The influences of teaching quality, student satisfaction, school image, and student loyalty on the reputation of self-financed higher education institutions in Hong Kong

By

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Abstract

Due to the emergence of Hong Kong’s knowledge-based economy in the 1990’s and the subsequent increase in self-financed higher education programmes from 2001 to 2013, quality assurance in Hong Kong’s higher education is of paramount importance. Those involved in the self-financed higher education sector realize the contribution of a good school reputation to positive word-of-mouth, which in turn enhances recruitment rates and attracts higher quality students. With the goal of providing a better understanding of the process involved in building a good school reputation, this study investigated the influence of teaching quality, student satisfaction, school image, and student loyalty on school reputation of self-financed higher education institutions in Hong Kong.

A cross-sectional empirical study with a research framework was developed to test thirteen hypotheses by analyzing data collected from a questionnaire survey. The questionnaires were distributed to 320 students in four higher education institutions in Hong Kong. Responses were elicited from 297 students who were randomly selected from four self-financed higher education institutions, which gave a response rate of 92.81%. The collected data were analyzed using quantitative statistical methods.

The study’s findings show that teaching quality positively correlates to student satisfaction, that student satisfaction strongly influences student loyalty and school image, and that student loyalty and school image have a mediating and moderating effects on the direct relationship between student satisfaction and school reputation.
The study contributes to the body of knowledge in the field of self-financed higher education by verifying the relationships between teaching quality, student satisfaction, school image, student loyalty and school reputation. Recommendations are also provided for future similar studies.
Chapter 1

Introduction

1.1 Background of the Research

Due to the rise of a knowledge-based economy and the influences of internationalization and diversification in Hong Kong’s higher education sector, Hong Kong has become a regional education hub (Tse, 2013). Higher education institutions in Hong Kong need to develop management strategies that will lead them to success in this very competitive environment. School reputation is normally viewed as a valuable intangible asset that helps enhance competitiveness if it can be soundly managed (Sridhar, 2012). To maintain a competitive edge, higher education institutions must handle reputation seriously in order to gain support from stakeholders (Jeng, 2008; Balmer and Greyser, 2003; Nakra, 2001). Prior studies have revealed that there are different views regarding the influences of customer satisfaction, image, loyalty and service quality on corporate reputation (MacMillan, Money, Downing, and Hillenbrand, 2005; Fombrun and Van Riel, 2003, 1997; Selnes, 1993). The aim of this study was to determine the influences of teaching quality, student satisfaction, school image, and student loyalty on school reputation of self-financed higher education institutions in Hong Kong. Accordingly, the study investigated the direct influences among teaching quality, student satisfaction, school image, student loyalty and school reputation; and examined the mediating effects of student satisfaction, student loyalty and school image as well as the moderating effects of student loyalty and school image. To carry out the investigation, the study extended the model of Vidaver-Cohen (2007)
by adding two moderators: school image and student loyalty. The study was conducted using integrated analysis and proposed a new research framework for school reputation of self-financed higher education institutions in Hong Kong.

According to the information portal for accredited self-financing post-secondary programmes (IPASS) there were twenty-six approved self-financed higher education institutions in Hong Kong in 2013/14, including sub-degree education institutions, and, according to projections from the government of the Hong Kong Special Administrative Region (HKSAR), the population of student annual enrolments was approximately 70,000 (IPASS, 2011). Full-time students from these education institutions were randomly selected as the targeted participants in this study.

1.1.1 Brief History of Higher Education in Hong Kong

From 1841 to 1997 Hong Kong’s education system followed the British model, as Hong Kong was a colony of Britain. In 1949 a tremendous growth of Hong Kong’s school system began with the influx of immigrants from China. With the rapid growth of Hong Kong’s population during 1950’s, a massive school building programme and teacher training was undertaken, especially for the development of primary education; about 45,000 primary school places were added annually (Topley, 1981). The 1965 Education Policy White Paper declared the restructuring and expansion of the primary and secondary education system and in the early 1970’s the provision of subsidized secondary education was conceived. Nine years of free education for all children was proposed in a 1974 White Paper
and came into being in 1978: six years of primary school followed by three years of secondary school with the abolishment of the Secondary School Entrance Exams (Topley, 1981).

A rapid expansion of higher education followed through the 1980’s (Topley, 1981) and 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). The Hong Kong government set up a plan with the aim of doubling the number of first-year-first-degree (FYFD) places by 1994/95 to 18% of the relevant age group (Leung, 1996). The main reasons for the rapid growth were the need for a high-quality workforce and the loss of talent through emigration during the pre-1997 period of political anxiety and uncertainty (Sensicle, 1992). By 2013/14, student of enrolment in FYFD had increased to 21.3% of the relevant age group (Leung, 2014).

The University of Hong Kong (HKU) was established in 1911 and was the first university in the territory, created more than 70 years after colonization (The University of Hong Kong, 2014; Cheng, 1995). Ways of delivery of educational programmes and modes of teaching and learning in HKU followed a model that promoted local Chinese’s support for the British colonial regime (Carroll, 2007). The founding of HKU “symbolized British cultural rule and aimed at producing an Anglicized ruling Chinese elite in the HK society to support British colonial rule and to extend Britain’s cultural influence to China and Asia.” (Lin and Man, 2011,
HKU aims to turn into “the Oxford and Cambridge of the Far East” (Carroll, 2007, p. 85). The Chinese University of Hong Kong (CUHK) was established in 1963 as a statutory university in which the principal language of instruction is Chinese (The Chinese University of Hong Kong, 2014). CUHK comprises three constituent colleges - Chung Chi, New Asia, and United – and aims to serve the community’s increasing demand for higher education with Chinese as its principal medium of instruction (Bolton, 2000; Hong Kong Legislative Council, 1963). Hong Kong Polytechnic was formally established in 1972, to provide professional-oriented education to meet the community’s need for professional manpower, which was developed from the former Hong Kong Technical College (The Hong Kong Polytechnic University, 2014). In 1994, Hong Kong Polytechnic changed to The Hong Kong Polytechnic University (HKPU) with full university status. City Polytechnic of Hong Kong was founded as a second polytechnic in 1984 after inauguration of Hong Kong Polytechnic. City Polytechnic of Hong Kong was eventually awarded university status in 1994 and changed its name to City University of Hong Kong (CityU) accordingly (City University of Hong Kong, 2014). The Hong Kong University of Science and Technology (HKUST) was established in 1991 for fulfilling the strong demand for university graduates to take part in Hong Kong’s service-based economy (The Hong Kong University of Science and Technology, 2014). HKUST is one of the eight statutory universities in Hong Kong.

There are also a number of institutions in Hong Kong providing courses of a higher education standard and character such as the Hang Seng School of Commerce (formerly the Hang Seng Management College) which was founded and registered
under the Education Ordinance in 2010 for addressing the self-financed higher education sector by offering basic full-time pre-university programmes to Form V leavers who are unable to further their studies at university. The College is currently a reputable higher education institution offering undergraduate honors degree and associate degree programmes (Yeung, 2013). Three other colleges were also registered as approved higher education colleges under the Post Secondary Colleges Ordinance in 1970’s, namely, Hong Kong Baptist College, Hong Kong Shue Yan College, and Lingnan College. A 1978 White Paper announced financial assistance to these colleges for restructuring their courses to enable students to achieve professional and vocational qualifications upon completion of courses (Topley, 1981). The three colleges were finally awarded full university status and renamed as Hong Kong Baptist University (HKBU), Lingnan University (LU) and Hong Kong Shue Yan University (HKSYU) in 1994, 1999 and 2006, respectively (Hong Kong Baptist University, 2014; Hong Kong Shue Yan University, 2014; Lingnan University, 2014).

In the 2009/10 academic year, a new academic structure for higher education was introduced that brought Hong Kong’s education system more in line with those in Mainland China and USA (Cha, 2010). Since that time at least 63% of the cohort of young people aged 17 to 20 have been receiving full time undergraduate or sub-degree education offered by one of the following higher education institutions, classified into three major groups by means of funding source (Cha, 2010).

i. Eight University Grants Committee (UGC) Funded Institutions: The University of Hong Kong (HKU), The Chinese University of Hong Kong
(CUHK), The Hong Kong University of Science and Technology (HKUST), The Hong Kong Polytechnic University (HKPU), City University of Hong Kong (CityU), Hong Kong Baptist University (HKBU), Lingnan University (LU) and Hong Kong Institute of Education (HKIEd) (Cha, 2010).

ii. Seven local self-financed degree-awarding institutions: Open University of Hong Kong, Hong Kong Shue Yan University, Hang Seng Management College, Chu Hai College of Higher Education, Centennial College, Tung Wah College, and Caritas Institute of Higher Education (Legislation Council, 2011).

iii. Public institutions funded by the government: two institutions including the Hong Kong Academy for Performing Arts and the Hong Kong Institute of Vocational Education (Education Bureau, 2009).

1.1.2 New Trend of Higher Education Market and Evolution of Self-financed Higher Education in Hong Kong

Since its return to China in 1997, Hong Kong has seen a significant change in the local economy (Cha, 2010). The emergence of a knowledge-based economy and the influences of globalization, internationalization and diversification in Hong Kong’s higher education sector, prompted the Chief Executive to provide a thorough analysis of the economy in the 2009/10 Policy Address (“Breaking New Ground Together”), in which he clearly stated that “education services . . . to
enhance Hong Kong’s status as a regional education hub” (HKSAR Government, 2009, p. 11). To enhance Hong Kong’s global competitiveness as it transformed into a high-quality service provider, Hong Kong has undergone a series of changes and recently developed into a regional education hub (Tse, 2013; Cha, 2010). Nowadays, education services play an important role in Hong Kong’s economic growth, such that 93% of Hong Kong’s Gross Domestic Product (GDP) was derived from the service sector in 2012 (Mak, 2012). However, the investment and educational strategy in the higher education sector are not simply driven by economics. The goal of developing high-quality, versatile and responsible Hong Kong citizens throughout the education system is also crucial (Cha, 2010). Due to the impact of globalization on higher education, the growth of higher education in Hong Kong has emerged as a business through the support from government and in response to financial needs around the world (Cha, 2010). Like many countries, such as the USA, South Korea and Australia, Hong Kong has increased its proportion of private spending on higher education (Cha, 2010). Hong Kong started the education reforms through the Education Commission (1997) Report No. 7 and other actions proposed by the Hong Kong SAR Government since 1997 (Cheng, 2009). Facing a global competitive situation in the higher education sector as well as demand for local talent in Hong Kong’s workforce, the Hong Kong SAR government has developed policies for creating and maintaining a unique and competitive advantage (Marginson, 2009).

Responding to recommendations of the 2002 Higher Education Review Report (HERR), the sub-degree and course-based postgraduate programmes have been put on a self-financing basis, and the Joint Quality Review Committee (JQRC) has
been set up to provide peer review of the quality assurance process of self-financed sub-degree programmes organized by UGC-funded institutions (Sutherland, 2002). Since release of the HERR, reports from the Education Bureau indicate a significant growth in the self-financed education service sector. According to IPASS (2011), the self-financed education sector plays a critical part in boosting the quality of the human resources in Hong Kong by providing opportunities for lifelong learning and continuous professional education for the workforce and the community at large. The number of self-financing programmes significantly increased from around 40 in the 2001/02 academic year to over 400 in the 2012/13 academic year. According to a fact sheet published by HKSAR’s Information Services Department in 2014, there were 26 higher education institutions offering self-financing locally accredited sub-degree and degree programmes providing around 70,000 full-time annual intake places in the 2013/14 academic year. There are about 1,100 programmes in Hong Kong that are offered by institutions outside of Hong Kong such as the UK, Australia, USA, Canada and Mainland China, that lead awards of non-local academic or professional qualifications (Nip, 2014). As a result, over 60% of Hong Kong young people of the relevant age cohort have enjoyed post-secondary education in recent years (Chow, 2012).

To ensure the quality of self-financed higher education, the Chief Executive of the HKSAR declared in the 2010/11 Policy Address the establishment of a HK$2.5 billion self-financed higher education fund to uphold worthwhile initiatives and schemes from higher education institutions; and provision of HK$1 billion and HK$20 million respectively to fund self-financed post-secondary students with
achievements in non-academic fields and deserving students with special educational needs (IPASS, 2011).

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; Morphew and Eckel, 2009; Mok, 2008), 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.

1.1.3 Key Issues for Self-financed Higher Education in Hong Kong

Self-financed higher education institutions having a good reputation, just like other service providers in a business setting, helps and supports organizational sustainability, performance and growth (Deephouse, 2004). A good school reputation can alleviate students’ uncertainty about institutional performances, strengthen competitive advantage, contribute to public confidence, and create value by maximizing an institution’s ability to receive a premium for services provided (Vidaver-Cohen, 2007). Some researchers, such as, Singh and Weligamage
(2010), Tetrevova and Sabolova (2005) and Clarkson (1998), argued that the greater the ability to provide a good quality educational service and achieve stakeholder satisfaction, the higher the recruitment rate, reputation and ranking the education institution enjoys. Therefore, the most important goals for managers of self-financed schools are to enhance the quality of their educational service and satisfy stakeholders’ needs and wants (Kundi, Khan, Qureshi, Khan and Akhtar, 2014; Rasli, Danjuma, Yew and Igbal, 2011) in order to facilitate attracting and retaining students in the increasingly competitive global market (Standifird, 2005; Bush, Ferrell, and Thomas, 1998). In addition to good quality service, self-financed higher education institutions need to identify the right stakeholders in order to understand and address their needs, wants and expectations, and manage communication, programmes and processes effectively, so as to ensure that they reach the right stakeholders in the most effective manner (Sanders and Viljoen, 2009).

Good branding provides a strong indication to existing and future student about the quality and credibility of the education institution (Thomson, 2002). Other cues such as the training quality (academic staff), appeal to emotion (trust, recognition) and ethical aspect (ethical behavior, honesty) can also help students evaluate the attractiveness of a particular educational institution (Ulley, 2002). Further, student loyalty can reinforce an institution’s reputation and external image by acting as the institute’s advocates, that is, by providing positive word-of-mouth and referrals (Helgesen and Nessen, 2007b). To sum up, if an education institution wants to sustain its operation in the highly competitive higher education sector, it must develop a positive reputation and image, maintain good service quality,
enhance student loyalty with potential and existing students and alumni and achieve student satisfaction.

1.2 Addressing the Issues of Quality Assurance of Self-financed Higher Education Setting

As self-financed higher education institutions struggle to maintain competitiveness and quality, quality assurance is crucial for distinguishing a competitive edge and superior quality (Lu, Shao, and Chen, 2011). Different from tangible products, education services are having complicated characteristics that they are consumed during delivery and are therefore hard to compare item-by-item (Tersine and Harvey, 1998; Parasuraman, Zeithaml, and Berry, 1985). Thus, determination of service quality can be done by comparing the degree and direction between customers’ service perceptions and expectations, that is, service quality is deemed to be good when customer’s perception is higher than expectation and vice versa (Parasuraman and Zeithaml, 2006).

In higher education, there is an emphasis on multifaceted quality and stakeholder-relative value (Ramírez, 2013; Van Kemenade, Pupius, and Hardjono, 2008). An education service is not only concerned with value for money but also with the relative value to various stakeholders, as different stakeholders have different views of what education quality means to them (Tam, 2001). Students are the most direct and important stakeholders because education allows students to achieve their goals and satisfy the needs of society and the nation at large through the educational learning process (Mishra, 2006). Some researchers have
suggested that performance and quality of higher education institutions should be
evaluated by quantitative measures such as graduation rates, enrollment trends,
programme accreditation, pass rates on professional licensure examinations,
alumni and employer satisfaction surveys, graduate job placements, and graduate
further education (Ferns, 2012; Serban and Burke, 1997). However, others have
argued that quality assessment is a continuous quality enhancement process and it
should be assessed by qualitative methods such as accreditation by external quality
monitoring, best practices benchmarking, and a market-driven approach (Mishra,
2006; Jackson and Lund, 2000; Harvey, 1998). As higher education is a complex
dynamic system and quality itself is difficult to measure, determination of an
appropriate quality assessment method is a crucial step for enhancing quality
assurance.

Due to the impacts of globalization, commercialization and high competitiveness
among self-financed higher education institutions, demand for increasing
transparency and accountability of quality assurance (QA) systems for Hong Kong
self-financed higher education institutions has long been an important issue
(Pounder, 2000). A good quality assurance system implies a well-defined and
systemic review process of an education programme or institution to determine
whether or not acceptable standards of education, scholarship, and infrastructure
are being met, maintained and enhanced (Materu, 2007). An effective quality
assurance system improves transparency, accountability and education
performance as higher education institutions are required to open up to external
scrutiny by students, parents, peers, professional associations, QA agencies and
government (Pounder, 2000; Hill, 1995). The management and policymakers of
institutions are required to take more concrete QA initiatives in order to ensure continuous quality improvement in their own education institution (Hogg and Hogg, 1995).

The HKSAR government invests huge resources in education quality assurance. The government expenditure on post-secondary education rose from 3.0% of Gross Domestic Product (19.8% of total government expenditure) amounting to HK$33.8 billion in 1995/96 to 3.8% (20.3% of total government expenditure) amounting to HK$76.6 billion in 2012/13 (Tse, 2014). Also, the government has provided a number of support measures including the establishment of the Land Grant / Vacant School Premises for Post-secondary Education Programme Providers, the Start-up Loan Scheme for Post-secondary Education Providers, and the Self-financed Post-secondary Education Fund (Chow, 2012). Other measures include non-recurrent grants and reimbursement of government rents and rates to self-financed education institutions, and the offering of means-tested financial assistance and non-means-tested loans to needy students (Chow, 2012).

Having such rapid expansion and huge investment in the higher education sector, especially the development of self-financed programmes, it becomes necessary to address the issue of the education quality and rethink the balance between quality and quantity. There is even an oversupply of self-financed programmes in Hong Kong that has created excessive competition in the market (Lui, 2008). It is time for Hong Kong’s higher education to shift the focus from quantity to quality. Since the rapid expansion of self-financed higher education sector in the past 10 years, different authorities have formed for ensuring and enhancing the quality
assurance system for self-financed higher education programmes (Chow, 2012). The University Grants Committee (UGC) of Hong Kong is responsible for maintaining the quality of UGC-funded post-secondary programmes, and the semi-autonomous Quality Assurance Council was set up by the UGC in 2007 to act as a third-party to oversee the quality assurance of academic programmes at degree level or above offered by UGC-funded institutions. The Joint Quality Review Committee was formed by the Heads of the eight UGC-funded institutions to provide for peer review of the quality assurance processes and procedures of all self-financed sub-degree programmes offered by these institutions (Chow, 2012).

The Hong Kong Qualification Framework (HKQF) was developed by the government of HKSAR in 2008 to provide a transparent and accessible platform to promote lifelong learning and hence enhance the competitiveness of Hong Kong’s workforce (Nip, 2014). The HKQF is a seven-level ranking that reinforces the qualifications of the academic, vocational and continuing education sectors, and is built upon a quality assurance mechanism. Under the HKQF, education providers can apply to the Hong Kong Council for Accreditation of Academic and Vocational Qualifications (HKCAA AVQ) for registration of their programmes and for validation of higher education programmes offered by self-financed institutions. All qualifications recognized under the HKQF are quality-assured, which improves the credibility of qualifications and employability of the workforce (Nip, 2014).

Due to the exaggerated development of Hong Kong’s self-financed education sector, the UGC conducted a higher education review in 2009 and reported three main risks in the growth of the self-financed higher education sector (Cha, 2010). The risks mentioned in the report “Aspiration for the Higher Education System in
Hong Kong” include financial failures of education institutions offering self-financed programmes, confusion between UGC-funded and self-financed programmes in terms of recognition and qualification, and inadequate quality assurance policies (Cha, 2010). The following recommendations are extracted from the report for improving quality assurance in the higher education sector (Chow, 2012, p. 5):

i. A single interlocking system governed by an overarching post-secondary education policy for strategic and planning purposes, covering both UGC-funded and self-financed institutions;

ii. A single oversight body for the self-financed part of the post-secondary education system;

iii. No public funds used by UGC-funded education institutions as cross-subsidies for self-financing educational activities and greater transparency in the financial relationship between UGC-funded institutions and self-financing courses either within the institution or in an affiliate such as a community college;

iv. A complete separation of community college operation from their parent UGC-funded institutions within three years of the acceptance of this recommendation; and

v. A single quality assurance body for the whole post-secondary system by ways of integration of methods and approaches of quality assessment, validation and accreditation across the system.
1.3 Justification for the Research

This research was conducted for the following reasons:

First, all organizations realize the importance of relationship management for running their business. In the past, people thought that education was a service, rather than a business, and education institutions were just places for providing learning and knowledge to students. People used to believe that relationship management was unrelated to the education sector. As shown by Bureau of Labor Statistics (BLS) projections (Groshen, 2009) released in November 2009, the service sector in the United States will be one of the main sources of employment and output between 2008 and 2018; also more than three out of four jobs (77.2%) in the U.S. economy were in the service sector in 2007. In Hong Kong, government spending on education in academic year 1994/95 was HK$28,528 million, or 2.8% of GDP, while in academic year 2013/14 it was estimated to be HK$76,856 million or 3.6% of GDP (IPASS, 2011). Education services is classified as one of six economic areas in Kong Kong’s economy and Hong Kong itself has been developed as a regional education hub since the 2009/10 Policy Address (Tien, 2011). Education services play an important role in the economic growth of Hong Kong’s service sector. Hong Kong higher education system is now facing a dramatic change due to the transformation of Hong Kong to a knowledge-based economy in the early 1990s (Wan, 2011). Further, under the impact of internationalization, transformation of education services, and an explosion in school rankings, self-financed programmes has become a trend. The self-financed programmes help attract quality local and non-local students to study in Hong Kong and work here after graduation. Through this process, it helps
Hong Kong to become more globalized and competitive. 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.

Second, despite extensive studies in the areas of reputation management in higher education, student satisfaction, student loyalty, school image and school reputation (Ghosh, Whippie, and Bryan, 2001; Kazoleas, Kim, and Moffit, 2001; McPherson and Schapiro, 1998; Kennedy and Walker, 1981), an integrated model of school reputation with mediating and moderating effects of school image, student satisfaction and loyalty is still lacking. Accordingly, this study replicated Vidaver-Cohen’s (2007) model of reputation by adding two moderators, namely student loyalty and school image, and investigated those impacts on school reputation of self-financed higher institutions in Hong Kong.

1.4 Problem Statement

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; Traynor, 1983), attitudes over products and services provided, trust ) and purchase intentions (Johnson and Grayson, 2005; Brown, 1995; Yoon, Guffey, and Kijewski, 1993). 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 Nesset, 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 study 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 study fills the gaps that exist in the present literature by developing an empirical research framework to investigate thirteen hypotheses by means of a quantitative research approach using questionnaire survey. This study sheds light on how self-financed higher education institutions are able to compete and enhance their competitiveness in both local and international education markets; findings provide an in-depth picture and valuable contributions to both researchers and practitioners.

1.5 Research Questions and Hypotheses

Based on the literature review and the identified research gaps, the following research question was developed:

Research Question (RQ): What are the influences of teaching quality, student
Based on the above research question, a research model was developed with the following thirteen hypotheses.

H1: Teaching quality and student satisfaction are positively correlated in Hong Kong’s self-financed higher education institutions.

H2: Student satisfaction and student loyalty are positively correlated in Hong Kong’s self-financed higher education institutions.

H3: Student satisfaction and school image are positively correlated in Hong Kong’s self-financed higher education institutions.

H4: Student loyalty and school reputation are positively correlated in Hong Kong’s self-financed higher education institutions.

H5: School image and school reputation are positively correlated in Hong Kong’s self-financed higher education institutions.

H6: Student satisfaction and school reputation are positively correlated in Hong Kong’s self-financed higher education institutions.

H7: Student satisfaction mediates the relationship between teaching quality and school image in Hong Kong’s self-financed higher education institutions.
H8: Student satisfaction mediates the relationship between teaching quality and school reputation in Hong Kong’s self-financed higher education institutions.

H9: Student satisfaction mediates the relationship between teaching quality and student loyalty in Hong Kong’s self-financed higher education institutions.

H10: Student loyalty mediates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions.

H11: School image mediates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions.

H12: Student loyalty moderates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions.

H13: School image moderates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions.

1.6 Research Methodology

This study took a quantitative approach. A self-administrative anonymous questionnaire survey was conducted to collect data for statistical analysis. Potential participants in the survey were randomly selected from full-time students.
studying at self-financed higher education institutions in Hong Kong.

1.6.1 Measurement Instrument

Individual potential participants were asked to carefully read the invitation letter (Appendix A) and Survey Information Sheet (Appendix C) to ensure that they fully understood the purpose of the research and their rights as willing participants in it. The anonymous questionnaires were distributed to students and collected by student helpers in classes after completion of the survey.

The questionnaire was designed with a total of 19 statements under two sections (see Appendix D). Section A was used to collect data regarding the quality of teaching staff, school reputation, school image, student satisfaction and student loyalty. Section B was used to collect demographic data from the participants. It was estimated that respondents take around 15 minutes to complete the questionnaire and return it to the student helper.

Respondents were asked to answer the 7-point Likert scale questions ranging from 1 (strongly disagree) to 7 (strongly agree) as shown below:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
1.6.2 Sampling

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.

1.6.3 Data Collection

An anonymous self-administered questionnaire survey was used to collect data for this study and students were invited to complete the questionnaire on the spot. Ethics approval was obtained from the University of Newcastle’s Ethics Committee before commencement of the survey. Ethical issues in relation to the questionnaire survey, including confidentiality, data storage, and data access, were properly addressed. The questionnaires will be shredded after final acceptance of the thesis by the University of Newcastle’s Office of Graduate Studies. An electronic copy of the data will be stored securely at the Graduate School of Business, University of Newcastle, for a minimum period of 5 years from the date of final acceptance of the thesis.
1.7 Data Analysis

Collected data were analysed using statistical package for the social sciences (SPSS) version 22 for descriptive analysis, factor analysis, Structural Equation Modelling, and regression analysis. Direct correlations, mediating and moderating relationships were investigated.

1.7.1 Descriptive Analysis

Descriptive analysis was firstly conducted to provide general observations on the characteristics of the collected data using frequency and percentage, mean, standard deviation skewness and kurtosis (Coakes and Ong, 2011).

1.7.2 Measurement Analysis

Measurement analysis includes validity and reliability tests. 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).

1.7.3 Structural Equation Modelling

Structural Equation Modelling (SEM) technique was used to verify the research model fit (Hair et al., 2010; Kline, 2005; Byrne, 2001). SEM via AMOS was used to identify the presence of the mediating effect through the pre-requirement conditions and procedures for relationship testing (Baron and Kenny, 1986).
Testing the moderating effect was based on Baron and Kenny's (1986) and Hair, Black, Babin and Anderson’s (2010) suggestions. The moderators were measured using nominal scales to enable the interaction effect, that is, the data collected was transformed into a nominal scale as “agree”, “neutral” and “disagree” (Dagger and David, 2012; Vlachos, 2012; Kline, 2011; Hair et al., 2010; Sauer and Dick, 1993). The comparison of ratios of chi-square over degrees of freedom (df) is made. The change is considered significant if the ratio of change is > 3 (Kline, 2011; Hair et al., 2010), indicating that the variable concerned exerts a significant moderating impact.

1.7.4 Regression Analysis

Multiple regression analysis was used to test the effect of each hypothesis. If the value of “R Square” is equal to or near to 1, the hypothesis is critical and significant. Hypotheses were tested at a minimum of 0.05 level of significance.

1.8 Research Findings

The research found that teaching quality has a positive influence on student satisfaction whilst student satisfaction has a positive influence on the respective student loyalty and school image. The research also found that student satisfaction has full mediating effect on the relationship between teaching quality and the respective school image, school reputation and student loyalty. This suggests that that self-financed higher education institutions with a good school image, reputation or having loyal students may not be solely due to good teaching
quality but that student satisfaction plays an important part in building a good school image and reputation and having loyal students.

Student loyalty and school image were found having partial mediating effect on the relationship between student satisfaction and school reputation. This implies that self-financed higher education institutions with a good reputation may not be solely due to the student satisfaction but student loyalty and school image play an important part in building a school’s reputation.

Based on the result of multi-group analysis as suggested by Baron and Kenny (1986) and Hair et al. (2010), student loyalty and school image were also found that they have significant moderating impact on the relationship between student satisfaction and school reputation. Student loyalty and school image, being a moderator, are essential to improve school reputation through student satisfaction. Even though students have a certain level of satisfaction with the school, this may not directly and significantly help improve school reputation without a good school image and loyal students.

1.9 Contributions of the Study

Maximizing student recruitment rate is one of the main goals of self-financed higher education institutions. In order to achieve this objective, the education institutions having a good reputation will have the privilege of admitting high quality students. However, students make their choice of which education institution to enroll in based on the school reputation (Loureiro and Kastenholz,
2011; Traynor, 1983) for meeting their needs and wants such as teaching quality, school image, and the level of student satisfaction and loyalty (Temple, 2006). Thus, the concern is how to achieve school reputation by understanding the impacts of various factors such as teaching quality, student satisfaction, school image and student loyalty, especially in a highly competitive self-financed education market.

This study provides theoretical contributions to the various influences on the reputation of self-financed higher education institutions with a research framework that describes and anticipates the impacts of teaching quality, student satisfaction, school image and student loyalty on school reputation. Prior literature on the influences among teaching quality, student satisfaction, student loyalty and school image on school reputation mainly focused on the direct impacts of different factors of reputation. However, the current study investigated a complicated relationship among teaching quality, student satisfaction, school image, student loyalty and school reputation. Although some prior studies supported the correlation between customer loyalty, corporate image and customer satisfaction on corporate reputation respectively, this study did not support such a relationship; this may be due to the analysis that views the entire model as one. Further, this study confirmed that student satisfaction has a direct and significant mediating effect on the relationship of school image, school reputation and student loyalty with teaching quality. Thus, self-financed higher education institutions should understand that school image and reputation along with student loyalty may not be achievable without achieving a considerable level of student satisfaction.
In this study, student loyalty was found to have a partial mediating and full moderating influence 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 rather that student loyalty also plays an important part in building the reputation. As a significant moderator, student loyalty improves the effect of student satisfaction on school reputation. Therefore, self-financed higher education institutions need to find ways to ‘create’ loyal stakeholders. Even though students might have a certain level of satisfaction with a school, the satisfaction may not directly and significantly help improve the school’s reputation. Since few prior studies have been conducted on the mediating effect of loyalty, and no empirical analysis performed on the moderating impact of loyalty, on the relationship between customer satisfaction and reputation, the findings in this study provide contributions in this area in the setting of self-financed higher education.

Same as student loyalty, school image was confirmed to have a partial mediating and significant moderating impact on the relationship between student satisfaction and school reputation. This suggests the fact that a self-financed higher education institution has a good reputation may not be solely due to student satisfaction but also to school image. Further, school image, being a moderator, is essential to improve school reputation through student satisfaction. Self-financed higher education institutions need to find ways to improve their image by exploring and developing the relationship with their external and internal stakeholders. Although students may have a certain level of satisfaction with their school, the satisfaction may not directly and significantly help improve school reputation.
without a good school image. Thus, higher education institutions should consider how to improve their image and reputation by exploring their relationship with different stakeholders. Since there appears to be no prior empirical studies conducted regarding the mediating and moderating effects of school image on the relationship between customer satisfaction and reputation, the current findings contribute to this area in the setting of self-financed higher education.

This study contributes theoretically and practically in the area of self-financed higher education by verifying the relationships between teaching quality, student satisfaction, school image, student loyalty, and school reputation. The knowledge can also be applied to other areas of studies, for example, relationship marketing, service marketing, corporate reputation and reputation management. In terms of its theoretical contribution, this study provides further support for teaching quality as a significant influence on student satisfaction and, in turn, student satisfaction strongly affects student loyalty and school image. The study also validated the theoretically-founded mediating and moderating effects of student loyalty and school image on the direct relationship between student satisfaction and school reputation. As it appears that there are few or even no empirical studies on the mediating and moderating effects of student loyalty and school image on the direct relationship between student satisfaction and school reputation, the findings of this study contribute to this area of study by showing an enhanced effect of student satisfaction on school reputation (Nguyen and LeBlanc, 2001, 2000; Shamuganathan and Tong, 2010). In terms of a practical contribution, this study provides an important signal to self-financed higher education institutions that if they want to improve their institution’s reputation, enhancement of student
satisfaction is a top priority and teaching quality is a key important asset for achieving student satisfaction. In addition to which, while service providers in all industries understand the mediating and moderating effects of customer loyalty and corporate image on customer satisfaction and corporate reputation, they need to consider how to turn satisfied customers into loyal customers and to develop corporate image in order to improve their reputation.

1.10 Structure of the Thesis

This study consists of five chapters as indicated in Figure 1-1 below.

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1.11 Chapter Summary

This chapter introduced the history of higher education in Hong Kong, including the trend of the higher education market and the evolution of self-financed higher education in Hong Kong. It highlighted the key issues and addressed the quality assurance for self-financed higher education. The chapter also explained the aims of the study, the research question, the hypotheses, the research methodology, and the study's contribution to the body of knowledge.
Chapter 2

Literature Review

2.1 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). The industry has been identified as one of the most important in Hong Kong and includes testing and certification, medical services, innovation and technology, cultural and creative industries, and the environmental industry (Cheng, 2011). 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.

In order to investigate the relationship among quality of teaching staff, student satisfaction, student loyalty and school image and of self-financed higher education institutions in Hong Kong, undertaking a literature review is a first important step. The literature review is a critical discussion and summary of the conceptual and theoretical literature that is of general and specialized relevance to the particular field and topic of the research problem under investigation (Bryman and Bell, 2007). This chapter therefore provides an extensive literature review concerning service marketing, corporate reputation in higher education institutions, reputation
management in higher education institutions, and the self-financed higher education sector in Hong Kong is also made. Since this study is based on a replication of Vidaver-Cohen’s (2007) model, the variables of the proposed model of corporate reputation in higher education institutions are also discussed.

The chapter is organized into 12 sections. Section 2.1 is the introduction. Section 2.2 is a brief explanation of service marketing in education sector in Hong Kong. Section 2.3 discusses self-financed higher education institutions as market competitors in Hong Kong. Section 2.4 addresses the issue of quality, quality assurance and teaching quality in the higher education setting. Section 2.5 discusses the issues of satisfaction, student satisfaction, and assessment of student satisfaction in the higher education setting. Section 2.6 discusses the issues of customer loyalty and student loyalty in the higher education setting. Section 2.7 discusses the issues of image and school image in the higher education setting. Section 2.8 discusses the issues of reputation in the higher education setting. Section 2.9 discusses the mediating roles of student satisfaction, student loyalty and school image. Section 2.10 discusses the moderating roles of student loyalty and school image. Section 2.11 presents the research framework. Section 2.12 concludes and summarizes the chapter.

2.2 Service Marketing in Hong Kong’s Education Sector

The service sector is also called the tertiary sector or service industry and was first introduced by Clark (1940) and Fisher (1935). According to the Fisher-Clark hypothesis, any economy is divided into three service sectors: primary, secondary,
Arnold (2012) argued that the service sector in general is composed of the “soft” activities in the economy, those involved in offering knowledge and improvements in productivity, performance, and sustainability. Education is a part of the tertiary service sector, which also includes trade, transport, finance and business, public administration, entertainment and personal services, community services, and ownership of dwellings.

According to India’s Union Budget and Economic Survey 2010/11 (Mukherjee, 2011), the service sector contributes 55% to India’s gross domestic product (GDP) with a 10% annual growth rate. The United States Bureau of Labour Statistics projections (Groshen, 2009) revealed in November 2009 that the service sector in the United States will be one of the main sources of employment up to 2018 and that education services will continue to play an important role in the contribution of economic growth in the service sector.

Hong Kong’s economy has undergone a remarkable transformation in the past two decades, especially in the education industry. For example, the services sector, excluding public sector, has already accounted for about 83 per cent of Hong Kong’s Gross Domestic Product (GDP) in 2012 (Mak, 2012). Rust and Chung (2006) summarized the viewpoint of many researchers by stating that the aim of service is to manage and customize services so as to improve customer satisfaction and continue successful relationships with customers, and eventually make a positive financial impact on organizations (Gupta, Lehmann and Stuart, 2004; Rust, Lemon and Zeithaml, 2004; Ansari and Mela, 2003; Danaher, 2002; Jain and Kannan, 2002; Mittal and Kamakura, 2001; Moorthy and Srinivasan, 1995; Bolton
Due to the rise of its knowledge-based economy and the influences of internationalization and diversification in Hong Kong’s higher education sector, Hong Kong has developed as a regional education hub in order to cultivate different talents and professionals for the region (Tse, 2013). According to a fact sheet published by the Information Services Department of the Hong Kong Special Administration Region (HKSAR) there were 26 higher education institutions offering self-financing locally accredited sub-degree and degree programmes providing around 70,000 full-time annual intake places in the 2013/14 academic year; about 1,100 courses in Hong Kong lead to the award of non-local academic or professional qualification offered by institutions based in the UK, Australia, US, Canada and Mainland China; and the number of self-financing programmes has significantly increased from around 20 in the 2001/02 academic year to over 400 in the 2012/13 academic year (Nip, 2014).

To ensure the quality of self-financing post-secondary education, in his 2010-11 policy address, the Chief Executive of the HKSAR declared the formation of a $2.5 billion self-financing post-secondary education fund to uphold worthwhile initiatives and schemes from higher education institutions. The government injected $1.2 billion into the fund to develop more scholarships and awards and to give recognition to students of self-financed higher education institutions with achievements in non-academic fields and deserving students with special educational needs (IPASS, 2011).
Increasing trends of marketization, privatization, corporatization and decentralization significantly affect the management of education (Mok and Tan, 2004). Even though education is a social investment, many researchers contend that higher education is a service (Finney and Finney, 2010; Buttle, 1999; Gatfield, Barker and Graham, 1999; Berry, 1995; Conway, Mackey and Yorke, 1994).

Researchers such as Dann (2008), Li and Kaye (1998), Mazzarol (1998), and Parasuraman et al. (1985) argued that the characteristics and nature of services are people-based, and that this is very important in building relationships with customers. Dann (2008) claimed that service marketing allows customers to receive benefits or satisfaction from a service counter rather than from tangible assets. It can therefore be surmised that as education is people-based, and students are the customers (Finney and Finney, 2010), that education should be classified as a service (Weise, 2008). Accordingly, the income of an institution will increase if there is a good relationship between the institution and its students. This is because the existing students and alumni will increase their loyalty to an institution, and their word-of-mouth promotion will enhance an institution’s competitiveness. Meanwhile, Walsh and Beatty (2007) commented that it is difficult for customers to evaluate educational institutions before any purchase due to the intangible nature of educational services. Thus, it can be argued that word-of-mouth communications are crucial in service marketing (Bansal and Voyer, 2000). Smith, Fischbacher and Wilson (2007) suggested that when students and parents voice their concerns to institutions, they should respond to the expression of those service needs. Moogan (2010) and Anctil (2008) also argued that institutions need to be responsive and proactive in communicating with potential
and existing students in order to maintain their competitive edge in the higher educational sector.

Higher education institutions in Hong Kong are facing the challenges of liberation, globalization, commercialization, privatization and massification of higher education in Hong Kong (Fryar, 2012; Jamshidi et al., 2012; Marginson, 2011; Morphew and Eckel, 2009; Mok, 2008). The managers of higher education institutions therefore have to do more than merely arrange advertising campaigns and information days for potential students if they want to sustain business growth and competitiveness in Hong Kong’s education market (Williams and Naumann, 2011; Anderson, Fornell and Lehmann, 1994).

2.3 Self-financed Higher Education Institutions as Market Competitors in Hong Kong

Deephouse (2004) suggested that reputation management strategy is a professional practice that boosts and upholds organizations. Some researchers argued that reputation management relates directly to a good corporate reputation and its prolongation is considered as an element of its public relations (Hillenbrand and Money, 2007; Nakra, 2001). Vidaver-Cohen (2007, p. 280) stated that “a good education institution reputation can alleviate stakeholder uncertainty about future organizational performances, strengthen competitive advantage, contribute to public confidence and create value by maximizing an organization’s ability to receive a premium for products or services.” However, it can be argued that reputation management is a process of managing and guiding minds, intelligence,
and the affective reactions of internal and external stakeholders of the organization (Kernstock and Brexendorf, 2009; Deephouse, 2004).

Research on service marketing confirmed the importance of understanding and satisfying customer needs and wants in enhancing business growth and maintaining a competitive edge (Williams and Naumann, 2011; Tetrevova and Sabolova, 2005; Clarkson, 1998; Anderson et al., 1994; Williamson, 1984). Similar to commercial marketers in a competitive market, the management of educational institutions is required to consider what their stakeholders need and perceive as good (Kundi et al., 2014; Rasli et al., 2011). Williamson (1984) claimed that since the interests of stakeholders are closely linked to the success of the organization, management should take the needs of all stakeholders into account. Some researchers also argued that an organization’s success or failure directly relates to the ability of management to achieve sufficient and appropriate satisfaction for stakeholders (Tetrevova and Sabolova, 2005; Clarkson, 1998). However, stakeholder identification, quality of service and customer satisfaction should be the priority of the institution’s management. When compared with the commercial field, it can be argued that the quality of educational service and stakeholder satisfaction should be taken as being much more important in higher education institutions (Singh and Weligamage, 2010).

Tetrevova and Sabolova (2005) suggested that stakeholders are those that represent opportunities and threats for the organization. Typical stakeholders in the commercial environment are the customers, suppliers, creditors, employees, owners, investors, competitors, governments, communities, media, environmental
groups and consumer protection groups. Clarkson (1998) classified the shareholders, investors, employees, customers, suppliers and public stakeholder groups, such as government and communities, as primary stakeholders in a commercial setting, whilst Cohen (1995) asserted that trade associations and environmental groups are the primary stakeholders. Kasetwar (2008) argued that stakeholder identification is vital to the improvement of service quality of educational institutions, and identified the major stakeholders of higher education institutions as students, parents, trainers, educationalists, researchers and academic scientists, faculties, heads of institutions, academic heads of the universities, statutory bodies, industries, educational loan providers, industries, statutory bodies, politicians, society and the judiciary.

Singh and Weligamage (2010, p. 5) categorized the stakeholders of educational institutions into two groups: (i) the important stakeholders, including graduates, parents, training organizations, professional organizations, government, funding agencies, other interested parties, and society; and (ii) the key stakeholders, including students, employers, academic and non-academic staff. Favorable perceptions of the organization based on a positive corporate reputation can be directly formed by various stakeholders, such as students, parents and community (MacMillan et al., 2005; Lemmink, Schuijf and Streukens, 2003; Johnson, Gustafsson, Andreassen, Lervik and Cha, 2001; Fombrun, 1996; Selnes, 1993). Singh and Weligamage (2010, p. 6) identified different wants and needs of various stakeholders of higher education institutions as indicated in Table 2-1 below.
Table 2-1: Stakeholder Wants and Needs of Higher Education Institutions

*Source: Singh and Weligamage (2010, p. 6)*

<table>
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<tr>
<th>Stakeholder</th>
<th>Stakeholder Wants and Needs</th>
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<tr>
<td>Students</td>
<td>Quality education, academic guidance, appropriate academic environments.</td>
</tr>
<tr>
<td>Graduates</td>
<td>Employability skills, life-long learning experiences and achievements.</td>
</tr>
<tr>
<td>Academic staff</td>
<td>Achievements, academic support, teaching and research skills, improvement opportunities, financial and non-financial benefits, recognition.</td>
</tr>
<tr>
<td>Non-academic staff</td>
<td>Achievements, support, financial and non-financial benefits, recognition.</td>
</tr>
<tr>
<td>Parents</td>
<td>Quality education and more opportunities for their children, responsible and skillful graduates.</td>
</tr>
<tr>
<td>Society</td>
<td>Quality education, employable and responsible graduates, accountability.</td>
</tr>
<tr>
<td>Government</td>
<td>Smooth functioning, financial management and good governance.</td>
</tr>
<tr>
<td>Employers</td>
<td>Skillful and market oriented graduates.</td>
</tr>
<tr>
<td>Training organizations</td>
<td>Committed trainees.</td>
</tr>
</tbody>
</table>

If a school’s management wants to enhance the school’s reputation, it is necessary to understand, realize, address and meet the needs and wants and expectations of various stakeholders, especially students’ perceptions (Singh and Weligamage, 2010). Furthermore, higher education institutions need to manage communication programs and processes effectively so as to ensure that they communicate to the appropriate stakeholders in the most effective manner (Sanders and Viljoen, 2009). Although previous studies have examined the impact of stakeholders’ expectations on corporate reputation management, they did not consolidate different concepts and theories of reputation management in an
educational setting, rather the focus was on business settings. Most of studies on the determinants of corporate reputation have found that in the education market, teaching quality, student satisfaction, school image and student loyalty are essential to market competitiveness and favorable customer perception (Ryu et al., 2012; Vidaver-Cohen, 2007; Helgesen and Nesset, 2007b). Good reputation management helps attract and retain students (Standifird, 2005; Bush et al., 1998), especially in the increasingly competitive global market within which self-financed higher education institutions operate (Elliot and Healy, 2001; Kotler and Fox, 1995). The strength of a higher education brand can send a strong signal to existing and potential students about the quality and credibility of an education institution (Thomson, 2002). Potential students use cues such as the training quality and competence (teaching staff), appeal to emotion (trust, appreciation) and corporate ethics (honesty, ethical behavior) to assess the attractiveness of a particular education institution (Ultey, 2002). Thus, educational institutions should manage their reputation by monitoring such factors as the performance and behaviour of teaching staff and the perceptions of external stakeholders in order to optimize brand quality and improve their attractiveness.

Helgesen and Nesset (2007b) argued that student loyalty is positively related to the ability of higher education institutions to attract new students and retain existing students or graduates to pursue future studies. Their study found that student loyalty can reinforce an institution’s reputation and external image by acting as the institute’s advocates, that is, by providing positive word-of-mouth and referrals. It can be argued that they indeed play a very important role in the process, although students are only one of the stakeholders in the educational process.
Nevertheless, some researchers contend that students are the primary customers for educational institutions are instrumental in its performance (Short and Greer, 2002; Schlechty, 2001). Therefore, if an education institution wants to develop a positive image, the enhancement of student loyalty must be the priority, with student satisfaction being the primary driver for that.

2.3.1 Vidaver-Cohen’s (2007) Model

This study suggests a new measurement model for reputation management in self-financed higher education institutions in Hong Kong. The study replicates and extends Vidaver-Cohen’s (2007) model by adding two moderators: school image and student loyalty.

Vidaver-Cohen (2007, p. 280) developed a conceptual model of business school reputation (refer to Figure 2-1) that was based on the RepTrak model. The RepTrak model (Reputation Institute, 2006) was developed by the Reputation Institute. The reputation construct (outcome variable) is reflectively operationalized by assessing the degree of trust, admiration, good feeling and perceived public esteem; the predictor variables include organizational performance, product/service quality, leadership practices, governance procedures, workplace climate, citizenship activities and approach to innovation (refer to Figure 2-1). The RepTrak model is a simplified emotion-based measure of corporate reputation, which can untangle the drivers of organizational reputation from the measurement of the constructs (Reputation Institute, 2006). Vidaver-Cohen (2007, p. 280) argued that identifying differences in stakeholders’
expectations for business school performance is crucial for an assessment of a business school’s reputation and for identifying ways that reputation assessments are affected by third party judgements.

Figure 2-1: Conceptual Model of Business School Reputation

Source: Vidaver-Cohen (2007, p. 284)

2.3.2 Proposed Model of School Reputation in Higher Education Institutions

A new proposed model of school reputation in self-financed higher education institutions is developed in this study by replicating and extending Vidaver-Cohen’s (2007) model with two moderating variables: student loyalty and school image (refer to Figure 2-2).

Figure 2-2: Proposed Model of School Reputation in Higher Education Institutions
2.4 Quality, Quality Assurance, and Teaching Quality in the Higher Education Setting

Higher education, like commercial industry, is required to provide services and meet certain standards of wants and needs (Anderson et al., 1994). Throughout the world, higher education institutions struggle for survival and to maintain competitive, and quality and quality assurance are vital constituents (Lu et al., 2011). However, because of the difficult concept of quality and the complicated nature of service, measuring quality of service is a difficult task (Carman, 1990; Parasuraman, Zeithaml and Berry, 1988). Tersine and Harvey (1998) argued that services cannot be compared item-by-item, as tangible products are, due to their intangible nature and the fact that services are consumed when they are performed. Parasuraman et al. (1985, p. 42) stated that “service quality is a perception that emerges as the difference between the customer’s expectations and the perceived delivery of that service”, and that “there is fairly widespread agreement in the literature concerning the characteristics that tend to differentiate service from goods”. Parasuraman and Zeithaml (2006) defined service quality as a gap between customers’ service perceptions and expectations. This means that the service is of high quality if customer’s service perception is higher than expectations. But if customer’s perception is lower than expectations, the service is viewed to be of low quality.

Despite the difficult nature of service quality, a number of researchers have suggested dimensions of service quality that might be possible to measure for measuring it (Parasuraman and Zeithaml, 2006; Woo and Ennew, 2005; Buttle,
Two major dimensions of service quality are supported by most researchers (Gronroos, 1983; Lehtinen and Lehtinen, 1982). The first dimension refers to what the service delivers and is termed by Parasuraman et al. (1985) as ‘outcome quality’ and by Gronroos (1994) as ‘technical quality’. The second dimension refers to how the service is delivered, that is, the process that the customer goes through to get to the outcome of the service. Parasuraman et al. (1985) suggested that this is ‘process quality’ while Gronroos (1984) referred to it as ‘functional quality’. The SERVQUAL approach of Parasuraman et al. (1991, 1988) uses 22 pairs of measuring items to measure the difference between expectation and perception of service quality based on five dimensions, namely, tangibles, reliability, responsiveness, assurance, and empathy. By applying SERVQUAL analysis, the organizations can enhance the management of service (D'Souza and Sequeira, 2012; Zeithaml, Parasuraman and Berry, 1990).

The higher education setting emphasizes the concepts of multifaceted quality, value laden, and stakeholder relative (Ramírez, 2013; Van Kemenade et al., 2008). Quality is multifaceted because it can define an outcome, a property or a process (Biggs, 2001), and it is value laden because quality and service in self-financed higher education are supposed to be value for money and value-added for stakeholders (Bernhard, 2012; Khan, 2012). Quality is stakeholder relative because stakeholders include students, parents, academic and non-academic staff, employers, government and funding agencies, creditors, auditors, assessors, and the community at large (Shah and Nair, 2011; Nowell, Gale, Lewis and Handley,
Tam (2001) also argued that every stakeholder holds his or her own view of what education quality means to him or her.

Harvey and Green (1993) categorized five approaches to quality in higher education: excellence, consistency, fitness for purpose, value for money, and transformational. They claimed that quality in self-financed higher education should be able to enhance consistency in excellent performance. The products and services provided by education institutions should fit the stated purpose and pertain to user satisfaction in terms of value for money spent and value for information content. Learners should experience a fundamental change through the process of learning in order to enable them to participate and compete in a rapidly changing global context (Hénard and Leprince-Ringuet, 2008; Campbell and Rozsnyai, 2002).

Quality itself has different definitions in different contexts. Quality in higher education is very important for all stakeholders, but particularly for students because it is an educational process that helps them achieve their goals while satisfying the needs of society and helping national development at the same time (Mishra, 2006). However, higher education is a complex dynamic system facilitating teaching, research, extension and international cooperation and understanding (Mishra, 2006). It is important to have a proper quality assessment method in the educational system. Some researchers argue that performance and quality of higher education institutions can be evaluated by quantitative measures such as graduation rates, enrollment trends, programme accreditation, pass rates on professional licensure examinations, alumni satisfaction surveys, employer...
satisfaction surveys, graduate job placement, and graduate further education (Ferns, 2012; Serban and Burke, 1997). On the other hand, some researchers argue that quality assessment is a continuous quality enhancement process and it is more appropriate to be assessed by qualitative measures such as accreditation by external quality monitoring, best practices benchmarking, and market-driven approach etc (Mishra, 2006; Jackson and Lund, 2000; Harvey, 1998).

2.4.1 Quality Assurance in Hong Kong’s Higher Education Setting

Quality assurance (QA) in higher education refers to a planned and systemic review process of an education institution or programme to determine whether or not acceptable standards of education, scholarship, and infrastructure are being achieved, maintained and enhanced (Materu, 2007). With globalization, commercialization and strong competition among higher education institutions in the local market, there are demands for increasing transparency and accountability of quality assurance systems in Hong Kong’s higher education institutions, even though they are mandated to show their effectiveness by a QA system (Pounder, 2000). The school management and policymakers of institutions must take more concrete QA initiatives in order to ensure continuous quality improvement in their own education institution (Hogg and Hogg, 1995). An effective quality assurance system improves transparency, accountability and education performance as higher education institutions are required to open up to external scrutiny by students, parents, peers, professional associations, QA agencies, and government where they exist (Pounder, 2000; Hill, 1995). A good quality rating by external bodies tends to improve students’ morale and commitment to their institution, to attract potential
applicants, to improve the enrollment rates, and possibly lead to increased readiness to contribute to the costs of their education (Materu, 2007). Quality assurance therefore plays an important catalytic role in initiating steps for internal improvement within higher education institutions (Materu, 2007). Since quality is a relative concept, the useful quantitative tools of quality assurance such as flow charts, graphs, fish-bone analysis, Pareto analysis, scatter diagrams, check sheets, and control chart are available for assuring quality (Ishikawa, 1986). However, there are no universal tools and measures applied to all QA systems in education institutions, because each institution has its own unique system (de Jager and Gbadamosi, 2010). Although quality assurance measures in higher education vary among institutions, some common components of QA systems can be identified: approaches to quality, key stakeholders involved, level and scope of quality review, methods and instruments, and consequences of quality monitoring (Kis, 2005).

Effective quality assurance systems are obviously not easy to implement. Vroeijenstijn (1995) argued that different interests and conceptions of quality between diverse stakeholders is one of main hindrances to implementing QA systems. Governments mainly focus on accountability and improvement but higher education institutions are concerned more about quality improvement. Another hindrance is the implementation gap, which is defined as the difference between planned outcomes of policy and the outcomes of the implementation process (Newton, 2001). The implementation gap is formed when the views of front-line academic staff are different from the policymakers and the front-line academic staff who implement what they think right under their own QA system.
(Lipsky, 1980; Prottas, 1978). Finally, there is a risk that external ownership of a QA system may lead to compliance with the requirements of the system rather than improvement (Harvey, 2002). As a consequence, the unnecessary burden of continuous compliance, loss of academic autonomy, and the conflicts between external bodies and academic and institutional management, are becoming aggravated (Harvey, 2002; Goffman, 1971).

In Hong Kong, the higher education system has experienced a dramatic change since the 1990’s. As less than 9% of the relevant age group had the opportunity of receiving higher education before 1989/90, the government of Hong Kong SAR set up a plan in that year with the aim of doubling the number of first-year-first-degree (FYFD) places by 1994/95 (Leung, 1996); by 2013/14, FYFD places had increased to 21.3% of the relevant age group (Leung, 2014). To ensure the quality of education under the rapid growth of the post-secondary education sector, the government increased expenditure on post-secondary education from 3.0% of Gross Domestic Product (19.8% of total government expenditure) amounting to HKD33.8 billion in 1995/96, to 3.8% (20.3% of total government expenditure) amounting to HKD76.6 billion in 2012/13 (Tse, 2014).

The self-financed post-secondary education sector has also gone through a rapid growth, with self-financed programmes increasing from about 20 in 2000/01 to over 400 in 2012/13 and the annual student intake increasing from 9,000 in 2001/02 to over 70,000 students in 2013/14 (IPASS, 2014). To enhance the development of the self-financed post-secondary education sector, the government provided a number of support measures including the establishment of the Land
Grant/Vacant School Premises for Post-secondary Education Programme Providers (Land Grant Scheme), the Start-up Loan Scheme for Post-secondary Education Providers (Start-up Loan Scheme), and the Self-financing Post-secondary Education Fund (Chow, 2012).

With the rapid expansion and huge investment in post-secondary education, especially the development of self-financed programmes, it became necessary to address the issue of the quality of education and strike the balance between quality and quantity. Since the rapid expansion of the self-financed education sector over the past 10 years, different authorities have been formed to enhance the quality assurance system for self-financed post-secondary programmes (Chow, 2012). The University Grants Committee (UGC) of Hong Kong, which is responsible for maintaining the quality of UGC-funded post-secondary programmes, set-up the semi-autonomous Quality Assurance Council in 2007 to act as a third-party to oversee the quality of programmes at degree level or above offered by UGC-funded institutions. The Joint Quality Review Committee was also formed by the Heads of the eight UGC-funded institutions to provide for peer review of the quality assurance processes of the self-financed sub-degree programmes of these institutions (Chow, 2012). The government of HKSAR also launched a Hong Kong Qualification Framework (HKQF) in 2008 to provide a transparent and accessible platform to promote lifelong learning and enhance competitiveness of Hong Kong’s workforce (Nip, 2014). The HKQF is a seven-level ranking that reinforces the qualifications of the academic, vocational and continuing education sectors, and is essentially a quality assurance mechanism. Under the HKQF, education providers can apply to the Hong Kong Council for Accreditation of
Academic and Vocational Qualifications (HKCAA VQ) for qualification registration of programmes being offered by them. All qualifications recognized under the HKQF are quality-assured such that it improves the credibility of qualifications and the employability of the workforce (Nip, 2014).

Due to the rapid development of the self-financed education sector, the UGC conducted a higher education review in 2009 and reported three main risks in the growth of the self-financed post-secondary sector (Cha, 2010). The risks mentioned in the report “Aspiration for the Higher Education System in Hong Kong” include the financial failures of education institutions offering self-financed programmes, creation of confusion between UGC-funded and self-financed programmes in terms of recognition and qualification, and inadequate quality assurance policies; recommendations for improving the quality assurance of the post-secondary sector were also provided in the report (Chow, 2012).

2.4.2 Quality of Teaching Staff and Measurement of Teaching Quality

Friedman (1962) argued that an education institution wrestling successfully in a highly competitive market is reliant on its reputation for providing efficient educational services. Meanwhile, teaching quality is a most important tool in marketing educational institutions (Tsolidis, 2009; Pop, Bacila, Moisescu and Tirca, 2008; Stevens, McConkey, Coles and Clow, 2008; Parker, Cook and Pettijohn, 2007; Novak, 2006; Srikantanyoo and Gnoth, 2005; Davis, 2003; Elliott and Shin, 2002). The recruitment of a ‘good’ teacher can add an important ingredient to a reputable higher education institution (Holmstrom, 1999). Research has shown
that good teaching is strongly related to students’ perception of high teaching quality and that students’ evaluation of teaching staff plays a crucial role in the evaluation of teaching effectiveness in higher education institutions (Gursoy and Umbreit, 2005; Elnicki, Kolarik and Bardella, 2003). However, teaching effectiveness is multifaceted (Marsh, 2001; Huitt, 1995; Gage and Berliner, 1992). Kim, Damewood and Hodge (2000) identified several indicators of teaching effectiveness, 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 effectiveness. 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 effectiveness. From the literature of teaching effectiveness, 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). Student Evaluation of Teaching Effectiveness Scales (SETS), especially the student feedback questionnaire (SFQ), are the most popular method for assessing teaching effectiveness in higher education institutions because they are multidimensional, reliable, relatively valid
against various indicator of effective teaching and useful in improving teaching effectiveness (Marsh, 2001, 1987; Marsh and Roche, 1997; Marsh and Dunkin, 1992). Some researchers have challenged the validity and reliability of SETS by reason of there being no universal evaluation criteria for effective teaching (Darling-Hammond and Goodwin, 1993), incorporation of cultural backgrounds (Ogunniyi, 2004), fully understanding the purpose of exercising the SETS process, nor taking SETS process seriously as it deserves (Bett and Makhanu, 2013). However, Law (2010, p. 252) argued that “there is evidence that such feedback coupled with consultation, interpretation guides and/or other arrangements for staff development has a great potential for enhancing teaching quality”. This study evaluates students’ perception of the quality of teaching staff by using an 8-item scale, which was developed by Gamage, Suwanabroma, Ueyama, Hada and Sekikawa (2008). The items measured consist of academic credentials, the appropriate use of technology, an awareness of learning needs, effectiveness of communication in the process of lecturing, approachability and friendliness, treating students with respect, sympathetic to students, positive attitude toward students, and doing their best to help students.

2.5 Satisfaction, Student Satisfaction and Assessment of Student Satisfaction in the Higher Education Setting

Until the study undertaken by Gundersen, Heide and Olsson (1996), customer satisfaction was defined as a post consumption evaluation judgment concerning a particular product or service acquired. Oliver (1980) defined customer satisfaction as a consequence of an evaluative process that compares prepurchase
expectations with perceptions of performance during and after the consumption experience, while Fornell (1992) argued that customer satisfaction occurs in the course of a purchase and consumption, after a comparison of the organization’s past, present, and future cumulative performance with a customer’s expectations has occurred. 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; Bromley, 2001; Patterson, Johnson and Spreng, 1997). On the other hand, satisfaction can also be determined by subjective factors, such as bonding and beliefs, and objective factors, such as service quality and facilities (Choi and Chu, 2001; Akan, 1995; Barsky and Labagh, 1992; Atkinson, 1988).

In a keen competitive higher education environment where students have many choices available for them, school management must seriously evaluate any elements that help their education institution to attract and retain students (Ilias, Hasan, Rahman and Yaso, 2008). Increasing student satisfaction with services provided is one of the most effective ways to attract and retain students, as well as upholding a positive relationship between students and the educational institution,
which in turn improves the institution’s competitiveness in the market (Abel, 2005; Parasuraman, Zeithaml and Berry, 1996).

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.

2.5.1 Assessment of Student Satisfaction

The concept of student satisfaction is complex and multidimensional in the context of higher education. Recent research findings affirm that existing students may attract potential or new students by giving word-of-mouth testimonials to acquaintances and friends, and even returning to their own institution to study other courses (Helgesen and Nesset, 2007b; Marzo-Navarro, Pedraja-Iglesias and Rivera-Torres, 2005a, 2005b; Mavondo, Tsarenko and Gabbott, 2004; Wiers-Jenssen, Stensaker and Grogaard, 2002). Determining how to measure student satisfaction is therefore vital to education institution management for
improving continuous quality development (Aldridge and Rowley, 1998). Assessment tools for student satisfaction have been widely discussed in extensive reviews, for instance, Jurkowitsch et al. (2006), Wiers-Jenssen et al. (2002), Elliot and Healy (2001), Harvey (1995), and Hill (1995). In addition to SETS, other student satisfaction models have been broadly developed in the student satisfaction literature, including an evidence-based approach (Harvey and Newton, 2004), students’ evaluations of educational quality (SEEQ) (Marsh, 1982), a student satisfaction and retention model (Keaveney and Young, 1997), the Noel-Levitz student satisfaction inventory (Richardson, 1995), the enhancement-led approach (Yorke, 1994), and the service-product bundle approach (Sasser, Olsen and Wyckoff, 1978).

Zeithaml, Bitner and Gremler (2008) pointed out that student satisfaction is not only affected by perceived service quality but also other factors such as personal factors, price, product quality, and situational factors. To better understand the needs and wants of students and deliver the right service quality, collection of student feedback is a useful tool in higher education institutions (Leckey and Neill, 2001). Harvey (2003) argued that institutional-level questionnaire surveys helps institution management understand students’ learning experience and, in turn, make strategic plans to improve service quality accordingly. This study thus 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 education institution.
2.5.2 Relationship between Student Satisfaction and Quality of Teaching Staff

In the management and relationship marketing literature, customer satisfaction is arisen as the consequence of customer’s experience on a particular service provided and therefore service quality is viewed as an important element of customer satisfaction. A positive relationship between customer satisfaction and service quality has been established in previous studies (Gera, 2011; Bedi, 2010; Kumar, Kee and Charles, 2010; Balaji, 2009; Lee and Hwan, 2005; Jamal and Naser, 2003; Kuo, 2003; Cronin and Taylor, 1992; Parasuraman et al., 1988). Oliver (1993) argued that service quality is an antecedent of customer satisfaction and that customer satisfaction is the outcome of customer quality. This is supported by various empirical research (David and Baker, 2013; Fornell, Johnson, Anderson, Cha and Bryant, 1996; Spreng and Mackoy, 1996; Anderson and Sullivan, 1993; Cronin and Taylor, 1992). The relationship between satisfaction and quality is also valid in the higher education sector (Incesu and Asikgil, 2012). Service quality is the difference between expected service and perceived service received by students through the evaluation process while they are enrolling in a particular education institution (Gronroos, 1984). On the other hand, service in context is dynamic (Boulter and Bendell, 2010) and unique in nature due to its intangibility, inseparability, heterogeneity, perishability and lack of ownership (Zeithaml, Parasuraman and Berry, 1985). It is therefore a challenge for higher education institutions to define and measure the quality of the service they offer (Cronin and Taylor, 1992; Bolton and Drew, 1991; Parasuraman, et al., 1988). According to the SERVQUAL gap model developed by Parasuraman, Zeithaml
and Berry (1988) and Parasuraman et al. (1991, 1988) perceived service quality comprises five dimensions, namely: (i) tangibility, (ii) reliability, (iii) responsiveness, (iv) assurance, and (v) empathy. These five dimensions are broadly applied to measure service quality in different business sectors (Zeithaml et al., 1990; Parasuraman et al., 1988). Notwithstanding, students normally assess the quality of education institution based on tangibility (teachers), reliability and responsiveness (methods of teaching), and the management of the institution as a direct impact on the level of satisfaction (Navarro, Iglesias and Torres, 2005). Abdullah (2006a, 2006b) argued that SERVQUAL may not be suitable for measuring quality in the higher education sector, although it is widely used in various industries. By applying marketing concepts that involved customer (students) satisfaction with product/service (degree programmes and knowledge conveyed by the professors) provided by organizations (higher education institutions), Guolla’s (1999) study found that teaching quality is strongly related to student satisfaction. As a similar connection is expected in the context of Hong Kong, this study hypothesized that:

H1: Teaching quality and student satisfaction are positively correlated in Hong Kong’s self-financed higher education institutions.

2.6 Customer Loyalty and Student Loyalty in the Higher Education Setting

Many studies describe customer loyalty as an attitude resulting from a commitment to repurchase a preferred product or service (Oliver, 1999, 1997; Dick and Basu, 1994; Reichheld and Sasser, 1990). Bowen and Chen (2001) divided loyalty into
two approaches: behavioural and attitudinal. The behavioural approach applies to an individual customer’s repeating purchase behaviour, but such purchasing patterns do not simply focus on consumer goods (Gremler and Brown, 1996; Dick and Basu, 1994). However, some researchers argued that the behavioural approach does not provide a comprehensive explanation of loyalty because the repeated purchases may be due to other reasons, for instance the low price, rather than loyalty (Oliver, 1999; Dick and Basu, 1994). Oliver (1999) suggested that the attitudinal approach can better reflect a consumer’s personal relative attitude based on his/her own satisfactory experience with that particular product or service. Dick and Basu (1994) divided customer loyalty into four types: no loyalty, spurious loyalty, latent loyalty, and loyalty. Measuring behavioural and attitudinal loyalty is crucial to evaluate customer loyalty (Han, Kimb and Kima, 2011). Behavioural attitude may occur with spurious or no loyalty even though the product or service provider has a negative image, whereas attitudinal purchasing behaviour normally happens with active loyalty by referring to positive word-of-mouth and recommendations (Martinez and del Bosque, 2013).

There is growing interest in investigating student loyalty in the higher education sector (Hennig-Thurau, Langer and Hansen, 2001; Marzo-Navarro et al., 2005a). 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 Nesset,
Thus, loyalty helps education institutions attract potential candidates and retain existing students (Hennig-Thurau et al., 2001; Oliver, 1997; Dick and Basu, 1994), 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.

Some studies on student loyalty such as Helgesen and Nesset (2007a), Rowley (2003), and Nguyen and LeBlanc (2001) have employed repurchase intention and word-of-mouth, which have been identified by Parasuraman et al. (1996), for examining study loyalty. Thomas (2011) claimed that positive word-of-mouth communication, retention and repeat are the outcomes of student loyalty in higher education institutions. This study thus adapted three item from the study by Thomas (2011) and Dick and Basu (1994) to measure student loyalty by asking questions related to the loyalty of students to their own education institution.

2.6.1 Relationship between Student Satisfaction and Student Loyalty

Enhancing customer satisfaction leads to customer loyalty. A study by Jones and Sasser (1995) found that there is a linear relationship between satisfaction and loyalty when customers make a choice between products or between services; that
is, the higher the satisfaction, the higher the customer loyalty. In the relationship and service marketing literature, a positive relationship between satisfaction and loyalty in the business sector has been found in prior studies (Kursunluoglu, 2014; Tam, 2012; Hartmann and Ibanez, 2007; Hennig-Thurau et al., 2001; Oliver, 1999; Hallowel, 1996; Anderson et al., 1994; Heskett, Jones, Loveman, Sasser and Schlesinger, 1994; Storbacka, Strandvik and Gronroos, 1994; Anderson and Sullivan, 1993; Johnson and Fornell, 1991). Oliver (1997) argued that genuinely loyal customers are the supporters of an organization without having to be incentivized to be so. However, the level of satisfaction changes from time to time with the loyalty because customer satisfaction is affected by factors such as friendliness and confidentiality of the service provider (Mohsan, Nawaz, Khan, Shaukat and Aslam, 2011). The social relationship between the organization and customers can also affect satisfaction levels (Levesque and McDougall, 1996). Thus, customer satisfaction is not an assurance of customer loyalty (Mohsan et al., 2011); on its own, it does not undoubtedly cause customer loyalty (Bloemer and Kasper, 1995). Only highly satisfied customers keep a long term relationship with an organization (Berman and Evans, 1995).

Drucker (1954) and Gronroos (1989) claimed that higher customer satisfaction will result in higher customer loyalty, and this relationship affects the marketing strategy of an organization. This is the same in the higher education sector where student satisfaction affects the marketing strategy of self-financed high education programmes. This phenomenon is due to the positive relationship between student loyalty and their satisfaction levels (Helgesen, 2006; Zeithaml and Bitner, 2000; Kotler and Fox, 1995). Marzo-Navarro et al. (2005b) and Schertzer and
Schertzer (2004) also supported the idea that there should be a positive relationship between student loyalty and student satisfaction if an educational institution wants to improve the source of funding and enhance its financial performance. Further, student satisfaction has been found to be an antecedent of student loyalty in Western countries (Oliver, 1999; Rust and Zahorik, 1993; Fornell, 1992). Based on the findings of prior studies, a similar relationship is expected to occur in the Hong Kong context. It was hypothesized in this study that:

H2: Student satisfaction and student loyalty are positively correlated in Hong Kong’s self-financed higher education institutions.

2.7 Image and School Image in a Higher Education Setting

Boulding (1956) raised the concept of an image and argued that it is the role of people who are in business activities and other fields and such image is a mental description based on the faith of people. Merril (1962) commented that an image is a combination of attitudes, opinions, beliefs and imagination, and it influences the formation of attitudes and thoughts of individuals. Lawson and Baud-Bovy (1977) argued that the development of an image is based on individuals’ thinking, knowledge, prejudice and feelings regarding the relevant topics. It can be argued that an image can be viewed as a personal subjective belief or idea, rather than the truth and fact. Dichter (1985) argued that an image is a concept that forms in people’s minds after they have collected opinions. Dowling (1986) also asserted that an image is where people have specific opinions of certain things they already know by describing, memorizing and imaging. In light of this it can be posited,
therefore, that an image is a composition of opinions, beliefs, thoughts and experiences.

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; Bok, 1992; Phair, 1992). 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.

Due to the uniqueness of school image, a direct measurement method was applied in this study. The measurement scale for school image was adapted from Nguyen and LeBlanc (2001). A 3-item scale was used to assess students’ own perception and the perceived image of their institution and self-financed course programs as
compared with other education institutions.

2.7.1 Relationship between Student Satisfaction and School Image

According to prior studies, customer satisfaction is positively related to customer image (Johnson et al, 2001; Anderson et al., 1994; Oliver, 1980). Based on his different customer satisfaction index model, Johnson et al. (2001) argued that corporate image is a consequence rather than an antecedent of customer satisfaction. He further claimed that the effect of satisfaction on image shows the extent of a customer’s purchasing patterns and experiences that improve organization’s image and customer loyalty over time. However, some argue that corporate image is a driver and has a strong impact on customer satisfaction (Lim, Benbasat and Ward, 2000). Other studies have found that corporate reputation or image is a precedent or mediator of customer satisfaction (Abdullah, Alnasser, Aamjad and Husain, 2000; Bloemer, De Ruyter anf Peeters, 1998; Andreassen and Lindestad, 1998a). On the other hand, Helgesen and Nesset (2007a) have validated a conceptual model in which student satisfaction has a significant influence on the image of college programmes. Andreassen and Lindestad (1998b) found that corporate image affects customer satisfaction particularly when the customer does not have much knowledge about the product or service, while Clow, Kurtz, Ozment and Ong (1997) suggested that corporate image has a direct impact on customer satisfaction. A study by Alves and Raposo (2007) found that the construct of image of an institution has a direct and significant effect of 0.45 on the construct of student satisfaction in higher education. Based on the foregoing arguments found in the literature, it was hypothesized in this study that:
H3: Student satisfaction and school image are positively correlated in Hong Kong’s self-financed higher education institutions.

2.8 Reputation in the Higher Education Setting

Reputation is a concept related to image, but refers more to value judgments among the public about an organization’s consistency, trustworthiness and reliability formed over a long period of time (Bennett and Rentschler, 2003); it consists of the history of users’ experiences with products and service providers (Fombrun, 1996). Reputation is a collective evaluation of an organization’s desirability by external parties (Standifird, 2005). Deephouse (2004, 2000) argued that corporate reputation is partly formed by external parties’ perceptions and partly by external parties’ understanding of its identity and quality via evaluation of communications by members of the organization. Reputation is viewed as a valuable intangible asset to the organization that helps enhance its competitiveness (Sridhar, 2012). Marken (2002) also suggested that reputation is an asset of an organization, one which incorporates quality of products and services, ability to innovate, value as a long-term investment, financial stability, ability to attract and retain talent, use of corporate assets, and quality of management. Thus, the organization will become successful if it manages its reputation soundly (Standifird, 2001).

A good business reputation is an accumulation of positive perceptions over a period of time (Houser and Wooders, 2006). Customers tend to view brand reputation as a quality indicator, since it implies that the organization has high quality products
and services that it is able to consistently deliver (Bruwer and Johnson, 2010). To maintain a competitive edge, organizations must take the handling of reputation seriously in order to garner support from external parties (Jeng, 2008; Balmer and Greyser, 2003; Nakra, 2001). Vendelo (1998) argued that reputation serves as a visible signal of an organization’s ability and reliability providing information in relation to its future performance. Corporate reputation is claimed to develop via interactions between product and service providers and external parties (Vergin and Qoronfleh, 1998), and represents an assessment of a provider’s attributes by external and internal parties (Mahon and Wartick, 2003). Thus, reputation is created as a valuable intangible asset by management and helps substantially in building sustainable competitiveness (Flatt and Kowalczyk, 2000; Petrick, Scherer, Brodzinski, Quinn and Fall, 1999; Michalisin, Smith and Kline, 1997; Budworth, 1989). Reputation is also a fragile intangible asset that takes time to build but is easily damaged or even destroyed (Petrick et al., 1999). Organizations ignore reputation as a valuable intangible asset at their peril, since it is a crucial competitive element in an increasingly competitive global environment (Petrick et al., 1999).

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 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 (Loueiro and Kastenholz, 2011; Traynor, 1983), attitudes over
products and services provided (Brown, 1995), trust (Johnson and Grayson, 2005), and purchase intentions (Yoon et al., 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).

2.8.1 Relationship between Student Satisfaction and School Reputation

Many studies reveal that corporate reputation is positively linked with customer satisfaction (MacMillan et al., 2005; Fombrun and Van Riel, 2003, 1997; Selnes, 1993). While some studies have found corporate reputation to be an antecedent to customer satisfaction (Walsh and Beatty, 2007; Helm, 2006; Andreassen and Lindestad, 1998b; Andreassen, 1994), others claim corporate reputation to be an outcome of customer satisfaction and argue that satisfaction is a key factor in long-term customer behaviour and the retention of customers (Carmeli and Tishler,
2005; Rust, Zahirik and Keiningham, 1996; Yi, 1990; Oliver, 1980). The supporters of satisfaction determining reputation also contend that student satisfaction aids in measuring a school’s reputation (Vidaver-Cohen, 2007; Ferris, Berkson and Harris, 2002; Wartick, 2002; Cornelissen, 2000).

Due to the controversy on the direction of causality between corporate reputation and customer satisfaction in the literature, Helm, Garnefeld and Tolsdorf (2009) summerized the studies on the relationship between reputation and satisfaction as shown in Table 2-2 below.

Table 2-2: Studies on the Relationship Between Reputation and Satisfaction

*Source: Helm et al. (2009, p. 71)*

<table>
<thead>
<tr>
<th>Authors (year)</th>
<th>Assumed direction of relationship</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andreassen (1994)</td>
<td>Reputation-&gt;satisfaction</td>
<td>Correlation confirmed</td>
</tr>
<tr>
<td>Andreassen and Lindestad (1998b)</td>
<td>Reputation-&gt;satisfaction</td>
<td>Correlation confirmed</td>
</tr>
<tr>
<td>Davies, Chun and Da Roper (2004)</td>
<td>Reputation-&gt;satisfaction</td>
<td>Correlation confirmed</td>
</tr>
<tr>
<td>Wiertz, De Ruyter, Keen and Streukens (2004)</td>
<td>Reputation-&gt;satisfaction</td>
<td>Correlation confirmed</td>
</tr>
<tr>
<td>Carmeli and Tishler (2005)</td>
<td>Satisfaction-&gt;reputation</td>
<td>Correlation confirmed</td>
</tr>
<tr>
<td>Helm (2006)</td>
<td>Reputation-&gt;satisfaction</td>
<td>Correlation confirmed</td>
</tr>
<tr>
<td>Walsh, Dinnie and Wiedmann (2006)</td>
<td>Satisfaction-&gt;reputation</td>
<td>Correlation confirmed</td>
</tr>
</tbody>
</table>
The studies of Walsh, Beatty and Shiu (2009) and Walsh, Mitchell, Jackson, and Beatty (2009) also provide evidence that satisfaction drives reputation. Meanwhile, Helm et al. (2009) applied the “post-test only control group design” of Campbell and Stanley (1963) to analyze hypothesised effects in order to determine whether one thing actually causes another (Aronson, Ellsworth, Carlsmith and Gonzales, 1990) and confirmed that customer satisfaction has a direct positive effect on perceived corporate reputation.

Based on the findings of various studies in the satisfaction and reputation literature, it can be argued that there is no consensus regarding the direction of the relationship between these two constructs. The driver of student satisfaction on school reputation was expected to occur in the Hong Kong context, and so this study hypothesized that:

\[ H_6: \text{Student Satisfaction and school reputation are positively correlated in Hong Kong’s self-financed higher education institutions.} \]

### 2.8.2 Relationship between Student Loyalty and School Reputation

Corporate reputation has been known as one of the most important areas of marketing research because it plays a key role in establishing long-term brand equity (Keller and Lehmann, 2003). Dick and Basu (1994) argued that corporate image and reputation contribute to enhancement of loyalty relationships with customers. Pereda, Airey and Bennett (2007) commented that international
students take school reputation as one of key factors when determining the right higher education institution to enroll in. School reputation and image also strongly influence students’ retention decision (Nguyen and LeBlanc, 2001; Bloemer and de Ruyter, 1998) and positively relate to superior student loyalty (Caruana and Ewing, 2010; Roberts and Dowling, 2002). According to a study by Andreassen and Lindestad (1998a), corporate reputation drives customer loyalty. Helgesen and Nesset (2007b) developed and validated a conceptual model of the link between student satisfaction, reputation and loyalty by using reputation as a mediator between satisfaction and loyalty. Andreassen (1994) found that corporate reputation is positively correlated with loyalty, while Thomas (2011) confirmed that the reputation of higher education institution has a positive impact on student loyalty through the mediator of student satisfaction. Based on the findings from previous studies regarding reputation and loyalty, it was expected that a positive relationship between student loyalty and school reputation would be found in the Hong Kong context. It was therefore hypothesized in this study that:

\[
H4: \text{ Student loyalty and school reputation are positively correlated in Hong Kong’s self-financed higher education institutions.}
\]

**2.8.3 Relationship between School Image and School Reputation**

Image and reputation are entwined concepts. There are many debates in the literature regarding the relationship between image and reputation. Chun (2005) suggested that corporate image refers to outside stakeholders’ perceptions of an
organization, while corporate reputation includes views of internal and external stakeholders. Brown et al. (2006) suggested a similar distinction, in that image is what organization’s members believe external stakeholders think about the organization, and reputation is what all (external and internal) stakeholders actually think. Karaosmanoglu and Melewar (2006, p. 198) defined corporate image which is “a set of meanings by which an object is known and through which people describe, remember and relate to it……it is the net result of the interaction of a person’s beliefs, ideas, feelings and impressions about an organization at a particular moment in time”. Hence, corporate images formed by external stakeholders, often formed through communications created by organizations themselves (Christensen and Askegaard, 2001). Corporate reputation is the consequence of aggregated image development and stakeholder perceptions over a period of time (Stuart, 1999; Barich and Kotler, 1991), and a corporate reputation is shaped when stakeholders hold consistent positive images and experiences over a long period of time (Fombrun, 1996). Wilkins and Huisman (2013) argued that a customer can be influenced by corporate reputation of an organization when establishing a corporate image; this means that corporate reputation can be both a driver and an outcome of corporate image formation. Corporate reputation is evaluated by stakeholders with reference to the ability of the organization to fulfill pre-determined criteria (Bick, Jacobson and Abratt, 2003).

There is still a lack of consensus regarding the definition and differentiation between reputation and image (Barnett, Jermier and Lafferty, 2006). Some researchers, such as Fombrun and Van Riel (1997), have suggested that image should be contained within reputation by reason of image being one element of
reputation. Doorley and Garcia (2007) suggested that all components of reputation must be carefully managed. Brown et al. (2006) suggested that the development of an organization’s reputation starts from an image that is created by an organization with the intention of influencing stakeholders’ perceptions, which will eventually form a reputation. Bromley (2000) suggested that reputation is an accumulation of corporate identity and image. Fombrun (1996) and Wartick (2002) argued that corporate reputation is a function of corporate identity and corporate image, whilst Gotsi and Wilson (2001) asserted that reputation is interdependent on many factors, such as personal reputation and competitor reputation, and thus is necessary to consider all external and internal factors within or outside the industry. Based on the arguments regarding image and reputation, the viewpoint of Fombrun and Van Riel (1997) was adopted in this study. Since the exact relationship between image and reputation is still unknown, this study examined the interactions between these two constructs. The research findings of Hawabhay, Abratt and Peters (2009) revealed that there is general supported that corporate reputation is closely linked to image and is built over time. The vast majority of studies relating to image and reputation have been conducted in the business sector, with only a few empirical investigation of these constructs conducted in service-oriented industries such as education (Sung and Yang, 2008). Sung and Yang (2008) argued that the significance of image and reputation found in prior studies can be applied to the higher education context. The empirical findings of Sung and Yang’s (2008) study support a significant correlation between school image and reputation ($r = 0.47, p < 0.001$). Based on discussions in the literature, a positive relationship between school image and school reputation was expected to exist in the Hong Kong context. It was therefore hypothesized in this
study that:

H5: School image and school reputation are positively correlated in Hong Kong’s self-financed higher education institutions.

2.9 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 study recognizes student satisfaction, student loyalty, and school image as simple mediators that influence the effects of various variables separately.
2.9.1 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).

By contrast, a study by Ibrahim and Najjar (2008) found that business image affects overall customer satisfaction through the change of pre-and-post attitudes in a retail environment; whereas Parasuraman et al. (1988) argued that the concept of customer attitude is close to perceived service quality. 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 study that:

H7: Student satisfaction mediates the relationship between teaching quality and school image in Hong Kong’s self-financed higher education institutions.

### 2.9.2 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 study that:

H8: Student satisfaction mediates the relationship between teaching quality and school reputation in Hong Kong’s self-financed higher education
2.9.3 Mediating Role of Student Satisfaction on Teaching Quality and Student Loyalty

Many researchers have examined the relationship between service quality, customer satisfaction and loyalty, such as (Abd-EI-Salam and Shawky, 2013; Yonggui, 2003; Caruana, 2002; Bloemer et al., 1998; Philip and Hazlett, 1997). Bloemer et al. (1998) found that service quality not only affects loyalty directly but also indirectly through satisfaction. Caruana (2002) also reflected similar findings in Malta’s banks, while 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. Trust is related to future collaboration between buyer and seller (Dwyer, Schurr and Oh, 1987). 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. The results support the findings of studies by Brady and Robertson (2001) and Dabholkar, Shepherd and Thorpe (2000). 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.

With the exception of the findings from Boohene and Agyapong’s (2011) study, the evidence suggests that the satisfaction mediating effect on quality and loyalty will likely occur in the Hong Kong context. It was therefore hypothesized in this study that:

H9: Student satisfaction mediates the relationship between teaching quality and student loyalty in Hong Kong’s self-financed higher education institutions.

2.9.4 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 study that:

| H10: Student loyalty mediates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions. |

2.9.5 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).

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 study that:

H11: School image mediates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions.

2.10 Moderating Roles of Student Loyalty and School Image

A moderating variable (M) is one that has a strong contingent effect on the predictor-outcome (independent-dependent) variable relationship (Sekaran and Bougie, 2010). A moderator can weaken the causal relationship between independent (X) and dependent variables (Y) (Kenny and Judd, 2010; Baron and Kenny, 1986). The interaction of X and M measures the moderation effect. Path analysis is used to test whether the relation between X and Y changes as a function of moderating variable M (Baron and Kenny, 1986). This study recognizes school image and teaching quality as simple moderators that influence the effects of various variables separately.

2.10.1 Moderating Role of Student Loyalty on Student Satisfaction and School Reputation

The moderating effect of corporate loyalty on the relationship between consumer ethnocentrism and repurchase intent was studied by Akdogan, Ozgener, Kaplan

Although there appears to be no empirical studies in relation to the moderating effect of student loyalty on student satisfaction and school reputation, it is expected that such an effect occurs in the Hong Kong context. It was therefore hypothesized in this study that:

**H12:** Student loyalty moderates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions.

### 2.10.2 Moderating Role of School Image on Student Satisfaction and School Reputation

Only a few studies have focused on the moderating effect of corporate image. Banki et al. (2014) found a significant moderating effect of affective destination image on the relationship between tourists satisfaction and behavioural intention. Yeoh (2010) found brand image has a moderating effect on the relationship between customer satisfaction and loyalty.
Although no empirical studies can be found in relation to the moderating effect of school image on student satisfaction and school reputation, it was expected that such an effect would occur in the Hong Kong context. It was therefore hypothesized in this study that:

H13: School image moderates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions.

2.11 Research Framework

The research framework consists of five constructs: teaching quality, student satisfaction, school image, student loyalty, and school reputation (refer to Figure 2-3 below).
2.12 Chapter Summary

This chapter has reviewed the literature concerning the theoretical concepts of service quality, customer satisfaction, corporate reputation, corporate image and customer loyalty, and their corresponding concepts in the context of higher education. A research framework has been developed showing the inter-relationship of the study’s five constructs, which is in accordance with the sixteen hypotheses identified in the chapter. The hypotheses and the research framework explain how the relevant theoretical concepts can be applied to self-financed higher education institutions in Hong Kong in order to maintain and
enhance their competiveness both in a local and international context. The methodology applied to investigate the research framework and the sixteen hypotheses are further explained in Chapter 3.
Chapter 3
Methodology

3.1 Introduction

Research methodology is a collective term for the structured process of conducting research (Bryman and Bell, 2007), which helps with the gathering of relevant information for setting research objectives, selecting the research design, and deciding upon suitable methods of data collection and data analysis (Kumar, 2005; Dawson, 2002). In addition to considering the various aspects of research methodology, this chapter describes development of a research model that includes the establishment of thirteen research hypotheses. Measurement of validity and reliability of data is also discussed along with an explanation of how the data was gathered through an anonymous questionnaire survey. Finally, the chapter discusses the limitations of the research and ethical considerations.

3.2 Research Aim, Research Question, and Research Hypotheses

The aim of this research was to investigate the influences of teaching quality, student satisfaction, school image and student loyalty on the reputation of self-financed higher education institutions in Hong Kong. The following research question was developed from the literature review detailed in Chapter 2.

<table>
<thead>
<tr>
<th>Research Question (RQ):</th>
<th>What are the influences of teaching quality, student</th>
</tr>
</thead>
</table>

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satisfaction, school image and student loyalty on
the reputation of self-financed higher education
institutions in Hong Kong?

Based on the above research question, a research model was developed (shown as Figure 2-1 in Chapter 2) with the following thirteen hypotheses.

H1: Teaching quality and student satisfaction are positively correlated in Hong Kong’s self-financed higher education institutions.

H2: Student satisfaction and student loyalty are positively correlated in Hong Kong’s self-financed higher education institutions.

H3: Student satisfaction and school image are positively correlated in Hong Kong’s self-financed higher education institutions.

H4: Student loyalty and school reputation are positively correlated in Hong Kong’s self-financed higher education institutions.

H5: School image and school reputation are positively correlated in Hong Kong’s self-financed higher education institutions.

H6: Student satisfaction and school reputation are positively correlated in Hong Kong’s self-financed higher education institutions.
H7: Student satisfaction mediates the relationship between teaching quality and school image in Hong Kong’s self-financed higher education institutions.

H8: Student satisfaction mediates the relationship between teaching quality and school reputation in Hong Kong’s self-financed higher education institutions.

H9: Student satisfaction mediates the relationship between teaching quality and student loyalty in Hong Kong’s self-financed higher education institutions.

H10: Student loyalty mediates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions.

H11: School image mediates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions.

H12: Student loyalty moderates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions.

H13: School image moderates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions.

3.3 Research Paradigm

Kuhn (1962) first introduced and defined paradigm as “an integrated cluster of substantive concepts, variables and problems attached with corresponding
methodological approach and tools” (quoted in Flick, 2009, p. 69). Taylor, Kermode, and Roberts (2007) referred to a research paradigm as a broad view or perspective of something, whilst Weaver and Olson (2006) defined paradigm as patterns of beliefs and practices to regulate inquiry within a discipline that the investigation is accomplished. It can be concluded that a research paradigm is a way of thinking about the way in which the research is carried out, such that the basic structure of beliefs help the researcher to investigate and interpret phenomena through logical thinking and systematic investigation (Bryman, 2008; Cavana, Delahaye, and Sekaran, 2001; Burns, 1997; Guba and Lincoln, 1994).

According to Mackenzie and Knipe (2006), four paradigms, namely, positivism, interpretivism, transformed, and pragmatism, are commonly utilized for the verification of theoretical propositions in educational research. Positivist paradigm is a deterministic philosophy in which the explanations of causality can be provided (Mertens, 2005; Creswell, 2003). As the aim of the study was to investigate the influences of teaching quality, student satisfaction, school image and student loyalty on the reputation of self-financed higher education institutions, a positivist approach was considered appropriate for this study.

3.4 Matching Paradigms and Methods

A quantitative research methodology was chosen for this research in order to produce a reliable and valid research result (Cavana et al., 2001). A summary of methodologies and paradigms is provided in Table 3-1 below. Questionnaire survey is a useful tool for collecting data from students’ perspective (Joseph,
Since this research involved five main constructs, namely, teaching quality, student satisfaction, school reputation, school image and student loyalty, collecting feedback from students in higher education by using a questionnaire was considered to be the most appropriate method because it could address these five constructs (Pounder, 2007; Harvey, 2003; Leckey and Neill, 2001).

Table 3-1: Summary of Research Methodologies with Corresponding Paradigms

|------------------------------------|

<table>
<thead>
<tr>
<th>Paradigm</th>
<th>Positivist</th>
<th>Interpretivist</th>
<th>Transformatic</th>
<th>Pragmatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method used</td>
<td>Quantitative</td>
<td>Qualitative</td>
<td>Qualitative methods with quantitative and mixed methods</td>
<td>Qualitative and/or quantitative methods may be employed which match with specific questions and purpose of research</td>
</tr>
</tbody>
</table>
| Data collection tools | • Experiments  
• Quasi-experiments  
• Testing and scales such as questionnaire | • Interviews  
• Observations  
• Document reviews  
• Visual data analysis | • Diverse range of tools with avoidance of discrimination through gender, race etc. | • Include tools from both positivist and interpretivist paradigms such as interviews, observations and testing and experiments |
3.5 Research Design

Burns and Grove (2003) defined a research design as a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings. It is a detailed plan for reaching a final goal in research (Bryman, 2008; Cavana et al., 2001), providing overall guidance to show how to conduct the research from data collection and sampling to analysis and validation of collected data (Neuman, 2006; Collis, Hussey, and Hussey, 2003; Churchill, 1979). This study developed a detailed research plan and framework for testing the hypotheses and for finding answers to the research question (Bryman, 2008; Cavana et al., 2001). Findings from the research contribute to the area of study involved and to the community at large (Bryman, 2008).

According to Bryman’s (2004) categorization of research designs, there are five main types of research designs in quantitative research, namely, experimental research, non-experimental research, cross-sectional design, longitudinal design, and unit of analysis. The choice of research design is a crucial step and the one adopted must be appropriate for the purpose of the research. Cross-sectional design is considered appropriate for this study because it allows researcher to compare many different variables at the same time by conducting questionnaires (Mann, 2003) and covers a wider sample of participants from different institutions simultaneously at a comparatively low cost (Cavana et al., 2001). A unit of analysis is determined by the research objectives and can be an individual, a group, or an organization (Dolma, 2010; Bailey, 1994). The individual unit of analysis is suitable for this study because all constructs in the study refer to the perception of
individual students. Responses to the questionnaire survey are treated as individual data sources.

3.6 Data Collection Methods

Data collection can be performed in many ways. Sekaran and Bougie (2010) suggested that several data collection methods are commonly used in quantitative study, including interviewing, observation, questionnaires, and unobtrusive methods. A self-administered questionnaire was used in this study. Similar to the study of Kimani, Kagira and Kendi (2011), voluntary student helpers distributed the questionnaire, along with the Survey Information Sheet, to students. Prugsamatz, Pentecost and Ofstad (2006) distributed questionnaires to students at the end of lectures whilst Pariseau and McDaniel (1997) distributed questionnaires in the first few minutes of class, resulting in a 100% response rate. To achieve a high response rate in this research, the anonymous questionnaires were distributed to students in classes while they waited for their lecture or at the end of the lecture.

3.7 Data Collection Process

Researchers seldom survey the entire population because it is too costly and the population is dynamic in that the participants making up the population may change over time (Adèr, Mellenbergh and Hand, 2008). Sampling is an important means of data collection because the cost is relatively low, the process of data collection is faster and the selected data set is able to ensure homogeneity, enhance accuracy and maintain the quality of the data (Cavana et al., 2001). This research
applied the probability sampling technique, in which samples are gathered by random selection so that all the individuals in the population have an equal chance of being chosen.

Sample data was extracted from the database of three major public domain directories of higher education institutions in Hong Kong. The database of accredited post-secondary programmes includes the contact points for every institution providing full-time locally-accredited self-financed sub-degree and degree (including top-up degree) programmes in Hong Kong.

A self-administered questionnaire survey was used to collect data for this study and students were invited to complete the questionnaire on the spot. This ensured anonymity and confidentiality because participants could complete the questionnaire without disruption from the researcher and it also avoided interviewer bias. Online survey was not considered suitable because it is time consuming and not cost effective. Neither is the face-to-face interview since its low response rate will affect the quality of the results. A self-administered questionnaire strikes a balance between cost and quality.

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. Information on academic department heads and contact persons were identified from public domain websites and typed into a data file. Potential contacts were then 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. The researcher also emailed and called consenting institutions to ensure that the process was duly arranged. Individual potential participants studying at the consenting institutions were asked to carefully read the invitation letter and Survey Information Sheet to ensure that they fully understand the purpose of the research and their rights as willing participants in it. Questionnaires were collected by student helpers and returned to the researcher immediately after the survey.

3.8 Target Sample Size

The selected target population was students enrolled in full-time accredited self-financed post-secondary programmes, including associate degree, higher diploma and undergraduate degree programmes, at higher education institutions in Hong Kong. According to the Government of the Hong Kong Special Administrative Region (HKSAR), in 2011 there were twenty-four approved self-financed higher education institutions in Hong Kong, including sub-degree institutions, with about 60,000 students enrolled in their various programmes (IPASS, 2011). All these students were included in the selection. This population served the aim of this study, which was to investigate the influences of teaching quality, student satisfaction, and school image, student loyalty on the school reputation of self-financed higher education institutions in Hong Kong.
Krejcie and Morgan (1972) suggested that the confidence level and confidence interval of population size are the important elements for determining an appropriate sample size. In order to be 95% sure that the students’ perceptions of school reputation would be within an interval of +/- 5.5 for a population size of 60,000, the sample size needed was determined to be 316. Based on this sample size, four self-financed higher education institutions having large student enrolments were chosen, and 100 student respondents were randomly selected in each selected institution. Consequently, the questionnaire was distributed to 320 students in four higher education institutions in Hong Kong. The questionnaire survey elicited a response from 297 students from four self-financed higher education institutions, which gave a response rate of 92.81%.

3.9 Questionnaire Design

Five constructs were identified for this study, namely, quality of teaching staff, school reputation, student satisfaction, school image, and student loyalty. The purpose of this study was to investigate the relationships among these constructs.

A research framework list the constructs and variables and serves as a basis for designing the questionnaire (Lynham, 2002). Multi-dimensional measurement scales, which were drawn from previously validated, peer-reviewed journals, were applied to measure all five constructs. The questionnaire was designed with a total of 19 statements under 5 sub-sections in Section A (see Appendix D). The first sub-section contains 6 items designed to critically measure the quality of teaching staff; the second sub-section contains 3 items measuring school reputation;
the third sub-section has 4 items measuring school image; the fourth sub-section has 3 items measuring student satisfaction; and the fifth sub-section contains 3 items measuring student loyalty.

3.9.1 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; Neuman, 2006; Marsh and Roche, 1993). Researchers, such as Gamage et al. (2008), Bennett and Rundle-Thiele (2004) and Oliver (1980) argued that good teaching staff should possess the following attributes.

1. Possess appropriate academic credentials.

2. Use appropriate technology to teach.

3. Be effective communicators in the process of lecturing.

4. Be aware of students’ learning needs and students can seek assistance from them.

5. Be approachable and display a friendly manner.

6. Treat students with respect.

7. Display positive attitudes to students and do their best to help.

8. Display empathy when students have difficulty in understanding a concept.
Based on a design by Nunnally (1978) and Thomas (2011), a set of 7-point Likert scale questionnaire items was used in this study. Respondents were asked to answer the Likert scale questions, ranging from 1 (strongly disagree) to 7 (strongly agree), based on their perception of teaching staff and their institution. Each question was assigned a short label to indicate the relevant variable. The assigned label was used in data analysis but did not show in the questionnaire.

Table 3-2: Measuring Items for Quality of Teaching Staff

Adapted from Gamage et al. (2008)

<table>
<thead>
<tr>
<th>ID (Quality of teaching staff)</th>
<th>Questions (Constituent Variables)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tq1</td>
<td>The teaching staff of my institution has appropriate academic credentials.</td>
</tr>
<tr>
<td>Tq2</td>
<td>The teaching staff of my institution is incorporating appropriate use of technology to teach.</td>
</tr>
<tr>
<td>Tq3</td>
<td>The teaching staff of my institution conducts lectures effectively.</td>
</tr>
<tr>
<td>Tq4</td>
<td>The teaching staff of my institution is aware of my learning needs and provides help to students.</td>
</tr>
<tr>
<td>Tq5</td>
<td>The teaching staff of my institution treats students with respect and as mature individuals.</td>
</tr>
<tr>
<td>Tq6</td>
<td>The teaching staff is sympathetic and supportive to the needs of students.</td>
</tr>
</tbody>
</table>

3.9.2 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. Post and Griffin (1997, p. 165) defined that corporate reputation is “a synthesis of the opinions, perceptions and
attitudes of an organization’s 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 et al., 2000; Andreassen and Lindestad, 1998a; Bloemer et al., 1998; Barich and Kotler, 1991) through the investigation of three constructs: (i) impression, (ii) reputation, and (iii) comparative advantage. These three constructs were measured on a 7-point Likert-scale, ranging from 1 (strongly disagree) to 7 (strongly agree) in accordance with their perception of the school’s reputation. Each question under the section of school reputation was given a label to represent the corresponding variable as shown in Table 3-3. The assigned label was used in data analysis but did not show in the questionnaire.

<table>
<thead>
<tr>
<th>ID (School Reputation)</th>
<th>Questions (Constituent Variables)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rq1</td>
<td>My institution fulfils the promises it makes to its students.</td>
</tr>
<tr>
<td></td>
<td>(honoring promise)</td>
</tr>
<tr>
<td>Rq2</td>
<td>My institution has a good reputation.</td>
</tr>
<tr>
<td></td>
<td>(good reputation)</td>
</tr>
<tr>
<td>Rq3</td>
<td>My institution is better than other institutions.</td>
</tr>
<tr>
<td></td>
<td>(better reputation than others)</td>
</tr>
</tbody>
</table>

Table 3-3: Measuring Items for School Reputation

Adapted from Nguyen and Leblanc (2001)

3.9.3 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). Due to the unique characteristic of school image, a direct measurement method is appropriate in this study. The measurement scale of school image was adapted from Nguyen and Leblanc (2001), which consist of three direct measuring items. Same as the variable of quality of teaching staff and school reputation, items under student satisfaction were measured on a 7-point Likert-scale.

<table>
<thead>
<tr>
<th>ID (School Image)</th>
<th>Questions (Constituent Variables)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iq1</td>
<td>I have a good impression of my institution.</td>
</tr>
<tr>
<td>Iq2</td>
<td>My institution has a good image in the minds of its students.</td>
</tr>
<tr>
<td>Iq3</td>
<td>My institution is better than other institutions.</td>
</tr>
<tr>
<td>Iq4</td>
<td>My institution has good course programmes when compared with other institutions.</td>
</tr>
</tbody>
</table>

### Table 3-4: Measuring Items for School Image
*Adapted from Nguyen and Leblanc (2001)*

#### 3.9.4 Student Satisfaction

Oliver (1997) defined satisfaction as a perception of pleasurable fulfillment of a service. Subject to its abstract concept and no universal measurement available for satisfaction, this study 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. A 7-point Likert-scale was applied for student satisfaction.
Table 3-5: Measuring Items for Student Satisfaction
Adapted from Thomas (2011) and Bennett and Rundle-Thiele (2004)

<table>
<thead>
<tr>
<th>ID (student satisfaction)</th>
<th>Questions (Constituent Variables)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sq1</td>
<td>I am satisfied with my institution in general.</td>
</tr>
<tr>
<td>Sq2</td>
<td>I am satisfied with my institution when compared with my initial expectations.</td>
</tr>
<tr>
<td>Sq3</td>
<td>I am satisfied with my institution when compared with an institution that is considered ideal.</td>
</tr>
</tbody>
</table>

3.9.5 Student Loyalty
The measurement of student loyalty was adapted from the study by Thomas (2011), which used the following three measures developed and validated by Helgesen and Nesset (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). A 7-point Likert-scale was used.

Table 3-6: Measuring Items for Student Loyalty
Adapted from Thomas (2011) and Dick and Basu (1994)

<table>
<thead>
<tr>
<th>ID (student loyalty)</th>
<th>Questions (Constituent Variables)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lq1</td>
<td>I will recommend my institution to friends or acquaintances.</td>
</tr>
<tr>
<td>Lq2</td>
<td>I will maintain a relationship with my institution after I graduate.</td>
</tr>
<tr>
<td>Lq3</td>
<td>If I had the chance to enroll in an institution for study again, I would enroll in this institution.</td>
</tr>
</tbody>
</table>
3.10 Measurement Scales Used

The Likert scale is widely adopted in social sciences research (Cavana et al., 2001). Based on Thomas’s (2011) design (refer to Appendix D), a set of 7-point Likert scale questionnaire items was used in this study because it has been shown to result in stronger correlations with t-test results (Finstad, 2010; Lewis, 1993; Miller, 1956). Nunnally (1978) supported that the 7-point scale is the optimal solution for questionnaires because 5-point scales are not able to include detailed measurements of what the participants actually want to say (Finstad, 2010). However, there is little improvement in reliability whenever the point scales extend beyond 7 or more (Cummins and Gullone, 2000; Preston and Colman, 2000).

In this study, respondents were required to rate each of the statements on a scale ranging from 1 (strongly disagree) to 7 (strongly agree) as shown below:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

3.11 Pilot Study

To ensure the quality of the questionnaire, a pilot study was carried out before administering the final questionnaire survey. The rationale of performing a pilot study is to allow researcher to have a thorough check of the planned statistical and analytical procedures and to ensure the appropriateness of the questions in the questionnaire (Mertwether, 2001). Before commencing the survey, one
randomly-selected community college was contacted by telephone and email in order to seek their approval and co-operation for distribution of questionnaires. A pilot questionnaire survey was subsequently conducted in August 2013. The developed questionnaire was distributed to 108 students who were studying an associated degree in the selected community college located in Hong Kong. The pilot study sample size was based on the recommendation by Hair et al. (2010) to select a size within a range of 5 to 8 cases per questionnaire item. Voluntary student helpers distributed the questionnaire, along with the Survey Information Sheet, to students at the end of the lecture to ensure a high response rate. Given that 91 students responded to the questionnaires, the response rate was 84.3%. The questionnaire was prepared in English only since the medium of instruction in the selected community college is English. Based on feedback from the pilot study, the questionnaire was finalized by slightly changing some wording and adding “Undergraduate Degree” under the Course of Study in Section B in order to improve its clarity and readability.

### 3.12 Data Analysis

Questionnaires distributed to 320 students at the four higher education institutions in Hong Kong educed 297 responses (92.81% response rate). Responses were keyed into Statistical Package for Social Science (SPSS) version 22 data-file and checked for keying-in errors. Descriptive analysis was firstly conducted to provide general observations on the characteristics of the collected data (Coakes and Ong, 2011). Data collected using nominal and ordinal scales or discrete data, were analyzed using frequency and percentage, while those measured using
interval scale or continuous data were analyzed using mean, standard deviation
skewness, and kurtosis (Coakes and Ong, 2011).

3.12.1 Common Method Bias Analysis

The existence of common method bias is unavoidable in cross sectional data collection. This bias may cause problems in the analysis of the data (Nardi, 2006; Baumgartner and Steenkamp, 2001). Response bias is likely to take place when items and questionnaire design is monotonous as respondents tend to fall into a systematic response mode either falling into an agreement or disagreement state of response (Paulhus, 1991). To avoid such bias in this study, questionnaires were distributed after altering the arrangement of the constructs in questionnaire. Amongst the 320 questionnaires, 64 had section 1 as Teaching Quality, section 2 as student satisfaction and so on while the following 64 had section 1 as student satisfaction and section 2 as student loyalty and so on (Berneth, Armenakis, Field, Giles and Walker, 2007; Podsakoff, Mackenzie, and Lee, 2003). As the items were adapted from established past research, the bias may have been reduced.

Besides these efforts, prior to testing the hypotheses, the assumptions for exploratory factor analysis (EFA), the Kaiser-Meyer-Olkin (KMO), Bartlett’s test of sphericity and n/k; n= sample size, k = no. of items in the questionnaire, and confirmatory factor analysis (CFA) were run to ensure this bias is reduced.

3.12.2 Measurement Analysis

Measurement analysis was undertaken to verify the items used to measure the constructs mainly “teaching quality”, “student satisfaction”, “student loyalty”,

100
“school image” and “school reputation” which were measured using 7-point Likert scale. Measurement scale includes validity and reliability tests. The validity of the measures was tested using CFA while reliability test was tested using Cronbach’s alpha.

3.12.2a Confirmatory Factor Analysis

CFA is performed to prepare the data set for hypotheses testing. Though the purpose of CFA is similar to EFA, it ensures the items used to collect data on a particular construct represent the data appropriately robustly using theoretically sound measures (Hair et al., 2010; Kline, 2005). Whereas, EFA uses the data collected to remove those items that are not seen to represent the construct based on if it loads heavily to a construct. However, both these techniques are good for checking validity of the items as CFA confirms the measurements while EFA reveals new links between the items and constructs (Hair et al., 2010; Byrne, 2001). Therefore the present study used EFA as preliminary test to establish links and verify dimensions of a construct based on the study’s context of Hong Kong’s self-financed higher education institutions. Subsequently, the study ran CFA to verify the links presented in the research framework, as the study is based on grounded theories (Kline, 2005; Schumacker and Lomax, 2004; Byrne, 2001). CFA runs alongside structural equation modelling (SEM), strengthening the validity of the constructs used for the purpose of model fit using the data collected (Kline, 2005; Schumacker and Lomax, 2004). The factor loadings output of SEM in at least four statistics for model fit confirmed the viability of CFA and the fit of the hypothesised framework (Byrne, 2001). The factor loadings are standardised
estimate between -1 to +1, obtained from SEM, whereby the decision rule shown in Table 3-7 was observed.

<table>
<thead>
<tr>
<th>Table 3-7: Decision Rule for Factor Loadings Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Source:</strong> Byrne (2001)</td>
</tr>
<tr>
<td><strong>Factor Loadings (FL)</strong></td>
</tr>
<tr>
<td>&gt; 0.5</td>
</tr>
<tr>
<td>Passable</td>
</tr>
<tr>
<td>&gt; 0.7</td>
</tr>
<tr>
<td>Convergence validity</td>
</tr>
</tbody>
</table>

Factor loading further shows the estimated variance explained where \((FL)^2 = (0.7)^2 = 0.5\), explaining 50% of the variances in the data collected is explained when the items load into a dimension. Hence the closer the factor loading is to 1, the more variances are explained, making it a valid item for the construct in question.

3.12.2b Reliability Analysis

Reliability analysis tests the data collected to ensure there is consistency between what the researcher envisioned to capture and how respondents have interpreted the items posted to them. Nunnally’s (1978) recommends Cronbach’s alpha test of internal consistency to evaluate the amount of random error that has occurred (Cavana et al., 2001). Studies indicate reliability increases when the researcher takes precautions in ensuring homogeneity of the sample, which is required by most statistical analysis. Use of items borrowed from past studies and minimising statements that attracts social desirability prejudice, supports an increase in reliability (Hair et al., 2010; Sekaran and Bougie, 2010; Aaker, Brumbaugh, and Grier, 2000). Nunnally (1978) recommends a Cronbach’s alpha that is 0.7 and above for applied research and 0.8 and above for academic research,
while for new constructs the recommendation is 0.6 and above. A reliable and
valid item has strong influence on the statistical analysis carried out to test the
posed hypotheses. However, reliability and validity tests post data collection
singularly do not guarantee 100% reliability and validity, so the researcher ought to
take various precaution on sample selection, sampling and sample size to insure
greater validity and reliability (Sekaran and Bougie, 2010; Bryman, 2008). Many
researchers have advocated that perceptions and behavioural related constructs are
hard to measure using a single item, as different respondent may understand or
interpret it differently. Thus, the larger the sample size, the likelihood of a bigger
proportion of the sample understanding the item is higher. Similarly, the more
items presented relating to the same construct, the more likely it is for respondents
to understand at least one of the items terms of what it is meant to measure
(Zikmund, Babin, Carr and Griffin, 2013; Pallant, 2005). The final inference
analyses would require a single representation for the construct, thus a summated
score was calculated for this study to depict the construct enabling statistical
analysis to be carried out.

3.12.3 Hypotheses Testing
To test the hypotheses postulated in Chapter 2, SEM was used. Known for its
robustness against normality, which is required by the common statistical analyses
such as multiple linear regression and MANOVA, SEM is a powerful tool (Hair et
al., 2010; Kline, 2005; Byrne, 2001). It is usually used to remodel a research
framework as it verifies model fit. However for studies requiring testing of
hypotheses, several SEM statistics as shown below was used to verify the CFA
model for the present study.
i. $\chi^2$, p-value > 0.05 indicating no significance, CFA model fit

ii. CFI: 0 < CFI < 1, the closer CFI > 0.9, the better the fit

iii. PCFI: closer PCFI > 0.9, the better the fit

iv. GFI $\geq$ 0.9, shows better model fit

v. AGFI $\geq$ 0.9, shows better model fit

vi. RMSEA: 0.03 < RMSEA < 0.08 model fit

The regression weights of the relationships between constructs, variances and co-variances obtained from the analyses were used for the analyses (Kline, 2005; Byrne, 2001). At least four of the above listed statistics are adequate to rule the model fit or support the hypotheses (Kline, 2005).

### 3.12.4 The Mediating Relationship

The direct and indirect influences of the mediating effect in Figure 3-1 below were tested in the present study. The mediating effect of student satisfaction, student loyalty and the school image represented by B in the figure below was carried out as suggested by Baron and Kenny (1986). The direct relationship between A – C and the indirect relationship between A – B – C was compared to estimate the weightage of the effects. This relationship indicates that A’s relationship with C goes through B (Hair et al., 2010; Kline, 2005).
The mediation tests involve the verification of a few relationships which may be construed as partial or full mediation effects (Hair et al., 2010), as such the main actions involved in confirming mediation are as follows:

a. The confirmed existence of the direct relationship between A and C
b. The confirmed existence of the relationship between A (exogenous variable) and B (mediating variable)
c. The confirmed relationship between B (mediating variable) and C (endogenous variable)

Following this, the comparison between the strength of relationship between A – C is compared with those of A – B and B – C, thus reaching one of the following conclusion:

a. Mediation is inexistence if A – C relationship does not alter with the addition of B in the relationship.
b. Mediation is said to be partial if the effect of the A – C relationship reduces though remains significant with the addition of B in the relationship.

c. Mediation is said to be full if the effect of the A – C relationship is insignificant with the addition of B in the relationship.

With the above mentioned directions of comparing the direct effect (DE) and indirect effect (IE) to test the mediation effect, the influence of student satisfaction as a mediator between teaching quality and student loyalty, between teaching quality and student reputation and between teaching quality and school image was used for the present study. Further mediation tests were run on the effect of student loyalty as the mediator between student satisfaction and school reputation and the effect of school image as mediator between the relationship between student satisfaction and reputation of the school. The rule of the thumb used to determine mediating effect is summarised as below:

Table 3-8: Mediation Rule of Thumb
Adapted from Hair et al. (2010)

<table>
<thead>
<tr>
<th>Rule of the thumb value (IE)</th>
<th>Mediation Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>IE &lt; 0.085</td>
<td>No mediation</td>
</tr>
<tr>
<td>IE &gt; 0.085 and IE ≥ DE</td>
<td>Partial mediation</td>
</tr>
<tr>
<td>IE &gt; 0.085 and IE &gt;&gt;&gt;&gt;&gt;&gt; DE</td>
<td>Full mediation</td>
</tr>
</tbody>
</table>

3.12.5 Testing Moderating Relationship

The moderating effect of student loyalty and school image on the relationship between student satisfaction and school reputation was tested based on Baron and
Kenny’s (1986) and Hair et al.’s (2010) suggestions. Past studies indicate the moderators are measured using nominal scales to enable the interaction affect. Hence, the data collected on student loyalty and school image were transformed into a nominal scale data as “agree”, “neutral” and “disagree”. The strongly agree, agree and slightly agree responses were added to represent “agree” while the strongly disagree, disagree and slightly disagree were added to represent “disagree” and “neutral” was kept in order to not to ignore the possible “neutral” responses (Dagger and David, 2012; Vlachos, 2012; Kline, 2011; Hair et al., 2010; Sauer and Dick, 1993).

The chi-squares and degrees of freedom were estimated for a model with all categories (ALL), the model with the “agree” category, “neutral” category and “disagree” category. The differences between the categorical chi-square value and degrees of freedom were estimated. Finally, the chi-square differences were divided with degrees of freedom of each category revealing a ratio.

The comparison of ratios of chi-square over degrees of freedom (df) was made. The change is considered significant if the ratio of change is greater (> ) than 3 (Kline, 2011; Hair et al., 2010), while such the variable concern is considered to exude significant moderating impact.

3.13 Research Ethics and Safety Implications

As the research involved contact with students and data collection by questionnaire, ethics approval was required in order to be consistent with university policy and
relevant guidelines. Formal approval from the University of Newcastle’s Ethics Committee was obtained before commencement of the survey. Ethical issues in relation to the questionnaire survey, including confidentiality, data storage, and data access, were properly addressed. The purpose of the research was clearly described in the Survey Information Sheet included in the questionnaire survey package. Participants were informed that participation in the survey was completely voluntary and that they could withdraw from completing the questionnaire at any time without reason or penalty. Return of the completed questionnaire by a respondent implied consent to participate in the survey. As the research required the collection of information from students using a questionnaire, it was also necessary to seek approval from the targeted institutions. Accordingly, an invitation letter was prepared and sent to the targeted institutions and a consent letter obtained from each before the questionnaire was distributed to students. Approval of an ethics application by the University of Newcastle’s Human Research Ethics Committee (HREC) means that the study is automatically covered by the university’s insurance policies in relation to a research project.

3.13.1 Confidentiality

Participants were informed that their responses to the survey are anonymous and remain strictly confidential. To ensure participants’ confidentiality, they were also informed that as no name is required on the questionnaire, it will not be possible to identify them from their answers. The questionnaires will be shredded after final acceptance of the thesis by the University of Newcastle’s Office of Graduate Studies. An electronic copy of the data will be stored securely at the Graduate School of Business, University of Newcastle, for a minimum period of 5
years from the date of final acceptance of the thesis.

In addition, a double coding system was applied to the collected data. A unique code was assigned to each higher education institution of the target sample and each participant was also assigned a new code to be entered into a data table of the SPSS statistics programme. No cross-reference could possibly be made between the original codes recorded in the questionnaires and the new codes assigned in the data table. With the exception of information that may lead to identification of an individual or an organization, all data gathered were promptly reported in aggregate.

3.14 Chapter Summary

This chapter detailed the research methodology used in the study, including details of the research paradigm, research design, and methods of data collection and analysis. It also addressed ethical and safety implications involved in the collection of data, including confidentiality, data storage, and data access.

Data was collected by conducting a self-administered questionnaire survey among students enrolled in full-time accredited self-financed post-secondary programmes in Hong Kong. A high response rate was achieved by distributing the anonymous questionnaires to students in class either immediately before or after their lecture.

The collected data were analyzed using statistical package for the social sciences (SPSS) version 22. Descriptive analysis for demographic data was performed
regarding frequency and percentages, and internal consistency reliabilities and discriminant validity was evaluated before examining the study’s thirteen hypotheses. Results derived from analysis of the collected data and from the investigation of the hypotheses are reported in the following chapter.
Chapter 4

Data Analysis

4.1 Introduction

This chapter presents the results of the data analysed using the methodology described and justified in the previous chapter. Section 4.2 of the chapter provides an overview of the data preparation and descriptive analysis; Section 4.3 examines the validity and reliability in the data collected; Section 4.4 examines the quality of data by analysing the significance of direct relationships among the variables; Section 4.5 examines the mediating relationships between constructs; Section 4.6 examines the moderating relationships between constructs and reports on the test results of the thirteen hypotheses; and Section 4.7 presents a summary of the chapter.

4.2 Data Preparation and Descriptive Analysis

As the completed questionnaire did not show any discrepancies, data analysis started by keying in all 297 responses (92.8% response rate) to a SPSS version 22 data file. The data set was scanned physically using the eyeballing technique to identify errors while keying in. The profile of respondents in Table 4-1 shows that almost the same percentage of male (50.5%) and female (49.5%) students at Hong Kong’s self-financed higher educational institutes responded to the questionnaire.
Table 4-1: Demographic Profile of Respondents

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>150</td>
<td>50.5</td>
</tr>
<tr>
<td>Female</td>
<td>147</td>
<td>49.5</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-25</td>
<td>292</td>
<td>98.3</td>
</tr>
<tr>
<td>&gt;25</td>
<td>5</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>Division of study</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>265</td>
<td>89.2</td>
</tr>
<tr>
<td>Science and technology</td>
<td>13</td>
<td>4.4</td>
</tr>
<tr>
<td>Communication and social science</td>
<td>13</td>
<td>4.4</td>
</tr>
<tr>
<td>Others</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Course of study</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate degree</td>
<td>144</td>
<td>48.5</td>
</tr>
<tr>
<td>Higher diploma</td>
<td>5</td>
<td>1.7</td>
</tr>
<tr>
<td>Undergraduate degree</td>
<td>148</td>
<td>49.8</td>
</tr>
</tbody>
</table>

The majority of students who responded were below 25 years old (98.3%) while a very small percentage (1.7%) was above 25 years old. The majority of responses that came from the young age group of students reflect the fact that 48.5% of respondents were pursuing associate degrees, while 49.8% were pursuing undergraduate degrees, and a small number (1.7%) were pursuing a higher diploma at the universities where the data was collected. The majority of respondents were business students, a small percentage (4.4%) were pursuing programmes in the science and technology division, another small percentage (4.4%) were enrolled in programmes in the communication and social science division, whilst 2% were pursuing programmes in other divisions within their respective university. Descriptive analysis of the responses to items relating to the five constructs in this study was carried out to understand the average responses and to provide initial
confirmation of normality of the data. As such, Table 4-2 shows the description of responses to the teaching quality construct. The mean value for all items are leaning toward the agreement to the statements with a mean value of 4.90 with average standard deviation of 1.21, thus the responses are closer to slightly agree rather than agree and strongly agree. The skewness indicates negative values, supporting the average response as leaning toward agreeing with the statements. The kurtosis values are a mix of negatives and positives, however they are below the value of 12, showing that the majority of responses are alike when relating to a specific statement. Therefore, large concentrations of respondents did not respond with one or two out of the seven-point scale presented in the questionnaire. Thus the distribution of responses indicates normality.

Table 4-2: Descriptive Analysis of Teaching Quality

<table>
<thead>
<tr>
<th>Items measuring teaching quality</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness Statistic</th>
<th>Std. Error</th>
<th>Kurtosis Statistic</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>teaching staff have appropriate academic credentials</td>
<td>4.96</td>
<td>1.157</td>
<td>-.322</td>
<td>.141</td>
<td>-.181</td>
<td>.282</td>
</tr>
<tr>
<td>teaching staff appropriately use technology to teach</td>
<td>4.78</td>
<td>1.283</td>
<td>-.457</td>
<td>.141</td>
<td>.262</td>
<td>.282</td>
</tr>
<tr>
<td>teaching staff effectively conduct lectures</td>
<td>4.93</td>
<td>1.084</td>
<td>-.180</td>
<td>.141</td>
<td>-.370</td>
<td>.282</td>
</tr>
<tr>
<td>teaching staff are aware of students' learning needs and provide helps</td>
<td>4.86</td>
<td>1.168</td>
<td>-.336</td>
<td>.141</td>
<td>-.085</td>
<td>.282</td>
</tr>
<tr>
<td>teaching staff treat students with respect</td>
<td>5.00</td>
<td>1.198</td>
<td>-.694</td>
<td>.141</td>
<td>.899</td>
<td>.282</td>
</tr>
<tr>
<td>teaching staff are sympathetic and supportive</td>
<td>4.87</td>
<td>1.389</td>
<td>-.812</td>
<td>.141</td>
<td>.892</td>
<td>.282</td>
</tr>
<tr>
<td>Average</td>
<td>4.90</td>
<td>1.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4-3: Descriptive Analysis of School Reputation

<table>
<thead>
<tr>
<th>Items measuring school reputation</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness Statistic</th>
<th>Skewness Std. Error</th>
<th>Kurtosis Statistic</th>
<th>Kurtosis Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>institution fulfils the promises it makes to students</td>
<td>4.85</td>
<td>1.103</td>
<td>-.213</td>
<td>.141</td>
<td>.663</td>
<td>.282</td>
</tr>
<tr>
<td>institution has a good reputation</td>
<td>4.68</td>
<td>1.468</td>
<td>-.851</td>
<td>.141</td>
<td>.607</td>
<td>.282</td>
</tr>
<tr>
<td>institution is better reputation than others</td>
<td>5.02</td>
<td>1.140</td>
<td>-.515</td>
<td>.141</td>
<td>.450</td>
<td>.282</td>
</tr>
<tr>
<td>Average</td>
<td>4.85</td>
<td>1.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4-3 above shows the average responses to the items for the school reputation construct. The average response shows that the respondents are agreeing to the items posted regarding school reputation, with an average of 4.85 and standard deviation of 1.24. This shows that the respondents are leaning toward an opinion that the school has a positive reputation. Corroborating this is the skewness negative values, which shows the responses leaning toward slightly agree to strongly agree. Meanwhile the positive and small values of kurtosis indicate respondents with similar views, with none of the point-scale between slightly agree to strongly agree gaining a high response rate. These statistics indicate normality in the responses.
The description of the responses to the school image construct is shown in Table 4-4 above. On average, respondents agree with the statements relating to school image, charting an average of 4.83 with a standard deviation of 1.18. The skewness statistics show negative, supporting the respondents’ agreement while the kurtosis statistics show normality. Kurtosis also indicates that slightly more respondents have responded to one of the 3-agrees (slightly agree, agree, strongly agree) in relation to the statement “institution has good course programs than others”. This could mean that respondents are very positive toward the courses offered by the institution they are studying in. Thus, showing the courses offered are important in increasing the institution’s reputation. Meanwhile, Table 4-5 below shows responses toward the items designed to measure student satisfaction with the institution. This indicates an average of 4.87 with standard deviation of 1.25, showing agreement toward with the statements. Correspondingly, skewness statistics indicate negatives or negatively skewed responses. The low kurtosis statistics implies normality in response, or a good spread of responses.
Responses to the statements relating to student loyalty are shown in Table 4-6. On average, respondents seem to agree to the statements as the average is at 4.72 with a standard deviation of 1.28. Skewness statistics that are negative correspond to agreement to statements posed to measure loyalty. Meanwhile kurtosis statistics show that on average there is normality in the distribution of responses to this construct.
4.3 Measurement Analysis

Measurement analysis was carried out to ensure there is validity and reliability in the collected data. As described in Chapter 3, 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. Cronbach’s alpha test was run to test the reliability of data and its outcome assessed based on the values described in Chapter 3.

4.3.1 Exploratory Factor Analysis (EFA)

Assumptions for EFA were considered as described in Chapter 3. Firstly, the sampling adequacy assumption was tested using the Keiser-Meyer-Olkin (KMO) test. Table 4-7 shows that KMO = 0.94, indicating excellent sampling. Bartlett’s test of Sphericity tested the identity matrix of measures, that is it tested the following hypotheses:

\[ H_0 : \text{identity matrix exist} \]
\[ H_a : \text{no identity matrix exist} \]

Table 4.7 shows Chi square \( (\chi^2) = 4184.15 \), degrees of freedom (df) = 136, and p-value = 0.0001. As p-value < 0.05, \( H_0 \) is rejected meaning 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 4-8.

<table>
<thead>
<tr>
<th>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</th>
<th>.937</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartlett's Test of Sphericity</td>
<td></td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
<td>4184.146</td>
</tr>
<tr>
<td>df</td>
<td>136</td>
</tr>
<tr>
<td>Sig.</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 4-8 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 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 “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 “My institution is better than other institutions” was removed, thus allowing convergent and determinant validity of items measuring the five constructs in the present study.
Table 4-8: Rotated Component Matrix

<table>
<thead>
<tr>
<th>Items</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>teaching staff effectively conduct lectures</td>
<td>.796</td>
</tr>
<tr>
<td>teaching staff have appropriate academic credentials</td>
<td>.754</td>
</tr>
<tr>
<td>teaching staff treat students with respect</td>
<td>.731</td>
</tr>
<tr>
<td>teaching staff are aware of students’ learning needs and provide help</td>
<td>.694</td>
</tr>
<tr>
<td>teaching staff are sympathetic and supportive</td>
<td>.682</td>
</tr>
<tr>
<td>teaching staff appropriately use technology to teach</td>
<td>.667</td>
</tr>
<tr>
<td>institution is better image than others</td>
<td>.822</td>
</tr>
<tr>
<td>institution has a good image in minds of students</td>
<td>.636</td>
</tr>
<tr>
<td>institution has good course programs than others</td>
<td>.612</td>
</tr>
<tr>
<td>students have a good impression of institution</td>
<td>.588</td>
</tr>
<tr>
<td>students will enrol in institution again if have chance to study again</td>
<td>.893</td>
</tr>
<tr>
<td>students recommend institution to friends</td>
<td>.872</td>
</tr>
<tr>
<td>students are satisfied with institution in general</td>
<td>.900</td>
</tr>
<tr>
<td>students are satisfied with institution as compared with initial</td>
<td>.625</td>
</tr>
<tr>
<td>expectation</td>
<td></td>
</tr>
<tr>
<td>students are satisfied with institution as compared with ideal one</td>
<td>.613</td>
</tr>
<tr>
<td>institution has a good reputation</td>
<td>.743</td>
</tr>
<tr>
<td>institution fulfils the promises it makes to students</td>
<td>.603</td>
</tr>
</tbody>
</table>

The EFA further shows that the five constructs in total explained 80.68% of the variation in responses as shown in Table 4-9 below. Teaching quality explained 57.76% of the variation, school image explained 8.44%, student loyalty explained 6.40%, while 4.59% of the variation was explained by student satisfaction and 3.49% by school reputation. This statistic generally shows more of the validity concerns of the items used to measure the constructs in the study as (100 – 80.68) % or 19.32% of the variations could be explained by other variables, which were not considered in this study. This validity provided further confirmation of the non-existence of common method bias in the data collected for this study.
### Table 4-9: Total Variance Explained

<table>
<thead>
<tr>
<th>Components</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
</tr>
<tr>
<td>teaching quality (Tq)</td>
<td>9.819</td>
<td>57.758</td>
</tr>
<tr>
<td>school image (Iq),</td>
<td>1.435</td>
<td>8.442</td>
</tr>
<tr>
<td>student loyalty (Lq),</td>
<td>1.089</td>
<td>6.404</td>
</tr>
<tr>
<td>student satisfaction (Sq)</td>
<td>.781</td>
<td>4.591</td>
</tr>
<tr>
<td>school reputation (Rq)</td>
<td>.593</td>
<td>3.486</td>
</tr>
</tbody>
</table>

#### 4.3.2 Measurement Model Evaluation with Confirmatory Factor Analysis

The measurement assessment was further confirmed with the final CFA’s measurement model, as presented in Figure 4-1 below, analysing the inter-relationship of the five constructs hypothesised for the present study (the reduction in items representing the student loyalty and school reputation constructs increased the validity of the model). The statistics include some of the major statistics interpreted in SEM as described in Chapter 3. 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 et al., 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 ≥ 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 study.

Figure 4-1: Latent Variables in the Measurement Model

- **CMIN** = 557.91, df = 110, p-value = 0.0001
- CMIN/DF = 5.0
- CFI = 0.91, PCFI = 0.92
- GFI = .825, AGFI = .857
- NFI = 0.87, PNFI = 0.71
4.3.3 Reliability Test

Table 4-10 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 4-11 shows Cronbach alpha’s (1951) reliability test outcome where all five latent variables result in alpha (\( \alpha \)) > 0.8. This satisfies Nunnally’s (1978) reliability requirement for management research.

Table: 4-10: Direct Effects (Group number 1 - Default model)

<table>
<thead>
<tr>
<th></th>
<th>Reputation</th>
<th>Loyalty</th>
<th>Satisfaction</th>
<th>Image</th>
<th>Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rq1</td>
<td>.751</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Rq2</td>
<td>1.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Lq1</td>
<td>.000</td>
<td>.925</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Lq3</td>
<td>.000</td>
<td>1.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Sq1</td>
<td>.000</td>
<td>.000</td>
<td>.784</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Sq2</td>
<td>.000</td>
<td>.000</td>
<td>.929</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Sqa3</td>
<td>.000</td>
<td>.000</td>
<td>1.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Iq1</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>1.144</td>
<td>.000</td>
</tr>
<tr>
<td>Iq2</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.894</td>
<td>.000</td>
</tr>
<tr>
<td>Iq3</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.772</td>
<td>.000</td>
</tr>
<tr>
<td>Iq4</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>1.000</td>
<td>.000</td>
</tr>
<tr>
<td>Tq1</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.913</td>
</tr>
<tr>
<td>Tq2</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.948</td>
</tr>
<tr>
<td>Tq3</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.766</td>
</tr>
<tr>
<td>Tq4</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.781</td>
</tr>
<tr>
<td>Tq5</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.864</td>
</tr>
<tr>
<td>Tq6</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>
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 6.185. 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.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Cronbach’s Alpha</th>
<th>No. of items</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>teaching quality (Tq)</td>
<td>.921</td>
<td>6</td>
<td>29.40</td>
<td>6.185</td>
</tr>
<tr>
<td>school reputation (Rq)</td>
<td>.800</td>
<td>2</td>
<td>9.53</td>
<td>2.365</td>
</tr>
<tr>
<td>school image (Iq)</td>
<td>.854</td>
<td>4</td>
<td>19.32</td>
<td>3.937</td>
</tr>
<tr>
<td>student satisfaction (Sq)</td>
<td>.878</td>
<td>3</td>
<td>14.62</td>
<td>3.374</td>
</tr>
<tr>
<td>student loyalty (Lq)</td>
<td>.905</td>
<td>2</td>
<td>9.43</td>
<td>2.551</td>
</tr>
</tbody>
</table>

### 4.4 Significance Testing of Direct Relationships

The study’s six direct hypotheses (H1 - H6) were tested using the structural model shown in Figure 4-2. The teaching quality construct was measured using six items, the school image construct was measured using four items, while the student loyalty construct, the student satisfaction construct and the school reputation construct were measured by two items each. The confirmation of direct
relationships requires the common assumption of data normality. Though, the sample size (n = 297) for this study is large, SEM’s robustness in relation to the normality of data was taken into consideration before assessing the data in order to confirm the posited relationships (Kline, 2011; Hair et al., 2010; Hooper et al., 2008). Table 4-12 below shows that the multivariate kurtosis = 182.47 as >>> (larger than) 1.96, indicating violation of the normality assumption.

Table 4-12: Assessment of Normality (Group Number 1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Min</th>
<th>Max</th>
<th>Skew</th>
<th>c.r.</th>
<th>Kurtosis</th>
<th>c.r.</th>
</tr>
</thead>
<tbody>
<tr>
<td>rq2</td>
<td>1.000</td>
<td>7.000</td>
<td>-.847</td>
<td>-5.960</td>
<td>.577</td>
<td>2.029</td>
</tr>
<tr>
<td>rq1</td>
<td>1.000</td>
<td>7.000</td>
<td>-.212</td>
<td>-1.494</td>
<td>.631</td>
<td>2.221</td>
</tr>
<tr>
<td>Iq1</td>
<td>1.000</td>
<td>7.000</td>
<td>-.662</td>
<td>-4.661</td>
<td>.044</td>
<td>.155</td>
</tr>
<tr>
<td>Iq2</td>
<td>2.000</td>
<td>7.000</td>
<td>-.412</td>
<td>-2.896</td>
<td>-.004</td>
<td>-.015</td>
</tr>
<tr>
<td>Iq3</td>
<td>2.000</td>
<td>7.000</td>
<td>-.408</td>
<td>-2.869</td>
<td>.041</td>
<td>.145</td>
</tr>
<tr>
<td>Iq4</td>
<td>1.000</td>
<td>7.000</td>
<td>-.972</td>
<td>-6.838</td>
<td>1.300</td>
<td>4.575</td>
</tr>
<tr>
<td>lq3</td>
<td>1.000</td>
<td>7.000</td>
<td>-.828</td>
<td>-5.825</td>
<td>.957</td>
<td>3.367</td>
</tr>
<tr>
<td>lq1</td>
<td>1.000</td>
<td>7.000</td>
<td>-.993</td>
<td>-6.988</td>
<td>1.566</td>
<td>5.509</td>
</tr>
<tr>
<td>Tq1</td>
<td>2.000</td>
<td>7.000</td>
<td>-.321</td>
<td>-2.257</td>
<td>-.198</td>
<td>-.696</td>
</tr>
<tr>
<td>Tq2</td>
<td>1.000</td>
<td>7.000</td>
<td>-.455</td>
<td>-3.199</td>
<td>.237</td>
<td>.834</td>
</tr>
<tr>
<td>Tq3</td>
<td>2.000</td>
<td>7.000</td>
<td>-.179</td>
<td>-1.257</td>
<td>-.384</td>
<td>-1.352</td>
</tr>
<tr>
<td>Tq4</td>
<td>1.000</td>
<td>7.000</td>
<td>-.335</td>
<td>-2.355</td>
<td>-.104</td>
<td>-.365</td>
</tr>
<tr>
<td>Tq5</td>
<td>1.000</td>
<td>7.000</td>
<td>-.691</td>
<td>-4.862</td>
<td>.864</td>
<td>3.038</td>
</tr>
<tr>
<td>Tq6</td>
<td>1.000</td>
<td>7.000</td>
<td>-.808</td>
<td>-5.687</td>
<td>.857</td>
<td>3.015</td>
</tr>
<tr>
<td>sq3</td>
<td>1.000</td>
<td>7.000</td>
<td>-.583</td>
<td>-4.102</td>
<td>.468</td>
<td>1.645</td>
</tr>
<tr>
<td>sq2</td>
<td>1.000</td>
<td>7.000</td>
<td>-.372</td>
<td>-2.616</td>
<td>.181</td>
<td>.636</td>
</tr>
<tr>
<td>sq1</td>
<td>1.000</td>
<td>7.000</td>
<td>-.679</td>
<td>-4.778</td>
<td>.957</td>
<td>3.368</td>
</tr>
<tr>
<td>Multivariate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>182.469</td>
<td>61.862</td>
</tr>
</tbody>
</table>
Following the violation of normality, the Mahalanobis distance test was run and confirmed in order to proceed with the analysis. The Mahalanobis distance observed for this study was calculated using an EXCEL function that describes the inverse of the right tail probability of the chi-squared ($\chi^2$) distribution, as in CHIINV (0.001, 17) = 40.8; with 17 items being assessed, the degree of freedom = 17 at a 0.001 significance level. With 32 observations showing Mahalanobis-d$^2$ beyond this threshold value of 40.8 as shown in Table 4-13 below, asymptotically distribution free (ADF) was used for assessing the structural model. This model was then used to perform the necessary analyses to determine the direct relationships (Kline, 2011; Weston and Gore Jr., 2006; Byrne, 2001).
Table 4-13: Observations of Mahalanobis Distance (Group Number 1)

<table>
<thead>
<tr>
<th>No.</th>
<th>Observation number</th>
<th>Mahalanobis d-squared</th>
<th>p1</th>
<th>p2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>213</td>
<td>66.897</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>53</td>
<td>66.671</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>228</td>
<td>65.064</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>4</td>
<td>221</td>
<td>63.154</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>5</td>
<td>246</td>
<td>63.154</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>6</td>
<td>51</td>
<td>62.674</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>7</td>
<td>231</td>
<td>61.899</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>8</td>
<td>226</td>
<td>54.971</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>9</td>
<td>243</td>
<td>54.971</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>10</td>
<td>225</td>
<td>53.801</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>11</td>
<td>242</td>
<td>53.801</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>12</td>
<td>175</td>
<td>53.209</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>13</td>
<td>230</td>
<td>51.063</td>
<td>.000</td>
<td>.000</td>
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<td>14</td>
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<td>.000</td>
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<td>15</td>
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<td>47.728</td>
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<td>.000</td>
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<td>16</td>
<td>109</td>
<td>47.626</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>17</td>
<td>117</td>
<td>47.434</td>
<td>.000</td>
<td>.000</td>
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<tr>
<td>18</td>
<td>172</td>
<td>46.599</td>
<td>.000</td>
<td>.000</td>
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<tr>
<td>19</td>
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<td>46.096</td>
<td>.000</td>
<td>.000</td>
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<tr>
<td>20</td>
<td>222</td>
<td>45.693</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>21</td>
<td>247</td>
<td>45.693</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>22</td>
<td>258</td>
<td>45.240</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>23</td>
<td>218</td>
<td>44.590</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>24</td>
<td>250</td>
<td>44.590</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>25</td>
<td>224</td>
<td>41.800</td>
<td>.001</td>
<td>.000</td>
</tr>
<tr>
<td>26</td>
<td>241</td>
<td>41.800</td>
<td>.001</td>
<td>.000</td>
</tr>
<tr>
<td>27</td>
<td>212</td>
<td>41.229</td>
<td>.001</td>
<td>.000</td>
</tr>
<tr>
<td>28</td>
<td>223</td>
<td>41.229</td>
<td>.001</td>
<td>.000</td>
</tr>
<tr>
<td>29</td>
<td>249</td>
<td>41.229</td>
<td>.001</td>
<td>.000</td>
</tr>
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<td>41.207</td>
<td>.001</td>
<td>.000</td>
</tr>
<tr>
<td>31</td>
<td>219</td>
<td>41.037</td>
<td>.001</td>
<td>.000</td>
</tr>
</tbody>
</table>
The ADF method assessed the structural model and produced the indices displayed in Table 4-14, which indicate a model fit. Although the CMIN = 389.33, df = 113, and p-value = 0.0001 indicates an inadequate model fit, the CMIN/DF = 3.45 indicates that the research model is an adequate fit. The model was taken to be a fit due to the inconsistent decision-making rule presented by several SEM proponents, where some researchers advocate CMIN/df < 2 as appropriate to decide on model fit, while others advise that CMIN/df > 3 is sufficient (Hair et al., 2010; Hooper et al., 2008, Schumaker and Lomax, 2004; MacCallum and Austin, 2000). As well as the aforementioned decision rules, CMIN/df < 5 is also believed by some to be sufficient to decide on model fit (Kline, 2011; Hair et al., 2010; Schumaker and Lomax, 2004; Byrne, 2001; MacCallum and Austin, 2000). Hence with reference to the output of indices in Table 4-14 for the structural model presented in Figure 4-2, the model fit is confirmed. Four out of the five indices selected amongst GFI = 0.9, AGFI = 0.81, CFI = 0.9, PCFI = 0.9 and RMSEA = 0.09 show indices that comply with a decision rule, thus the structural model was considered to be an adequate fit.

<table>
<thead>
<tr>
<th>Model</th>
<th>CMIN</th>
<th>DF</th>
<th>P</th>
<th>CMIN/DF</th>
<th>GFI</th>
<th>AGFI</th>
<th>CFI</th>
<th>PCFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default model</td>
<td>389.331</td>
<td>113</td>
<td>.000</td>
<td>3.445</td>
<td>.886</td>
<td>.806</td>
<td>.886</td>
<td>.887</td>
<td>.090</td>
</tr>
<tr>
<td>Saturated model</td>
<td>.000</td>
<td>0</td>
<td></td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independence model</td>
<td>803.848</td>
<td>136</td>
<td>.000</td>
<td>5.911</td>
<td>.552</td>
<td>.496</td>
<td>.000</td>
<td>.000</td>
<td>.129</td>
</tr>
</tbody>
</table>

Table 4-14: Summary of Indices of the Structural Model
Although the model is a confirmed fit, the testing of hypotheses and their respective outcomes were considered more important for this study since it is focused on verifying theories of relationships between constructs (teaching quality, student satisfaction, student loyalty, school image, and school reputation). With the measurement assessment of the items used to measure the five constructs of this study satisfied, the structural model analysis produced regression weights for the relationships posited in the research framework shown in Table 4-15 below. The outcome for H1 shows a critical ratio (CR) of 19.42 and a p-value of 0.0001. As the p-value < 0.05, the hypothesis that teaching quality is positively related to student satisfaction is supported. The standardized regression weights in Table 4-16, shows that for every unit increase in teaching quality, student satisfaction increases by 0.88 units.

H2 is supported with a critical value of 25.35 and a p-value of 0.0001. The p-value < 0.05 demonstrates the positive influence of student satisfaction on student loyalty. The influence is very strong where the standardised regression weight of this relationship is 0.999, or when student satisfaction increases by one unit, student loyalty is expected to increase by one unit.

The posited H3 reflects the positive relationship between student satisfaction and school image. The critical ratio of 22.08 and p-value of 0.0001 shown in Table 4-15 means that the hypothesis is supported because the p-value < 0.05. Table 4-16 demonstrates the importance of student satisfaction in affecting school image, as the standard regression weight of 0.97 shows that with every unit increase in student satisfaction, school image increases by 0.97 units.
Table 4-15: Regression Weights (Group Number 1 - Default model)

<table>
<thead>
<tr>
<th>Endogenous</th>
<th>Exogenous</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P-value</th>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>satisfaction</td>
<td>Teaching quality</td>
<td>.852</td>
<td>.044</td>
<td>19.419</td>
<td>***</td>
<td>H1</td>
</tr>
<tr>
<td>loyalty</td>
<td>satisfaction</td>
<td>1.310</td>
<td>.052</td>
<td>25.346</td>
<td>***</td>
<td>H2</td>
</tr>
<tr>
<td>image</td>
<td>satisfaction</td>
<td>1.058</td>
<td>.048</td>
<td>22.077</td>
<td>***</td>
<td>H3</td>
</tr>
<tr>
<td>reputation</td>
<td>loyalty</td>
<td>-17.130</td>
<td>629.929</td>
<td>-.027</td>
<td>.978</td>
<td>H4</td>
</tr>
<tr>
<td>reputation</td>
<td>image</td>
<td>-1.047</td>
<td>.666</td>
<td>-1.573</td>
<td>.116</td>
<td>H5</td>
</tr>
<tr>
<td>reputation</td>
<td>satisfaction</td>
<td>24.520</td>
<td>825.472</td>
<td>.030</td>
<td>.976</td>
<td>H6</td>
</tr>
</tbody>
</table>

A comparison of regression weights shows that student satisfaction has the greatest direct effect on loyalty and image. Furthermore, the effect of satisfaction on student loyalty is greater than school image.

Table 4-16: Standardized Regression Weights (Group Number 1 - Default model)

<table>
<thead>
<tr>
<th>Endogenous</th>
<th>Exogenous</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>satisfaction</td>
<td>Teaching quality</td>
<td>.884</td>
</tr>
<tr>
<td>loyalty</td>
<td>satisfaction</td>
<td>.999</td>
</tr>
<tr>
<td>image</td>
<td>satisfaction</td>
<td>.967</td>
</tr>
<tr>
<td>reputation</td>
<td>loyalty</td>
<td>-23.087</td>
</tr>
<tr>
<td>reputation</td>
<td>image</td>
<td>-1.178</td>
</tr>
<tr>
<td>reputation</td>
<td>satisfaction</td>
<td>25.222</td>
</tr>
</tbody>
</table>

However, referring to Table 4-15, hypotheses H4, H5, and H6 are not supported. The direct relationship between reputation and loyalty shows CR = -0.03 and p-value = 0.978. With a p-value > 0.05 the relationship between loyalty and reputation is not significant and therefore H4 is not supported. Moreover, the standardised regression weight in Table 4-16 shows a large and negative value of
Therefore, student loyalty does not directly relate to school reputation. The positive relationship between school image and school reputation is not supported either, as the CR value in Table 4-15 shows CR = -1.57, with the p-value = 0.12; as the p-value is > 0.05, H5 is not supported. Further analysis using standardised regression weights recorded -1.18, indicating a negative and small effect of school image on school reputation.

Likewise, the relationship between student satisfaction and school reputation is insignificant as the CR = 0.03 with a p-value = 0.976 in Table 4-15. As the p-value is greater than 0.05, the hypothesis is not supported. Though positive and large, the standardised regression weights = 25.22 in Table 4-16 demonstrating that H6 is not supported. This outcome, though theoretically and in direct terms shows an important contribution of student satisfaction to school reputation, it is in need of other variables to be significant.

4.5 Significance Testing of Mediating Relationships

Table 4-17 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 4-18 has been developed to provide easy reference, thus using the decision rule presented in Chapter 3, the indirect effect of teaching quality on school image is IE = 0.730 (> 0.085) and IE (0.730), which is much greater than direct effect (DE) or >>>>> 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 H7.
Table 4-17: Standardized Effects (Group Number 1 - Default model)

<table>
<thead>
<tr>
<th>Standard Effects</th>
<th>Latent Variables</th>
<th>Satisfaction</th>
<th>Image</th>
<th>Loyalty</th>
<th>Reputation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Std. Total effects</td>
<td>satisfaction</td>
<td>.884</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>image</td>
<td>.855</td>
<td>.967</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>loyalty</td>
<td>.883</td>
<td>.999</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>reputation</td>
<td>.891</td>
<td>1.008</td>
<td>-1.178</td>
<td>-23.087</td>
</tr>
<tr>
<td>Std. Direct effects</td>
<td>satisfaction</td>
<td>.884</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>image</td>
<td>.000</td>
<td>.967</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>loyalty</td>
<td>.000</td>
<td>.999</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>reputation</td>
<td>.000</td>
<td>25.222</td>
<td>-1.178</td>
<td>-23.087</td>
</tr>
<tr>
<td>Std. Indirect effects</td>
<td>satisfaction</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>image</td>
<td>.730</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>loyalty</td>
<td>.610</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>reputation</td>
<td>.757</td>
<td>.488</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 4-17 shows the indirect effect of the relationship between teaching quality and school reputation, IE = 0.757(> 0.085) and IE (0.757) >>>>> DE (0.000), indicating that student satisfaction is a full mediator in the relationship. Hence, H8 is supported. The IE for the relationship between teaching quality and student loyalty shows IE = 0.610 (> 0.085) and IE (0.610) >>>>> DE (0.000). Therefore student satisfaction is a full mediator in the relationship between teaching quality and student loyalty, demonstrating that H9 is supported. The table 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 et al., 2001). This shows that H10 is partially supported. The indirect effect for student image on the relationship between
student satisfaction and school reputation is shown in Table 4-17, and is IE = 0.488 (> 0.085) and IE (0.488) < DE (25.222). This indicates that school image is a partial mediator, which partially supports H11.

Table 4-18: Standardised Effects for All Endogenous and Exogenous Mediating Variables

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Std Total effect</th>
<th>Std Direct effect</th>
<th>Std Indirect effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mediator</td>
<td>Satisfaction (Sq)</td>
<td>.884 .000 .000</td>
<td>.884 .000 .000</td>
</tr>
<tr>
<td>Endogenous</td>
<td>Image (Iq)</td>
<td>.855 .967 .000</td>
<td>.000 .967 .000</td>
</tr>
<tr>
<td>Hypothesis</td>
<td>H8</td>
<td>Tq   Sq   Rq   Tq   Sq   Rq   Tq   Sq   Rq</td>
<td></td>
</tr>
<tr>
<td>Mediator</td>
<td>Satisfaction (Sq)</td>
<td>.884 .000 .000</td>
<td>.884 .000 .000</td>
</tr>
<tr>
<td>Endogenous</td>
<td>Reputation (Rq)</td>
<td>.891 1.008 .000</td>
<td>.000 25.222 .000</td>
</tr>
<tr>
<td>Hypothesis</td>
<td>H9</td>
<td>Tq   Sq   Lq   Tq   Sq   Lq   Tq   Sq   Lq</td>
<td></td>
</tr>
<tr>
<td>Mediator</td>
<td>Satisfaction (Sq)</td>
<td>.884 .000 .000</td>
<td>.884 .000 .000</td>
</tr>
<tr>
<td>Endogenous</td>
<td>Loyalty (Lq)</td>
<td>.883  .999 .000</td>
<td>.000  .999 .000</td>
</tr>
<tr>
<td>Hypothesis</td>
<td>H10</td>
<td>Sq   Lq   Rq   Sq   Lq   Rq   Sq   Lq   Rq</td>
<td></td>
</tr>
<tr>
<td>Mediator</td>
<td>Loyalty (Lq)</td>
<td>.999 .000 .000</td>
<td>.999 .000 .000</td>
</tr>
<tr>
<td>Endogenous</td>
<td>Reputation (Rq)</td>
<td>1.008 -23.087 .000</td>
<td>25.222 -23.087 .000</td>
</tr>
<tr>
<td>Hypothesis</td>
<td>H11</td>
<td>Sq   Iq   Rq   Sq   Iq   Rq   Sq   Iq   Rq</td>
<td></td>
</tr>
<tr>
<td>Mediator</td>
<td>Image (Iq)</td>
<td>.967 .000 .000</td>
<td>.967 .000 .000</td>
</tr>
<tr>
<td>Endogenous</td>
<td>Reputation (Rq)</td>
<td>1.008 -1.178 .000</td>
<td>25.222 -1.178 .000</td>
</tr>
</tbody>
</table>
The tests summarised in Table 4-18 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.

4.6 Significance Testing of Moderating Relationships

The moderating effect of student loyalty and school image on the relationship between student satisfaction and school reputation were studied using categorically placed variables. Student loyalty and school image which were measured using a Likert scale or interval scales that were transformed into a 3-category measure of codes: 1 - disagree, 2 - neutral, 3 - Agree. Studies show rating scales can be converted into categorical measures to accommodate moderator analysis with several theoretically appealing cut-off points such as those used in this study (Sauer and Dick, 1993; Baron and Kenny, 1986). These were then used in multi-group analysis as recommended in Chapter 3 (Hair et al., 2010; Kline, 2005; Baron and Kenny, 1986). Although there are arguments that suggest non metric variables, which are measured using Likert scales, do not portray the true moderating affect as they lose their statistical power (Sauer and Dick, 1993; Bagozzi and Yi, 1989; Subhash, Durand, and Gur-Arie, 1981), the present study embarked on multi-group analysis and the cut-off points and group formation were set to be quite clear. The
The analysis began with the development of SEM's structural model to evaluate the moderation effect of student loyalty and school image on the relationship between student satisfaction and school reputation. As this study evaluates the thirteen hypotheses posited and not the whole model fit, the abovementioned H12 and H13 were arbitrated with related and respective standardised regression weights, the chi-square values and ratios of chi-square over degrees of freedom for the three categories (disagree, neutral, agree). Figure 4-3 below shows the structural model used for this evaluation of the moderating variable, student loyalty. However, as suggested in past studies, two runs of analyses were performed (Sauer and Dick, 1993; Subhash et al., 1981). In the first run all the three categories of measures (agree, neutral, disagree) were used together, while in the second run was for each of the categories separately. These outcomes were then compared using the difference in chi-square values of the outcome from all the categories and the chi-square values of individual categories. The ratios of these differences over the differences in their
respective degrees of freedom were compared (Kline, 2010; Hair et al., 2010; Sauer and Dick, 1993).

Figure 4-3: Structural Model Reflecting Student Loyalty as a Moderator

4.6.1 Moderating effect of student loyalty

Based on the above suggestion on the evaluating procedure of moderating impact, the moderating effect is confirmed using the ratio of the change (Δ) in chi-square over change in degrees of freedom (df). There is a clear difference in the ratio of change in chi-square over degrees of freedom (df) as depicted in Table 4-19, hence student loyalty seems to play the role of a moderator in the relationship between
student satisfaction and school reputation. The change is significant as the ratio of change is greater (>3) than 3 (Kline, 2011; Hair et al., 2010).

Table 4-19: Comparison of the 3 Categories of Response to Loyalty

<table>
<thead>
<tr>
<th>Statistics</th>
<th>Overall</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>2245</td>
<td>1696</td>
<td>522</td>
<td>102</td>
</tr>
<tr>
<td>df</td>
<td>205</td>
<td>51</td>
<td>51</td>
<td>51</td>
</tr>
<tr>
<td>Δ chi square</td>
<td></td>
<td>549</td>
<td>1723</td>
<td>2143</td>
</tr>
<tr>
<td>Δ in df</td>
<td></td>
<td>154</td>
<td>154</td>
<td>154</td>
</tr>
<tr>
<td>Δ chi square/Δ in df</td>
<td></td>
<td>4</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Value &gt; 3</td>
<td>Value &gt; 3</td>
<td>Value &gt;3</td>
<td></td>
</tr>
</tbody>
</table>

The standardised estimates of the 3 categories as shown in Table 4-19 clearly shows a significant relationship between the moderator (student loyalty) and the endogenous variable (school reputation) and exogenous variable (student satisfaction) thereby supporting H12 by indicating student loyalty’s moderating role in the relationship between student satisfaction and school reputation. Interestingly, Table 4-20 below indicates smaller estimates of the relationship between student satisfaction and student loyalty. Similarly the relationship between student reputation and loyalty has lost its effect as the estimates show smaller values than the direct relationship between satisfaction and teaching quality and the relationship between reputation and satisfaction. This shows that student loyalty has an added effect on the relationship between satisfaction and reputation. This could be observed in all three categories of “agree”, “neutral” and “disagree”, which enhances support for H12.
Table 4.20: Standardized Estimates of Student Loyalty as a Moderator

<table>
<thead>
<tr>
<th></th>
<th>Estimate agree code = 3</th>
<th>Estimate disagree code=1</th>
<th>Estimate neutral code = 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>satisfaction</td>
<td>.682</td>
<td>.719</td>
<td>.806</td>
</tr>
<tr>
<td>satisfaction</td>
<td>.089</td>
<td>.037</td>
<td>.052</td>
</tr>
<tr>
<td>reputation</td>
<td>.503</td>
<td>.589</td>
<td>.608</td>
</tr>
<tr>
<td>reputation</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Tq6</td>
<td>.915</td>
<td>.794</td>
<td>.895</td>
</tr>
<tr>
<td>Tq5</td>
<td>.941</td>
<td>.870</td>
<td>.954</td>
</tr>
<tr>
<td>Tq4</td>
<td>.939</td>
<td>.879</td>
<td>.941</td>
</tr>
<tr>
<td>Tq3</td>
<td>.908</td>
<td>.915</td>
<td>.944</td>
</tr>
<tr>
<td>Tq2</td>
<td>.952</td>
<td>.927</td>
<td>.914</td>
</tr>
<tr>
<td>Tq1</td>
<td>.939</td>
<td>.963</td>
<td>.946</td>
</tr>
<tr>
<td>rq2</td>
<td>.513</td>
<td>.319</td>
<td>.460</td>
</tr>
<tr>
<td>sq1</td>
<td>.850</td>
<td>.881</td>
<td>.898</td>
</tr>
<tr>
<td>sq2</td>
<td>.659</td>
<td>.939</td>
<td>.721</td>
</tr>
<tr>
<td>sq3</td>
<td>.685</td>
<td>.886</td>
<td>.798</td>
</tr>
<tr>
<td>rl1</td>
<td>.783</td>
<td>.788</td>
<td>.799</td>
</tr>
</tbody>
</table>

4.6.2 Moderating effect of school image

The moderating effect of school image was tested using the structural model in Figure 4-4 below, which displays school image as a categorical moderator. The responses were transformed into a 3-category response whereby “agree” was coded as 3, “neutral” was coded as 2, and “disagree” was coded as 1. These were then run in SEM in two stages. Firstly, all three categories were run together, giving an outcome for the “All” category. Then each category was run, providing chi-square values, regression weights, and estimates that were then used to evaluate the differences and the changes that happened when the categories were tested together.
versus when the categories were tested individually (Hair et al., 2010; Kline, 2010; Sauer and Dick, 1993).

![Figure 4-4: Structural Model Reflecting School Image as a Moderator](image)

Table 4-21 indicates there is a significant difference in the ratio of chi-square change to degrees of freedom (df) change compared to data that includes all the categories. Moreover, the significance of a moderating variable is accepted when at least one significant difference is noted and the values of the ratios are greater than 3 (Kline, 2011; Hair et al., 2010). The change that was taken note of is a general change rather than directional change, as the reduction nor the increase in value of change in chi-square for all categories was not taken into consideration as the interest here is restricted to the change in value (Sauer and Dick, 1993; Subhash et al., 1981).
Furthermore, the standardised estimates in Table 4-22 indicate that the relationship between student satisfaction and teaching quality exists and is strong, much the same as the relationship between school reputation and student satisfaction. However, the relationship between student satisfaction and school image and between school reputation and school image do not exist with the addition of school image as a moderator (Bagozzi and Yi, 1989). As such, the notion that school image contributes to the relationship between student satisfaction and school reputation is confirmed. Thus H13 that depicts the moderating effect of school image is supported (Kline, 2011; Hair et al., 2010).

![Table 4-21: Comparison of the 3 categories of response to image](image)

![Table 4-22: Standardized Estimate of School Image as a Moderator](image)
The above outcomes of the analyses performed on the five constructs identified for this study, indicate the direct relationships and indirect relationships of student loyalty and school image on the relationship between student satisfaction and school reputation. Their roles as mediators and moderators show the importance of these constructs in increasing the reputation of an institution. Though the overall model lacks a strong fit, the relationships postulated for the study are supported as summarised in Table 4-23 below.

### Table 4-23 Summary of Hypothesis Testing

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1  Teaching quality and student satisfaction are positively correlated in Hong Kong’s self-financed higher education institutions</td>
<td>Supported</td>
</tr>
<tr>
<td>H2  Student satisfaction and student loyalty are positively correlated in Hong Kong’s self-financed higher education institutions</td>
<td>Supported</td>
</tr>
<tr>
<td>H3  Student satisfaction and school image are positively correlated in Hong Kong’s self-financed higher education institutions</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>Hypothesis</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>H4</td>
<td>Student loyalty and school reputation are positively correlated in Hong Kong’s self-financed higher education institutions</td>
</tr>
<tr>
<td>H5</td>
<td>School image and school reputation are positively correlated in Hong Kong’s self-financed higher education institutions</td>
</tr>
<tr>
<td>H6</td>
<td>Student satisfaction and school reputation are positively correlated in Hong Kong’s self-financed higher education institutions</td>
</tr>
<tr>
<td>H7</td>
<td>Student satisfaction mediates the relationship between teaching quality and school image in Hong Kong’s self-financed higher education institutions</td>
</tr>
<tr>
<td>H8</td>
<td>Student satisfaction mediates the relationship between teaching quality and school reputation in Hong Kong’s self-financed higher education institutions</td>
</tr>
<tr>
<td>H9</td>
<td>Student satisfaction mediates the relationship between teaching quality and student loyalty in Hong Kong’s self-financed higher education institutions</td>
</tr>
<tr>
<td>H10</td>
<td>Student loyalty mediates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions</td>
</tr>
<tr>
<td>H11</td>
<td>School image mediates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions</td>
</tr>
<tr>
<td>H12</td>
<td>Student loyalty moderates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions</td>
</tr>
<tr>
<td>H13</td>
<td>School image moderates the relationship between student satisfaction and school reputation in Hong Kong’s self-financed higher education institutions</td>
</tr>
</tbody>
</table>
4.7 Chapter Summary

This chapter explained the assessment and findings of an extensive analysis of the research data. It commenced with a descriptive analysis of the collected data in order to provide an overview of the data spread and confirmation of normality in the responses. Measurement analysis was carried out to ensure the validity and reliability of the data by using explanatory factor analysis and confirmatory factor analysis with a measurement model, and by also using Cronbach’s alpha test. Items found not valid and reliable were removed from representing the constructs. Thirteen hypotheses were tested using structural equation modelling to verify the research model. This included verification of the theoretically-founded mediating and moderating effects of student loyalty and school image.

Eight of the thirteen hypotheses were supported, two were partially supported, and the remaining three was rejected. The following chapter comprehensively discusses these findings based on the research questions developed in Chapter 2.
Chapter 5

Conclusion

5.1 Introduction

The purpose of this study was to examine the influences of teaching quality, student satisfaction, student loyalty and school image on school reputation of self-financed higher education institutions in Hong Kong. A self-administered anonymous questionnaire survey was used for data collection, and quantitative research methods were adopted for data analysis. Three critical areas were considered in the assessment process: direct correlations, mediating effects, and moderating effects.

The chapter commences with a review of the research framework and then examines each of the research questions raised in Chapter 2. The implications from the research findings in the areas of the management of self-financed higher education institutions, students, education researchers, and educators are evaluated. The contributions to the relevant parties and limitations of the study are also discussed. Suggestions and recommendations for further similar studies are also provided. Finally, a conclusion of this study is provided at the end of the chapter.

5.2 Summary of Results and Findings

This section evaluates the research framework and analyzes the findings presented
in Chapter 4. Research findings regarding the direct correlations among the constructs, the mediating effects of student satisfaction, student loyalty, and school image and the moderating effects of student loyalty and school image are discussed in this section.

5.2.1 **Framework Review**

After evaluating the ontology, epistemology, axiology, and methodology in relation to the research topic and question, a positivist paradigm with a quantitative approach was chosen and a cross-sectional design using a simple random sampling technique was employed. Validity and reliability items were adopted from previous studies for research model measurement and a 7-point Likert scale was used to measure the teaching quality, student satisfaction, school image, student loyalty, and school reputation.

In order to collect data, a self-administrative anonymous questionnaire survey was conducted among a sample of 320 students randomly drawn from full-time students studying at consenting self-financed higher education institutions in Hong Kong. The questionnaire was designed with a total of 19 statements under two sections. Section A was designed to critically measure the quality of teaching staff, school reputation, school image, student satisfaction, and student loyalty, whilst Section B was used to collect demographic data from the respondents. A pilot study was undertaken before conducting the final survey. Ethical issues involved in the collection of the data complied with the guidelines issued by the University of Newcastle, Australia. As the research required the collection of
information from students using a questionnaire, prior approval was obtained from the targeted institutions. An invitation letter was prepared and sent to the targeted institutions and a consent letter obtained from each before the questionnaire was distributed to students. Collected data were analyzed using statistical package for the social sciences (SPSS) version 22 for descriptive analysis, factor analysis, Structural Equation Modelling, and regression analysis.

Relevant literature suggests that a rapidly expanding market together with growing consumerism has caused increasing competition for students among higher education institutions (Law, 2010; Petruzelli and Romanazzi, 2010; Shamuganathan and Tong, 2010). Education institutions having a sound reputation ensure support from external parties that enhance its competitive power (Jeng, 2008; Balmer and Greyser, 2003; Nakra, 2001; Standifird, 2001). To achieve a good school reputation, it is crucial to assure high teaching quality that causes student satisfaction and a unique school image in order to turn satisfied students into loyal ones (Nguyen and LeBlanc, 2001, 2000; Shamuganathan and Tong, 2010). As such, a research question was developed to gain a better understanding of the respective influences of teaching quality, student satisfaction, school image, and student loyalty on school reputation. Based on the literature reviewed for this study, thirteen hypotheses were developed to answer the research questions and test the relevant proposed conceptual framework.

5.2.2 Research Findings

A total of 297 questionnaire responses (92.8% response rate) were keyed into a
SPSS (version 22) data file. The demographic data of this study showed that almost the same percentage of male and female students at Hong Kong’s self-financed higher educational institutes responded to the questionnaire. The majority of students who responded were below 25 years of age. Almost the half of respondents was pursuing associate degrees while the other half were pursuing undergraduate degrees. The majority of respondents were business students.

The descriptive analysis provided in Chapter 4 indicated the level of agreement that all items measured using a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The mean value with average standard deviation for teaching quality, school reputation, school image, student satisfaction and student loyalty were leaning toward the agreement to the statements, thus the responses were closer to slightly agree rather than agree and strongly agree. The skewness of each construct indicated negative values, supporting the average response as leaning toward agreeing with the statements and the low kurtosis statistics implied normality in response or a good spread of responses in the study.

5.2.3 Direct Influences

Teaching quality as an independent variable was hypothesized to have direct influences on student satisfaction (H1). The simple linear regression models addressing these hypotheses in Chapter 4 indicated that the hypothesis was supported. The results show that there are positive and direct influences of teaching quality on student satisfaction.
Student satisfaction as an independent construct was hypothesized to have direct influences on student loyalty (H2) and school image (H3). Both H2 and H3 are supported. According to the result of H2, when student satisfaction increases by 1 unit, student loyalty will increase by 1 unit. Similarly, H3 resulted in a positive and significant relationship, indicating the importance of student satisfaction and school image. Unlike H2 and H3, the result of H6 reveals that the direct relationship between student satisfaction and school reputation in the study is insignificant; H6 is therefore not supported.

The result of H4 indicates that the direct relationship between student loyalty and school reputation in the study is insignificant; H4 is therefore not supported. Similar to H4, the findings of H5 reveal that there is no direct relationship between school image and school reputation, implying that H5 is not supported.

5.2.4 Mediating Effects of Student Satisfaction, Student Loyalty and School Image

To confirm mediating effect, three conditions must be established. First, the independent variable significantly predicts the dependent variable; second, the independent variable significantly predicts the mediator variable; and third, once the dependent variable is regressed on both the mediator and the independent variable, the mediator significantly predicts the dependent variable, while the predictive utility of the independent variable is reduced (Baron and Kenny, 1986). Therefore, mediation is said to be partial if the effect of the independent-dependent variable relationship reduces, though remains significant, with the addition of a
mediator in the relationship. Mediation is said to be full if the effect of the independent-dependent variable relationship is insignificant with the addition of a mediator in the relationship (Baron and Kenny, 1986).

According to the mediation rule of thumb adapted from Hair et al., (2010), H7, H8 and H9 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 H10 and H11 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 H10 and H11 are partially supported.

5.2.5 Moderating Effects of Student Loyalty and School Image

The moderating effect of student loyalty and school image on the relationship between student satisfaction and school reputation was tested based on Baron and Kenny’s (1986) and Hair et al.’s (2010) suggestions. Prior studies indicate that moderators are measured using nominal scales to enable the interaction affect, that is, the data collected on student loyalty and school image has to be transformed into a nominal scale data as “agree”, “neutral” and “disagree” (Dagger and David, 2012; Vlachos, 2012; Kline, 2011; Hair et al., 2010; Sauer and Dick, 1993). The comparison of ratios of chi-square over degrees of freedom (df) is made. The change is considered significant if the ratio of change is greater (> ) than 3 (Kline,
2011; Hair et al., 2010), while the variable concerned is considered to have a significant moderating impact.

H12 and H13 are supported with findings indicating a positive moderating effect of student loyalty and school image on the relationship between student satisfaction and school reputation. This implies that student loyalty is crucial for student satisfaction to turn into school reputation, and that school image should increase in order for school reputation to increase.

5.3 Interpretation and Discussion of the Research Findings

The result of H1 indicates a positive relationship between teaching quality and student satisfaction in Hong Kong’s self-financed higher education, which means that the higher the teaching quality, the higher the student satisfaction. This finding supports the finding from prior studies in the higher education setting that teaching quality is one of the main factors for assessing quality of educational institutions and has a strong direct impact on the level of student satisfaction (Navarro et al., 2005; Guolla, 1999). According to Shamuganathan and Tong (2010), the contribution of teaching quality to student satisfaction is commonly accepted. Students normally assess the quality of an education institution based on tangibility (teachers quality), reliability and responsiveness (methods of teaching), management of education institution as the direct impact on the level of satisfaction (Navarro et al., 2005). Students’ evaluations play a crucial role in the assessment of teaching effectiveness in higher education institutions (Gursoy and Umbreit, 2005; Elnicki et al., 2003). According to the literature on teaching
effectiveness, knowledge and organization, clarity, grading and evaluation, teaching methods and skills, lecturer personality, interaction with students and passion and enthusiasm are important factors (Bett and Makhanu, 2013; Dodeen, 2013; Gurney, 2007; Bulger et al., 2002).

Therefore, academics should find ways to improve teaching quality, for example, by developing new pedagogies suitable for today’s students, becoming a specialist or expert in a particular area of study, or equipping themselves with further studies in a particular subject area. The management of education institutions should design a more appropriate compensation and reward system for recruiting appropriate teaching staff and maintaining good quality of teaching.

The findings of H2 validate and support the direct relationship between satisfaction and loyalty (Kursunluoglu, 2014; Tam, 2012; Hartmann and Ibanez, 2007; Hennig-Thurau et al., 2001; Oliver, 1999; Hallowel, 1996; Jones and Sasser, 1995; Anderson et al., 1994; Heskett et al., 1994; Storbacka et al., 1994; Anderson and Sullivan, 1993; Johnson amd Fornell, 1991). The argument of Jones and Sasser (1995) regarding higher student satisfaction resulting in higher student loyalty are also supported in this study, as hypothesised in H2. In the literature of relationship management, customer loyalty is viewed as an attitude resulting from a commitment to repurchase a preferred product or service (Oliver, 1999, 1997; Dick and Basu, 1994; Reichheld and Sasser, 1990). In fact, there is an increasing awareness of the importance of student loyalty in the higher education sector (Marzo-Navarro et al, 2005a; Hennig-Thurau et al., 2001). Management of self-financed education institutions should realize that student loyalty not only
helps educational institutions attract potential candidates and retain existing students (Hennig-Thurau et al., 2001; Oliver, 1997; Dick and Basu, 1994) but also maintain competitiveness in local and overseas educational markets (Elliot and Healy, 2001; Kotler and Fox, 1995). Therefore, higher education institutions must find ways to improve positive word-of-mouth and recommendations among stakeholders, such as good matriculation and employment rates, well-structured programme curricula, and all-rounded facilities support. Meanwhile, the result of H3 validate Helgesen and Nessets’ (2007a) conceptual model showing significant influence of student satisfaction on the image of college programmes. The current study also supports the argument of Johnson et al. (2001) that school image is a consequence of student satisfaction, meaning that the higher the student satisfaction, the greater the school image is over time.

On the other hand, the findings of H4 do not support prior studies regarding the findings of a positive correlation between corporate reputation and customer loyalty where reputation plays an important role in establishing customer loyalty (Caruana and Ewing, 2010; Roberts and Dowling, 2002; Andreassen and Lindestad, 1998a; Andreassen, 1994). In addition, the result of H5 do not support the findings of Sung and Yang (2008) regarding the significant correlation between school image and reputation (r = 0.47, p < 0.001). The findings from H6 also do not support prior studies showing corporate reputation as being an outcome of customer satisfaction (Carmeli and Tishler, 2005; Rust et al., 1996; Yi, 1990; Oliver, 1980). According to evidence from H4, H5, and H6, it is not clear in the education context what direct influence student satisfaction, student loyalty, and school image have on school reputation. This implies that other constructs may
have a significant impact on school reputation rather than student satisfaction, student loyalty and school image, although prior studies support the contribution of student satisfaction to school reputation.

The result of H7 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 H8 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 H9 supports prior empirical studies by Chang et al. (2013), Alrubaiee and Alkaa'id (2011), Kheng et al. (2010), Mosahab et al. (2010), Lai et al. (2009), and Ndubisi (2006). The findings of H7, H8, and H9 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.

H10 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 study 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 H11, the contribution of student satisfaction may be taken lightly by institutes of higher education as a contributor to school reputation. This study shows school image working as a mediator to increase school reputation, and that student satisfaction ought to translate into 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.

Although there appears to be no empirical studies to compare with in regard to the moderating effect of student loyalty and school image on the relationship between student satisfaction and school reputation, the findings of H12 and H13 can nevertheless be used as a guide for education service providers who may be considering ways to turn satisfied students into loyal students and ways to enhance school image and turn it into reputation. As a significant moderator, student loyalty and school image further enhance the effect of student satisfaction on reputation. This is in agreement with previous studies, as student satisfaction may not directly have a strong effect on building reputation. It takes time and effort to build reputation and it is undeniable that student satisfaction is one of the many ways to improve reputation. Nevertheless, once a good reputation is
established it attracts repeated purchase and repeated use of the service. Subsequently, a self-financed higher education institution could become the first recommended school when students and parents make school choices and, perhaps more importantly, it could be the school that is in the forefront of one’s mind when the need to recommend arises (Nguyen and LeBlanc, 2001, 2000). Thus, as a moderator, student loyalty tends to be crucial, even though student satisfaction has been achieved. Moreover, school image and reputation are closely related, giving image a big role to play. Studies indicate that image is essential to increase reputation (Shamuganathan and Tong, 2010; Nguyen and LeBlanc, 2001, 2000). Thus, the current study verifies the relationship between reputation and image and loyalty, and solidifies the crucial moderating role played by image and loyalty.

5.4 Implications and Contribution of the Research Findings

This study provides a theoretical contribution to the reputation of self-financed higher education institutions by having developed a research model that illustrates and anticipates the effects of teaching quality, student satisfaction, student loyalty and school image on school reputation. With reference to existing relevant literature, this study investigated the complicated relationships among the constructs of teaching quality, student satisfaction, student loyalty, school image, and school reputation. Several findings of the current study are different from the prior similar empirical studies. First, though theoretically most of the relationships presented in this study exist, the positive correlation of student loyalty, school image and student satisfaction on school reputation may not be supported due to the analysis that views the entire model as one. However, the mediating
and moderating relationship of student loyalty and school image may have reduced the effect of such correlations. Second, 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 study. 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. Third, 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, loyalty, as a moderator, enhances the effect of student satisfaction on school reputation. Self-financed higher education institutions need to find ways to create loyal stakeholders. Even though students may have a certain level of satisfaction with a school, satisfaction itself may not directly and significantly help improve school reputation. Since few prior studies have been conducted on the mediating effect of loyalty, and even likely no empirical analysis performed on the moderating impact of loyalty on the relationship between customer satisfaction and reputation, the current findings provide a valuable contribution to this area in the context of self-financed higher education. Forth, 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. Furthermore, school image, being a moderator, is essential to improve school reputation through student satisfaction. Self-financed higher education institutions need to find ways to improve their image by exploring and developing the relationship with their external and internal stakeholders. Even though students may have a certain level of satisfaction with a school, the satisfaction may not directly and significantly help improve the school’s reputation without a good school image. Thus, higher education institutions should consider how to improve their image and reputation by exploring their relationship with different stakeholders. Since there appears to be no prior empirical studies conducted on the mediating and moderating effects of image on the relationship between customer satisfaction and reputation, the current findings provide a contribution in this area in the context of self-financed higher education.

5.4.1 Implications for Policy Setters and Administrators

These findings have theoretical and practical implications for policy setters and administrators of higher education in Hong Kong, especially the self-financed higher education institutions. Before the beginning of the new millennium, the higher education industry was dominated by government-funded universities. The self-financed higher education sector developed dramatically with annual student intake from 9,000 in 2001/02 to over 70,000 students in 2013/14 (IPASS, 2014). Under the competitive environment of the self-financed higher education sector, one of the methods for improving the recruitment rate of individual education institutions is by improving school reputation. Self-financed higher
education institutions do their best to formulate strategic initiatives to improve student satisfaction in order to establish a unique and prestigious school reputation. For instance, the Open University of Hong Kong has established a reputation as the first self-financing university in Hong Kong with the application of an innovative and flexible learning model for providing distance learning, e-learning and face-to-face teaching for students. High teaching quality enhances student satisfaction and in turn promotes a positive school reputation. The findings of the current study validate the positive and direct impact of teaching quality on student satisfaction. Therefore, self-financed higher education institutions are keen to attract potential candidates by highlighting their well-qualified teaching teams with well-articulated curricula and pastoral care in order to help students achieve their goals. By delivering these messages, self-financed higher education administrators intend to establish an outstanding reputation by analysing and matching potential students’ needs and wants to the corresponding programme development, various resource support, and learning environment.

One of the successful cases is the Heng Seng Management College (HSMC), which is an approved post-secondary college in Hong Kong that began offering undergraduate honors degree programmes, associate and pre-associate degree programmes in 2010. HSMC developed pre-university programmes that have become so successful that HSMC’s reputation helps its graduates to gain admission to top universities such as The University of Hong Kong and The Chinese University of Hong Kong. According to the South China Morning Post (Yeung, 2013), the President of HSMC said that the school has built a reputation for accepting less capable students but turning out students who score multiple A
grades on the A-level public examination, and for providing a ‘through-train’ education services for students. Reputation plays a big influence when making school choice. In 2012, the college was flooded with 3,000 applications following the release of the Hong Kong Diploma of Secondary Education results and accepted 1,800 students with an annual tuition fee of HK$62,000 per student as compared with HK$42,100 at public universities (Yeung, 2013). On the other hand, the administrators of self-financed higher education institutions may find it challenging to attract potential candidates and retain existing students. The findings of this study should spur policy setters and administrators to carefully consider how to invest extra resources such as on improving teaching quality and campus resources in order to meet students’ needs and wants. This will enhance their stakeholders’ satisfaction and loyalty and, in turn, establish an impressive image and reputation in the self-financed higher education sector.

5.4.2 Implications for Students, Academics and Researchers

The findings from this study are of theoretical and practical importance to students, teachers and researchers. As Hong Kong is reshaping its higher education system, a number of self-financed higher education institutions have recently formed, such as Hang Seng Management College, Open University of Hong Kong, Shue Yan University, and a relative newcomer called Centennial College that was founded in 2013. These private institutions are competing for government subsidies as well as for student recruitment. The important factors for winning among these institutions are establishing a good reputation and enhancing students’ satisfaction.
This study’s questionnaire survey on student satisfaction regarding school image and reputation will provide education institutions with valuable information for redefining strategic goals and plans and improving the quality of teaching. It may help students identify and distinguish which education institution is better for them in terms of quality and support. It will also help education researchers understand the significance of student satisfaction with self-financed higher education institutions in Hong Kong. The real-life incidents below illustrate and support the significance of this study.

In recent years, private tertiary institutions have been running programmes and recruiting students without direction, compromising the quality of teaching. In academic year 2012/13, it was discovered that the total number of applications for the programmes of associate degree, pre-associate degree, higher diploma, advanced diploma, and diploma was 12,127 and a total of 9,100 offers were made by two community colleges - Community College at Lingnan University (CCLU) and Lingnan Institute of Further Education (LIFE) - both under Lingnan University, and that the take-up percentage was 56.6% or 5,153 intakes from the 9,100 offers as at 13 November 2012 (Ip, 2012a). After this over-enrolment incident was exposed, the President of Lingnan University, the Dean of CCLU and LIFE, and the Assistant Director (Academic Affairs and Quality Assurance) of CCLU resigned. The incident drew wide media coverage and aroused public concern over the operations, regulations and quality of self-financed post-secondary education institutions, and even the Hong Kong education system itself. An Inquiry Panel, formed in September of 2012, was responsible for the investigation and a review of the administrative operations and systems regarding the
over-enrolment incident as well as the impact on teaching and learning. According to the Inquiry Panel’s report, the actual student enrolment approved as at 5 October 2012 was inflated by more than 100% of the target student number of the programmes of associate degree, pre-associate degree, higher diploma, advanced diploma, and diploma (Ip, 2012b). The Inquiry Panel made twenty-nine recommendations – eleven for student perceptions regarding teaching, learning, resources and support, seven for CCLU and LIFEs’ governance and image, five for student enrolment, admission and further studies, five for quality assurance, and one for crisis management (Ip, 2012b). The Inquiry Panel also found that the phenomena of over class size (238 out of 454 classes, that is 52.42%) was serious in language courses in both CCLU and LIFE and the contact hours between teachers and students was reduced from three hours to two hours for four weeks, starting from the week of 24 September 2012 (Ip, 2012b). The Inquire Panel also reported that there were 263 teaching staff newly hired for 2012/13, including 136 part-time teaching staff engaged in administrative work (Ip, 2012b). The incident obviously affected the reputation and image of the institutions involved.

A survey conducted between May and June 2014 by The University of Hong Kong's independent public opinion programme found that the performance of UGC-funded universities dropped and self-financed education institutions started to become more popular. The survey showed that Hong Kong people ranked the private Shue Yan University as eighth, which was one place above government-funded Lingnan University (Zhao, 2014). This is the first time a private education institution has ranked higher than a UGC-funded one since the
survey was first conducted 16 years ago. The ratings were on the basis of the institutes' reputation, facilities, staff and student quality, and variety of degree programmes. Dr Shi, editor-in-chief of a non-profit website known as Education18.com, commented that Lingnan ranked below Shue Yan because Lingnan’s image had been adversely affected by the over-enrollment scandal in academic year 2012/13 (Zhao, 2014).

The Lingnan incident supports the findings of this study that the teaching quality significantly affects student satisfaction, and student satisfaction significantly affects student loyalty and school image. Student loyalty and school image mediate and moderate the relationship between student satisfaction and school reputation. Lingnan University eventually had to change its senior management, including the President of Lingnan University, the Dean of CCLU and LIFE, in order to salvage its image and reputation in the eyes of the public.

The findings of this study may also be useful for students as both customers and as assets of higher education institutions. Potential applicants may use the findings for selection criteria when considering which higher education institution to enroll, and student performance contributes significantly to the institution’s image and reputation. Quality of teaching staff, school resources and support, and track record of producing good achievers, are all essential elements in the formation of a school’s image and reputation.

Education researchers may find the methodology used for this study useful and the findings enlightening. The personal details collected from the questionnaire
survey, such as gender, age, level of study, and years of study in their current institutions, were needed to provide a profile of respondents. The other data collected were analysed using a number of tests such as the non-response bias test, tests for validity and reliability, and confirmatory factor analysis. To facilitate the interpretation of findings and draw conclusions, the researcher concentrated on analysing the responses from students to each construct of the questionnaire administered to them.

The measurement scales for this study met the reliability and validity tests. For testing the validity of hypotheses in this study, confirmatory factor analysis (CFA) and structural equation modelling (SEM) confirmed the model fit using the data collected and the validity of items used for measuring the relationship of the latent variables. Exploratory factor analysis (EFA) was used in the study and confirmed the items and links presented in the hypothesized framework without the existence of common method bias. For testing the hypotheses, SEM was used to give empirical supports to the influence of teaching quality, student satisfaction, school image and student loyalty on school reputation of self-financed higher education institutions.

Cronbach’s alpha was applied for testing the reliability of measures. Teaching quality, student satisfaction, school image, student loyalty and school reputation were based on Cronbach’s alpha tests and all these five constructs met the Nunnally’s (1978) recommendation for management research as resulting in alpha ($\alpha$) > 0.8. Furthermore KMO analysis showed that the sampling adequacy was excellent for this study. Bartlett’s test of Sphericity showed that validity tests
could proceed as Chi square ($\chi^2$) = 4184.15, degrees of freedom (df) = 136, and p-value = 0.0001. To allow the convergent and determinant validity of items measuring the five variables in the study, Varimax rotation test suppressed factor loading between 0.5. The item “I will maintain my relationship with my institution after I graduate” in construct – student loyalty and the item “My institution is better than other institutions” in construct – school reputation were eventually removed.

5.4.3 Contribution of the Research to the Body of Knowledge

This study contributes to the body of knowledge in the relevant area of study by validating the theories and concepts of relationships between constructs - service quality, customer satisfaction, corporate image, customer loyalty, and corporate reputation. This knowledge may be applicable to other areas of studies such as relationship marketing, service marketing, corporate reputation and reputation management. Despite many studies having confirmed the influence of teaching quality on student satisfaction, student loyalty, and school image, the findings of this study provides more in-depth evidences of teaching quality as a significant factor on student satisfaction and, in turn, student satisfaction strongly affects student loyalty and school image. Therefore, this study sends an important message to self-financed higher education institutions that if they want to improve their institutions’ reputation, enhancement of student satisfaction is a top priority and teaching quality is a key important asset for achieving student satisfaction. The study also verifies the theoretically-founded mediating and moderating effects of student loyalty and school image on the direct relationship between student
satisfaction and school reputation. The findings of this study provide evidence of
the significance of such impacts and further stresses the importance of student
satisfaction on school reputation (Shamuganathan and Tong, 2010; Nguyen and
LeBlanc, 2001, 2000). In other words, through the mediating and moderating
effects of customer satisfaction and corporate reputation, self-financed higher
education institutions need to address the importance of turning satisfied customers
into loyal customers and the development of corporate image in order to improve
their reputation in the self-financed education sector.

5.5 Limitations of the Study

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 study 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 et al., 2006). However, the limitations of the study need to be
addressed.

Firstly, as there were only 320 respondents from twenty-four approved
self-financed higher education institutions in Hong Kong, the size of the sample
may not be sufficient for generalization and as the sample came solely from
self-financed programmes, the results may not apply to other programmes.
Further, the expectations may vary between private and public schools, among primary, secondary and universities, and between schools with geographical and/or educational jurisdiction differences. Such differences could be addressed with different hypotheses in future studies.

Second, the study focused on investigating student’s satisfaction on a cross-sectional basis, restricting the generalizability of the statistical findings over time. A longitudinal similar study is advised for providing a clear causal relationship between the constructs.

Third, although this study examined the relationship between school reputation and student satisfaction, the study relied on the students’ perception of school reputation, which some may consider too subjective. As reputation is a complicated asset to measure, it is suggested to use other objective factors for measuring school reputation.

Fourth, the study 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.

Fifth, although this study 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 moderators such as third party judgments,
institutional forces, and reputational capital could be examined in a future study.

Sixth, this study validated that the mediator and moderator 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.

5.6 Recommendations for Further Research

Based on the findings of this study, recommendations are made for further similar research. Firstly, as this study collected data by using a cross-sectional approach, other models such as a longitudinal study with measurements over a longer period of time could provide a clear picture of the causal relationships between quality of teaching staff, student satisfaction, student loyalty, school reputation and image. The finding would help the management of self-financed higher education institutions define appropriate strategies and allocate resources for promoting
reputation, identifying students’ needs and wants, and in turn, enhancing students’ satisfaction and recruitment rate.

Secondly, 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.

5.7 Conclusion

This chapter explicated the findings of the current empirical study, discussed and analyzed the implications for policy setters, administrators, students, academics and researchers, identified the contribution to the relevant body of knowledge, evaluated the limitations of the study and made recommendations for further related research.

Findings of the study show that teaching quality has a direct influence on student satisfaction and that student satisfaction has a direct influence on student loyalty and school image. It is also 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 and fully moderates the relationship between student satisfaction and school reputation. Nevertheless, the evidences of the study indicates that student loyalty, school image and student satisfaction does not have a direct influence on school
reputation.

Since the emergence of Hong Kong’s knowledge-based economy and the dramatic changes in the higher education sector over the past twenty years, the demand for high-quality higher education, especially self-financing post-secondary education, has propagated. According to a fact sheet published by the Information Services Department of the Hong Kong Special Administration Region (HKSAR) there were 26 higher education institutions offering self-financed locally accredited sub-degree and degree programmes providing around 70,000 full-time annual intake places in the 2013/14 academic year, and about 1,100 courses in Hong Kong leading to the award of non-local academic or professional qualification offered by institutions based in the UK, Australia, US, Canada and Mainland China. The number of self-financed programmes has significantly increased from around 20 in the 2001/02 academic year to over 400 in the 2012/13 academic year (Nip, 2014). As Hong Kong is a regional education hub for harvesting professionals for the region, the reputation of self-financed higher education institutions is especially important.

In order to achieve a high recruitment rate, attract high quality students, and enhance competitiveness in the international self-financed higher education market, higher education institutions need to play an active role in building their own reputation. To achieve this goal, self-financed higher education institutions need to ensure high teaching quality, which enhances student satisfaction and unique school image and turns satisfied students into loyal students (Shamuganathan and Tong, 2010; Nguyen and LeBlanc, 2001, 2000). The
current study achieved similar evidence of school reputation and gave support to prior relevant research.

As this study was solely conducted in the context of Hong Kong, future similar research should be conducted in other jurisdictions in order to ensure the generalizability of the findings. For instance, the research framework developed in this study could be applied to self-financed higher education institutions in Singapore or Malaysia for comparison purposes. Also, researchers of higher education may wish to conduct a longitudinal study for investigating the implications of quality and satisfaction on reputation.
References


http://www.msmc.la.edu/include/learning_resources/online_course_environment/A-HEC_IsL0205.pdf


Andreassen, T. (1994). Satisfaction, loyalty and reputation as indicators of


south east Europe bucharest.


Cha, L. (2010). Aspirations for the higher education system in Hong Kong (pp. 1-176). Hong Kong: University Grants Committee.


Conway, T., Mackey, S., & Yorke, D. (1994). Strategic planning in higher education: who are the customers? The International Journal of


Dann, S. (2008). Applying services marketing principles to postgraduate


Elliot, K., & Healy, M. (2001). Key factors influencing student satisfaction related to recruitment and retention. Journal of Marketing for Higher Education,


Publications.


Hong Kong Shue University. Retrieved 20 Sep 2014, from http://www.hksyu.edu/


Reputation Review, 8(2), 214-232.


Marginson, S. (2009). Hong Kong higher education review (HER) external expert report.


Mittal, V., & Kamakura, W. (2001). Satisfaction, repurchase intent, and repurchase
behavior: Investigating the moderating effect of customer characteristics.

Journal of Marketing Research, 38(1), 131 - 142.


Nip, P. (2014). *Hong Kong: The facts - Education*. Hong Kong: Information...
Services Department.


Owino, E. (2013). *The influence of service quality and corporate image on customers satisfaction among university students in Kenya*. (Doctor of Philosophy in Business Administration), University of Nairobi, School of
Business. (D80/80121/2009)


Tourism and the Centre for Education Statistics Division.


Rust, R., & Zahorik, A. (1993). Customer satisfaction, customer retention, and


Topley, K. (1981). *Overall review of the Hong Kong education system.* Hong Kong: HKSAR.


Tse, C. (2014). Government Expenditure on Education. from Education Bureau


Weise, M. (2008). *A higher education marketing perspective on choice factors and information sources considered by South African first year university students*. (PhD (Marketing Management)), University of Pretoria, Pretoria, South Africa. (91009970)


Zeithaml, V., Bitner, M., & Gremler, D. (2008). *Services marketing - Integrating*
customer focus across the firm (5th ed.). Boston: McGraw Hill.


Zhao, S. (2014). Shue Yan, city's first self-financed university, is more popular than a government-funded one. *South China Morning Post*.

Appendix A: Invitation Letter to Research Organization/Institute
Appendix A: Invitation letter to research organization/institute

<Date>

Dr Sharon Ayson  
Newcastle Business School,  
Faculty of Business and Law,  
University of Newcastle,  
Sydney CBD Campus,  
60 Bathurst Street,  
Sydney 2000 NSW AUSTRALIA  
Tel: (61) 2 8262 6414  
Sharon.Ayson@newcastle.edu.au

Information Statement for the Research Project:

"An investigation of the relationship between students’ satisfaction and the school’s reputation on the reputation of self-financed higher education institutions in Hong Kong"

You are invited to participate in the research project identified above. This research is part of Ms Arison Woo’s Doctor of Business Administration (DBA) studies at the University of Newcastle, Australia and it is supervised by Dr. Sharon Ayson, Senior Lecturer in Management at the University of Newcastle, Australia.

Purpose of research project
This study aims to investigate the relationship among students’ perceptions, academic behaviours and school reputation. This study focuses on students’ perceptions of teachers’ behaviours and investigates this relationship on the reputation of self-financed higher education institutions in Hong Kong. Based on the findings of the project, both academic scholars and school management will have a better understanding of the importance of school reputation management and of how to signal an institution’s reputation to stakeholders.

Who can participate in the research?
We are seeking students who are aged 18 years and over to participate in this research. Students who are studying in self-financed higher education programmes at your institution will be invited to participate in this research.

Inclusion and exclusion criteria for participation
Participants, who are aged 18 years and over, and are studying in self-financed higher education programmes in Hong Kong and who are able to communicate in English are eligible to participate.

Your participation is entirely voluntary
Your organisation’s participation in this research is entirely voluntary. Whether or not you decide to participate and have your institution included in this research study, your decision will not disadvantage you.

If you do decide to participate, you may withdraw from the project at any time without giving a reason.
What would you be asked to do?
If you agree to participate, you are requested to sign the attached Organisational Consent form and return it in the return envelope provided. This action will confirm that you have read the information outlining the research project and indicate that permission is granted to the researcher to conduct this research in your organisation. The researcher will negotiate with you regarding the dates and times that it is most convenient and appropriate to approach your students to invite them to participate in the study and to complete the self-administered anonymous survey. A sample consent letter is attached for your reference.

In the survey, the students will be asked to identify the extent to which they agree/disagree with the items in relation to teachers’ behaviours, school reputation and students’ satisfaction. It will provide general information about their perceptions of school reputation and teacher’s behaviours in self-financed higher institutions in Hong Kong. The survey and the survey information sheet are attached for your perusal.

This is a one-off anonymous survey. Participants will not be identifiable in any way. Their participation to this research is entirely voluntary and no reimbursement or rewards will be given.

How much time will it take?
Participants are required to read the introduction thoroughly before completing the survey. The survey should take about 10-15 minutes to complete. All students will be invited to take part in the survey and the survey will be distributed at the dates and times that have been negotiated with you as being the most convenient and appropriate. Participants can return the completed survey to the collection boxes provided at the venue.

What are the risks and benefits of participating?
It is entirely academic research and there are no anticipated risks of participation. There is no obvious tangible benefit for the participants or others. For institutions that decide to participate in this study, a report providing the consolidated results and findings will be supplied, after final acceptance of the research thesis by the Office of Graduate Studies. For those who need to do similar business research in their course of study they may benefit from observing how the ethical research procedures of this project are conducted. There may also be a benefit for students to reflect on their choice of institution to undertake their studies and whether it meets their expectations and needs.

How will your privacy be protected?
The survey is anonymous and it will not be possible to identify participants from their answers. The surveys will be shredded after final acceptance of the thesis by the Office of Graduate Studies. An electronic copy of the data will be stored securely at the Newcastle School of Business, University of Newcastle, for a minimum period of 5 years from the date of final acceptance of the thesis.

How will the information collected be used?
The information from the research results will form part of Ms Arison Woo’s DBA dissertation. Individual participants will not be identified in the thesis or any reports arising
from the project. The findings of this study may be published in a scholarly journal. Neither the institutions nor individual participants will be named or be able to be identified from the published report.

What do you need to do to participate?
Please read this Information Statement and be sure you understand its contents. If you are happy for your organisation to participate, please sign and return the attached Organisational Consent form in the return envelope provided. If there is anything you do not understand, or if you have questions, contact the researcher via email Arison.Woo@studentmail.newcastle.edu.au.

Further information
If you would like further information please contact Dr Sharon Ayson via email Sharon.Ayson@newcastle.edu.au about the project.

Thank you for considering this invitation.

Dr Sharon Ayson
Senior Lecturer in Management
Newcastle Business School,
Faculty of Business and Law
University of Newcastle, Australia

Ms Arison Woo
DBA student
University of Newcastle, Australia

Complaints about this research
This project has been approved by the University’s Human Research Ethics Committee, Approval No. H-2013-0061.

Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to the Human Research Ethics Officer, Research Office, The Chancellery, The University of Newcastle, University Drive, Callaghan NSW 2308, Australia, telephone +61 2 49210333, email Human-Ethics@newcastle.edu.au.
Appendix B: Consent Letter to be Obtained from Research Institutions
Appendix B: Consent letter to be obtained from research institutions

<Date>

Dr Sharon Ayson  
Newcastle Business School,  
Faculty of Business and Law,  
University of Newcastle,  
Sydney CBD Campus,  
60 Bathurst Street,  
Sydney 2000 NSW AUSTRALIA  
Tel: (61) 2 8262 6414  
Sharon.Ayson@newcastle.edu.au

RE: An investigation of the relationship between students' satisfaction and the school's reputation on the reputation of self-financed higher education institutions in Hong Kong

Dear Sirs,

I, ________________________________, have read the information about the research project, "An investigation of the relationship between students' satisfaction and the school's reputation on the reputation of self-financed higher education institutions in Hong Kong." Which is to be conducted by Ms Arison Woo (the researcher) from the University of Newcastle, who is supervised by Dr. Sharon Ayson, Senior Lecturer in Management at the University of Newcastle, Australia, and all of my queries have been answered satisfactorily.

I hereby grant permission for our students who are studying in self-financed higher education programmes in Hong Kong to be approached by the researcher, at the dates and time negotiated with me, regarding their participation in the study. I give my consent freely and I understand that the project will be conducted in accordance with the Information Sheets provided to me, copies of which I have retained.

I understand I can withdraw my approval for my organisation to participate at any time, without penalty, and do not have to give any reason for withdrawing.

I understand that all of the information collected will remain confidential to the researchers and that all of the information gathered from the survey will be stored securely and once the information has been analysed the questionnaires will be destroyed. I also understand that my identity will not be revealed without consent to anyone other than the investigator/s conducting the project.
Appendix C: Survey Information Sheet to Individual Participant
Appendix C: Survey Information Sheet to Individual Participant

<Date>

Dr Sharon Ayson  
Newcastle Business School,  
Faculty of Business and Law,  
University of Newcastle,  
Sydney CBD Campus,  
60 Bathurst Street,  
Sydney 2000 NSW AUSTRALIA  
Tel: (61) 2 8262 6414  
Sharan.Ayson@newcastle.edu.au

Information Statement for the Research Project:

“An investigation of the relationship between students’ satisfaction and the school’s reputation on the reputation of self-financed higher education institutions in Hong Kong”

You are invited to participate in the research project identified above. This research is part of Ms Arison Woe’s Doctor of Business Administration (DBA) studies at the University of Newcastle, supervised by Dr. Sharon Ayson, Senior Lecturer in Management at the University of Newcastle, Australia.

Purpose of research project
The purpose of this research project is to investigate the relationship among students’ perceptions, academic behaviours and school reputation. This study focuses on students’ perceptions of teachers’ behaviours and investigates this relationship on the reputation of self-financed higher education institutions in Hong Kong.

Who can participate in the research?
We are seeking students aged 18 years and over to participate in this research. Students who are studying in self-financed higher education programmes at your institution will be invited to participate in this research.

Inclusion and exclusion criteria for participation
Participants, who are aged 18 years and over, and are studying in self-financed higher education programmes in Hong Kong and able to communicate in English are eligible to participate.

Your participation is entirely voluntary
Participation in this research is entirely voluntary. As it is a self-administered anonymous survey, your consent is implied by you completing the survey. Whether or not you decide to participate, your decision will not disadvantage you. You have the right to withdraw at
any time prior to submitting the completed survey in the collection box. Non-participation will not prejudice any relationship you might have with the University of Newcastle, Australia or your relationship with the institution at which you undertake your studies.

What would you be asked to do?
If you agree to participate, you will be asked to answer a survey. In the survey, you will be asked to identify the extent to which you agree/disagree with each of the items in relation to your experience at this institution, and provide general information about your demographics.

This is a one-off anonymous survey. Participants will not be identifiable in any way. Participation in this research is entirely voluntary and no reimbursement or rewards will be given.

How much time will it take?
Participants are required to read the introduction thoroughly before completing the survey. The survey should take about 10-15 minutes to complete.

What are the risks and benefits of participating?
This is entirely academic research and there are no anticipated risks of participation. There is no obvious tangible benefit for the participants in this research or others. For those who need to do similar business research in their course of study they may benefit from observing how the ethical research procedures of this research study are conducted. This survey may also provide participants the opportunity to reflect on their experiences at this institution.

How will your privacy be protected?
This survey is anonymous and it will not be possible to identify you from your answers. This survey will be shredded after final acceptance of the thesis by the Office of Graduate Studies. An electronic copy of the data will be stored securely at the Newcastle Business School, University of Newcastle, for a minimum period of 5 years from the date of final acceptance of the thesis. Only the researcher, Ms Arison Woo and the thesis supervisor Dr Sharon Ayson will have access to the collected data, which will be stored on the researcher’s computer and access will be password protected.

The results of the research
The information from the research results will form part of Ms Arison Woo’s DBA dissertation. Individual participants will not be identified in the thesis or any reports arising from the project. The findings of this study may be published in a scholarly journal. Neither the institutions nor individual participants will be named or be able to be identified from the published report. A summary report of the study’s findings can be requested by emailing the research Ms Arison Woo Arison.Woo@studentmail.newcastle.edu.au.

What do you need to do to participate?
Please read this Information Sheet and be sure you understand its contents before you complete this survey and submit it in the collection box. If there is anything you do not understand, or if you have questions, please contact the researcher via email Arison.Woo@studentmail.newcastle.edu.au.

If you would like to participate, please complete the attached anonymous survey and return it to the collection box provided at the venue. This will be taken as your implied consent to participate. If you decide not to participate you may return an incomplete survey to the collection box provided at the venue.
Further information
If you would like further information, please contact Dr. Sharon Ayson through email Sharon.Ayson@newcastle.edu.au about the project.

Thank you for considering this invitation.

Dr Sharon Ayson
Senior Lecturer in Management
Newcastle Business School,
Faculty of Business and Law
University of Newcastle

Ms Arison Woo
DBA student
University of Newcastle

Complaints about this research
This project has been approved by the University’s Human Research Ethics Committee, Approval No. H-2013-0061.

Should you have concerns about your rights as a participant in this research, or if you have a complaint about the manner in which this research is conducted, it may be given to the researcher, or, if an independent person is preferred, to the Human Research Ethics Officer, Research Office, The Chancellery, The University of Newcastle, University Drive, Callaghan NSW 2308, Australia, telephone +61 2 49216333, email Human_Ethics@newcastle.edu.au
Appendix D: Survey Questionnaire
Appendix D: The Survey

Research Project:
“An investigation of the relationship between students’ satisfaction and the school’s reputation on the imputation of self-financed higher education institutions in Hong Kong”

The purpose of the following survey is to investigate the relationship between students’ perceptions, academic behaviours and school reputation. It will take approximately 10 to 15 minutes of your time to complete. You may withdraw from completing this questionnaire at any time up to the point of submission without reason or penalty. Your name is NOT required and your responses are anonymous and will remain strictly confidential - THIS SURVEY IS ANONYMOUS. Your data will be securely stored at the University of Newcastle.

Instructions:
Answer all questions in full, even if some may appear similar. You are encouraged to take your time and complete the survey at your convenience.

All responses will be stored securely, and once the information has been analysed, all data will be securely stored and retained at the University of Newcastle for a minimum of five (5) years in accordance with the University policy. Participation in this study is entirely voluntary. If you want to take part in the study, please complete this anonymous survey which will take approximately 10-15 minutes of your time.

Thank you for considering participating in the survey. If you have any queries or require further information about the research, please contact:

Ms Arison Woo (The researcher)
University of Newcastle, Australia
Email: Arison.Woo@studentmail.newcastle.edu.au

or

Dr Sharon Ayson (The supervisor)
University of Newcastle, Australia
Email: Sharon.Ayson@newcastle.edu.au

If you have any concerns about the manner in which this research is conducted please do not hesitate to contact the University’s Human Research Ethics Officer, Research Office, Chancellery, University of Newcastle, Callaghan NSW 2308. Telephone (02) 4921 6333.
### Section A: Relationship with Your Institution

Please indicate the extent to which you are satisfied with your experience with the institution. Your response may range from 7 (strongly agree) to 1 (strongly disagree) by circling the appropriate number. Please provide one answer for each question.

<table>
<thead>
<tr>
<th>Quality of teaching staff</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  The teaching staff of my institution have appropriate academic credentials.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2  The teaching staff of my institution are incorporating appropriate use of technology to teach.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3  The teaching staff of my institution effectively conduct lectures.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>4  The teaching staff of my institution are aware of my learning needs and provides helps to students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5  The teaching staff of my institution treat students with respect and as mature individuals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6  The teaching staff are sympathetic and supportive to the needs of students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School reputation</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  My institution fulfils the promises it makes to its students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2  My institution has a good reputation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3  My institution is better than other institutions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School image</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  I have a good impression of my institution.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2  My institution has a good image in the minds of its students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
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<tr>
<td>3  My institution is better than other institutions.</td>
<td>1</td>
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<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>4  My institution has good course programs when compared with other institutions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Student satisfaction</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Slightly Disagree</td>
<td>Neutral</td>
<td>Slightly Agree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------</td>
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<td>----------------</td>
</tr>
<tr>
<td>1. I am satisfied with my institution in general.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2. I am satisfied with my institution when compared with my initial expectations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3. I am satisfied with my institution compared with an institution that is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>considered ideal.</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student loyalty</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I will recommend my institution to friends or acquaintances.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2. I will maintain a relationship with my institution after I graduate.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3. If I had the chance to enrol in an institution for study again, I would enrol</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>in this institution.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Section B: Demographic Information**

Please tick the appropriate answer. Please provide one answer for each question.

1. Gender: □ Males □ Females

2. Age: □ 18 – 25 □ > 25

3. Division of study: □ Business □ Science & Technology □ Communication & Social Science □ Others

4. Course of study: □ Associate Degree □ Higher Diploma □ Undergraduate Degree

Thank you for completing this survey.

Please return the survey by dropping it into the designated collection box at your venue.

If you want to obtain a summary of the key findings from the research, it will be provided upon your request from Ms Arison Woo whose contact details can be found on the Survey Information Sheet provided.
Appendix E: Notification of Expedited Approval
Notification of Expedited Approval

To Chief Investigator or Project Supervisor:  Doctor Sharon Ayson
Cc Co-investigators / Research Students:  Ms Arison Woo
Re Protocol:  To investigate the relationship between students satisfaction and the schools reputation on the imputation of self-financed higher education institutions in Hong Kong

Date:  24-Jun-2013
Reference No:  H-2013-0061
Date of Initial Approval:  24-Jun-2013

Thank you for your Response to Conditional Approval (minor amendments) submission to the Human Research Ethics Committee (HREC) seeking approval in relation to the above protocol.

Your submission was considered under Expedited review by the Ethics Administrator.

I am pleased to advise that the decision on your submission is Approved effective 24-Jun-2013.

In approving this protocol, the Human Research Ethics Committee (HREC) is of the opinion that the project complies with the provisions contained in the National Statement on Ethical Conduct in Human Research, 2007, and the requirements within this University relating to human research.

Approval will remain valid subject to the submission, and satisfactory assessment, of annual progress reports. If the approval of an External HREC has been "noted" the approval period is as determined by that HREC.

The full Committee will be asked to ratify this decision at its next scheduled meeting. A formal Certificate of Approval will be available upon request. Your approval number is H-2013-0061.

If the research requires the use of an Information Statement, ensure this number is
inserted at the relevant point in the Complaints paragraph prior to distribution to potential participants. You may then proceed with the research.

Conditions of Approval

This approval has been granted subject to you complying with the requirements for Monitoring of Progress, Reporting of Adverse Events, and Variations to the Approved Protocol as detailed below.

PLEASE NOTE:
In the case where the HREC has “noted” the approval of an External HREC, progress reports and reports of adverse events are to be submitted to the External HREC only. In the case of Variations to the approved protocol, or a Renewal of approval, you will apply to the External HREC for approval in the first instance and then Register that approval with the University’s HREC.

- Monitoring of Progress

Other than above, the University is obliged to monitor the progress of research projects involving human participants to ensure that they are conducted according to the protocol as approved by the HREC. A progress report is required on an annual basis. Continuation of your HREC approval for this project is conditional upon receipt, and satisfactory assessment, of annual progress reports. You will be advised when a report is due.

- Reporting of Adverse Events

1. It is the responsibility of the person first named on this Approval Advice to report adverse events.

2. Adverse events, however minor, must be recorded by the investigator as observed by the investigator or as volunteered by a participant in the research. Full details are to be documented, whether or not the investigator, or his/her deputies, consider the event to be related to the research substance or procedure.

3. Serious or unforeseen adverse events that occur during the research or within six (6) months of completion of the research, must be reported by the person first named on the Approval Advice to the (HREC) by way of the Adverse Event Report form (via RIMS at https://rims.newcastle.edu.au/login.asp) within 72 hours of the occurrence of the event or the investigator receiving advice of the event.

4. Serious adverse events are defined as:
   - Causing death, life threatening or serious disability.
   - Causing or prolonging hospitalisation.
   - Overdoses, cancers, congenital abnormalities, tissue damage, whether or not they are judged to be caused by the investigational agent or procedure.
   - Causing psycho-social and/or financial harm. This covers everything from perceived invasion of privacy, breach of confidentiality, or the diminution of social reputation, to the creation of psychological fears and trauma.
   - Any other event which might affect the continued ethical acceptability of the project.
5. Reports of adverse events must include:
   - Participant’s study identification number;
   - date of birth;
   - date of entry into the study;
   - treatment arm (if applicable);
   - date of event;
   - details of event;
   - the investigator’s opinion as to whether the event is related to the research procedures; and
   - action taken in response to the event.

6. Adverse events which do not fall within the definition of serious or unexpected, including those reported from other sites involved in the research, are to be reported in detail at the time of the annual progress report to the HREC.

- Variations to approved protocol

If you wish to change, or deviate from, the approved protocol, you will need to submit an Application for Variation to Approved Human Research (via RIMS at https://rims.newcastle.edu.au/login.asp). Variations may include, but are not limited to, changes or additions to investigators, study design, study population, number of participants, methods of recruitment, or participant information/consent documentation. Variations must be approved by the (HREC) before they are implemented except when registering an approval of a variation from an external HREC which has been designated the lead HREC, in which case you may proceed as soon as you receive an acknowledgement of your Registration.

### Linkage of ethics approval to a new Grant

HREC approvals cannot be assigned to a new grant or award (i.e. those that were not identified on the application for ethics approval) without confirmation of the approval from the Human Research Ethics Officer on behalf of the HREC.

Best wishes for a successful project.

Professor Allyson Holbrook

Chair, Human Research Ethics Committee

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**Linked University of Newcastle administered funding:**

<table>
<thead>
<tr>
<th>Funding body</th>
<th>Funding project title</th>
<th>First named investigator</th>
<th>Grant Ref</th>
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