

Competitiveness of Higher Education Institutions: The Mediating Effect of Student Satisfaction, School Image and Student Loyalty

Abstract

A rapid expansion of higher education in the 1990's Hong Kong higher education system experienced a dramatic change. Facing a situation in 1989/90 where less than 9% of the relevant age group had an opportunity to receive higher education, the Hong Kong government decided to expand tertiary education dramatically (Leung, 1996). By 2013/14, student of enrolment in first-year-first degree (FYFD) had increased to 21.3% of the relevant age group (Leung, 2014). Nevertheless, the competitiveness among the education institutions, both local and foreign, is keen. Managers of self-financed higher education institutions need to rethink strategies for improving their school's reputations and branding in order to retain stakeholder satisfaction and remain competitive. Despite extensive studies in the areas of reputation management in higher education, student satisfaction, student loyalty, school image and school reputation, an integrated model of school reputation with mediating effects of school image, student satisfaction and loyalty is still lacking. Accordingly, the research examined the mediating effects of student satisfaction, student loyalty and school image. To carry out the investigation, full-time students from these education institutions were randomly selected as the targeted participants in this research. The questionnaire survey elicited a response from 297 students from 320 students in four self-financed higher education institutions, which gave a response rate of 92.8%. The research found that student satisfaction has full mediating effect on the relationship between teaching quality and the respective school image, school reputation and student loyalty. Further, both student loyalty and school image have a partial mediating effect on the relationship between student satisfaction and school reputation.

Keywords: mediating effect, student satisfaction, school image, student loyalty

1. Introduction

The educational services industry is composed of establishments that provide education and training across a wide variety of subjects in various educational services sectors, including public, not-for-profit or for-profit sectors (Plante, 2005). Its objectives are to develop Hong Kong as a regional education hub, to boost Hong Kong's competitiveness, and to facilitate Hong Kong's long term development (Cheng, 2011). Thus, educational institutions in Hong Kong need to develop management strategies for schools such that they can build competitive advantages that will lead them to success. Facing the challenges of liberation, globalization, commercialization, privatization and massification of higher education in Hong Kong (Fryar, 2012; Jamshidi, Arasteh, NavehEbrahim, Zeinabadi, and Rasmussen, 2012; Marginson, 2011), the management of self-financed higher education institutions needs to rethink the marketing strategies for sustaining its competitive power. It has been suggested that service marketing should be applied to higher education institutions with the objective of allowing students to receive benefits and satisfaction from the school setting rather than from tangible assets (Dann, 2008). As the intangible nature of educational service, positive word-of-mouth

communications and maintenance of good relationship with existing students, alumni, and other stakeholders are crucial to enhance competitiveness in the education market.

School reputation is an intangible asset used by self-financed higher education institutions for evaluating the level of productivity and financial performance. Studies in service and marketing management literature have concluded that reputation of an organization influences customers' choice (Loureiro and Kastenholz, 2011), attitudes over products and services provided, trust and purchase intentions (Johnson and Grayson, 2005). Studies on the determinants of corporate reputation in the education market, found that teaching quality, student satisfaction, school image and student loyalty are essential to market competitiveness and favorable customer perception (Ryu, Lee, and Kim, 2012; Helgesen and Nettet, 2007b; Vidaver-Cohen, 2007). However, since these studies were in a business setting, a comprehensive examination of all these influences on reputation management is still lacking in an educational setting. With reference to Vidaver-Cohen's (2007) model, the focus of this research is the influences of teaching quality, student satisfaction, school image and student loyalty on school reputation of self-financed higher education institutions in Hong Kong. This research fills the gaps that exist in the present literature by developing an empirical research framework to investigate five hypotheses by means of a quantitative research approach using questionnaire survey. This research sheds light on how self-financed higher education institutions are able to compete and enhance their competitiveness in both local and international education markets.

2. Literature Review

2.1 Quality of Teaching

Kim, Damewood and Hodge (2000) identified several indicators of teaching quality, such as communication skills, attitude toward the students, knowledge of the subject, organizational skills, enthusiasm, fairness, flexibility, and encouragement of students, whilst Toland and Alyala (2005) determined that instructor delivery of course information, instructor-student interaction, and regulation of students' learning are positively related to teaching quality. Gursoy and Umbreit (2005) suggested four factors, namely, learning, instruction, organization, and workload as effective teaching indicators. Badri, Abdulla, Kamali, and Dodeen (2006) argued that the key measures of teaching effectiveness include knowledge and performance in teaching, grading, overview of the course, requirements/efforts, and course outcomes. Bett and Makhanu (2013) found that lecturer personality, extent of learning, type of course, experience of lecturer and grades awarded are strongly related to teaching quality. From the literature of teaching quality, it can be concluded that knowledge and organization, clarity, grading and evaluation, teaching methods and skills, interaction with students, and passion and enthusiasm are important factors (Dodeen, 2013; Gurney, 2007; Bulger, Mohr and Walls, 2002).

2.2 Student Satisfaction

McQuitty, Finn, and Wiley (2000) argued that satisfaction level is a result of the difference between expected and perceived performance, whereas a performance delivering a worse than expected result is dissatisfaction and creates negative disconfirmation; this is the so-called expectancy disconfirmation theory (Oliver, 1980). Hence, organizations must pay particular attention to identifying and meeting the expectations and needs of customers (Elliott and Shin, 2002). Some researchers further argued that the overall perceptions of an organization generated by various stakeholders is based on associations and information cues as signals of

quality (Highhouse, Broadfoot, Yugo and Devendorf, 2009; Brown, Dacin, Pratt and Whetten, 2006). According to Elliott and Shin (2002), student satisfaction is defined as the student's positive subjective evaluation of the outcomes and experiences associated with the education provided, and such satisfaction is continually reinforced by the repeated experiences in school life. Astin (1993) defined student satisfaction as students' own perceived value regarding their university experience, and anticipated significance of the education that they received from university. Similarly, Jurkowitsch, Vignali and Kaufmann (2006) claimed that student satisfaction is the student's fulfilment response to products and services provided by education institution. Hence, student satisfaction occurs if the perceived performance delivered by his/her education institution is higher than the expected performance as contrary to Oliver's (1980) expectancy disconfirmation theory.

2.3 Student Loyalty

There is growing interest in investigating student loyalty in the higher education sector (Hennig-Thurau, Langer and Hansen, 2001; Marzo-Navarro, Pedraja-Iglesias and Rivera-Torres, 2005). According to Jacoby and Chestnut's (1978) study, student loyalty consists of attitudinal and behavioural components and both are interrelated with each other. Student loyalty is not only confined to the period during which students are enrolled, it is also important in their prior education institution by providing positive word-of-mouth to friends and relatives and by considering returning to study other courses in the same higher education institution (Helgesen and Nettet, 2007a; Hennig-Thurau et al., 2001). Thus, loyalty helps education institution attract potential candidates and retain existing students (Hennig-Thurau et al., 2001; Oliver, 1997), and also to maintain a competitive edge in the global education sector (Elliot and Healy, 2001; Kotler and Fox, 1995). Researchers such as Finnie and Randall (2002), and Hart and Johnson (1999) contended that loyalty is a "philosophy of leaders" whereby the management looks for mutual benefits between the organization (educational institution) and the stakeholders (students, parents and the public etc.). The management of education institutions thus views the achievement of student loyalty as part of their short and long-term plans.

2.4 School Image

The study of image mainly concentrates on the fields of commercial and public relations. Less image research has been conducted on service industries, with the study of university or school images only having been undertaken since the 1990s when the importance of image management began to be appreciated (Immerwahr and Harvey, 1995; Theus, 1993). From this time, the corporate image of universities or institutions became an area of study for marketing management. Landrum, Turris and Harless (1998) claimed that a good university or school image can improve competitive advantages in attracting students, in recruiting academic staff with high quality, and in finding new sources of funds. Especially in light of the global competitiveness of the higher education sector, actively maintaining a positive image is a key for success (Hemsley-Brown and Goonawardana, 2007). Thus, it can be inferred that it is worthwhile for educational institutions to study ways in which to enhance their image in order to increase their recruitment rate (Parameswaran and Glowacka, 1995; Milo, Edson and Mceuen, 1989). Williams and Moffitt (1995) suggested that school images provides an attractive value to educational institutions as they become customer-focused.

2.5 School Reputation

Just the same as in a business environment, the reputation of a higher education institution plays an important role in strategic relationship management (Kong and Farrell, 2010). A

report entitled ‘American Freshman: National Norms Fall (2013),’ suggests that a strong academic reputation is one of the top factors affecting students’ choice of university to enrol in. Prior studies in service and marketing management literature have found that reputation of an organization influences customers’ choice (Loureiro and Kastenholz, 2011), attitudes over products and services provided (Brown, 1995), trust (Johnson and Grayson, 2005), and purchase intentions (Yoon, Guffey and Kijewski, 1993). From a financial perspective, a good reputation means that external parties, such as students in the case of self-financed higher education institutions, are prepared to pay a premium for the organization’s product or service (McWilliams and Siegel, 2011). Education institutions with a good reputation can charge a premium school fee because they are signaling superior quality, sustainability, and reduced risk (Robinson, Kleffner and Bertels, 2011; Starks, 2009). Mazzarol (1998) argued that image and reputation of some higher education institutions are treated as more important factors than actual teaching quality. Students may judge whether a higher education institution is good or bad by inferring its reputation under the impact of information asymmetry (MacLeod and Urquiola, 2011; Akerlof, 1970). Therefore, it can be argued that a university’s reputation is a function of how well it performs in meeting students’ needs and expectations and is the outcome of being effective as the education institution (Temple, 2006).

2.6 Mediating Roles of Student Satisfaction, Student Loyalty and School Image

Mediation effect is the influence of a given independent variable on a given dependent variable that goes through one or more third variables (Preacher and Hayes, 2004; Shrout and Bolger, 2002; MacKinnon and Dwyer, 1993; Baron and Kenny, 1986). These variables are called mediator or intervening variables. In terms of path analysis, mediation implies an indirect effect of an independent variable on a dependent variable through one or more mediator variables (Baron and Kenny, 1986). Thus, mediation occurs if the coefficient of the direct path between the independent variable and the dependent variable is decreased while the indirect effect through the mediator is postulated in the model (Bontis, Booker and Serenko, 2007). This research recognizes student satisfaction, student loyalty, and school image as simple mediators that influence the effects of various variables separately.

2.6.1 Mediating Role of Student Satisfaction on Teaching Quality and School Image

Few studies have been conducted for examining the relationship between the mediating relationship between customer satisfaction, service quality and image. The findings of Chi, AbKarim and Gursoy (2010) revealed that customer satisfaction partially mediated the relationship between image and quality in the context of food experiences in tourist destinations. The model of Srivastava and Sharma (2013) found that customers tend to have high satisfaction and retain their relationship with the organization if the organization provides high quality service and produces a good corporate image. It was also found that the relationship between service quality and corporate brand image are indirectly influenced by the mediating variables of customer satisfaction and repurchase intention (loyalty). Similar findings from Hume and Mort (2010) confirm that customer satisfaction and customer retention are affected by service quality through the mediating effect of an organization’s perceived value (image), which is consistent with the results of Caruana, Money and Berthon (2000). Referring to the above arguments in the literature, it can be concluded that there is no universal agreement on the mediating variable ‘customer satisfaction’ between service quality and corporate image. Based on the findings of Srivastava and Sharma (2013) and Chi et al. (2010), it is expected that the mediating effect of student satisfaction on the relationship between teaching quality and school image occurs in the Hong Kong context. It was therefore hypothesized in this research that:

Hypothesis H1: Student satisfaction mediates the relationship between teaching quality and school image in Hong Kong's self-financed higher education institutions.

2.6.2 Mediating Role of Student Satisfaction on Teaching Quality and School Reputation

Few empirical studies have been conducted on the mediating effect of student satisfaction on the relationship between teaching quality and school reputation. Carmeli and Tischler (2005) highlighted the mediating role of customer satisfaction in the relationship between the quality of goods and services and organizational reputation. Based on the findings of Carmeli and Tischler (2005), a similar relationship is expected to occur in the Hong Kong context. It was therefore hypothesized in this research that:

Hypothesis H2: Student satisfaction mediates the relationship between teaching quality and school reputation in Hong Kong's self-financed higher education institutions.

2.6.3 Mediating Role of Student Satisfaction on Teaching Quality and Student Loyalty

Many researchers have examined the relationship between service quality, customer satisfaction and loyalty (Wong, Tong and Wong, 2014; Abd-El-Salam and Shawky, 2013). Bloemer, de Ruyter and Peeters (1998) found that service quality not only affects loyalty directly but also indirectly through satisfaction. Mosahab, Mahamad and Ramayah (2010) confirmed the mediating role of customer satisfaction in the effects of service quality on service loyalty in banks in Iran. The aforementioned findings are supported by the results of empirical studies by Alrubaiee and Alkaa'ida (2011), Kheng, Mahamad, Ramayah and Mosahab (2010), Ndubisi (2006) and Butcher (2001) also tested the mediating effect of patient satisfaction in the relationship between healthcare quality and patient trust (loyalty) and confirmed that there is a significant indirect impact of healthcare quality on patient trust through patient satisfaction, which is consistent with the findings of Lei and Jolibert (2012) and in accordance with Baron and Kenny's (1986) model. Lai, Griffin and Babin (2009) found that service quality has a positive influence on customer loyalty through the mediating variable 'customer satisfaction' in China's telecommunication industry. Chang, Jeng, and Hamid (2013) found that satisfaction significantly influences the relationship between service quality and students' word-of-mouth behavioral intention (loyalty) in the university education setting. Although most studies support the mediating effect of customer satisfaction on service quality towards customer loyalty, the findings of Boohene and Agyapong (2011) indicate that service quality directly causes customer satisfaction but it does not create customer loyalty through customer satisfaction.

The literature review suggests that the mediating effect of satisfaction on quality and loyalty will likely occur in the Hong Kong context. It was therefore hypothesized in this research that:

Hypothesis H3: Student satisfaction mediates the relationship between teaching quality and student loyalty in Hong Kong's self-financed higher education institutions.

2.6.4 Mediating Role of Student Loyalty on Student Satisfaction and School Reputation

Rust and Zahorik (1993) found that customer loyalty significantly mediates the relationship between customer satisfaction and an organization's financial performance (reputation).

Nguyen and LeBlanc (1998) found that customer loyalty to a financial institution mediates the relationship between corporate image (reputation) and customers' overall satisfaction in financial institutions in Malaysia. Since few studies have been conducted on the mediating effect of customer loyalty on customer satisfaction towards corporate reputation, such a relationship is expected to occur in the Hong Kong context. It was therefore hypothesized in this research that:

Hypothesis H4: Student loyalty mediates the relationship between student satisfaction and school reputation in Hong Kong's self-financed higher education institutions.

2.6.5 Mediating Role of School Image on Student Satisfaction and School Reputation

In the literature on the mediating effect of corporate image, one study focused on the relationship between service quality and customer satisfaction (Owino, 2013), one between customer satisfaction and customer loyalty (Cheng and Rashid, 2013), one between service quality and customer loyalty (Ladhari, Souiden and Ladhari, 2011) and one between patrons' dining experience and relationship quality in achieving customer loyalty (Tuan and Jusoh, 2013). In a study of higher education in Hong Kong by Wong, Tong and Wong (2014) also shows the significant mediating effect of school image to the relationships between teaching quality and student satisfaction. Although there appears to have been no empirical studies regarding the mediating effect of school image on student satisfaction and school reputation, it was nevertheless expected that such a relationship would occur in the Hong Kong context. Accordingly, it was hypothesized in this research that:

Hypothesis H5: School image mediates the relationship between student satisfaction and school reputation in Hong Kong's self-financed higher education institutions.

2.7 Research Model

The research has five constructs and the research model is shown in Figure 1 below.

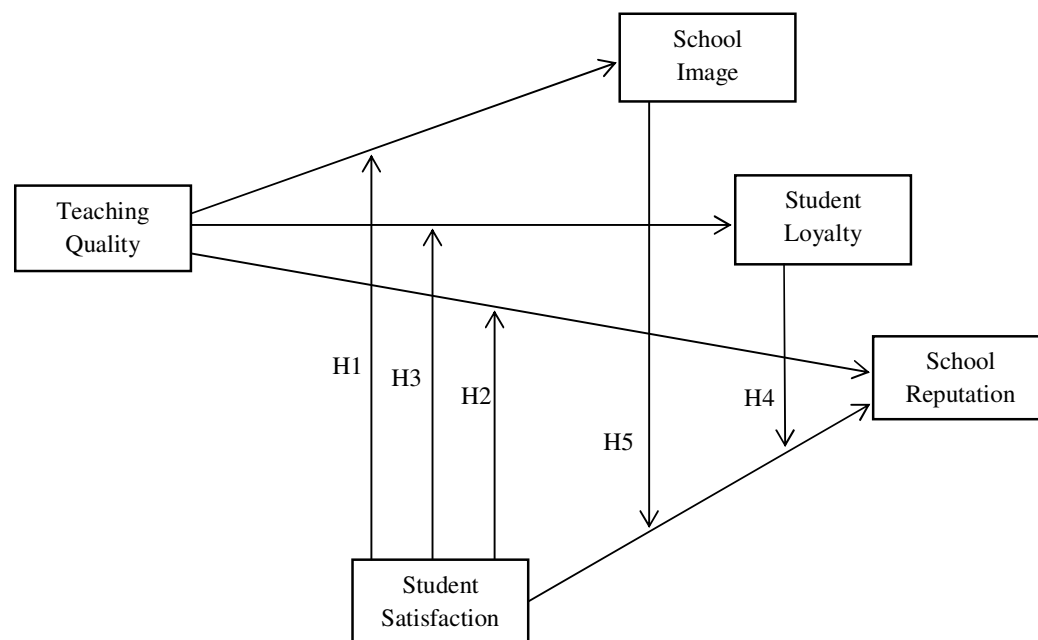


Figure 1 Research Model of this Research

3. Methodology

3.1 Sampling and Data Collection Method

A survey database was developed to include the names of all the institutions in Hong Kong offering self-financed sub-degree and degree (including top-up degree) programmes. Potential contacts were randomly selected from the file by a computer programme. An anonymous questionnaire together with a letter of invitation and a Survey Information Sheet were sent directly to the selected institutions to obtain their consent for their students to participate in the survey. A total of four self-financed institutions were approached and institutional contact persons administered 320 copies of the questionnaire. An anonymous self-administered questionnaire survey was used to collect data for this research and students were invited to complete the questionnaire on the spot. Ethical issues in relation to the questionnaire survey, including confidentiality, data storage, and data access, were properly addressed. 297 respondents were received which account for 92.8% response rate.

3.2 Measurement Items

The questionnaire was designed in measuring five constructs: quality of teaching staff, school reputation, school image, student satisfaction and student loyalty.

3.2.1 Quality of Teaching Staff

There is evidence that the quality of teaching staff can be ensured through student feedback on teaching effectiveness, consultation, interpretation guides, and other arrangements for staff development (Chung, 2010). This also serves as a part of the teaching and learning development for improvement of teaching quality (Smith and MacGregor, 2009). Table 1 lists the measuring items for quality of teaching staff by adapting research by Gamage, Suwanabroma, Ueyama, Hada and Sekikawa (2008).

Quality of teaching staff	Measurement items
Tq1	The teaching staff of my institution has appropriate academic credentials.
Tq2	The teaching staff of my institution is incorporating appropriate use of technology to teach.
Tq3	The teaching staff of my institution conducts lectures effectively.
Tq4	The teaching staff of my institution is aware of my learning needs and provides help to students.
Tq5	The teaching staff of my institution treats students with respect and as mature individuals.
Tq6	The teaching staff is sympathetic and supportive to the needs of students.

Table 1. Measuring Items for Quality of Teaching Staff
Adapted from Gamage et al. (2008)

3.2.2 School Reputation

Wartick (2002; 1992) argued that school reputation is the aggregation of every single stakeholder's impression of how well the school responses are meeting the wants and demands of various stakeholders. Reputation can be formed over time based on educational institution's credible actions (Balmer and Greyser, 2003). School reputation is used for investigating the services provided, student satisfaction and student loyalty (Abdullah Alnasser, Aamjad and Husain, 2000; Andreassen and Lindestad, 1998) through the investigation of three constructs: (i) impression, (ii) reputation, and (iii) comparative advantage. Table 2 lists the measuring items for school reputation by adapting research by Nguyen and Leblanc (2001).

School reputation	Measurement items
Rq1	My institution fulfils the promises it makes to its students. (honoring promise)
Rq2	My institution has a good reputation. (good reputation)
Rq3	My institution is better than other institutions. (better reputation than others)

Table 2. Measuring Items for School Reputation
Adapted from Nguyen and Leblanc (2001)

3.2.3 School Image

School image is the students' perceptions of the image of institution. It refers to the feelings that are derived from individual experiences with a school and from the processing of information on the attributes that form functional indicators of image (Nguyen and Leblanc, 2001). School image is thus the consequence of an aggregate process by which the students compares and contrasts the different attributes of the school (Nguyen and Leblanc, 2001). As different students have different types of experience with their schools, the perceptions and impressions between different students will be different (Dowling, 1988; Gray, 1986; Kotler, 1982). The measurement items of school image were adapted from Nguyen and Leblanc (2001), which are listed in Table 3 below.

School image	Measurement items
Iq1	I have a good impression of my institution.
Iq2	My institution has a good image in the minds of its students.
Iq3	My institution is better than other institutions.
Iq4	My institution has good course programmes when compared with other institutions.

Table 3. Measuring Items for School Image
Adapted from Nguyen and Leblanc (2001)

3.2.4 Student Satisfaction

Oliver (1997) defined satisfaction as a perception of pleasurable fulfilment of a service. Subject to its abstract concept and no universal measurement available for satisfaction, this research adapted three items from the study by Thomas (2011) and Bennett and Rundle-Thiele (2004) to measure student satisfaction by asking questions related to their perceptions of their own institution. The measurement items are listed in Table 4 below.

Student satisfaction	Measurement items
Sq1	I am satisfied with my institution in general.
Sq2	I am satisfied with my institution when compared with my initial expectations.
Sq3	I am satisfied with my institution when compared with an institution that is considered ideal.

Table 4. Measuring Items for Student Satisfaction
Adapted from Thomas (2011) and Bennett and Rundle-Thiele (2004)

3.2.5 Student Loyalty

The measurement of student loyalty was adapted from the study by Thomas (2011), which used the following three measures (Table 5) developed and validated by Helgesen and Nasset (2007b): (i) chances of recommending the university to friends or acquaintances, (ii) attending the same university if starting from fresh, and (iii) the chance of returning to the same university for new programmes and further education (Oliver, 1997; Dick and Basu, 1994).

Student loyalty	Measurement items
Lq1	I will recommend my institution to friends or acquaintances.
Lq2	I will maintain a relationship with my institution after I graduate.
Lq3	If I had the chance to enroll in an institution for study again, I would enroll in this institution.

Table 5. Measuring Items for Student Loyalty
Adapted from Thomas (2011) and Dick and Basu (1994)

3.3 Data Analysis

Collected data were analysed using statistical package for conducting factor analysis and Structural Equation Modelling (SEM) for testing mediating effects of the constructs. The validity of the measures was tested using confirmatory factor analysis (CFA) while reliability test was tested using Cronbach's alpha with the value greater than 0.8 as the satisfactory requirement for management research (Nunnally, 1978). Structural Equation Modelling (SEM) technique was used to verify the research model fit (Hair, Black, Babin and Anderson, 2010; Kline, 2005; Byrne, 2001) and to identify the presence of the mediating effect through the pre-requirement conditions and procedures for relationship testing (Baron and Kenny, 1986).

4. Results and Analysis

4.1 Sample Characteristics

Table 6 below shows the demographic profile of the respondents.

Demographics	Frequency	Percentage (%)
Gender		
Male	150	50.5
Female	147	49.5
Age		

18-25	292	98.3
>25	5	1.7
Division of study		
Business	265	89.2
Science and technology	13	4.4
Communication and social science	13	4.4
Others	6	2.0
Course of study		
Associate degree	144	48.5
Higher diploma	5	1.7
Undergraduate degree	148	49.8

Table 6. Demographic Profile of Respondents

4.2 Reliability and Validity Tests

Measurement analysis was carried out to ensure there is validity and reliability in the collected data. Validity test was carried out using exploratory factor analysis (EFA) in SPSS and confirmatory factor analysis (CFA) in structural equation modelling (SEM). The primary reason for EFA was to ensure the nonexistence of common method bias, meanwhile CFA was carried out using a measurement model comprising of both exogenous and endogenous variables to ensure validity.

4.2.1 Exploratory Factor Analysis (EFA)

Firstly, the sampling adequacy assumption was tested using the Keiser-Meyer-Olkin (KMO) test. Table 7 shows that KMO = 0.94, indicating excellent sampling. Bartlett's test of Sphericity tested the identity matrix of measures. Table 7 shows that Chi square (χ^2) = 4184.15, degrees of freedom (df) = 136, and p-value = 0.0001. As p-value < 0.05 which means that identity matrix does not exist between the items used to measure the constructs in the research model. Finally, the assumption $n/k = 297/17 = 17$ satisfies the decision rule $n/k > 5$, allowing the validity assessment to be carried out. With these assumptions met, EFA test was carried out with principal component analysis requiring eigen value more than one (1) to load. The test used Varimax rotation, suppressing loading below 0.5, resulting in rotated component matrix as in Table 8.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.937
Bartlett's Test of Sphericity	Approx. Chi-Square	4184.146
	df	136
	Sig.	.000

Table 7. Assumption: KMO and Bartlett's Test Outcome

Table 8 shows items loading into 5 components that were renamed as teaching quality (Tq), school image (Iq), student loyalty (Lq), student satisfaction (Sq) and school reputation (Rq). The factor loading of the six items that represented Tq loaded highly in component 1 and all four items representing Iq loaded highly as component 2. Component 3 was loaded by two items that represented Lq, with the item "Lq2: I will maintain my relationship with my institution after I graduate" removed. All three items for Sq loaded highly as component 4, while items for Rq loaded in component 5 with 2 items. The item "Rq3: My institution is better than other institutions" was removed, thus allowing convergent and determinant validity of items measuring the five constructs in the present research.

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Items	Component				
	Tq(1)	Iq(2)	Lq(3)	Sq(4)	Rq(5)
teaching staff effectively conduct lectures	.796				
teaching staff have appropriate academic credentials	.754				
teaching staff treat students with respect	.731				
teaching staff are aware of students' learning needs and provide helps	.694				
teaching staff are sympathetic and supportive	.682				
teaching staff appropriately use technology to teach	.667				
institution is better image than others		.822			
institution has a good image in minds of students		.636			
institution has good course programs than others		.612			
students have a good impression of institution		.588			
students will enrol in institution again if have chance to study again			.893		
students recommend institution to friends			.872		
students are satisfied with institution in general				.900	
students are satisfied with institution as compared with initial expectation				.625	
students are satisfied with institution as compared with ideal one				.613	
institution has a good reputation					.743
institution fulfils the promises it makes to students					.603

Table 8. Rotated Component Matrix

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430

431 The EFA further shows that the five constructs in total explained 80.68% of the variation in
 432 responses as shown in Table 9. Teaching quality explained 57.76% of the variation, school
 433 image explained 8.44%, student loyalty explained 6.40%, while 4.59% of the variation was
 434 explained by student satisfaction and 3.49% by school reputation. This statistic generally
 435 shows more of the validity concerns of the items used to measure the constructs in the
 436 research as (100 – 80.68) % or 19.32%) of the variations could be explained by other
 437 variables, which were not considered in this research. This validity provided further
 438 confirmation of the non-existence of common method bias in the data collected for this
 439 research.

440

Components	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
teaching quality (Tq)	9.819	57.758	57.758	9.819	57.758	57.758
school image (Iq)	1.435	8.442	66.200	1.435	8.442	66.200
student loyalty (Lq)	1.089	6.404	72.604	1.089	6.404	72.604

student satisfaction (Sq)	.781	4.591	77.195	.781	4.591	77.195
school reputation (Rq)	.593	3.486	80.681	.593	3.486	80.681

Table 9. Total Variance Explained

4.2.2 Confirmatory Factor Analysis (CFA)

The measurement assessment was further confirmed with the final CFA's measurement model, as presented in Figure 2, analysing the inter-relationship of the five constructs hypothesised for the present research (the reduction in items representing the student loyalty and school reputation constructs increased the validity of the model). As some studies advocate that the satisfaction of four of these statistics are sufficient to make a decision on the model fit (Hair et al., 2010; Kline, 2005; Batista-Foguet, Coenders, Saris and Bisbe, 2004), the measures were retained as valid to represent the respective constructs (Kline, 2011, 2005; Hooper, Coughlan, and Mullen, 2008; Byrne, 2001). With CMIN = 557.91, df = 110, and p-value = 0.0001 (p-value = 0.05), there is an indication that the model is not entirely adequate. However, with CMIN/df < 5 the model is fit (Kline, 2011; Hooper et al., 2008), CFI = 0.91 is > 0.9 satisfying for model fit; and PCFI = 0.72 is greater than 0.7 showing that the model is fit. Also, although NFI = 0.87, PNFI = 0.71 is greater than 0.7 showing that the model fit. One of the most common statistics used as an indicator to recognise model fit is GFI (Kline, 2011; Batista-Foguet et al., 2004). In this case GFI = 0.8 is > 0.8, while AGFI = 0.9 is $\geq$ 0.8 indicating model fit and with that, measurement validity is satisfied (Kline, 2011; Hair et al., 2010; Hooper et al., 2008; Weston and Gore Jr., 2006). These indicators confirm the validity of the items used for measuring the relationship of the latent variables in this research.

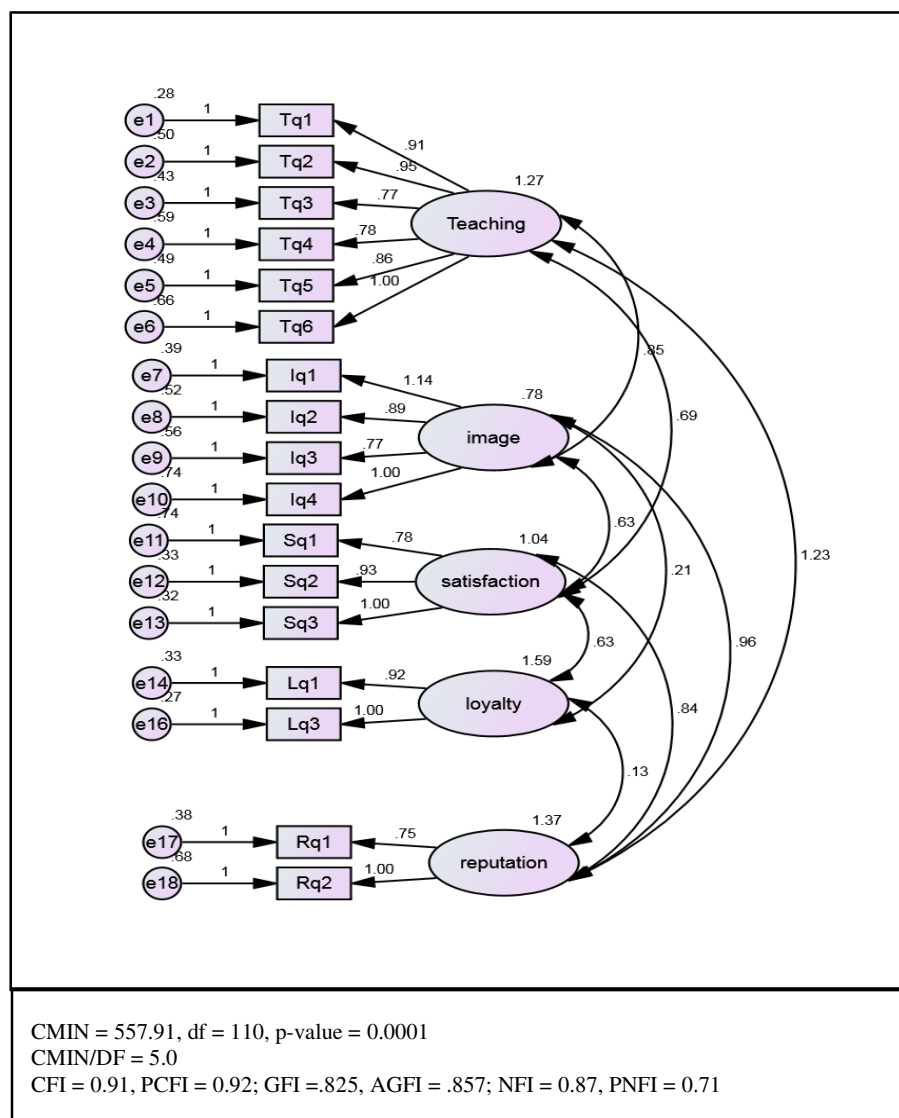


Figure 2. Latent Variables in the Measurement Model

4.2.3 Reliability Test

Table 10 below shows items loading highly into their respective constructs, further validating the support for those items used to measure the constructs as shown in the validity test above. Following this, Table 11 shows Cronbach alpha's (1951) reliability test outcome where all five latent variables result in alpha (α) > 0.8. This satisfies Nunnally's (1978) reliability requirement for management research.

	Reputation	Loyalty	Satisfaction	Image	Teaching
Rq1	.751	.000	.000	.000	.000
Rq2	1.000	.000	.000	.000	.000
Lq1	.000	.925	.000	.000	.000
Lq3	.000	1.000	.000	.000	.000
Sq1	.000	.000	.784	.000	.000
Sq2	.000	.000	.929	.000	.000

	Reputation	Loyalty	Satisfaction	Image	Teaching
Sq3	.000	.000	1.000	.000	.000
Iq1	.000	.000	.000	1.144	.000
Iq2	.000	.000	.000	.894	.000
Iq3	.000	.000	.000	.772	.000
Iq4	.000	.000	.000	1.000	.000
Tq1	.000	.000	.000	.000	.913
Tq2	.000	.000	.000	.000	.948
Tq3	.000	.000	.000	.000	.766
Tq4	.000	.000	.000	.000	.781
Tq5	.000	.000	.000	.000	.864
Tq6	.000	.000	.000	.000	1.000

Table 10. Direct Effects (Group number 1 - Default model)

With removal of the school reputation item and the student loyalty item, the Cronbach's alpha for teaching quality with 6 items showed the highest reliability at 0.921 with a mean of 29.40 and standard deviation of 6.29. The Cronbach's alpha for student loyalty recorded the second highest reliability with 0.905, mean of 0.943 and standard deviation of 2.55. Student satisfaction with 3 items recorded a Cronbach's alpha of 0.878, with mean of 14.62 and standard deviation of 3.37. Meanwhile, school image scored a Cronbach's alpha of 0.854 with 4 items, mean of 19.32 and standard deviation of 3.94. Lastly, school reputation had a Cronbach's alpha of 0.800, with 2 items representing it and a mean of 9.53 with a standard deviation of 2.37.

Constructs	Cronbach's Alpha	No. of items	Mean	Standard Deviation
teaching quality (Tq)	.921	6	29.40	6.185
school reputation (Rq)	.800	2	9.53	2.365
shool image (Iq)	.854	4	19.32	3.937
student satisfaction (Sq)	.878	3	14.62	3.374
student loyalty (Lq)	.905	2	9.43	2.551

Table 11. Cronbach's Alpha Results for Constructs

4.3 Significance Testing of Mediating Relationships

Table 12 below indicates the effects of student satisfaction, student loyalty and school image with the comparison of values in standardised total effect, standardised direct, and standardised indirect outcomes. Table 13 has been developed to provide easy reference, the indirect effect of teaching quality on school image is IE (indirect effect) = 0.730 (> 0.085) and IE (0.730), which is much greater than direct effect (DE=0.000), demonstrating that student satisfaction is a full mediator in the relationship between teaching quality and school image and thereby providing support for H1.

Standard Effects	Latent Variables	Teaching quality	Satisfaction	Image	Loyalty	Reputation
Std.Total effects	satisfaction	.884	.000	.000	.000	.000
	image	.855	.967	.000	.000	.000

Standard Effects	Latent Variables	Teaching quality	Satisfaction	Image	Loyalty	Reputation
	loyalty	.883	.999	.000	.000	.000
	reputation	.891	1.008	-1.178	-23.087	.000
Std. Direct effects	satisfaction	.884	.000	.000	.000	.000
	image	.000	.967	.000	.000	.000
	loyalty	.000	.999	.000	.000	.000
	reputation	.000	25.222	-1.178	-23.087	.000
Std. Indirect effects	satisfaction	.000	.000	.000	.000	.000
	image	.730	.000	.000	.000	.000
	loyalty	.610	.000	.000	.000	.000
	reputation	.757	.488	.000	.000	.000

Table 12. Standardized Effects (Group Number 1 - Default model)

Table 12 shows the indirect effect of the relationship between teaching quality and school reputation, IE = 0.757(> 0.085) and IE (0.757) is much greater than DE (0.000), indicating that student satisfaction is a full mediator in the relationship. Hence, H2 is supported. The IE for the relationship between teaching quality and student loyalty shows IE = 0.610 (> 0.085) and IE (0.610) is much greater than DE (0.000). Therefore student satisfaction is a full mediator in the relationship between teaching quality and student loyalty, demonstrating that H3 is supported. Table 12 also shows IE = 0.488 (> 0.085) for the relationship between student satisfaction and school reputation. Moreover, IE (0.488) < DE (25.222), therefore student loyalty is a partial mediator in the relationship between student satisfaction and school reputation (Kline, 2011; Byrne 2001; Kim, Kaye and Wright, 2001). This shows that H4 is partially supported. The indirect effect for student image on the relationship between student satisfaction and school reputation is shown in Table 12, and IE = 0.488 (> 0.085) and IE (0.488) < DE (25.222). This indicates that school image is a partial mediator, which partially supports H5.

		Std Total effect			Std Direct effect			Std Indirect effect		
Hypothesis	H1	Tq	Sq	Iq	Tq	Sq	Iq	Tq	Sq	Iq
Mediator	Satisfaction (Sq)	.884	.000	.000	.884	.000	.000	.000	.000	.000
Endogenous	Image (Iq)	.855	.967	.000	.000	.967	.000	.730	.000	.000
Hypothesis	H2	Tq	Sq	Rq	Tq	Sq	Rq	Tq	Sq	Rq
Mediator	Satisfaction (Sq)	.884	.000	.000	.884	.000	.000	.000	.000	.000
Endogenous	Reputation (Rq)	.891	1.008	.000	.000	25.222	.000	.757	.488	.000
Hypothesis	H3	Tq	Sq	Lq	Tq	Sq	Lq	Tq	Sq	Lq
Mediator	Satisfaction (Sq)	.884	.000	.000	.884	.000	.000	.000	.000	.000

Endogenous	Loyalty (Lq)	.883	.999	.000	.000	.999	.000	.610	.000	.000
Hypothesis	H4	Sq	Lq	Rq	Sq	Lq	Rq	Sq	Lq	Rq
Mediator	Loyalty (Lq)	.999	.000	.000	.999	.000	.000	.000	.000	.000
Endogenous	Reputation (Rq)	1.008	-23.087	.000	25.222	-23.087	.000	.488	.000	.000
Hypothesis	H5	Sq	Iq	Rq	Sq	Iq	Rq	Sq	Iq	Rq
Mediator	Image (Iq)	.967	.000	.000	.967	.000	.000	.000	.000	.000
Endogenous	Reputation (Rq)	1.008	-1.178	.000	25.222	-1.178	.000	.488	.000	.000

Table 13. Standardised Effects for All Endogenous and Exogenous Mediating Variables

The tests summarised in Table 13 above, assessed the mediating role of student satisfaction, student loyalty, and school reputation. Student satisfaction is a full mediator in the relationship between teaching quality and school reputation, the relationship between teaching quality and school loyalty, and finally between teaching quality and student satisfaction. Student loyalty also plays a partial mediating role in the relationship between student satisfaction and school reputation. Similarly, school image is a partial mediator in the relationship between student satisfaction and school reputation.

5. Discussion

According to the mediation rule of thumb adapted from Hair et al., (2010), H1, H2 and H3 are supported with evidence showing the full mediation of student satisfaction on the relationship between teaching quality and school Image, school reputation and student loyalty respectively. On the other hand, the evidence of H4 and H5 reveals that student loyalty and school image respectively has a partial mediating effect on the relationship between student satisfaction and school reputation. This means that H4 and H5 are partially supported.

The result of H1 supports the findings of Srivastava and Sharma (2013) and Chi et al. (2010), although the latter study only supported a partial mediating effect of customer satisfaction. The result of H2 supports Carmeli and Tischler's (2005) empirical finding on the mediating role of customer satisfaction on the relationship between quality and reputation. The finding of H3 supports prior empirical studies by Chang et al. (2013), Alrubaiee and Alkaa'ida (2011), Kheng et al. (2010), Mosahab et al. (2010), Lai et al. (2009), and Ndubisi (2006). The findings of H1, H2, and H3 support student satisfaction acting as a significant mediator and heavily influencing school image, school reputation and student loyalty in relation to good teaching quality. Management of self-financed higher education institutions should therefore pay more attention to improving teaching quality and enhancing student satisfaction.

H4 is partially supported and its findings contribute to prior studies of the partial mediating effect of customer loyalty on the relationship between customer satisfaction and corporate reputation (Kline, 2011; Byrne, 2001; Kim et al., 2001). This partial mediation shows that the effect of student satisfaction towards school reputation reduces though remains significant with the addition of student loyalty in the relationship. That is, if school reputation was to be achieved using only student satisfaction, the effect will not be as much as if the intention of improving student satisfaction is to encourage student loyalty. There are few studies examining the mediating effect of student loyalty on the relationship between student

satisfaction and school reputation, therefore the findings of this research not only contribute by shedding light on this aspect of higher education but also by raising awareness of the issue for further investigation. According to the result of H5, the contribution of student satisfaction may be taken lightly by institutes of higher education as a contributor to school reputation. This research shows school image working as a mediator to increase school reputation, and that student satisfaction ought to translate into school image. This is also supported the findings by Wong, Tong and Wong (2014) about the mediating effect of school image. Thus, management of self-financed higher education institutions should improve student satisfaction and school image by building a positive relationship with various stakeholders, such as with parents and the wider community, in order to achieve a better school reputation.

In addition, student satisfaction has a direct and significant mediating effect on the relationship of teaching quality to school image, school reputation and student loyalty in this research. Thus, self-financed higher education institutions need to realize that school image and reputation with student loyalty may not achieved, even providing good teaching quality, without achieving a considerable level of student satisfaction. The findings contribute to prior empirical studies in this area. Student loyalty is found to have a partial mediating effect but significant moderating impact on the relationship between student satisfaction and school reputation. This suggests that the good reputation of a self-financed higher education institution may not be solely due to student satisfaction but that student loyalty also plays an important part in establishing the reputation. Furthermore, school image was also found to have a partial mediating effect but a significant moderating impact on the relationship between student satisfaction and school reputation. This suggests that the good reputation of a self-financed higher education institution may not be solely due to student satisfaction, but that school image may have also played an important part in establishing the school's reputation.

6. Recommendations

Although the literature on corporate reputation in business settings has been well-documented, its impact on educational institutions is still under development. Current research also provided inconsistent findings on the relationship between corporate reputation and organizational performance. This research is a preliminary attempt to apply reputation management concepts in the self-financed higher education context in Hong Kong, and also addresses the problem that reputation measures fail to articulate whether reputation is treated as awareness, assessment or an asset (Barnett Jermier and Lafferty, 2006). However, the limitations of the study need to be addressed. The research used a quantitative research methodology to investigate the interrelationship among teaching quality, student satisfaction, school image, student loyalty, and school reputation. Using other constructs may also find the influence of moderation and mediation effects in such interrelationships.

Although this research replicated the RepTrak model, there are other measurement models for assessing corporate reputation. Future research could use other such corporate reputation measurement models. As suggested by Vidaver-Cohen (2007), other factors such as third party judgments, institutional forces, and reputational capital could be examined in a future study. This research validated that the mediator of student loyalty and school image respectively, partially and fully affect the direct relationship between student satisfaction and school reputation, as well as one mediator of student satisfaction fully affecting the direct relationship between teaching quality and the constructs of school image, school reputation, and student loyalty. The results show that the correlations among the constructs concerned

might be more complicated than originally hypothesized. It is suggested that a qualitative study be conducted in order to explore other issues, the findings from which could provide a basis for a more comprehensive literature review that may reveal more research questions in order to generate a more wide-reaching research model. Thus, an all-inclusive quantitative empirical study may be carried out to gather data from a more extensive population with different age group, level of study, and different disciplines and then verify the study qualitatively. In addition, as this research was applied to full-time self-financed higher education students in general, the framework may be applied to a future study of students studying UGC-funded programmes or self-financed programmes in a part-time mode in Hong Kong or other jurisdiction.

7. Conclusion

The results of this research found that student satisfaction has a mediating influence on the relationship between teaching quality and school image, between teaching quality and school reputation, and between teaching quality and student loyalty, whereas student loyalty and school image respectively partially mediates the relationship between student satisfaction and school reputation. In order to achieve a high recruitment rate in self-financed institutions in Hong Kong that facing high competition, higher education institutions need to focus on enhancing student satisfaction, student loyalty and school image which were found a significant mediator in promoting the relationships between quality of teaching staff to school reputation and image and also student satisfaction and loyalty respectively (Shamuganathan and Tong, 2010; Nguyen and LeBlanc, 2001). The current research achieved similar evidence of school reputation and gave support to prior relevant research.

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