THE MEDIATING EFFECT OF SATISFACTION ON STUDENT LOYALTY TO HIGHER EDUCATION INSTITUTION

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Abstract

Main purposes of this study were to examine links between student perceived value, student trust, university image, and student satisfaction to student loyalty and to describing an influence relationship of mediator variables in student loyalty model. The model was tested through the use of Partial Least Squares (PLS) structural equations methodology. Empirical data were drawn from 100 private university students in the upper north of Thailand. Questionnaire method and multi - stage sampling techniques were used in collecting data with an error 1% sample size. Data analysis with descriptive statistics and structural equations model analysis were used to test hypothesis model. Results from this study indicated that the student satisfaction (SATIS) and three antecedent variables: university image (IMAGE), student trust (TRUST), and student perceived value (PERC) have positive influence to student loyalty (STULOY) with statistical significant level 0.05. This model was perfectly fit with an empirical data and was predicted by student satisfaction and antecedent variables up to 82.5%. Moreover, the results also show that student perceived value was the construct that most influence to university image and student trust, and strongly indirect influence to student satisfaction. The influence of perceived value is also relevant to student loyalty via student satisfaction. The most important issue is an impact of student satisfaction variable that has highest directly influence and transmits relative influence linkage between antecedent variables and dependent variable. In conclusion, student satisfaction was a mediating variable and it implied that the student satisfaction was the major driver of student loyalty.

Introduction

As a result of rapid expansion of educational system in Thailand, higher learning industry, especially after the passing of The Private Higher Education Institution Act of 2003 and its Second Revision of 2007 ("Thai Higher Education: Policy &Issue", [Online]) growing very fast. The growth in the number of both public and private higher education institutions is reflected by an increase in the numbers of institutions established from year 1996 to 2014. It was reported that, in 2014, there were 80 public universities, and private universities and colleges increased to 72 consisting of 52 private higher education institutions and 20 community colleges. (The Office of the Higher Education Commission, 2015).

Acknowledging the competitive situation within the industry, the competition situation among higher education institutions in the north of Thailand is becoming highly obvious when recruiting students at the higher educational level and the survival rate are predominantly based on customer loyalty and satisfaction (Athiyaman, 2000). Especially for, the private higher education institutions that have to maintain student interest and introduction potential students to the institutions, which would help improvement the survival rate of the institutes.

Student attraction and student retention can help administrators of higher education institutions to better make decisions concerning the allocation of scarce resources (Johnson & Gustafson, 2000). Thus, the insight concerning student retention and student satisfaction should be the greatest important issues for determining the most appropriate strategic management in order to ensure long-term successful performance of both public and private institutions.

According to literature review, it is indicated that student satisfaction was an antecedent variable to student loyalty, and both are positively correlated. This meant that when students were satisfied with a university, they would display positive attitudes and behavior toward the institution. This was evident and expressed by words of mouth and buzz words about the good name and reputation of the university which were positive indicators that students would further their education at the university. Thus, building up student satisfaction and loyalty is the most important to be key objectives especially to private institutions (Helgesen & Nesset, 2007; Henning - Thurau & et al., 2001).

It was found that student loyalty is a key objective desired by many higher education institutions for several reasons (Henning - Thurau & et al., 2001) including: 1) Tuition fees are the main source of income for most

privately owned universities. Retaining students means developing a solid and predictable financial basis for future university activities. 2) Service marketing theory on customer participation (Rodie & Kleine, 2000) indicates that a student with loyalty to his or her education institution may (as the external factor in the service production process) positively influence the quality of teaching through active participation and committed behavior. 3) After graduation, a loyalty student may continue to support his or her academic institution (a) financially; (b) through word-of-mouth promotion to other prospective, current, or former students; and (c) through some form of cooperation.

As mentioned above, it is showed that a high competition in private higher education would strongly affect the stability of private higher education institutions, which induced and triggered to the researcher's interest in doing this research. In this regard, this research aimed to find correlation and affection between five latent variables, namely, student loyalty, student satisfaction, university image, student trust, and student perceived value. Using the Partial Least Squares (PLS) structural equations modeling to find the relationships and influences of antecedent variables to student loyalty, and also examines the effect of student satisfaction as a moderating variable that mediates the relationships linking institution perceived value, institution image, and institution trust with student loyalty.

Literature Review

This article outlines the findings of a research study undertaken on the antecedent variables that affected student loyalty. As building up more satisfaction and loyalty to institutions was an important strategy, Thomas (2011), Mohamad (2009), Marzo - Navarro & et al. (2005b) and Schertzer & Schertzer (2004) found that student satisfaction and student loyalty were the most important key objectives of private university. And also found that, student satisfaction was antecedent and mediating variable to student loyalty.

Previous research frameworks with respect to these constructs of latent variables are discussed below.

Student Loyalty

According to the literature review (Athiyaman, 1997; Helgesen & Nesset, 2007; Mohamad, 2009; Thomas, 2011), Student loyalty refers to the loyalty of a student after his or her time at educational institution. Student loyalty has both short term and long term impact on educational institution. Student loyalty is the combination between student willingness to provide positive words of mouth about the institution and recommendation concerning educational institution to family, friends, employers, and organizations whenever opportunities are. However, student loyalty also

contains an attitudinal component and behavioral component (Henning - Thurau & et al., 2001; Marzo - Navarro & et al., 2005a). The loyalty students are influencing teaching quality positively through active participation and committed behavior (Rodie & Kleine, 2000). By maintaining long term loyalty and satisfaction of students, they are directly increasing the stability of the academic institutes. If the aforementioned latent variables are improved, the likely results will include an increase in motivation of student loyalty towards educational institution.

This paper bases measurements of student loyalty on the attitudinal component of the concept such as attitude about cognitive, affective, and conative attitude. Moreover, in terms of behaviors, there were manifest variables about commitment as repurchase, patronize, recommendation of the university to others, returning to repeat in higher education and returning to join activity with educational institution.

Student Satisfaction

Satisfaction is an overall customer attitude towards a service provider, or an emotional reaction to the difference between what customers anticipate and what they receive, herein regarding the fulfillment of some needs, goals or desire. An importance of satisfying student to retain them for profit-making institutions, satisfying the admitted students is also important for retention. It might be argued that dissatisfied students may cut back on the number of courses or drop out of college completely. Hence, student satisfaction or dissatisfaction leads to intention to stay or to quit which in turn leads to student retention or attrition (Kara & De Shields, 2004). This means that student satisfaction has an important antecedence and is a major driver of student loyalty (Thomas, 2011).

In higher educational institutions, satisfaction is positive and significant. There is a general assumption in this study that satisfaction may increase loyalty predictor of student loyalty (Athiyaman, 1997; Henning - Thurau & et al., 2001; Schertzer & Schertzer, 2004; Marzo – Navarro & et al., 2005b; Helgesen & Nesset, 2007; Brown & Mazzarol, 2009, Mohamad, 2009). Moreover, there is positively correlation and significantly strong affect between student satisfaction and student loyalty. It was also found that where student have choices the link between satisfaction and loyalty is linear, as satisfaction is raised loyalty is also raised (Douglas & et al., 2006). However, student satisfaction has the highest degree of association with student loyalty both directly and totally, representing total effect about three times higher than the effect of image of university (Helgesen & Nesset, 2007). The following hypothesis has been formulated:

H_1: Student Satisfaction (SATIS) has a significant direct positive effect on Student Loyalty (STULOY)

Nevertheless, student satisfaction is seen as a potential antecedent of student loyalty and as mediator of constructs which can be a linkage between independent and dependent variables in the model. Moreover, the finding of the study support the literature that student perceived of value, image of university, and student trust to university are the antecedent variables to student satisfaction and the consequences of student loyalty (Ryu & et al., 2008; Mohamed, 2009).

University Image

Image is an overall impression that a person has about an object. It bases on incomplete information, and it differs from various institutions (Kotler & Fox, 1995). Image has an impact on customer perceptions of communications and operations of firms in many aspects (Gronroos, 2001). Organizations would be considered as having a good image if customers perceived they could receive benefits or interests from organizations. The favorable corporate image of a firm may be helpful in competitive market, since it might differentiate a firm from its competitors (Mohamad, 2009). Image always appears as one of the variables with the greatest direct influence in satisfaction and also has a considerable influence in loyalty (Alves & Raposo, 2007). According to literature reviews (Helgesen & Nesset, 2007; Mohamad, 2009; Brown & Mazzarol, 2006), it was found that a university image is directly and positively influence on student loyalty. And also found the effect of student satisfaction significantly mediates the relationship between university image and student loyalty.

Nevertheless, image is the one which has the most influence in the formation process of satisfaction, but there are other antecedents to effect university image and the consequences of student satisfaction. The following hypothesis has been formulated:

H_2: University Image (IMAGE) has significant positive direct effect on Student Satisfaction (SATIS)

Student Trust

Trust was defined as the willingness to rely on an exchange partner in whom one has confidence (Moorman & et al., 1993). In business, trust is viewed one of the most relevant antecedents of stable and collaborative relationships (Akbar & Parvez, 2009). Trust is essential for building and maintaining long-term relationships (Singh & Sirdeshmukh, 2000). Thus, if someone is loyal to his or her institution, he or she trusts the institution. In educational field, students' trust develops through personal experiences with the educational institution. The students' trust may be understood as their confidence in its integrity and reliability, and it is based on the personal experiences of students with faculty members (Henning - Thurau et al.,

2001; Aritonang, 2014). As mentioned above, trust is also understood as a direct antecedent of loyalty and as a prerequisite variable of loyalty.

According to the literature review (Moorman & et al., 1993; Aritonang, 2014; Chu & et al., 2012; Michell & et al., 1998; Henning - Thurau & et al., 2001; Rojas - Mendez & et al., 2009; Chu & et al., 2012) found that trust has an important role in explaining loyalty and also as fundamental element in developing loyalty. Numerous studies in an education sector have also empirically validated the link between student trust and student loyalty. Although trust has no significant impact on loyalty but trust has direct positively related to satisfaction. Thus, trust is a predictor of student loyalty and also as a mediating effect between satisfaction and loyalty. Therefore, the following hypothesis has been formulated:

H_3: Student Trust (TRUST) has a significant positive direct effect on Student Satisfaction (SATIS)

Student Perceived Value

Perceived value is defined as consumer's overall assessment of the utility of a product [or service] based on perceptions of what is received and what is given (Zeithaml, 2000). In higher educational institution, student's overall appraisal of the net worth of the service is based on the student's assessment of what is received (benefits provided by the service) and what is given (costs or sacrifices in acquiring and utilizing the service). Meanwhile, student's overall perception of service value positively impacts upon student's overall service satisfaction.

According to the literature review (Andersen & Lindestead, 1998; Hellier & et al. 2003; Yang & Peterson, 2004; Wen & et al., 2005; Akbar & Parvez, 2009), it is indicated that perceived value has been identified as driver of satisfaction. For the relationship of perceived value and satisfaction, it was found that student perceived value directly and significantly affected student satisfaction but not significantly directly affected student loyalty. Moreover, they found that student perceived value has in-direct effect on student loyalty through student satisfaction. However, student perceived value also has associated impact with university image and student trust. Aforementioned, it has examined the mediated causal links between student perceived value and student loyalty, which has mediated by student satisfaction besides examining the direct relationship between student trust and university image. Therefore, following hypotheses have been formulated:

H_4: Student Perceived Value (PERC) has significant positive direct effect on University Image (IMAGE)

H_5: Student Perceived Value (PERC) has significant positive direct effect on Student Trust (TRUST)

Conceptual Frame Work

According to reviewing the literatures, there are three independent latent variables which effects student satisfaction: student perceived value, student trust, and university image. Also, student satisfaction is an antecedent or mediator of a construct which is assumed to be the driver of student loyalty, as will be subsequently discussed. The conceptual frame work and relations between latent variables of this research are presented in Figure 1.
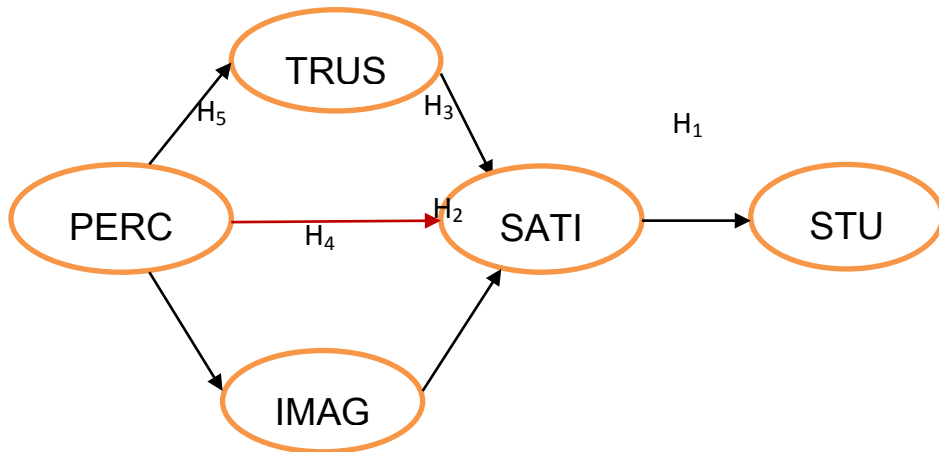
Figure 1 Latent Variable Relations Frame Work

Research Methodology
Population and Samples

The subjects of this research were undergraduate students in private higher education institutions in the northern region of Thailand. Northern region is divided into two geographical areas, namely the upper north region and the lower north region. Students in the research sample were recruited from full-time students in all of the main campuses of six private universities in three provinces of the upper north region, which covered Chiang Mai, Chiang Rai, and Lampang Provinces. The private universities are consisted of Payap University, North-Chiang Mai University, Far-Eastern University, Chiang Rai University, and Lampang Inter-Tech College.

The multi-stage random sampling technique was used in collecting data with an error of 1% sample size. The total sample consists of 100 students; 68 females and 32 males, with effective response rate of 100%.

Measure of Concepts

This research was a quantitative research and adopted the concept of constructs in the model from Thomas (2011), Mohamed (2009), and

Helgesen & Nesset (2007). The model had been adjusted as latent and manifest variables in accordance with environment and culture of population aimed to be studied. An operational definition in questionnaire was tested and modified in case of some operational definitions that suitable for operation in the field.

Due to complex nature of the model, the Partial Least Squares (PLS) structure equation modeling approach was used to test the model. This procedure allowed us to test the proposed structure of the model totally. Each construct was covered by a set of multiple items in the questionnaire. Questions were about their service experiences which derived into two parts; the first one was a socio-economic status questionnaire, and the other one was a questionnaire requesting information about constructs of five latent variables which including of student loyalty, student satisfaction, university image, student trust, and student perceived value.

Measurement for independent and dependent variables used was a seven-point Likert type response format, with "strongly disagree" to "strongly agree" (1= strongly disagree, 2= disagree, 3= somewhat disagree, 4= neither agree nor disagree, 5= somewhat agree, 6= agree, 7= strongly agree). In measurement model, 18 indicators were used to measure study of latent constructs; eight for the two external constructs; student satisfaction (4 indicators) and student loyalty (4 indicators), and 10 for the three internal constructs; student trust (3 indicators), university image (3 indicators) and student perceived value (4 indicators).

Data Analysis

The data analysis was divided into two parts: 1) validating the measurement model and validating the structural model (Figure 1) linking these constructs and, 2) testing the hypotheses. The Partial Least Squares (PLS) structural equations modeling is used for testing theory associated with latent variable models since the complexity of the theoretical model and the presence of both reflective and formative indicators (Brown & Mazzarol, 2006). However, this method was used because of its robustness against distributional constraints of more traditional analysis methods (e.g. AMOS or LISREL) and suitability for a smaller sample size than more common SEM techniques. Smart PLS 3.0, a leading PLS-SEM package, was used in this study.

Analytical Results

Initially, results from description of respondents were summarized that 68.0% of them were females and 32.0% were males. Their average age ranges were between 21 to 22 (48.0%) and their average GPA ranges were between 2.01 to 2.50 (37.0%). Most of their families' occupations (40.0%)

were commercial/private business or self-employment, while 57.0% were approximately 30,000 THB earning per month per family.

Validating Measurement Model and Validating Structural Model

The Partial Least Squares (PLS) algorithm is used to test the structural equation models. This approach consists of an iterative process that maximizes the predictive and explanatory powers of the models, which are assessed in terms of the R^2 values of the dependent variables (between 0.756 to 0.850). These values are very high for all models given their complexity (see Table 2).
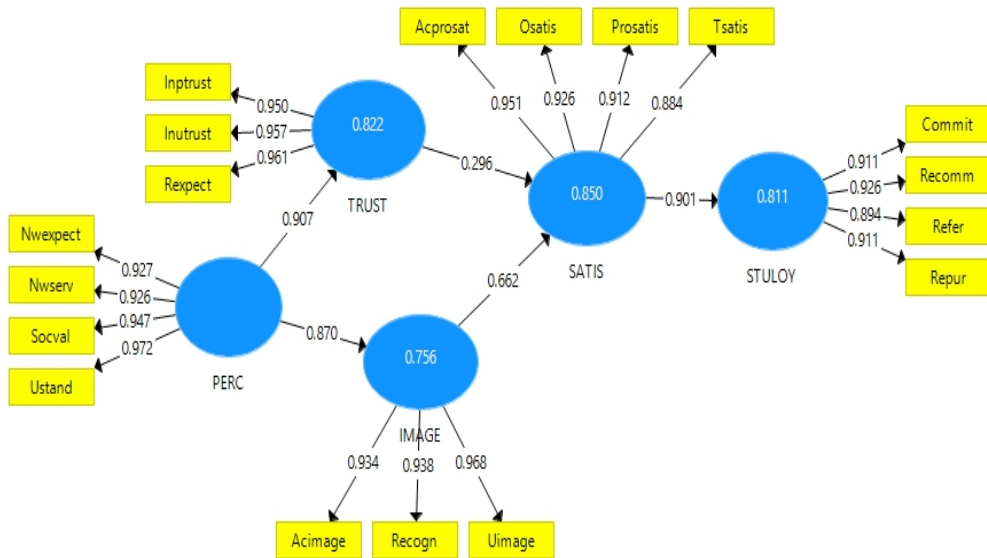

Figure 2 Estimated Structural Model for Student Loyalty

Result of the estimated PLS structural model in Figure 2 indicated the final model with path loading coefficients significant at level 0.05. The model demonstrated the linkages among perceived value, institution image, institution trust, student satisfaction, and student loyalty. This model moderately explained 81.1% respectively of variance in the student loyalty (STULOY) through the effect of direct antecedent variable (student satisfaction) and the indirect effect of the second variables, namely, the institution image (IMAGE), institution trust (TRUST), and student perceived value (PERC). Inner model path coefficient sizes and significance in Figure 2 indicated that the strongest direct effect from student satisfaction (SATIS) to student loyalty (STULOY) which was at level 0.901. In the second antecedent variables, it was found that the strong direct effect from student perceived value (PERC) to institution trust (TRUST) was at level 0.907 and institution image (IMAGE) was at level 0.870.

Table 1 Summary of Results for Reflective Outer Model

Latent Variable	Indicators	Mean	Loading	Indicator Reliability (loadings^2)	Composite Reliability	AVE
STULOY	Recomm	5.597	0.926	0.857	0.951	0.829
	Commit	5.322	0.911	0.830		
	Refer	5.637	0.894	0.799		
	Repur	5.337	0.911	0.830		
SATIS	Prosatis	5.813	0.912	0.832	0.956	0.844
	Acprosat	5.420	0.951	0.904		
	Osatis	5.562	0.926	0.857		
	Tsatis	5.293	0.884	0.781		
IMAGE	Recogn	5.360	0.938	0.880	0.963	0.896
	Uimage	5.522	0.968	0.937		
	Acimage	5.737	0.934	0.872		
TRUST	Inptrust	5.522	0.950	0.903	0.970	0.914
	Inutrust	5.447	0.957	0.916		
	Rexpect	5.432	0.961	0.924		
PREC	Nwserv	5.543	0.926	0.857	0.970	0.890
	Nwexpect	5.076	0.927	0.859		
	Ustand	5.430	0.972	0.945		
	Socval	5.480	0.947	0.897		

In outer model, the measure's quality using the Indicator Reliability (see Table 1) of each measured variable was examined to ensure the measurement variable (MVs) load meaningfully to their related constructs. Overall, the MVs loading are all relatively large and positive. An individual indicator reliability was exceeded 0.707 to ensure that at least half of the variance in the observed variable is shared with the construct. Moreover, in Table 2, Cronbach's alpha value of all latent variables are shown to be larger than 0.6 (between 0.931 to 0.958), so high levels of internal consistency reliability have been demonstrated among all four reflective latent variables.

An Average Variance Extracted (AVE) is used to check the validity of the measurement model which is widely used. To ensured discriminant validity of the constructs, the AVEs of the latent variables should be greater than the square of the correlations among the latent variables. For each construct, the AVEs squared root exceeds its shared variance with other constructs, confirming that the constructs are independent from each other. Average communalities of the measures by construct are close to 0.70, implying good consistency (see Table 2), which ensures that the model show good discriminant validity.

Therefore, to check the validity of the model from Table 1, the result indicated that discriminant validity is well established. For example, the latent variable SATIS's AVE is found to be 0.844, hence, its square root becomes 0.919 (in Table 2). This number is larger than the correlation values in the column of SATIS (0.907, 0.843 and 0.854) and also larger than those

in the row of SATIS (0.850). Similar observation is also made for the latent variables IMAGE, TRUST and PERC respectively.

Table 2 Assessment of the Validity of the Latent Variables

Latent Variables	Latent Variable Correlations					Cronbach's ☐☐	R^2
	STULOY	SATIS	IMAGE	TRUST	PERC		
STULOY	0.910					0.931	0.811
SATIS	0.901	0.919				0.938	0.850
IMAGE	0.864	0.907	0.947			0.942	0.756
TRUST	0.751	0.843	0.826	0.956		0.953	0.822
PERC	0.791	0.854	0.870	0.907	0.943	0.958	0.000

Testing the Hypotheses

The estimated model is presented in Figure 2 where the significant path is highlighted and the ability of the model to explain variation in the endogenous variable is indicated for each construct. The model explain 81.1% of the variation in student loyalty (STULOY). Consistently with previous research, the explanatory power is larger for the model (Thomas, 2011; Helgesen & Nesset, 2007). The estimated coefficients are statistically significant against a Student-T distribution at a significance level of 0.05 when t-test greater than 1.96. Table 3 shows relationships between constructs which are all statistically significant level at 0.05.

Table 3 T-Statistics for Path Estimates

Hypothesis	Path coef.	t-test	Result
H_1 : SATIS -> STULOY	0.901	37.968 **	Accept
H_2 : IMAGE ->SATIS	0.662	7.926 **	Accept
H_3 : PERC->IMAGE	0.870	23.349 **	Accept
H_4 : TRUST->SATIS	0.296	2.753 **	Accept
H_5 : PERC ->TRUST	0.907	26.069 **	Accept

Note: ** significant at 5% level (t > 1.96)

The five main concepts of the research model (student loyalty, student satisfaction, university image, student trust, and student perceived value) are likely by five path estimates that are all hypothesized to be positive (Hypothesis 1 - Hypothesis 5). The findings support all hypotheses are significant at the 0.05 level. This suggests that student satisfaction (SATIS) has a significant direct positive effect on student loyalty (STULOY) (Hypothesis 1); university image (IMAGE) has a significant positive direct effect on student satisfaction (SATIS) (Hypothesis 2); student trust (TRUST) has a significant positive direct effect on student satisfaction (SATIS) (Hypothesis 3); student perceived value (PERC) has a significant positive direct effect on university image (IMAGE)" (Hypothesis 4); "student

perceived value (PERC) has a significant positive direct effect on student trust (TRUST)" (Hypothesis 5).

The direct effect from student satisfaction (SATIS) to student loyalty (STULOY) is 0.901 (p < 0.05), cf. Figure 2. Taking into consideration the indirect effects via institution trust (TRUST) and institution image (IMAGE), the total effect from student satisfaction to student loyalty is 0.811. This suggests that student satisfaction has the highest degree of association with student loyalty both directly and totally, and also is including the indirect effects. In Table 3 shows that the positive hypotheses are supported and the proposed relationships are significant. Thus, if hypothesis 1 is supported, we can explain that student satisfaction is positive driven of student loyalty (H1). However, student satisfaction is driven by two factors: institution image (H2) and institution trust (H3). Moreover, student perceived value is driven to institution image (H4) and institution trust (H5). The results from this study (including measures of overall quality and overall outcomes) also provides support to the hypothesized relationships.

In the developed structural model of student loyalty, it provides better understanding about the influence of each factor towards student loyalty. Findings of the study are summarized that, the positive correlation between student satisfaction and student loyalty is strong. Student perceived value is a causal variable that put effect on the student satisfaction, and there are influenced by intervening variables via institution image and institution trust. The student satisfaction, as a mediating variable, is the only one antecedent variable that put effect on the dependent variable in this model, student loyalty model. It is implied that the student satisfaction was the major driver of the student loyalty.

Conclusion

Results from this study indicated that the student satisfaction (SATIS) and 3 antecedent variables - university image (IMAGE), student trust (TRUST), and student perceived value (PERC) have positive influence to student loyalty (STULOY) with statistically significant level at 0.05. The model is perfectly fit with the empirical data and is predicted by student satisfaction and antecedent variables up to 81.1%. The findings of this study support the literature that perceived value is the antecedent to student satisfaction and the consequences of student satisfaction is student loyalty (Mohamed, 2009, Thomas, 2011, Helgesen & Nesset, 2007; Henning - Thurau & et al., 2001, Yang & Peterson, 2004).

Moreover, the results indicated that every latent variable affected the loyalty toward private higher education institutions, and also show that, student perceived value is the construct that most influence to university image and student trust and strongly indirect influence to student

satisfaction. The influence of student perceived value is also relevant to student loyalty via student satisfaction. The most important is the impact of the student satisfaction variable that has highest directly influences and significantly mediates the relationship between perceived value and student loyalty. Finding in this study is concluded that student satisfaction is the mediating variable in this model and it implies that student satisfaction is a major driver of student loyalty. Therefore, student loyalty has become an important strategic theme for higher educational institutions planning.

The research suggests some specific areas for the improvement of higher education institutions to create satisfaction among students. To attack to this, institutions should recognize student retention activities by initiating institutional satisfaction to students. They can be variety activities depended on background, institutional nature, location, and also institutional philosophy.

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