

Effect of International Students' Perceived Service Quality on the Student's Motivation, Satisfaction, Loyalty, and Institutional Image in Higher Education in China

Lekini Dieudonne Justin, Sun Jin & Visas Hubert

Abstract:

This paper main aim is to measure international students' service quality perceptions of higher education institutions in China. We further investigated the effect of student's perceive service quality on the higher institutions in China. The questionnaires were uploaded on Kwik survey (a free online survey and questionnaire tool) and international students from 28 different universities in ten different provinces of china responded. This paper confirms the theoretical and empirical usability of HiEduQual structural model. Analyses results prove relationships between variables. The paper also statistically shows significant and strong affirmative association amid SPSQ and student motivation (SM), student loyalty (SL), student satisfaction (SSt), and image (IM). The research findings present incremental implications for Chinese universities marketing-management. Findings recommend that manager, service providers and other Chinese higher education shareholders would endeavor to safeguard the service quality high level and standards high level preferred by the international student. This should subsequently helps the universities building their strong and positive image. Our paper extended and verified HiEduQual generalizability. Annamdevula and Bellamkonda, (2016) instrument presents service qualities delivered to students' who are major consumers in higher education. More researches may examine service quality perceptions from other influents stakeholders like teachers. We further advise to study new promising variables, which could impact service quality perceptions, satisfaction, motivation, loyalty and institutional image. Most of the prior studies investigated service quality, satisfaction and loyalty correlations. Along with the above, this paper extends researches by including institutional image and test it relationship with Student perceived service quality.



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1. Introduction

Service quality has retained researchers' attention for some decades now and it is obvious that this topic will continue getting greater attention. Fluctuation of the perceptions of service quality is one of the significant questions in higher education over the time. In the higher education context, service quality is seen as the differentiation between concrete delivery of student perceptions and their former expectations. Previous research evokes the biased nature of service quality (Rust and Oliver, 1994). Via service marketing literature, the use of quality as perceived service quality (Nadiri et al. 2009). In contrast, consumer service expectancies are differentiated with the outcomes of their actual performance perceptions in the perceived service quality (Zeithaml et al., 1990). Perceived service quality is a general judgement or approach regarding the preeminence of the service (Parasuraman et al., 1985). Evaluating the indecency or the decency of a product or service is perceived as service quality process (Asthiyaman, 1997). Students' perceive service quality is established as a major antecedent to student satisfaction (Browne et al., 1998; Guolla, 1999). Service quality perception depends on both the provider of the service and the performance of the customer. The fundamental quality traits are riven into human ware or software quality in the context of higher education (Martensen et al., 1999). According to them, human ware comprises human components amongst which are; academic standards, pedagogic methods, teaching, and personal contact with administrative and teaching staff. The hardware comprises other non-human components such as delivered support functions, courses and study programmes. Classrooms, equipment, library, computer facilities, and student office are amongst hardware components.

Reviewing the Chinese education sector and particularly the higher education, a series of education improvements have been made to meet the rising demand of citizens. The objective is to guarantee economic growth by handling opportunities in higher education and providing high-quality labor force. The well-known reform measure taken by the Chinese government to react to the tendency of globalization is named "Transnational Higher Education" (TNHE). Previous researches found on this reform the strategy of decentralization. Chinese government introduces the reform at the beginning of the 1980s (Huang, 2003, 2005, 2006, 2007, 2011; Mok and Chan, 2012; Mok and Xu, 2008, Mok and Yu, 2014; Yang, 2018). Transnational Higher Education is any type of higher education studies where the learner is located in a different country from the one where the awarding institution is based (UNESCO, 2001). TNHE comprises different forms including branch campuses, franchises, articulation, twinning, corporate programs, online learning and distance education programs and study abroad. Additionally, transnational education cooperation is a complete and vital feature in the internationalization era. During the past decades research and education moving across national boundaries is a very advanced field in every part of internationalization aspects in the world (Knight, 2008; Vincent-Lancrin, 2007). Since the past fifth decades, student mobility, which is the initial generation of Transnational High Education, continues to observe a remarkable progress. The number of mobile students has grown from 238,000 in 2000 to 4.1 million in 2010 (Chen and Barnett, 2000; OECD, 2012). This number is forecasted to double within the next fifteen years (Knight, 2014). So far, it is projected that by 2025, students deciding to move abroad to pursue tertiary education will be 7.8 million (Bohm et al., 2002). Therefore, in the near future, TNHE is expected to continue to increase. China mainly centers on the first two generations - student exchange - insertion of abroad educational resources at its present-day of improvement. TNHE has consequently gained prosperous development in China throughout the past three decades. China Cultural

Revolution exposes the significance of higher education for its impact to the country economic development and social progress (Ngok, 2007). The Chinese higher education strict regulation and the weighty financing as the lone support contributor are insufficient (Hawkins, 2000, 2006). Therefore, central government introduced new reforms to safeguard the ingenuities and eagerness concerning educational institutions (Mok and Chan, 2012). TNHE appears for the first time during the debut of 1980s (Huang, 2011). To normalize and promote the improvement of TNHE, Chinese government introduces a series of strategies. The TNHE marked its first initiative in 1993. This was having cooperation with foreign institutions and individuals in running school in China. On January 26, 1995, the Ministry of Education promulgated the provisional stipulation on Chinese foreign cooperation in running schools. This promulgation is the second important initiative taken by Chinese government. December 11, 2001 marked another step forward when China became World Trade Organization member.

China opened its overall education system (primary, secondary, higher and adult education services) for commercial market and concurrence with the WTO's support. Reforms continue with the promulgation of the regulations of the People's Republic of China on March 1st, 2003 on Chinese Foreign Cooperation in Running Schools (CFCRS) by the State Council. Adjusting multinational cooperation accomplishments and elucidating the participant legal rights were to widen (Wang, 2005; Zhang, 2005). Obviously, these actions represent the core significant regulation toward TNHE up to date in China. In line with the modifications in national rules, TNHE improvements are summarized into three key stages as follow:

- Laissez-faire investigation that is a period before the proclamation of the Provisional Stipulation on CFCRS in January 1995;
- Progressive standardization launched by the government; 1995, the promulgation of CFCRS; March 2003, regulations, and;
- Progressive legalization and advanced state regulations from March, 2003 till present.

Based on the abovementioned, the State Council in July 2010 issued the National Plan for Medium and Long-Term Education Reform and Development known as Education Blueprint 2020. Chinese government fundamental purpose is to further internationalize the high education system. Herein, the vision of the Chinese government is to incite cooperation between Chinese higher educational institutions with foremost universities in the world. The cooperation concerns venturing high-grade expert and study training programs, offering programs, and international research projects to develop the country's knowledge and to attract state of the art technologies. Even though unofficial, negligible and somewhat administrative tolerance activity hooked on a methodical and controlled striving, the TNHE has progressed. The Higher Education Law promulgated in 1998 established the mutable environment (from state properties to public entities) of the Chinese high education institutions. Instead of still operating as the rightful person accountable of the university, the president of the university statement will decrease considerably and the immediate effect is the introduction of autonomy and accountability concepts. Chinese government implemented decentralization as governance policy to develop national and economic growth after realising its predominant control. The Chinese government have also used market opportunities and forces to galvanize diverse investors at any levels to gain advantages of delivery of public properties and societal safety appointments (Tong, 1989; Zhang, 1999; World Bank, 2002). The reforms permit the development of the friendship between China and worldwide countries as never since the founding of the People's Republic of China.

Cooperation and exchanges between China and worldwide nations are still growing continuously in the field of education. In that vein, China signed multiple educational agreements with numerous countries in the world. Agreements are implemented through reciprocal outings of missions, student and scholar exchanges, collaboration between institutions, partnership in language teaching and academic research and the interchange of teaching material, mutual assistance, which ensure notable enlargement. Chinese Ministry of Education informs that they are 4528 high education institutions (815 providing postgraduate, 2631 regular institutions, 282 adults institutions and 800 non government institutions) in China in 2017 and foreign students account for 274 809 (MOE education statistics, 2017).

The contribution of service marketing literature to comprehension of perceived service quality and satisfaction for researcher and marketer is considerable. Service quality must create concordance between the customer wants and expectancy achievements (Hooi Ting, 2004; Ahmad and Kamal, 2002; Croning and Taylor, 1992; Yavas et al., 1997). Service quality is a significant antecedent in determining the firm success acting over the costumer intention (Binter, 1990). The expectations before the purchase as the satisfaction that mirrors a post purchase appraisal of certain product or service is contingent capability of the dealer to encounter the customer's expectancy (Fornell, 1992; Olivia et al., 1992). Service quality rather than being an antecedent of satisfaction is also considered as the basis of the consumer expectation achievements in service marketing field (Berry and Parasuraman, 1991). In concordance with high education domain, international student will like to expend an extra price to get superior services hoping that the country will undertake some adjustments (Ward, 2001). Like for the firm, the delivery of higher education has become a product determined by competition for universities. Hence, universities managers integrate the examination of the quality of their services, the redefinition of their products and the measurement of customer satisfaction (Kotler, 1985). The universities long-term existence depends on the quality of the services they deliver even if this quality is more often different from one university to others (Aly and Akpovi, 2001; Kanji et al., 1999). The intangibility of education services makes them very difficult to measure. Herein it is necessary to redirect the outcome in the individual transformations by focusing on their characteristics, behaviour and knowledge. Till now, the consensus about the definition of quality applied particularly in the higher education context doesn't exist (Michael, 1998).

Customer satisfaction is a feeling of pleasure and experience associated to a service when the customer utilizes or buy a good or a service from the deliver (Ruetzler, 2008). Student satisfaction imposes the delivery of high quality for the unceasing high education institutions enlargement (Mohd Amir et al., 2016; Kwek et al., 2010; Sakthivel et al., 2005). Accomplishing student satisfaction by universities assist students to heighten their self-confidence and easily acquire knowledge and experience (Letcher and Neves, 2010). A good Number of research findings reveal that the choice of local students of an institution for their studies, depends on primary motivations which are institutional image and reputation of the institution, academic environment in research and learning, university size, financial assistance opportunity, quantity of student population, psychic ambiance, the university location, and employment rate after graduation (Ravindrana and Kalpana, 2012; Sudharani et al., 2011; Lassar et al., 2000). It is indispensable to comprehend students' preference and expense for each academic program in the higher education institutions. This help to better understand students' opinions concerning perceived service quality and satisfaction. Perception is a procedure by

which a consumer can recognize, arrange and understand info in a pure and expressive image (Schiffman and Knuk, 2000). Researches have also demonstrated the sensitivity of international students concerning the quality of the services they receive in their present universities. The overall customer satisfaction is exceedingly linked to the service quality provided by the corresponding higher education organizations (Stukalina, 2016; Babajide, 2011; Jang and Namkung, 2009; Ruetzler, 2008). Purchase intention for high academic institutions educational program is highly correlated to the entire perceived service quality and to the satisfaction international students received from the high education institutions in which they are enrolled (Reynolds and Arnold, 2000).

2. Literature review

2.1.1 The acknowledgement of higher education as service.

Even though definition about services was largely discussed since the 1980s, there is still no consensus of its meaning (Granroos, 2006). Type of market offering is the base on which service definition is framed. Definitions come from a dichotomous perspective; four characteristics distinguish services from goods. Services are intangible, perishable, and heterogeneous and they are produced and consumed simultaneously (Zeithaml et al., 2006; Nicholls et al., 1995). All four characteristics are related to higher education; the reason for which higher education has been classified as a service (Hennig-Thurau et al., 2001; Canterbury, 2000; Moogan et al., 1999). From the formative taxonomy built by Lovelock (1983), higher education as service is portrayed and its characteristics are presented following the below table:

Table 1.1 Taxonomy and Characteristics of Higher education as service.

Taxonomy schemes	Higher education as service characteristics
The nature of service act	Focused on individual's mind rather than bodies. Centered on people rather than equipment. Very intangible, complex professional service.
The correlation with student (customer)	Long and official. Students are university memberships. University-student relationship turns to business-client relationship.
The customization level and judgement in the delivery of service. The nature of demand comparative to supply	Customization level fluctuates following factors resources available and level of competition. Demand could be widespread or narrow. Fluctuation of demand is relatively narrow. Some difficulties to manage supply because of the staff limitation and physical resources.
The method of service delivery.	Single or multiple sites required. Customers can come to provider or provider move to encounter the customers.

Adapted from: Mazzarol et al. (2001)

The dichotomous perspective describes above highlights the relationship between higher education and service on the one hand and education services with services marketing. No doubt that higher education is pure service (Oldfield and Baron, 2000) and an educational service related to services marketing (Henning-Thurau et al. 2001). An educational service is very different from any other professional service. Educational service for example plays a key role in the student lives; to achieve their purposes, students' motivation and intellectual skills are indispensable. Numerous characteristics determine educational service:

intangibility, perishability, and heterogeneity. Additionally, student are teaching experience' portion because professors produce and consume their own teaching efforts at the same time like students (Shank et al., 1995). Services characteristics are exceptional (Zeithalm et al., 1985); hence the complexity to measure service quality dispassionately (Patterson and Johnson, 1993).

2.1.2 Service quality in the higher education context

Perceived quality is among the major aspects to which researchers have given profound attention. Perceived quality results from the difference between consumer service expectancies and their actual performance appreciations (Zeithalm et al., 1990). There is no broad acceptable definition of the quality concept in higher education context because of its complexity (Harvey and Green, 1993). Hence, scholars and researchers are still struggling to come out with a precise and a distinct definition, and the best service quality measurement instrument (Clewes, 2003). In higher education, each stakeholder (government, student, managers, professional groups...) has his or her individual opinion about quality due his or her specific desires. This paper focuses on foreign students as stakeholder in Chinese higher education. By introducing tuition fees in the education service and because of the new degree of the structure, student will certainly continue to be considered as customers of education services. The universities offer training to students that make them primacy customers of educational activities (Annamdevula and Bellamkonda, 2016; Gremler and McCollough, 2002; Sander et al., 2000; Hill, 1995). Different perspectives are acknowledged to be valid and very important; for example the one from Guolla (1999) who rightly presents students as clients, producers, and products.

2.1.3 Student satisfaction

In the consumer and service marketing literature, satisfaction is defined through several. Satisfaction is a pleasurable fulfillment. In other words fulfillment is pleasant; consumers recognize that consumption fills some desires, aims, needs etc. (Oliver, 1997). Moreover, satisfaction is related to consumers' feel which consumption delivers aftermaths in contradiction of pleasure vs. displeasure standards (Oliver, 1999). In higher education satisfaction occurs when perceived performance meets or surpasses students' expectations formed by continuously recurrent experiences in campus life (Elliot and Shin, 2002). Students expect to get pleasure during their day-to-day learning process (Danielson, 1998; Bay and Daniel, 2001). The student's needs or expectancies are habitually founded on their short-term goals because of the partial comprehension of quality components. Encountering expectations should in the long term be disadvantageous to students as well as to higher education institutions (Bay and Daniel, 2001). Even though recently extended to the higher education context, the concept of satisfaction is more complex. The multidimensionality of satisfaction in the higher education is the main reason of its complexity. The still limited amount of available researches on the field consolidated that point of view (Marzo-Navarro et al. 2005; Richardson, 2005). Student satisfaction is student's tendency to subjectively evaluate the experiences and assorted upshots regarding education (Elliott and Shin, 2002; Oliver and DeSarbo, 1989). The experiences students gain in their campus lives allow student satisfaction to continually being shaped. In fact, when students are satisfied they are able to attract new students by intentionally or unintentionally becoming word-of-mouth communication actors. This is an information process of acquaintances and friends, and the evidence for student to extend his presence in the same university is high (Helgesen and Nettet, 2007; Marzo-Navarro et al., 2005; Mavondo et al., 2004; Schertzer and Schertzer,

2004; Wiers-Jenssen et al., 2002). Moreover, student satisfaction is an incremental antecedent to student motivation and it is helpful for fundraising (Elliott and Shin, 2002).

2.1.4 The student perspective

International students obviously became a significant reason to encourage accomplished exodus policies for any country development opportunity (Ruby, 2009; Ling et al., 2010). Researchers believe that as individual institutions as well as the industry necessitate intensive marketing strategy; the higher education government departments themselves likewise have to submit their services to competition. The advantage is to build a new educational tourism hub for any country (Rahman et al., 2017). The industry as a whole, apart from the primary service, is required to have supplementary chances for several procedures and monetary support which may help private and public institutions to fascinate additional international students (Cavagnaro and Steffieri, 2015; Katircioglu et al., 2012). Service providers can effectively offer service encounters, which should content consumers only if they understand their customer's needs. Higher education institutions should understand student opinions about the services they provide so that it would be easy for them to readapt their services toward a convinced grade. Herein, student satisfaction will be strongly related to the quality of service they receive. From an organizational perspective, service quality should be viewed in higher education context (Oldfield and Baron, 2000). For them, institutions have to pay closer attention to what is significant for their students. So institution managers should gather database regarding what student think are necessary. The exploration on quality of service in the higher education is trusted very strongly on the academic insiders' contribution whilst eliminating the contribution from the students themselves (Joseph et al., 2005). Researchers additionally believe that conventional methods leave choices concerning the components of service quality (choose the most significant for students) absolutely on the academic managers hands. Academic managers should concentrate on the comprehension of students needs, as they are the principal target audience. To assure its quality monitoring, every higher education has to put at its vanguard, student experience and enhancement (Douglas and Douglas, 2006).

2.1.5 Image

Image is a permanent phenomenon shaped by logical and emotive clarification with cognitive constituents, feelings, affective constituents and beliefs (Dobni and Zinkhan, 1990). The global image is subjectively molded through schemes consisting of rational and emotional interpretation (Stern and Krakover, 1993). Empirical work on higher education shows an affirmative correlation concerning perceived service quality, student satisfaction and universities image (Palacio et al. 2002). The construction of image's positive effects in the field of higher education require managers to invest on strategies and plans related to the traits, which mostly influence the global image of the institution. It is indispensable when deciding to choose specific actions and policies considering orientation, student preparation, ease of entrance to the institution and the university reputation components. Cognitive attributes are constituents, which deal with overpopulation and the institution maturity or youth with no impact on the affective and global image. Hence, cognitive attributes must be eluded. The brand image of higher education institution will have methodical underpinnings, which are meaningful to its foremost publics - the students for whom satisfaction is relied on perceived image. Universities should be able to lengthen their corporate image to benefit from advantages related to the public (Palacio et al. 2002). The reputation, reliability and trustworthiness of higher education institutions push managers to introduce commercial and

social conditions into the universities. Universities become place for new thinking where contracts with business and industry are established and they can be internationally opened. Therefore, efforts to solve student's requests and simply adjusting to the close society must be considered to measure university image.

2.1.6 Motivation

Universities everywhere in the world enrolled millions of student hoping to take their careers to the best level. The student's expectation is more often drove by general perception and popular media reports expressing how the qualification, particularly those obtained from prestigious universities have been called "the golden tickets" or "fast tracks" to high hovering jobs with lucrative pays and well-ranked positions (Mintzberg, 2004). The main motivation for students is personal interest and majority of students decide to enter university for the progress of their learning and improvement of their career opportunity. This purpose impacts student's selection of university and studies programme (Rolfe, 2002; Metcalf, 2003). In higher education satisfaction conceptualization differs depending on perspectives, which have been used in different studies (Oh, 1999; Mill, 2011). Satisfaction conceptualization for some researchers is a process relating to its principal aims (Alves and Raposo, 2007; Elliott and Healy, 2001). According to others, satisfaction conceptualization is a result relating to its nature (Danielson, 1998). Student motivation to choose university institution or specific university program is confirmed to be influenced by different factors such as reputation of the university, university localization, the services providing to the students, employment rate of the graduates, and study programs offered.

2.1.7 Loyalty

Prior researches acknowledge the positive relationship between loyalty and student satisfaction. For them, this position helps in performance and profitability growth in the long run (Fernandes et al., 2012; Helgesen and Nasset, 2007). In other words, when students have the feeling of being satisfied by any higher education institution they are prone to be very loyal to that institution (Douglas et al., 2008). The confident correlation amid satisfaction and loyalty demonstrates that the student who is satisfied with the global learning familiarity and the quality of the services of the university will be more loyal to the institution. The positive word-of-mouth deriving from the positive loyalty will further impacting the wider community and the consequences will be a further envy in enrolment of future graduates students. In clear, appreciated word-of-mouth offers trustworthiness to higher education institutions (Fernandes, 2013). Loyalty is defined as students' keenness to endorse a higher institution to others in the higher education domain. The conclusion is the expression of appreciation concerning the university and the recurring tendency for students to enroll in the institution for further learning (Webb and Jaguan, 1997). Moreover, loyalty can be seen as the mixture amid student likeliness to say good things about the university and to deliver info to possible new applicants. After graduation, Students make good usage of the proposals of supplementary and additional modules, sessions, and knowledge. Student may recommend the program of study as well as the university to relatives and friends. They would further spontaneously like to choose the same program and university once more to express their loyalty to the university.

2.1.2 Theoretical background/Setting

Available literatures recognize the discussion of the service quality key role in higher education institution as well as its measurements. To measure quality in higher education,

numerous investigations used several approaches. Quality function deployment (QFD) appears to be the approach utilized the most by researchers. QFD is part of total quality management (TQM). Researcher and scholars used it for design and process accuracies (Singh et al., 2008; Aytac and Deniz, 2005; Hwarng and Teo, 2001). The establishment of cause and effect correlations commencing with the client desires and ending with the process of production is the main purpose of QFD. Number of reports from different higher education institutions also demonstrated the welfares and outcomes of employing TQM values (Hwarng and Teo, 2001). SERVQUAL is another measurement instrument built and replicated or adapted for service quality measure (Parasuraman et al., 1998). Five dimensions constitute SERVQUAL model (assurance, empathy, tangibility, reliability, responsiveness). SERVQUAL in higher education was used to compare the major tools that measure service quality (Brochado, 2009). Parasuraman et al. (1998) developed SERVQUAL and weighted SERVQUAL; SERVPERF and weighted SERVPERF (Cronin and Taylor, 1992) while HEDPERF have been constructed to measure the quality of the service provided by higher education institutions (Firdaus, 2006). Extended researches confirm that it is not possible to identify which measurement instrument is the best. Herein, Annamdevula and Bellamkonda (2016) developed HiEduQual model to test student perceived service quality influence on student satisfaction, loyalty, and motivation in Indian universities. Other important models were developed and applied to measure customer satisfaction. There are universal measurement instruments that allow more improvement of satisfaction instruments that have been widely applied. American Customer Satisfaction Index (ACSI), Customer Satisfaction Indices (CSI), Swedish Customer Satisfaction Barometer (SCSB), Norwegian Customer Satisfaction Model (NCSM), and European Customer Satisfaction Index (ECSI) are amongst instruments frequently used to measure service quality. An assumption such as customer satisfaction is the consequences of perceive value, perceived quality, firm image, costumer expectancies factors inspired Customer Satisfaction Index (CSI) conception. Customer satisfaction outcomes constitute loyalty and/or grievances factor effects (Johnson et al., 2001). Amongst Chinese studies that explored student satisfaction assessment; student satisfaction index instrument to investigate quality (Liuwu and Yangxue, 2006), student satisfaction and loyalty antecedents affecting the image of institution in some Australian universities (Zhang et al. (2009) while the same have been used in Australian universities to conduct a research based on ECSI (Robert M. Brown (2006). Amongst the above numerous models, our paper focuses on HiEduQual model and extends it by introducing institutional image variable to measure its applicability and generalizability on the Chinese higher education context. The introduced modification has a supplementary path between student satisfaction, student perceived service, and institutional image.

3. Hypotheses and development of conceptual framework

This research paper hypothesis follows current literature about correlations between student perceived service quality, student satisfaction, student loyalty, and student motivation (Annamdevula and Bellamkonda, 2016; Ali et al., 2014; Mosahab et al., 2010; Caruana, 2002; Bloemerand, 1998; Gronholdt et al., 2000). We extend the correlations by associating student perceived service quality effect with institutional image.

3.1 Students perceived service quality and satisfaction correlations

There is a rising volume of researches about service quality, satisfaction and loyalty that scripts the significance of service quality studies in service marketing literature. However, the lack of studies concerning the topic with regard to higher education remains considerable.

Student perceived service quality delivered by universities has been investigated with the purpose to examine whether the service influences student satisfaction (Ali et al., 2014; Alves and Raposo, 2007; Douglas et al., 2006; Petruzzellis et al., 2006; Aldridge and Rowley, 1998). Most of the researchers found positive relationship between the two variables. Customer Satisfaction Index (CSI) model have been constructed to investigate service quality concerning postgraduate students (Huili and Jing, 2012). They examined correlations amid nine constructs including perceive service quality and student satisfaction. A robust correlation exists between service quality and the completion of the individual customer envies and expectancies (Hooi Ting, 2004; Ahmad and Kamal, 2002; Yavas et al., 1997; Cronin and Taylor, 1992). Satisfaction to customer's expectations is the most valuable standards to evaluate perceived service quality (Berry and Parasuraman, 1991). Henceforth, service quality is the major antecedent to planning firm achievement acting on customer's intention. In simplest words, perceived service quality positively influence consumer's satisfaction (Zeithaml et al., 2008; Carrillat et al., 2007; Yavas et al., 2004; Farrell et al., 2001; Cronin et al., 2000; Dabholkar et al., 2000). Satisfaction is a significant target that marketers have to manage to achieve the increasing customer purchase intention. Herein it's more logical to consider service quality as a factor influencing satisfaction (Goode et al., 1996). The majority of current publications affirm the theoretical basis and practical proof development that emphasizes service quality as an antecedent to customer satisfaction. Current literature about higher education also supports student perceived service quality positive influence on satisfaction. A number of researchers and scholars that investigated student perceived service quality issue found it to be the major antecedent of satisfaction (Annamdevula and Bellamkonda, 2016; Ali et al., 2014; Clemes et al., 2013; Ahmed et al., 2010; Guolla, 1999). Moreover, some empirical studies exposed the perceived service quality close positive correlation with perception and satisfaction (De Bruin and Jelincic, 2016; Padma, 2016; Cole, 2015; Bashir, 2007; Evangelos and Graham, 2007; Kotler, 2000). This paper orientation follows available literature establishing student perceived service quality as the key factor influencing student satisfaction. Therefore we hypothesized that:

H1. There is a strong positive relationship between student perceived service quality and student satisfaction.

3.2 Student perceived service quality and student loyalty correlation

Researchers and scholars have conducted several studies that measure student loyalty in higher education domain to reveal behavioral intents, retaining and word-of-mouth advertising (Clemes et al., 2013, 2008). Customer loyalty is the relationship strength amid a person's comparative attitude and repetitive sponsorship. The core objective of every corporation is customer loyalty amplification, safeguarding and improvement regarding its services or products (Dick and Basu, 1994). Researches on student loyalty help institutions' superintendents to institute suitable programmes that ascertain, promote, uphold and develop fruitful relationship with present and previous students. Higher quality perceptions strongly influence the intentional behavior of the students (Zeithaml et al., 1996; Boulding et al., 1993). Various factors inside the higher education institution are decisive determinant for student's loyalty. Amongst them, the availability of facilities (classrooms with good amenities, sports installations, internet accessibility and ease etc.), the teaching quality, and the students' emotional commitment to their institute (Hennig-Thurau et al., 2001). From the above, we deduced the following hypothesis:

H2. There is a strong positive relationship between student perceived service quality and student loyalty.

3.3 Student perceived service quality and student motivation correlation

Studies have been conducted over the past decades to response to the question about whether motivation eases studies and whether it advances the student acquisition of knowledge in learning sceneries (Eccles and Wigfield, 2002; Covington, 2000). Classroom environment and learning, emotional as well as cognitive factors strongly influence quality that in turn affects student achievement and student performance (Meyer and Turner, 2006; Eccles and Wigfield, 2002; Covington, 2000; Wolters and Pintrich, 1998). Students learn more and are more successful when their motivation levels are high compared to those with lower motivation (Frankola, 2001; LaRose and Whitten, 2000). The notion of motivation is very significant in higher education context. Hence there is a particular interest to thoroughly study motivation to comprehend student motivation antecedents. Consequently, this paper will like to examine service quality influence on student motivation in Chinese higher education area. In this regards, the below hypothesis is made:

H3. There is a strong positive relationship between student perceived service quality and student motivation.

3.4 Relationship between Students' perceived service quality and institutional image

Academic and non-academic facets, subject related to courses, reputation and access are amongst student satisfaction main factors (Abdullah, 2005). Administrators, academicians and other accompanying staff perceived by students as poor service providers leads to frustration. Herein, the results will be poor academic performance of students. To give solid solution to this service aspect, higher education institutions should evaluate the students' necessities and incentives and focus on suitable modifications concerning managerial methods, programs and teaching-learning procedure (Wolfgang and Dowling (1981). The correlation amid processes, affairs and other academic features linking responsibilities may accelerate the implementation of higher motivation for learning (Hufton et al., 2003). Research conducted in Australian universities related to ECSI to investigate student satisfaction antecedents and student loyalty, and its impact on institutional image found strong correlation between student perceived service quality and institutional image (Robert Brown 2006). According to these referring foundations, we hypothesized that:

H4. There is a strong positive relationship between student perceived service quality and institutional image.

3.5 Institutional image and student loyalty correlation

As well as students' perceived service quality influencing student loyalty, scholars acknowledge that the image of a service or a product strongly impacts customer loyalty. Service or product image is the main antecedent to attract and retain customers (Narteh, 2013; Aydin and Ozer, 2005). The examination of the correlation between hotel image and customer loyalty shows that hotel image has a positive influence on customer loyalty (Kandampully and Suhartanto, 2000). Students are principal consumers of higher education deliveries. Students are confident to fulfill their requirements and build student loyalty as the other pertinent groups such as the need to get good service quality and a valuable academic knowledge (Yunus et al., 2010). This is to say that it's the responsibility of the institution to offer the best degree program in term of quality or specific studies. Study environment, student self-improvement opportunities, amenities offered, academic packages, and services are institutional image components that impact student satisfaction and in turn student loyalty (Rowley, 1996). Current literature holds that customer satisfaction is amongst the most prominent loyalty factors (Ryu et al., 2012; Helgesen and Nettet, 2011; Alves and

Raposo, 2010; Douglas et al., 2008); and corporate image (Alves and Raposo, 2010; Hu et al., 2009; Arpan et al., 2003). We can then hypothesize that:

H5: There is strong positive relationship between institutional image and study loyalty.

3.6 Student perceived service quality, student satisfaction, student loyalty, and student motivation and institutional image correlations: the mediation effect of student satisfaction.

In marketing management literature, researchers have investigated relationships amid service quality, satisfaction and loyalty (Annamdevula and Bellamkonda, 2016; Ali et al., 2014; Mosahab et al., 2010; Caruana, 2002; Gronholdt et al., 2000; Bloemer and Ruyter, 1998). Few of them focused on higher education context (Ali et al., 2014; Yunus et al., 2010; Tsuji et al., 2007; Peng and Samah, 2006). Studies established the mediator role of satisfaction on loyalty and motivation in higher education (Ali et al., 2014; Yunus et al., 2010; Clemes et al., 2013; Huili and Jing, 2012; Jiewanto et al., 2012; Chen et al., 2007; Tsuji et al., 2007; Peng and Samah, 2006). After developing a customer satisfaction index model concerning postgraduate students about service quality by utilizing structural equation model method, Huili and Jing (2012) developed a customer satisfaction index model and tested it on postgraduate students perceived service quality. They utilized structural equation method and found correlations between perceived service quality, student satisfaction, and student motivation. The mediating role of student satisfaction between student perceived service quality, student loyalty, and student motivation is acknowledged. When Students deal with amenities, they perceive university quality as one that has an admirable library, computing, classroom, academic, sport, and recreational amenities (Peng and Samah, 2006). Additionally, other researchers confirm the prominence of satisfaction and loyalty correlation (Chaudhuri and Holbrook, 2001; Olivia et al., 1992). The evidence of student satisfaction mediating role between service quality and loyalty is established in the existing literature whilst service quality directly influences loyalty (Subrahmanyam and Raja, 2016; Caruana, 2002; Bloomer and Ruyter, 1998). Bloemer and Ruyter (1998) exposed the emotional portrait, service quality and customer satisfaction causal effect on consumer loyalty. Their study presented the direct as well as indirect influence of service quality on loyalty via satisfaction. Caruana (2002) lately confirms the customer satisfaction-mediating role of quality service on service loyalty. Moreover, empirical research proved full and partial satisfaction mediating role between service quality and loyalty. In the same vein, Annamdevula and Bellamkonda (2016) tested two hypotheses about partial and full satisfaction mediating effect concerning student perceived quality and loyalty and found that they were both positive.

Various sizes of service quality impacting satisfaction in higher education have retained considerable attention of researchers. Afzal et al. (2010) recognized eight dimensions that include academic and non-academic facilities, guidance, delivery and assessment, study opportunities, recognition, student representation and size. Schooling talents from faculties as well as interactions with students also lead to student satisfaction (Bitner and Zeithaml, 1996; Kara and De Shields, 2004; Kuh and Hu, 2001). They demonstrated that successful relationship between faculty and students considerably impact student satisfaction. Further more, the constituents of service quality influence student satisfaction. Brochado (2009) compared HEDPERF and alternate service quality models. He found that five HEDPERF positively impact student satisfaction and potential intents. The evaluation of a particular service confronted, determines customer satisfaction and it's fluctuate (Han and Ryu, 2009; Cronin and Taylor, 1992). Customer satisfaction meaningfully impact corporate image (Hu et

al., 2009). Satisfactory service influences image appraisal whilst Customer satisfaction influences image in the context of higher education (Nguyen and LeBlanc, 2002). Institutional image is derived from customer satisfaction. When a student is satisfied, his or her attitude favorably changes vis-à-vis the high education institution (Helgesen and Nettet, 2007). The above existing literature comforts us to make the following hypotheses:

H6. Student satisfaction mediates the relationship between service quality and student loyalty.

H7. Student satisfaction mediates the relationship between perceived service quality and student motivation.

H8. Student satisfaction mediates the relationship between student perceived service quality and institutional image.

4. Methodology

4.1 survey instrument

The HiEduQual survey instrument is a manifold stages instrument constructed on the literature foundation and appreciated consideration from Annamdevula and Bellamkonda (2016) utilized in this paper. In total, 49 items were engendered from systematic review of literature review centers on expert views and group consultations. Of these 49 indicators, 31 were associated to the universities' services provision and measured student perceived service quality. We designed the questionnaire to cover the entire non-academic and academic services provided to students who are the main consumers of higher education sector services. We used 6, 4, 5 and 3 indicators to measure student satisfaction, student loyalty, student motivation and institutional image respectively. We use a seven point Likert scale running from 1= strongly disagree to 7=strongly agree for service quality and motivation indicators. To measure the student loyalty, we also used a seven point Likert scale ran from 1= not at all to 7= very frequent. Finally, student satisfaction was measured through the same seven point Likert scale going from 1= highly dissatisfied to 7= highly satisfied.

4.2 Sample

The respondents include both undergraduate and post graduate students who have spent at least one year of study in all of the different international universities in China considered for this survey. The questionnaires were uploaded on Kwik survey (a free online survey and questionnaire tool) and international students from 28 different universities in ten different provinces of China responded. Of the 28 different universities, 12 universities are from Beijing, four from Jiangxi, two from Zhejiang, two from Wuhan, one from Xian, two from Hubei, one from Hebei, one from Jiangsu, one from Tianjin and two from Shanghai. The total valid sample of 777 was downloaded with 97 percent success rate. 64.9 percent of the respondents are 1 and 35.1 percent are 2. 2.7 percent of the respondents are in the group of 1, 64.9 percent are in the age group of 2, and 32.4 percent are in the age group of 3. 86.5 percent of the students are from continent 1 and 13.5 percent from continent 4. Table 1 summarizes all the respondents' demographic profile.

To check for common method bias, we first ran the exploratory factor analysis, we then fixed the factor number to one, tested the seven-factor model. This test ascertained the absence of common method bias given that the total variance explicated by one factor is 40 percent, which is below the threshold of 50 percent (Chang et al., 2010). Second, we employed the Harman's one factor test using confirmatory factor analysis.

In order to gather the fundamental assumptions of normality and the utilization of multivariate technique such as factor analysis, the tests for multivariate normality, linearity, and outliers were conducted. The skewness and kurtosis tests which postulate that ordinarily distributed data have skewness and kurtosis between -2 and +2 (Kline, 2005) were used. The AMOS Mahalanobis D² measure (Kline, 2005) was used to detect outliers. The results of the aforementioned tests corroborate that data were approximately normally distributed with variables linearly related.

4.3 Stage 1: Development and confirmation of HiEduQual

4.3.1 The exploratory factor analysis (EFA).

Here, we conducted a prelude data analysis using frequencies and percentages. The cronbach alpha coefficient and the correlation matrix were computed to guarantee the handling of factor analysis (Hair et al., 2008). The value of the cronbach alpha coefficient was at least 0.90 and at most 0.95 for each construct and therefore consistent. The Bartlett test of sphericity was significant at t 1% and $\chi^2 = 3652$. The value of Kaiser Meyer Olkin (KMO) was above 0.6, indicating suitability for factor analysis.

The principal axis factoring extraction with Varimax rotation was utilized to separate the various constructs.

The factor structure is based on the following criteria:

- (1) Factor loading of less than an absolute value of 0.4 were not included in the analysis;
- (2) Factors which cross load more than once were deleted;
- (3) Factors with only one item were also deleted
- (4) The difference between the cross load must be at least 0.20 (Hair et al., 2008). All items that didn't meet these criteria were excluded in the analysis. The cronbach alpha coefficient should be >0.6 for EFA and >0.7 for CFA. The extracted factors with factor loadings of equivalent to or superior than 0.4 in absolute value are shown in Table II.

Demography	grouping	frequency	(%)
Gender	Male	504	64.9
	Female	273	35.1
Age	18-22	21	2.7
	23-27	504	64.9
	Above 27	252	32.4
Continent	AFRICA	672	86.5
	EUROPE	105	13.5
Students by city	Beijing	441	56.8
	Jiangxi	84	10.8
	Zhejiang	42	5.4
	Wuhan	42	5.4
	Xian	21	2.7
	Hubei	42	5.4
	Hebei	21	2.7
	Jiangsu	21	2.7
	Tianjin	21	2.7
	Shanghai	42	5.4

Elements	M	SD	1	2	3	4	5	6
<i>Factor 1: Academic facilities (AF)</i>								
AF5 Campus environment is convenient to study	5.405		1.284		0.925			
AF6 University has adequate auditoriums etc.	5.162		1.367		0.839			
AF4 Library is electronically equipped (E-library)	5.108		1.291		0.833			
AF3 Library has adequate academic resources	5.189		1.412		0.832			
AS4 Admin maintains accurate and retrieval records	4.514		1.287		0.673			
CI1 University has sports and recreation facilities	5.243		1.324		0.656			
AF7 Maintenance of facilities	4.946		1.355		0.646			
AF2 Computer/science labs are well equipped	4.541		1.388		0.605			
<i>Factor 2: Administrative services (AS)</i>								
AS1 Admin staff provides error-free work	4.000		1.490		0.795			
AF1 Classrooms are equipped with teaching aids	4.973		1.498		0.720			
TC7 Teachers treat all students in equal manner	4.432		1.535		0.687			
AS6 Students are informed promptly of changes	4.351		1.697		0.662			
AS2 Admin staff provides service without delay	4.460		1.655		0.512			
<i>Factor6: Institutional Image (IM)</i>								
IM2 This university has a prestigious image	4.541		1.703		0.432			
<i>Factor 4: Campus infrastructure (CI)</i>								
CI3 University has safety and security measures	5.405		1.151		0.786			
SS2 University organizes cultural and extracurricular activities	4.946		1.525		0.693			
AS3 Admin staff is courteous and willing to help	4.811		1.655		0.622			
SS1 University has adequate amenities	4.703		0.955		0.613			
IM1 This university was recommended to me by friends	4.541		1.703		0.532			
CI4 University hostel provide quality food	4.649		1.381		0.502			
<i>Factor 3: TC and AS</i>								
TC8 Teachers collect feedback to provide better services	4.243		1.404		0.752			
TC5 Teachers continuously evaluated the student performance	4.730		1.201		0.610			
AS5 Admin staff accessible during office hours	5.270		0.949		0.608			
<i>Factor 5: Support Services (SS)</i>								
TC3 Teachers follow good teaching practices	4.757		1.497		0.703			
TC2 Course content develops student knowledge	4.973		1.620		0.680			
SS4 University provides good medical services	4.432		1.525		0.435			
<i>Factor 6: Teaching (TC)</i>								
TC4 Teachers follow curriculum strictly	4.595		1.197		0.767			
TC6 Departmental has sufficient staff	4.595		1.461		0.479			

Notes: loadings less than 0.4 are not included; M= mean; SD= standard deviation; factor had only one item (CI1) and was deleted.

4.3.2 Confirmatory Factor Analysis (CFA)

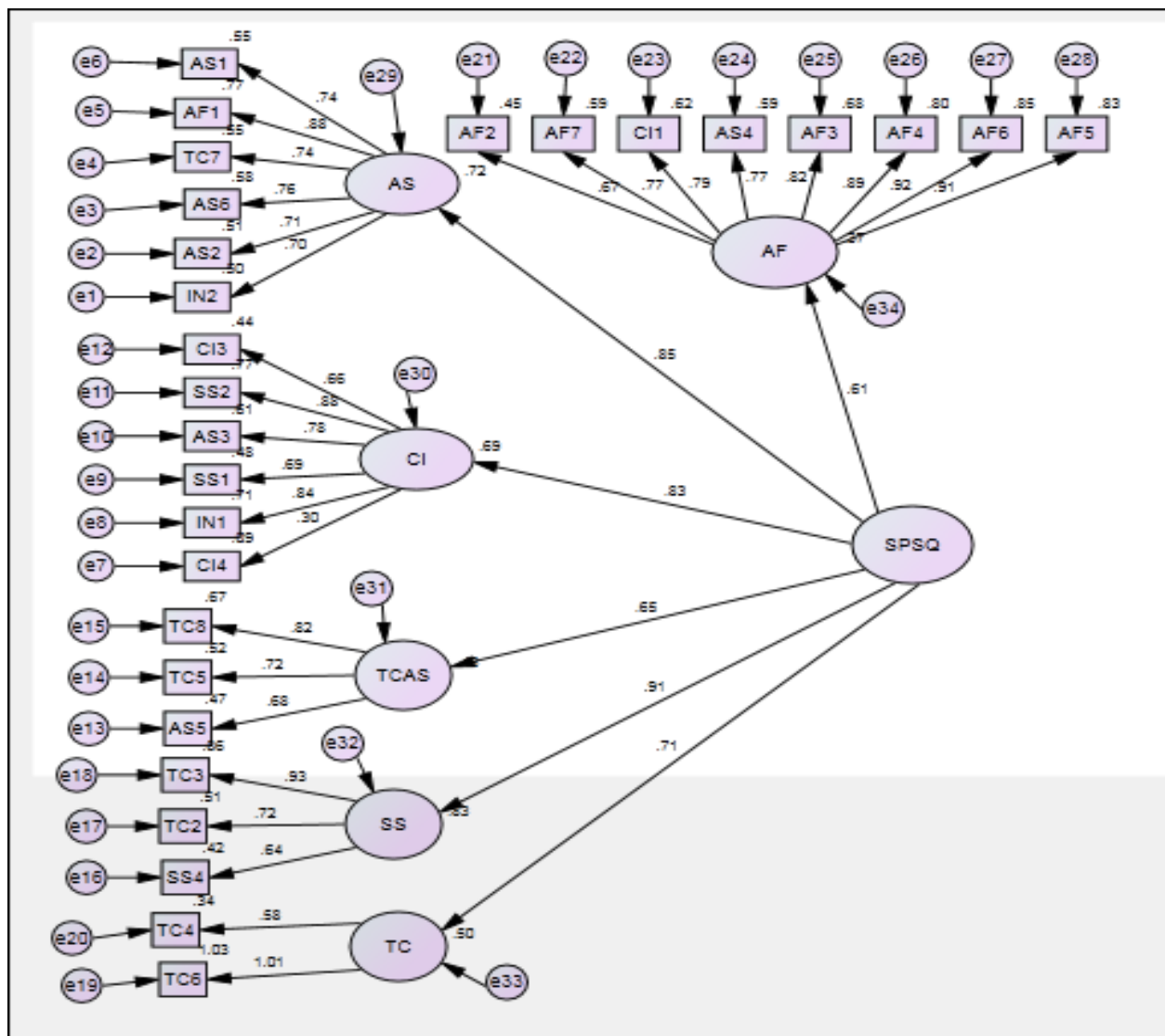
The CFA result was the benchmark measurement model for the CFA analysis that comprises 28 elements with 6 factors. The assessments of the measurement model were realized via a couple of approaches: item validity and item reliability. The item validity comprises

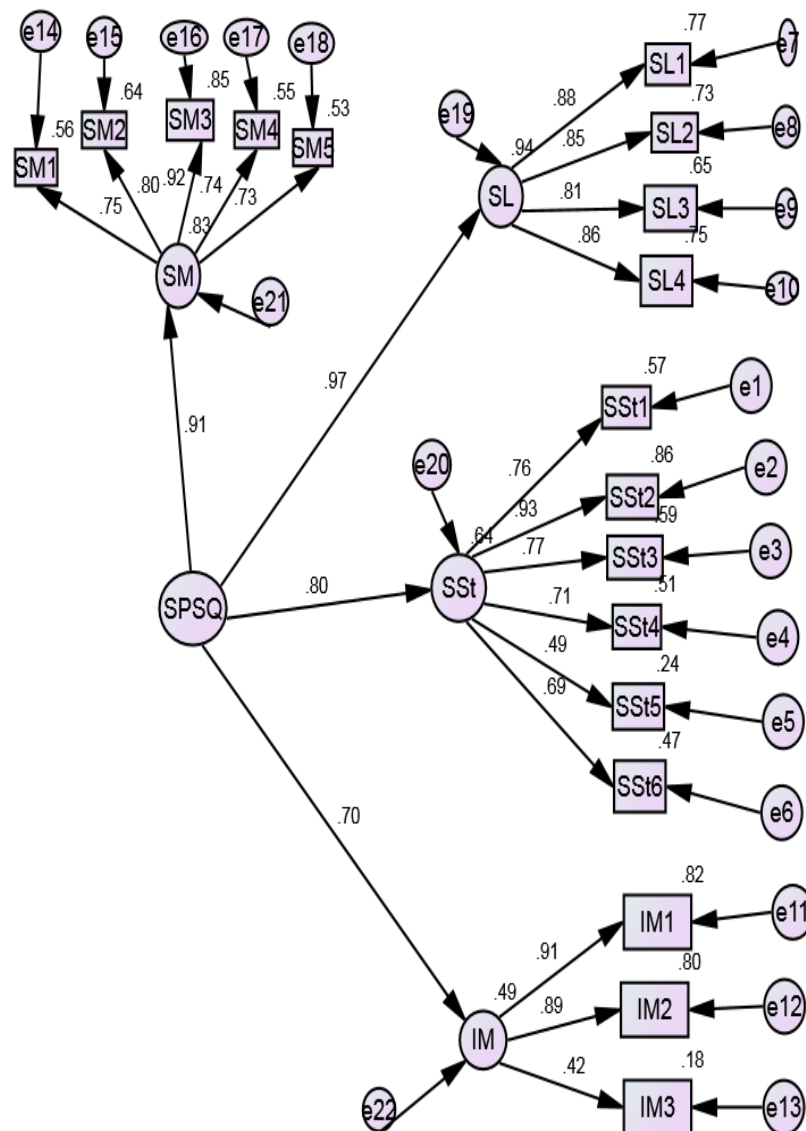
nomological, face, convergent, and discriminate validities (Churchill, 1979). The convergent validity measures are the standardized coefficient of the factors; the Average Variance Extracted (AVE) and Constructs Reliability (CR) for every factor.

All the validity measures are statistically meaningful at the 1% level and standard estimates are above 0.5 (Hair et al., 2008). The discriminant validity measures include the variance-extracted estimates for each item and the Squared Inter Construct Correlations (SIC) associated with each factor. All the extracted variance estimates are above the squared inter construct correlations, demonstrating the uniqueness of each factor and the fact that it captures some experiences unique to it. The model fit indices considered include the following: the Chi-square, the Goodness of Fit Index (GFI), THE Root Mean Square Error Of Approximation (RMSEA) the National Fit Index (NFI), Tucker Lewis Index (TLI), and the Comparative Fit Index (CFI). All of the above indices met the minimum required threshold. These indices are presented in table III below.

Table III: Measurement model indices.

χ^2	df	χ^2/df	GFI	RMSEA	NFI	TLI	CFI	AGFI	PNFI
1701.14(p=0.000)	344	4.945	0.923	0.05	0.913	0.922	0.927	0.925	0.717



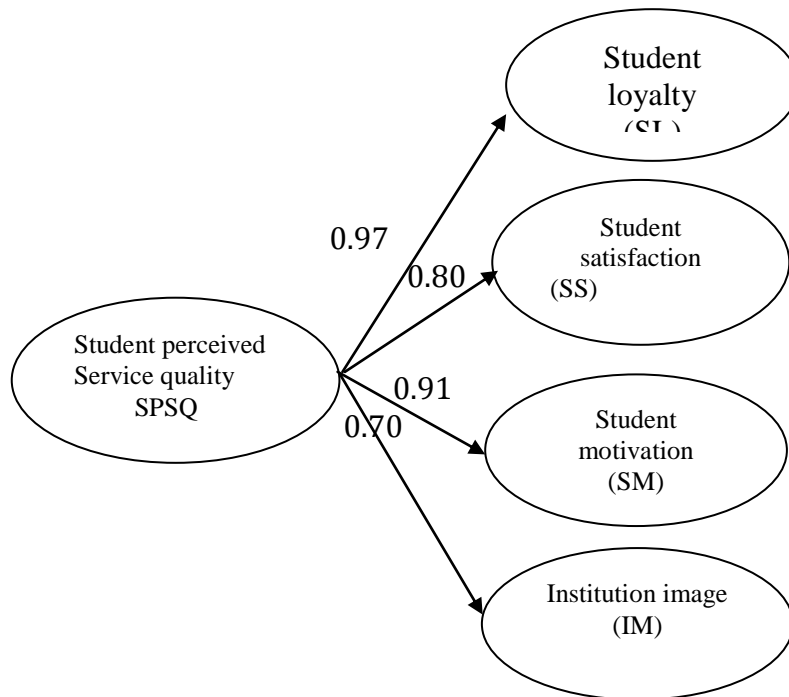


The above result statistically shows significant and strong positive between SPSQ and student motivation (SM) (estimate=0.91, $p=0.000$), student loyalty (SL) (estimate=0.97, $p=0.000$), student satisfaction (SSt) (estimate=0.80, $p=0.000$), and image (IM) (estimate=0.70, $p=0.000$). In the nonappearance of student loyalty and motivation, SPSQ is even more strongly positive related to SSt (Sumaedi et al., 2011). Furthermore, we deduced the SSt mediating role between SPSQ and SM, SL and IM.

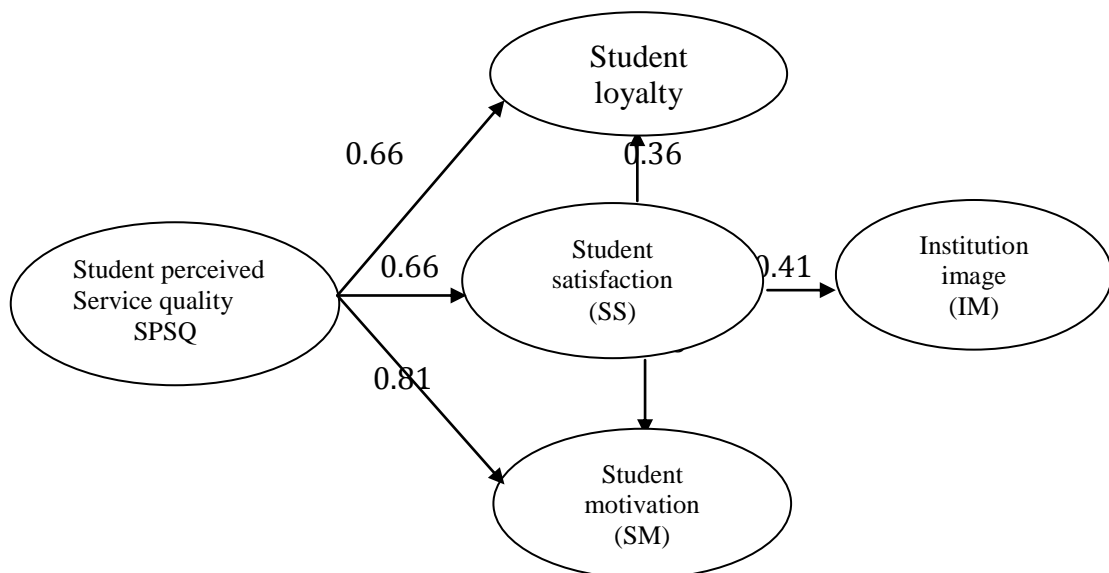
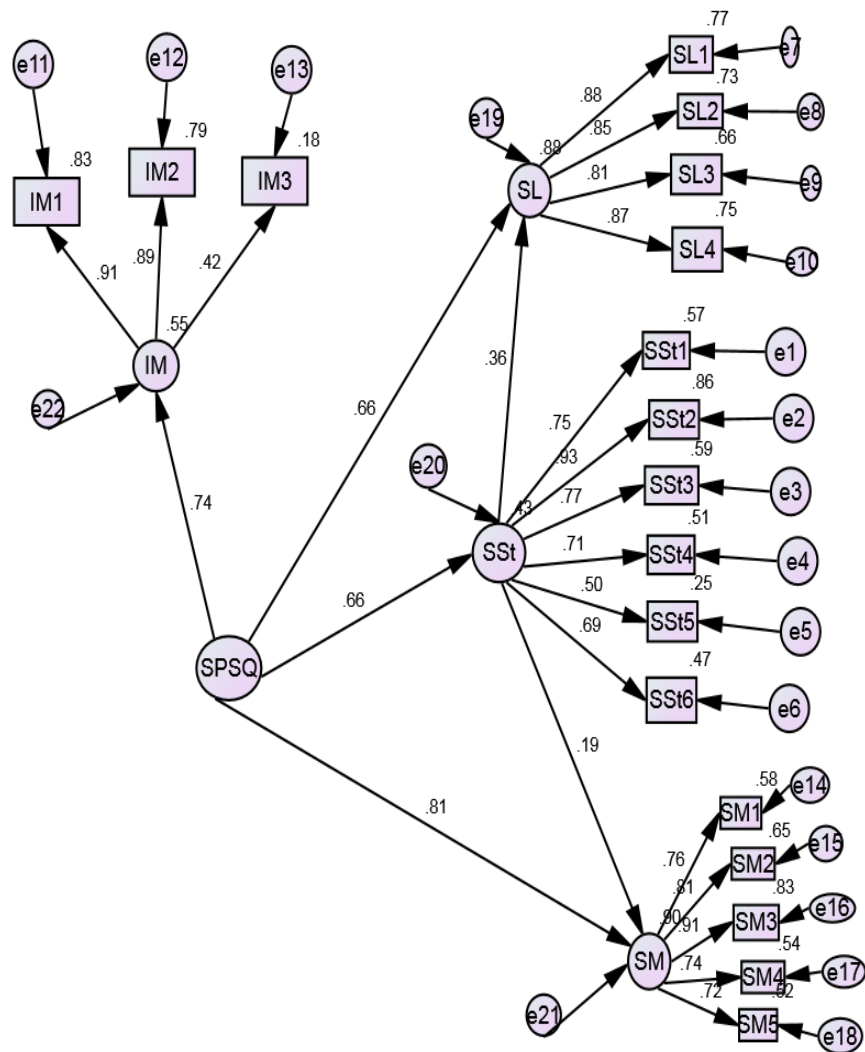
5. Discussion, conclusion and recommendations

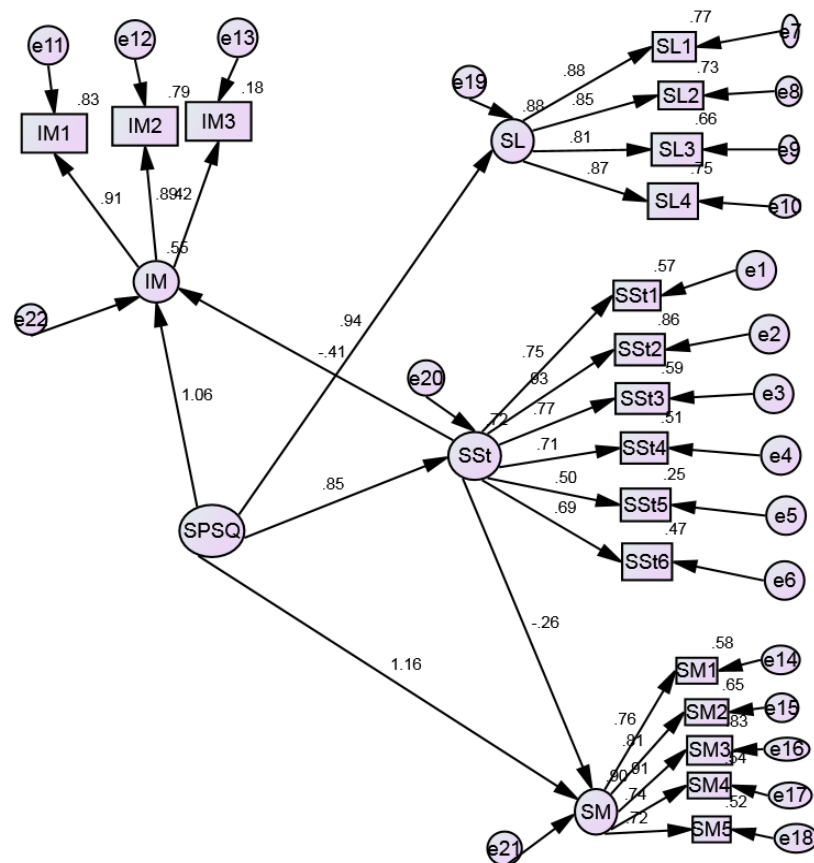
5.1 Theoretical connotations

The uniqueness of this study stems from the fact that it uses a model that scrutinizes service quality factors in the Chinese higher education concerning international students. Although a good amount of studies carried out on service quality in the context of higher education in most countries, this paper is noteworthy in that china's higher equation is the biggest in the whole world where teaching is not separated from administrative services. For instance, it is difficult if not impossible for a lecturer to single handedly reschedule any lesson, as may be the case in other counties. Also, with low tuitions and easy access to china's scholarships, the number of international students in Chinese universities from all corners of the world has greatly increased. This study thus examines the direct and roundabout links between SPSQ, IM, SSt, SL and SM. These relationships are summarized in the following figure:



As in Cronin and Taylor (1992), Bloemer and Ruyte (1998) and Annamdevula and Bellamkonda (2016), our result corroborates the positive association between SPSQ and SSt on one hand and SPSQ and SL on the other hand (H1 and H2). The direct relationship between SPSQ and SSt and SPSQ and SL clearly demonstrate the significant student satisfaction-mediating role. We are about to confirm that student satisfaction mediates student perceived service quality and student loyalty (H6). This mediating role has been extensively acknowledged in service marketing literature (Caruana, 2002; Oslen, 2002; Mosahab et al., 2010). This study moreover statistically establishes significant and strong positive correlation between SPSQ and student motivation (SM) (estimate=0.91, $p=0.000$) and image (IM); (estimate=0.70, $p=0.000$) (H3 and H4). This study therefore adds empirical proof that SPSQ adds value to institutional image, which is important for attracting foreign students to the institution. Finally, institutional image has a significant and positive influence on student loyalty (H5).





5.2 Theoretical contribution

Theoretically discussing, this study reveals that like other companies, industries, and organizations, which always implement customer-oriented strategies, higher education institutions should also be consumer-oriented. The purpose is to provide better services to student regarding their expectations that in turn will build student satisfaction, motivation, loyalty, and help better the institution's image which is a key element in marketing service for consumer loyalty and publicity in the competitive context facing universities. Our research approves the application of HiEduQual not only in the higher education context (Annamdevula and Bellamkonda, 2016), but also to other areas in China using other samples of international students. There is no doubt after our analyses that HiEduQual is an instrument that obviously may reliably and unfailingly measure the impact of international student perceived service quality on the student satisfaction, motivation, loyalty and the image of the institution. For each university strategy, the model is helpful in that it facilitates tracing performance all the time, benchmarking, diagnosis the impacts of several quality enterprises requiring extension of the fundamental model efficiently. Evidently the current literature helped us to come out with the research question. The research focused on the present theoretical facets and some empirical findings. Consequently, this study appears to be a new investigation after the first conducted by model builders (Annamdevula and Bellamkonda, 2016) to confirm the generalization of the model and so, ideas, methods, and findings are correlated to existing literature. By extension, it contributes to the theoretical and managerial aspects of service quality in the higher education context.

5.3 Managerial contributions and implications

Study findings have important implications for higher education institutions service marketing. The distinctiveness of findings shows that international students fully care about their needs and expectations. Chinese government as well as universities staff should aimed at a thorough understanding of international students needs and expectations. It seems from this study that Chinese government has to pay more attention to the service quality policies regarding the international students to assure student satisfaction. The findings of this investigation further show that Chinese universities should raise their current service quality by adapting international standards and principles. Higher education institutions have to provide their services to international students with the understanding that their perceptions are very competitive (Sakthivel et al., 2005). The Results of this study endorse that service quality managers in the higher education should focus thoroughly on the quality of services they deliver and on institutional image; there are staff managers from the eyes of the students. The achievement of Perceived service quality and satisfaction of international students by stakeholders should be the key strategic policies of universities management if they are determined to survive and remain competitive. More often, satisfied consumers voluntarily or involuntarily became product-marketing agent. It is clear that the more international students perceived that service quality meets their needs and expectations, the more their satisfaction, motivation, loyalty and the more they will appreciate the image of higher education institution. By doing so and regarding the experience of the current students, they could play a convincing role for universities to fascinate news students. That can be implemented through word-of-mouth. This research finding could finally inspire universities managers to improve and preserve student's experiences throughout their stay at the university. Universities managers ought to allocate consistent resources for the improvement of university positioning in the today's competitive higher education environment.

6 Limitations and further research

Researcher in this study examined international students' perceived service quality impact on student satisfaction, student motivation, student loyalty and institutional image on the one hand. On the other hand the study investigated whether student satisfaction can be used as mediation variable between students perceived service quality and student motivation, student loyalty and institutional image. China is the survey area where only students in 28 international universities from 12 provinces responded. Because the sample wasn't very large, findings may not be generalized to international students in China. Attention can be focused to the whole of Mainland China and islands (autonomous regions) and to other countries for further researches. The researcher also suggests that further research may look to national students or both national and international students together as cross cultural study. In this regards, additional fruitful insights might be helpful to generalize the findings. Additionally, future research could focus on other antecedents or measurements of service quality, which can impact student satisfaction, loyalty, motivation and institutional image in the context of higher education. Using the HiEduQual measurement instrument of service quality in the higher education should take in account other stakeholders viewpoints such as administrative staff, employers, students' families, and government. Further researches that investigate the implementation of service marketing conceptions in higher education domain are recommended (Hemsley-Brown and Oplatka, 2006). Customer satisfaction is also influenced by personal (study success, class ranking, and ease to find a job for example) and situational factors and price (Zeithaml et al., 2006). These factors may influence student

satisfaction within another research. HiEduQual recommends institutions to be more service-oriented and consider students mostly like customers. Moreover, academic support, advice, organization and management of student programs can come over with new insights. International students perceived service quality is not the sole antecedent of student satisfaction in the higher education context. Delivering quality education and sensation of belonging are vital antecedents of student satisfaction (Elliott, 2002). For this reason, it is important to comprehend the crucial antecedents of student satisfaction as well. We hope this study create research and methodology path, which may harvest remarkable benefits for researchers working on the theme. Service quality is accentuating in the higher education by service providers due its tactical function in heightening competitiveness, motivation and maintaining existing students (Wong and Sultan, 2010).

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