

UNIVERSITY STUDENT LOYALTY MODEL: STRUCTURAL EQUATION MODELLING OF STUDENT LOYALTY IN AUTONOMOUS, STATE, TRANSFORMED, AND PRIVATE UNIVERSITIES IN BANGKOK

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Abstract: University student's loyalty is a key factor that contributes to the long-term growth and survivability of the university through financial stability, increased enrolment, and better reputation. The objective of this research is to develop a comprehensive university student loyalty model that incorporates important constructs in a service quality dimension and a relationship quality dimension as well as image and reputation perception. The model is tested using the structural equation modelling approach. The multiple group analysis is conducted to compare the models across different types of university in Bangkok namely, autonomous, state, transformed (Rajabhat and Rajamangala), and private universities. This research collected data from more than 2,400 undergraduate students in the Bangkok Metropolitan area. The University Student Loyalty Model provides university administrators with an objective and practical guideline to formulate an appropriate strategy for their universities.

Keywords: University Administration, Educational Administration, Student Loyalty, Higher Education

Introduction

Universities worldwide are undergoing pressure in many aspects, lack of enrolment, increasing student drop-out, reduced funding or competition. A measure that many scholars and practitioners have studied and adopted to tackle the problems universities face is student loyalty. However, there is still a gap in the study that is the comprehensive connection between university administration, university-student relationship and student loyalty. In Thailand, the studies of student loyalty are still minimal and they are far from capturing the whole picture of university administration. University student loyalty model is and will continue to be an important factor in university administration because of the immense pressure surrounding the higher education sector.

Many scholars and researchers have studied the concept of "student loyalty"; it is an issue that is important for higher institutions facing the budget constrains (Nesset and Helgesen, 2009), commoditisation and increasing competition (Bergamo, Giuliani, Camargo, Zambaldi and Ponchio, 2012), and reduction in

student enrolment (Lin and Tsai, 2009). According to Mendez, Vasquez-Parraga, Kara and Cerda-Urrutia (2009), student loyalty "is a critical measure in the success of higher education institutions that aim at retaining students until graduation and then attracting them back". Loyal students can also increase the number of new students by promoting the university through the word-of-mouth behaviour (Hennig-Thurau, Langer and Hansen, 2001). By developing a solid relationship with the student, the universities can have predictable financial basis for future activities (Hennig-Thurau et al., 2001). Furthermore, loyalty and profitability seem to be related (Helgesen, 2006; Hallowell, 1996). Small changes in loyalty can yield proportionately large changes in profitability (Reichheld and Sasser, 1990; Reichheld, 1993).

The objective of this research is to develop a comprehensive University Student Loyalty Model that offers a comprehensive view of relationships between constructs in a service quality dimension, a relationship quality dimension, image and reputation perception, and student loyalty across four types of universities; autonomous, state, transformed (Rajabhat & Rajamangala), and private.

This research aims to provide university administrators with empirical and practical guidelines in how to survive the competition in higher education sector and to prepare for the uncharted future. This research can also benefit researchers who intend to dig deeper into each construct leading to student loyalty. Finally, the educational policy makers can also benefit from the better understanding of the student relationship in higher education.

Literature Review

Student loyalty is the prime subject of many researches and recent ones tend to agree on the definition laid out by Oliver (1999) that loyalty is "a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior". There are many keywords in this definition. Oliver focused on the "rebuy" or "repatronise" commitment of a preferred product or service that implies the behavioural intention in the future. He also emphasised on the "same brand" tendency despite the situational influences and efforts trying to change the behaviour. From the definition, it is likely that the brand, or the institution, would benefit immensely from loyal customers. The word-of-mouth promotion behaviour is also an important element of loyalty

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expressed by many researchers (Andreassen and Lindestad, 1997; Sirdeshmukh, Singh and Sabol, 2002).

In the higher educational context, there are many researches on student loyalty (Hennig-Thurau et al., 2001; Mendez et al., 2009; Brown and Mazzarol, 2009; Thomas, 2011; Clemes, Gan and Kao, 2007; Bennett, 2003; Lin and Tsai, 2009; Sung and Yang, 2009; Bowden, 2011; Douglas, McClelland and Davies, 2008; Elliott and Healy 2001; Gulid, 2011; Helgesen and Nettet, 2007; Nettet and Helgesen, 2009; Schee, 2011; Ueda and Nojima, 2012). It is important for the university to have loyal students, Hennig-Thurau et al. (2001) wrote “the advantages to an educational institution of having loyal customers are not restricted to the period when these customers are formally registered as students; the loyalty of former students can also be important for the institution’s success”. In sum, the definition of student loyalty in this paper is defined broadly as; *deeply held positive intentions of a student to take action that benefits the university.*

Relationship Quality Dimension Constructs

Satisfaction: Satisfaction is one of the key relationship quality factors. It can be defined as the consumer senses that consumption fulfils some need, desire, or goal and that this fulfilment is pleasurable (Oliver, 1997; Oliver, 1999). According to Oliver (1999), satisfaction is the “consumer’s sense that consumption provides outcomes against a standard of pleasure versus displeasure”. In short, this research defines student satisfaction as; *the overall pleasurable feelings and attitude of a student towards the university.*

The studies of satisfaction and its effect on other variables are numerous. There are strong evidences from many researches indicating that student satisfaction leads to student loyalty (Moore and Bowden-Everson, 2012; Helgesen and Nettet, 2007; Carvalho and Mota, 2010; Bowden, 2011; Olsen and Johnson, 2003; Ueda and Nojima, 2012; Thomas, 2011; Clemes et al., 2007; Yu and Kim, 2008; Nettet and Helgesen, 2009). From the studies done by scholars, student satisfaction does not only affect student loyalty. There are also findings indicating that student satisfaction has a positive impact on student commitment (Bennett, 2003; Moore and Bowden-Everson, 2012).

Trust: Trust is the relationship quality that primarily concerns confidence of involved parties. According to Morgan and Hunt (1994), trust exists when one party has confidence in an exchange partner’s reliability and integrity. This paper’s definition of trust is based on primarily Mendez et al. (2009), among others, as; *the student’s confidence, based on personal experiences, in the university’s integrity and reliability*

There were many researches on the effect of trust on different other important constructs. In the higher educational researches, student’s trust in the university can lead to student loyalty (Garbarino and Johnson, 1999). Trust is a concept that, from the researches, affects

all other relationship quality constructs namely satisfaction, value and commitment. The study by Elliott and Healy (2001) shows that student centeredness (or trust) have a strong impact on student satisfaction. There are also other researches that show that trust positively influences satisfaction (Hennig-Thurau et al., 2002). Trust is also found to be the direct antecedent of value (Carvalho and Mota, 2010) and commitment (Mendez et al., 2009; Morgan and Hunt, 1994).

Commitment: The definition of commitment recently is largely based on the definition laid out by Morgan and Hunt (1994) defining commitment as when one believes the ongoing relationship is “so important as to warrant maximum efforts at maintaining it; that is, the committed party believes the relationship is worth working on to ensure that it endures indefinitely”. Commitment is generally categorised into continuance, or sometimes called calculative, and affective commitment whereby continuance commitment is a commitment to continue the action and affective commitment is the affective or emotional orientation to an entity (Huang, 2001). This research regards commitment only as affective commitment. The definition of commitment in this research is defined as; *the positive attachment of a student to the university that warrants the student’s enduring desire to care about, be proud of and maintain the relationship.*

In the higher educational context, student commitment also has a positive impact on student loyalty (Bowden, 2011; Moore et al, 2012; Mendez et al, 2009; Hennig-Thurau et al, 2001). Hennig-Thurau et al. (2001) found that emotional (or affective) commitment has a strong impact on student loyalty whereas the cognitive (continuance or calculative) commitment does not have that relationship or even the negative impact on student loyalty.

Value: Value or perceived value is one of the relationship quality constructs studied in this research. The role of price and monetary value during and after higher education are taken into account when considering this concept. Perception of value is the cognitive tradeoff between perception of quality and the sacrifice of any type of resources (Dodds, Monroe and Grewal, 1991). It can be defined as a comparison of “get” attributes to “give” attributes (Lam et al., 2004). This research summarises the definition of perceived “value” as *the perception of the difference between the benefits a student receives from the university and the costs of obtaining*

Many literatures found that value or perceived value has an impact on student loyalty (Carvalho and Mota, 2010; Fernández et al., 2012). Apart from loyalty, there are findings that the perception of value influences the student satisfaction. For example, the study done by Tuan (2011) found that perceived price fairness (value) has a positive impact on student loyalty; “The more students think that the education is worth what they have paid for it, the more satisfied they are” (Tuan, 2011).

Service Quality Dimension Constructs

Instructor Quality: One of the most important constructs in the dimension of service quality is “instructor quality”. Lin and Tsai (2009) found the direct relationship between perceived quality of teaching services and student loyalty. Instructor quality is also believed to be a key antecedent of trust from the listening skill (Nadler and Simerly, 2006), interaction (Fernández et al., 2010), congeniality, openness, sincerity, and integrity (Ghosh et al., 2001), informal contact (Jaasma and Koper, 1999), friendliness (Wise et al., 2004) and from the quality of the instructor (Hennig-Thurau et al., 2001). The study done by Fernández et al. (2010) also found that perceived value is the result of the interaction of the student and professors. Likewise, student satisfaction is the construct that is most frequently related to the instructors. From many researches, student satisfaction is influenced by instructor quality (Helgesen and Nettet, 2007; Elliott and Healy, 2001; Nettet and Helgesen, 2009; Browne et al., 2008; Thomas, 2011; Clemes et al., 2007; Cotton, Dollard, and de Jonge, 2002; DeShields, Kara, and Keynak, 2005; Foster and Hermann, 2010; Fredrickson, 2012; Howell and Buck, 2012; Özgüngör, 2010; Bennett, 2003; Opdecam and Everaert, 2012; Wei and Sri Ramalu, 2011).

Administration Quality: Apart from the teaching instructors, the administration quality is also important in improving the student experience in the university. Carvalho and Mota (2010) found that there is a linkage between operational benevolence of the university and the trust in management. The operational benevolence of the university is when the university holds students interest above their own (Carvalho and Mota, 2010). The quality of administrative staffs (or administration) also has an impact on student satisfaction in the university (Ghosh et al., 2001; Hennig-Thurau et al., 2001; Thomas, 2011; Mendez et al., 2009; Clemes et al., 2007; DeShields et al., 2005)

Physical Environment Quality: Another obvious factor that can have an impact on student satisfaction is the physical environment of the university. The study found that physical environment of the university has a positive impact on student satisfaction towards the university (Helgesen and Nettet, 2007; Thomas, 2011; Tuan, 2012; Bennett, 2012). Clemes et al. (2007) found that physical environment quality influences overall service quality, albeit minimally, and the physical attractiveness of the university is the most important.

Social Environment Quality: Social environment quality or the quality of social life of students is crucial in creating a pleasurable learning experience in the higher education institution. There are a number of researches that show the strong relationship between the social environment quality perceived by the student and satisfaction (Bean and Bradley, 1986; Thomas, 2011; Paswan and Ganesh, 2009; Sanchez, Bauer, and Paronto, 2006; Yin and Lei, 2007). According to Paswan and Ganesh (2009), students are social animals and they

require social interaction for a more holistic educational experience; universities that facilitate the process of social interaction are viewed more favourably than the ones that do not.

Curriculum Quality: Curriculum quality, or quality of the courses, is important in creating a positive relationship between the university and the students. Researchers found that high quality of curriculum plays a role in increasing student satisfaction (Elliott and Healy, 2001; Browne et al., 2008; Fredrickson, 2012; Howell and Buck, 2012).

Image and Reputation Perception: Image is defined as perceptions of an organisation reflected in the association held in consumer memory (Keller, 1993). It is identified as an important factor determining the overall evaluation of the service or organisation (Andreassen and Lindestad, 1997). Reputation is regarded as an important intangible resource of the organisation that is crucial for its survival (Nguyen and Leblanc, 2001). Fombrun and Shanley (1990) defined reputation as the outcome of the process that the organisation signals key characteristics to its constituents to maximise social status. In this research, the concept of “image and reputation perception” is depicted as a single variable. It is the measurement of the student’s perception towards the university. It is defined as; *the student perception of the university’s image, how it is viewed by the public, and reputation or its history and past actions.*

From the previous researches, it is evident the student’s perception of the university’s image and reputation has a positive effect on student loyalty (Helgesen and Nettet, 2007; Nettet and Helgesen, 2009; Sung and Yang, 2009; Martensen et al., 2000; Nguyen and Leblanc, 2001). The research published in 2009 by Nettet and Helgesen found that student satisfaction positively influences the student perception of university’s reputation. The other research concluded that “[s]tudent satisfaction has a positive impact on student perception of the image of the university college” (Helgesen and Nettet, 2007).

From the literature reviews, the proposed framework and hypotheses are illustrated in Figure 1.

(See Figure 1 on the next page)

Method

The data collection method is cluster sampling. Data collection is done by questionnaires at the 20 selected universities in Bangkok Metropolitan area with the total sample size of 2,413. According to Hair, Black, Babin and Anderson (2009: 662), the minimum sample size of structural equation modelling method for models with large number of constructs (more than seven; the proposed model has 11 constructs) is 500. Therefore, the research categorised the universities into four types, autonomous, state, transformed (Rajabhat and Rajamangala), and private universities with minimum 500 samples in each type. All questionnaire items are

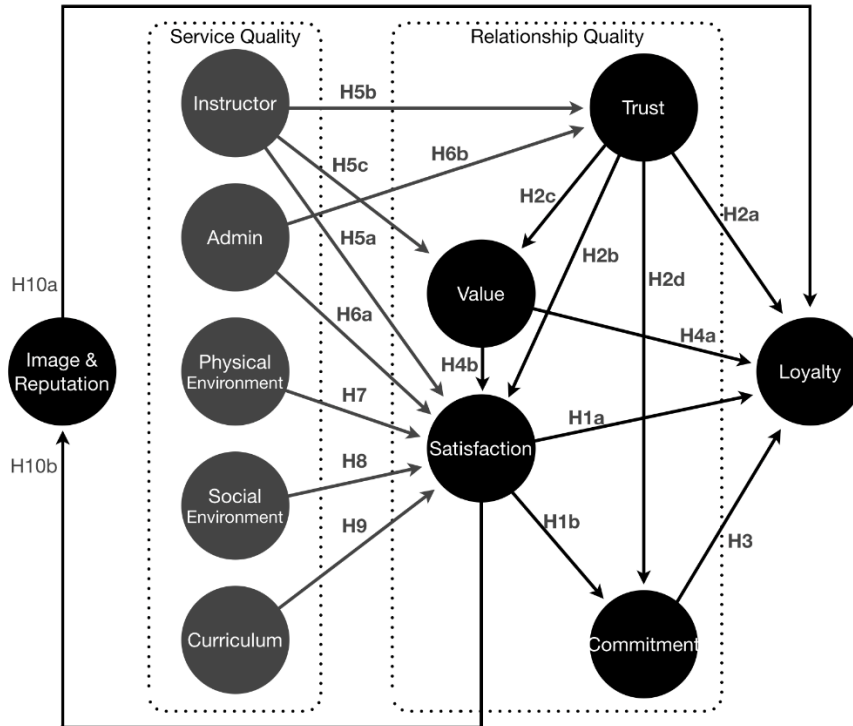


Figure 1: The Proposed University Student Loyalty Model

measured by the 7-point Likert-Scale including “Strongly Agree”, “Agree”, “Somewhat Agree”, “Neutral”, “Somewhat Disagree”, “Disagree”, “Strongly Disagree”. Each construct has three or more items (measured variables) in order to achieve overidentified model suitable for structural equation modelling (Hair et al., 2009: 700).

Results

The collected sample size of this research is acceptable to be analysed with the structural equation modelling statistical tool (Table 1). This research employs the two-step structural equation modelling approach, which separates the analysis into two steps, the CFA analysis (the measurement model) and the path analysis (structural model). The two-step approach is preferred because it warrants good measures before conducting the path analysis. Firstly, the full measurement model with 2,413 samples had been developed by taking out items with low factor loading (while maintaining theoretical congruence). The important part is to ensure that the number of items per construct is at least three to keep the model “overidentified” which is essential in conducting the structural equation modelling analysis. The results in Appendix A. show the standardised factor loading of each questionnaire item categorised into autonomous, state, transformed, and private universities. The standardised factor loadings of all items are higher than .5 (.59-.94) and all of the construct reliability (computed for Cronbach’s

Alpha) are higher than .7 (.81-.93) which imply construct validity of the measurement model.

Table 1: Summary of Data Collection

Types	Number of Selected Universities	Number of Collected Samples
Autonomous University	5	608
State University	4	614
Transformed University	5	571
Private University	6	620
Total	20	2413

AMOS computed the model fitness of the full measurement model. And as a result, the goodness-of-fit indices are satisfactory. The Chi-Square (χ^2) value, 9006.83 and the degree of freedom at 2,896 yield the CMIN/df value of 3.11, which is below the threshold of 5 indicating good fit. The other important indices are Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA). CFI of the measurement model is .92 (value above .9 indicates good fit) and RMSEA of the measurement model is 0.03 (value less than .07 indicates good fit; Hair et al, 2010). Hence, it can be concluded that the measurement model is valid and has appropriate model fitness.

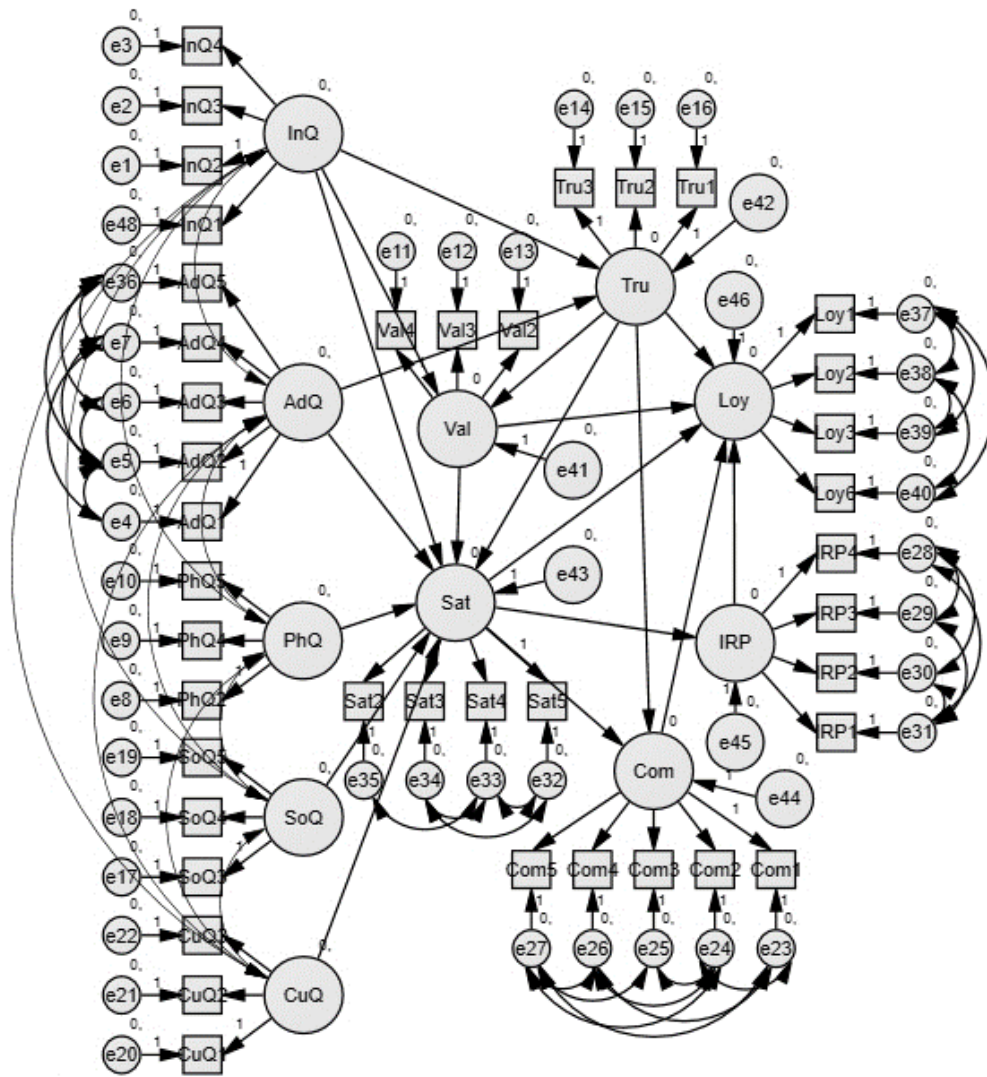


Figure 2: Structural Equation Modelling: University Student Loyalty Model

The next step is to develop a structural model from the measurement model to replicate the proposed framework. The structural model also has good fit; the CMIN/df value is less than 5 at 3.29. CFI of the structural model is .91 (above .9) and the RMSEA value is .03 (less than .07). The acceptable way to achieve better fit of the model is to free the paths that are not estimated in the model through the use of “modification indices” (Hair et al, 2010). Nevertheless, the research has to be careful in doing so because there could be theoretical concern when the path is created. The acceptable way is to correlate the error terms. And the correlated error terms should be within the same construct to minimise the theoretical concern of the issue (and maintain unidimensionality). And after the modification, the final University Student Loyalty Model is developed (Figure 2). The model fitness of University Student Loyalty Model is compared with the previous models (Table 2). The University Student Loyalty Model has the Chi-Square (χ^2) value of 6892.80

with the degree of freedom at 2884 leading to 2.39 CMIN/df. The Comparative Fit Index (CFI) is .95, which is above the acceptable .90 and is also higher than that of measurement and initial structural model. The RMSEA is .03 (less than .07). The indices show that the University Student Loyalty Model achieves good fit and is also better fit than the measurement and structural models. Furthermore, the configural invariance is tested to confirm that the University Student Loyalty Model is applicable across all types of university (Table 3).

To test the proposed hypothesis from the framework, the path estimates between constructs in the University Student Loyalty Model are calculated (Table 4). The table shows the path coefficients (or the standardised regression weights), the p value (testing significance) and the R-Square (R^2 or the squared multiple correlations) of constructs.

(See Table 2, 3, 4 on the next page)

Table 2: Comparison of Goodness-of-Fit Measures between Models

	Measurement Model	Structural Model	University Student Loyalty Model
Chi-Square (χ^2)	9006.83	9860.61	6892.80
p value	0.00	0.00	0.00
Degree of Freedom (df)	2896	3000	2884
CMIN/df	3.11	3.29	2.39
Comparative Fit Index (CFI)	0.92	0.91	0.95
3Toucker-Lewis Index (TLI)	0.91	0.90	0.94
Root Mean Square Error of Approximation (RMSEA)	0.03	0.03	0.03

Table 3: Testing Configurative Invariance of A University Student Loyalty Model

	University Student Loyalty Model	Autonomous	State	Transformed	Private
χ^2	6892.80	1722.67	1891.47	1506.58	1772.10
p value	0.00	0.00	0.00	0.00	0.00
df	2884	721	721	721	721
CMIN/df	2.39	2.39	2.62	2.09	2.46
CFI	0.95	0.94	0.94	0.96	0.95
TLI	0.94	0.93	0.93	0.95	0.94
RMSEA	0.03	0.05	0.05	0.04	0.05
Sample Size	2413	608	614	571	620

Figure 3 is the summary of the University Student Loyalty (USL) Model. The black lines indicate the significant direct positive causal relationships between the two constructs in all models (autonomous, state, transformed, and private). The black dotted lines indicate

the significant direct positive causal relationships between the two constructs in *some* models. The dotted grey lines signify that there is *no* significant direct relationship between the two constructs in all models.

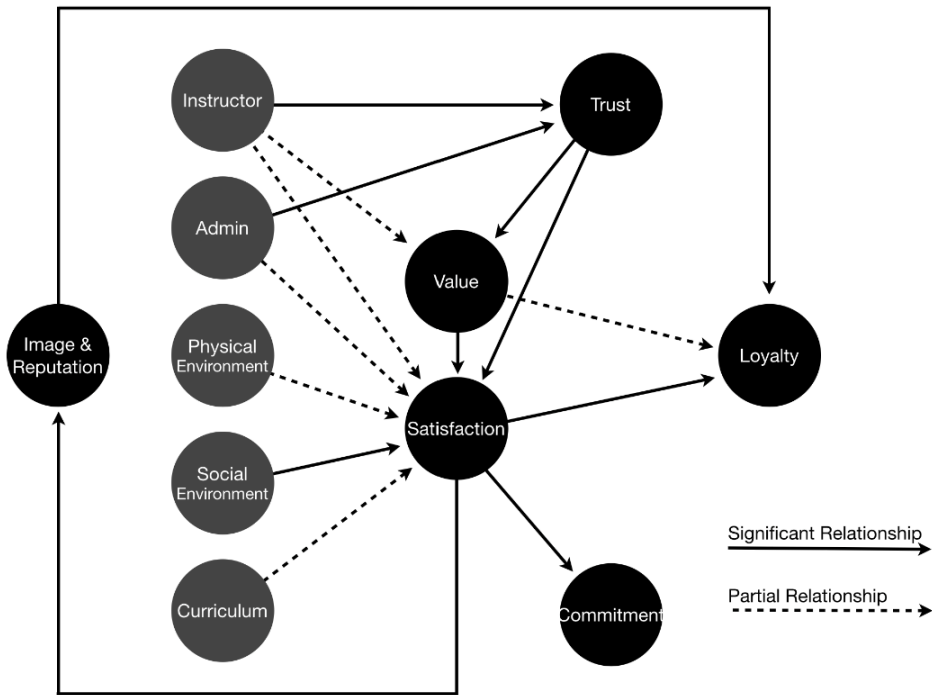


Figure 3: The University Student Loyalty Model

Table 4: Path Coefficients and Explained Variance

	Autonomous		State		Transformed		Private	
	Path Coeff.	p value	Path Coeff.	p value	Path Coeff.	p value	Path Coeff.	p value
Student Loyalty (R ²)	0.74		0.96		0.91		0.85	
Value	0.07	0.139	0.02	0.617	0.12	0.016*	0.16	***
Trust	-0.02	0.683	0.04	0.435	-0.01	0.863	0.06	0.288
Commitment	0.01	0.948	0.10	0.147	0.13	0.075	0.04	0.475
Satisfaction	0.65	***	0.61	***	0.58	***	0.59	***
Image and Reputation Perception	0.24	***	0.29	***	0.22	0.002**	0.16	0.002**
Image and Reputation Perception (R ²)	0.40		0.61		0.67		0.60	
Satisfaction	0.64	***	0.78	***	0.82	***	0.78	***
Value (R ²)	0.30		0.37		0.46		0.51	
Instructor Quality	0.13	0.055	0.18	***	0.15	0.005**	0.09	0.03*
Trust	0.45	***	0.49	***	0.58	***	0.66	***
Trust (R ²)	0.53		0.59		0.52		0.60	
Instructor Quality	0.57	***	0.29	***	0.30	***	0.18	***
Administration Quality	0.24	***	0.59	***	0.51	***	0.68	***
Commitment (R ²)	0.74		0.65		0.71		0.71	
Trust	-0.03	0.595	-0.04	0.433	0.00	0.95	0.10	0.068
Satisfaction	0.87	***	0.83	***	0.84	***	0.76	***
Satisfaction (R ²)	0.59		0.61		0.70		0.73	
Trust	0.37	***	0.36	***	0.26	***	0.42	***
Value	0.24	***	0.21	***	0.28	***	0.22	***
Instructor Quality	-0.05	0.423	0.17	***	-0.02	0.676	0.02	0.622
Administration Quality	-0.16	***	-0.19	***	0.04	0.506	-0.07	0.178
Physical Environment Quality	0.14	0.006**	0.00	0.925	0.00	0.937	0.20	***
Social Environment Quality	0.35	***	0.40	***	0.23	***	0.27	***
Curriculum Quality	0.10	0.048*	0.01	0.868	0.27	***	-0.02	0.576

* p < 0.05

** p < 0.01

*** p < 0.001

The total effects of each construct in the University Student Loyalty Model are shown in Table 5. For student's loyalty, the most significant construct in the relationship quality dimension in determining loyalty is student's satisfaction. The standardised total effects of the satisfaction-loyalty correlation are .81, .92, .87, and .74 in autonomous, state, transformed, private universities in this order.

Satisfaction, in turns, is affected by various constructs. By focusing on the service quality dimension of the model, the most significant construct affecting student's satisfaction varies depending on the type of university. Social environment quality is the most significant construct determining student's satisfaction and loyalty in autonomous and state universities. On the other hand, administration quality is the most significant construct impacting student loyalty in transformed and

private universities. Administration quality is also the most significant construct affecting the student's satisfaction in private university; whereas, curriculum quality is the most significant construct determining student's satisfaction in transformed universities.

the responsibility of these areas is in the hand of the senior management, most often the vice president for student affairs. Hence, it can be implied that, from the University Student Loyalty Model, vice presidents for student affairs have high responsibilities not only in managing the

Table 5: Total Effects on Student Loyalty across Each Type of University

Dimensions	Constructs Affecting Student Loyalty	A	S	T	P
Service Quality Dimension	Social Environment Quality	0.28	0.37	0.20	0.20
	Physical Environment Quality	0.11	0.00	0.00	0.15
	Administration Quality	-0.04	0.10	0.25	0.35
	Instructor Quality	0.22	0.33	0.16	0.15
	Curriculum Quality	0.08	0.01	0.24	-0.02
Relationship Quality Dimension	Trust	0.39	0.47	0.43	0.60
	Value	0.27	0.22	0.36	0.33
	Satisfaction	0.81	0.92	0.87	0.74
	Commitment	0.01	0.10	0.13	0.04
	Image and Reputation Perception	0.24	0.29	0.22	0.16

Discussion

The University Student Loyalty Model developed in this research looks into the correlations between different dimensions based on the theoretical framework and previous research findings. It also offers a reasonable degree of complexity that attempts to give the best picture of the real world relationship. Furthermore, the University Student Loyalty Model developed is not singular; it is applied in four different types of university in Bangkok. All four types of university share the same structure of student loyalty, in which they should, from the test of configural invariance across all types. All separated models achieved good fitness as well as the overall model. Therefore, the application of the University Student Loyalty Model is pervasive in most types of universities in Bangkok.

The most significant path estimate causing student loyalty is from satisfaction. This finding confirms the conclusion made by various researchers that higher student satisfaction leads to higher student loyalty (Moore and Bowden-Everson, 2012; Helgesen and Nessel, 2007; Carvalho and Mota, 2010; Bowden, 2011; Olsen and Johnson, 2003; Ueda and Nojima, 2012; Thomas, 2011; Clemes et al., 2007; Yu and Kim, 2008; Nessel and Helgesen, 2009). The finding is consistent across all types of university. Hence, it is safe to assume that, to make student more loyal to the university, or having an intention to take actions that benefits the university such as recommendation, the university should seek to improve student satisfaction towards the university.

In the service quality dimension; social environment quality has the highest impact on student loyalty in autonomous and state universities. And from the construct validity analysis, social environment quality in this research mainly concerns the perception that the university is a good place to socialise, the university often has enjoyable events and activities, and the university is open for students to organise events. In most universities,

students but also in the indirect growth of the university in terms of financial stability, student enrolment and reputation because those key indices can be improved by higher student loyalty.

The situation in the transformed universities is different; the result shows that the top two constructs that are most impactful to student loyalty are administration quality (.25) and curriculum quality (.24). Transformed university administrators should delve deeply into the current course structure and course content. There might be a problem in curriculum or there might be possible improvement that could be made because the effective improvement in curriculum quality can lead to higher student loyalty.

Administration quality is the construct that has the highest total effect on student loyalty (.35) in private universities. The implication for administrators of private universities is to carefully look into the administration process and staffs that are in contact with the students because the research found that an improvement in the perception of administration quality could lead to a substantial impact on student loyalty.

Finally, instructor quality also has the substantial effect on student loyalty in all types of university. Therefore, instructors should be regarded not only as the academic sources of the university but also the key factor in sustainability and growth. The recruitment and development processes are the key to the quality improvement of instructors that would, in turns, lead to student's trust in the university and ultimately, student loyalty.

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Appendix

Appendix A: Construct Validity: Factor Loading and Reliability Analysis

A (Autonomous), S (State), T (Transformed), P (Private)	A	S	T	P
Instructor Quality ($\alpha=.81$)				
Instructors of this university are knowledgeable and competent	0.70	0.76	0.79	0.80
Instructors of this university have good preparation for classes	0.78	0.79	0.80	0.83
Instructors of this university have integrity and fairness	0.71	0.75	0.74	0.76
Instructors of this university empathise students	0.67	0.63	0.63	0.71
Administration Quality ($\alpha=.93$)				
Administrative staffs could always solve your problems	0.88	0.88	0.86	0.85
Administrative staffs demonstrate to be worried when solving your problems	0.92	0.91	0.90	0.91
Administrative staffs go out of their way to help you	0.92	0.90	0.91	0.89
This university has reliable administrative system	0.81	0.80	0.84	0.83
This university has fast and efficient system	0.79	0.81	0.81	0.81
Physical Environment Quality ($\alpha=.88$)				
The facilities are functioning properly and dependably	0.73	0.80	0.80	0.78
Classrooms are comfortable and well equipped	0.89	0.92	0.91	0.90
Computer rooms and library are functioning, organised and up to date	0.84	0.84	0.82	0.84
Social Environment Quality ($\alpha=.84$)				
This university is a good place to socialise	0.67	0.69	0.72	0.74
This university is open for students to organise social activities	0.83	0.83	0.84	0.84
This university often has enjoyable events and activities	0.79	0.78	0.87	0.83
Curriculum Quality ($\alpha=.89$)				
This curriculum has appropriate content and courses	0.86	0.85	0.87	0.89
This curriculum has relevant content	0.85	0.90	0.86	0.93
This curriculum integrates into a meaningful whole	0.78	0.80	0.80	0.79
Value ($\alpha=.86$)				
The tuition fee of this university is acceptable	0.78	0.77	0.70	0.80

Appendix A: Construct Validity: Factor Loading and Reliability Analysis

A (Autonomous), S (State), T (Transformed), P (Private)	A	S	T	P
This university offers the service that is worth the price you pay	0.94	0.92	0.89	0.92
Studying in this university is worth your time	0.74	0.73	0.85	0.78
Trust ($\alpha=.88$)				
This university always acts in students' best interest	0.86	0.88	0.90	0.86
This university puts students' interest first	0.89	0.90	0.90	0.90
This university has integrity	0.70	0.74	0.74	0.78
Commitment ($\alpha=.92$)				
You feel attached to this university	0.73	0.71	0.81	0.76
You are proud to be able to study in this university	0.79	0.78	0.87	0.85
You belong in this university	0.80	0.83	0.87	0.88
This university is important to you	0.81	0.84	0.83	0.87
This university is meaningful to you	0.77	0.79	0.78	0.79
Satisfaction ($\alpha=.90$)				
You think that the experience you have with this university exceeds your expectation	0.72	0.70	0.79	0.81
Your view towards this university is favourable	0.83	0.86	0.88	0.86
You think you did the right thing when you attended this university	0.85	0.84	0.88	0.89
Your choice to enrol in this university was a wise one	0.77	0.74	0.85	0.83
Image and Reputation Perception ($\alpha=.91$)				
This university continuously has good reputation for a long time	0.74	0.81	0.84	0.87
This university has good image and reputation in your view	0.86	0.87	0.88	0.91
This university has good image and reputation in a view of people you know	0.83	0.83	0.87	0.81
This university has good image and reputation in a view of public	0.78	0.74	0.83	0.73
Loyalty ($\alpha=.88$)				
You would recommend this university to someone who seek advice	0.89	0.84	0.86	0.88
You would encourage friends and acquaintances to consider this university	0.91	0.89	0.90	0.93
You often say positive things about this university to other people	0.71	0.79	0.82	0.81
You would have selected this university again if started anew	0.60	0.59	0.62	0.71