve the student-institution match? *The International Journal of Educational Management, 25*(6), 570-589. http://dx.doi.org/10.1108/09513541111159068

Mulnix, M. W., Cojanu, K., & Pettine, S. B. (2011). Critical role of the dominant coalition in higher education marketing strategy formulation. *Research in Higher Education Journal, 11*, 1-10. http://dx.doi.org/10.1177/1538192711411073

Ndubisi, N. O. (2007). Relationship marketing and customer loyalty. *Marketing intelligence & planning, 25*(1), 98-106. http://dx.doi.org/10.1108/02634500710722425

Nunnally, J. C., & Berstein, I. H. (1994). *Psychometric theory*. New York: McGraw-Hill.

Oliver, R. L. (1997). *Satisfaction: A behavior perspective on the consumer*. New York, NY: McGraw-Hill.

Ramachandra, N. T. (2010). Marketing framework in higher education: Addressing aspirations of students beyond conventional tenets of selling products. *International Journal of Educational Management, 24*(6), 544-556. http://dx.doi.org/10.1108/09513541011067700

Schertzer, C. B., & Schertzer, S. M. B. (2004). Student satisfaction and retention: a conceptual model. *Journal of Marketing for Higher Education, 14*(1), 79-91. http://dx.doi.org/10.1300/J050v14n01_05

Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling*. Mahwah, NJ: Lawrence Erlbaum.

Sojkin, B., Bartkowiak, P., & Skuza, A. (2012). Determinants of higher education choices and student satisfaction: the case of Poland. *Higher education, 63*, 565-581. http://dx.doi.org/10.1007/s10734-011-9459-2

Szymanski, D., & Henard, D. (2001). Customer satisfaction: A meta-analysis of the empirical evidence. *Journal of the Academy of Marketing Science, 25*, 4-17. http://dx.doi.org/10.1177/009207030102900102

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago, IL: University of Chicago Press.

Walker, O. C., & Mullins, J. W. (2008). *Marketing strategy: A decision-focused approach*. New York, NY: McGraw-Hill.