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**IMPACT OF SERVICE QUALITY (SQ) ON STUDENT SATISFACTION:
EMPIRICAL EVIDENCE IN THE HIGHER EDUCATION CONTEXT OF
EMERGING ECONOMY**

*Kesan Kualiti Perkhidmatan ke atas Kepuasan Pelajar: Bukti Empirikal di
Institusi Pengajian Tinggi di dalam Konteks Ekonomi Baru*

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Abstract

This article represents a cross-sectional study of students studying across 7 private universities and one public university of Chittagong in Bangladesh. Service quality dimensions have been described as a critical for student satisfaction and service organizations may substantial outcomes including student retention and monetary in a competitive market. However, there is little empirical evidence of how service quality provided by tertiary educational institutions can influence student satisfaction in developing economy context. Recognizing this significance, the study aims to investigate the impact of service quality on student satisfaction applying HEdPERF model proposed by Firdaus (2005). We collected a designed questionnaires from 376 students selected randomly. The findings indicate that the significant variables explaining student satisfaction as: administrative aspects, academic aspects, reputation, and access. The implications of the study for university management were discussed and areas for future research were suggested.

Keywords: service quality, student satisfaction, higher education.

Abstrak

Artikel ini melaporkan hasil kajian yang dijalankan ke atas para pelajar di 7 buah universiti swasta dan sebuah universiti awam iaitu Universiti Chitagong di Bangladesh. Dimensi kualiti perkhidmatan telah dianggap sebagai faktor kritikal kepada kepuasan pelajar, pengekalan pelajar dan persaingan di pasaran. Walaubagaimanapun, kajian yang memfokus kepada bagaimana kualiti perkhidmatan di institusi pengajian tinggi mempengaruhi kepuasan pelajar masih kurang, terutamanya dalam konteks negara membangun. Oleh kerana itu, kajian ini dijalankan untuk melihat kesan kualiti perkhidmatan ke atas kepuasan pelajar dengan menggunakan model yang dibangunkan oleh Firdaus (2005). Data kajian telah diambil menggunakan soal selidik yang diedarkan ke atas 376 pelajar secara rawak. Kajian ini mendapati beberapa faktor mempengaruhi kepuasan pelajar seperti aspek pentadbiran, akademik, reputasi dan capaian. Implikasi kajian ke atas pengurusan universiti telah dibincangkan beserta dengan cadangan untuk kajian masa hadapan.

Kata kunci: kualiti perkhidmatan, kepuasan pelajar, pendidikan tinggi.

INTRODUCTION

Student satisfaction has got a widespread research focus from several researchers since long across the globe (Postema & Markham, 2002; Tan & Kek, 2004; Lounsbury, Saudargas, Gibson, y Leong, 2005; Jurkowitsch, Vignali & Kaufmann, 2006; Zineldin, 2007). Information on the quality of services provided is essential to determine the priorities of allocating resources, and of making their competitive and promotional interventions stronger (Cardona & José Bravo, 2012). Viewing students as main customers of services provided by educational institutions (Hill, 1995; Darlston-Jones, Pike, Cohen, Young, Haunold & Drew, 2003; Lee & Tai, 2008), it is justifiable to collect their opinions systematically what extent they are satisfied with the numerous services provided by higher education institutions. In today's world, it is imperative to formulate plans and policies addressing students' interests as well as building up image and reputation by rendering quality services (Cardona & José Bravo, 2012).

Satisfied students are more likely to demonstrate a positive expression about the institution and suggest other would be students for enrollment (Oliveira & Ferreira, 2009) that consequently may enable the institution to develop competitive capability and to gain competitive advantage over other institutions in the sector (Jiewanto, Laurens & Nelloh, 2012). Students' satisfaction not only plays a significant role in building image and reputation of the university it also contributes substantially to the attainment of educational goals (El Ansari & Oskrochi, 2006). In view of this,

Oliveira and Ferreira (2009) reported that if students are satisfied with the various services provided like academic services, administrative services, courses, programs, and easy access that would develop positive perceptions about their institutions. Similar findings have been also found in a good number of previous studies that recommend that students' response contributes significantly to augment the service quality and student perceptions (Harvey, 2001; Kanji & Tambi 1999; Williams & Cappuccini- Ansfield 2007; Houston 2008). Particularly, in the context of tertiary education; students' feedback about service quality they receive from their institutions is both crucial and strategic to the students' relationship at present and the days to come (Cronin & Taylor, 1992). However, service Quality is regarded as a significant prerequisite to uphold a strong and positive bonding with the customers (Young & Varble, 1997). Spreng and Mackoy (1996) recognized perceived service quality as a factor affecting satisfaction. According to Lassar Manolis and Winsor (2000), it is necessary to have an inclusive understanding of the antecedents of customers' satisfaction. This understanding may provide a service organization with substantial monetary outcomes in a competitive market (Abu Hasan, Ilias, Rahman & Abd Razak 2008). Alves and Raposo (2009) suggested that exploring factors driving student satisfaction is vital for sustainability of education institutions. Though, there is a deficiency of consensus in the extant literature with respect to how this could be done and previous scholars applied models and theories that are different in terms of number of aspects explored and the methodologies employed to assess the relationships (Douglas et al., 2015; Elliot and Shin, 2002; Guolla, 1999; Gruber et al., 2010; Petruzellis et al., 2006; and Smith, 2004).

Given the stiff competitive situation of various global higher education markets (Wilkins, 2010; Knight, 2011) institutions that steadily attain student satisfaction are likely to gain a valuable competitive advantage. In various countries, student satisfaction has become a means used to accumulate rankings and league tables, and higher ranked institutions usually gain benefits by attracting students and external funding and allowing them to charge the highest tuition fees (Wilkins & Huisman, 2011).

In Bangladesh, education is one of the leading industries and plays a critical role in the socio-economic development of the country. Today's educational environment in Bangladesh is highly dynamic, competitive and challenging. According to University Grants Commission (UGC) (2017) of Bangladesh (as of February, 2016), there are a total of 35 public universities providing education to the bulk of higher studies students and these are funded by the government while managed as self-governed organizations. On the other hand, there are 92 approved private universities of which 80 are operational in five out of eight divisions of the country.

As of 2013, the total number of students in public universities stood at 4, 39, 549 and in private universities stood at 8, 12,202 (BENBEIS, 2013).

Most of the previous works, in spite of criticisms (Arambewela & Hall, 2009; Bigne et al., 2003; Prugsamatz et al., 2006; Shekarchizadeh et al., 2011; Yunus et al., 2009), with respect to student perception at tertiary level have employed two popular approaches namely SERVQUAL and SERVPERF to investigate the satisfaction level of students. This study employs another model than SERVQUAL and SERVPERF by adopting and adapting the HEdPERF (Higher Education PERFORMANCE by Abdullah (2004) which is regarded as an all-inclusive performance-based evaluation construct containing realistic dimensions of SQ specifically in the field of tertiary education. The HEdPERF construct consists of 41 items and was developed by Abdullah (2005). It has been empirically tested for unidimensionality, reliability and validity applying exploratory and confirmatory factor analysis both. Moreover, HEdPERF is an industry-specific and inclusive construct and exclusively proposed for tertiary education industry (Abdullah, 2005). Hence, this study addresses the issue of service quality of higher education sector comparing various dimensions of service quality scale of HEdPERF developed by Abdullah (2005).

LITERATURE REVIEW

1- Service quality

SQ is considered as a significant aspect of gaining competitive capability (Ali *et al.*, 2012; Lewis, 1990) and is repeatedly explained in the extant previous studies of service quality. This topic has become a key issue to researchers on account of its significant influence on customers' satisfaction and organizational outcomes (Ali & Zhou, 2013; Seth *et al.*, 2005; Sureshchandar *et al.*, 2003). The well established literature in this area has shown several conceptualizations and there is a very little consensus with respect to the development of a well-established and unique concept of SQ (Sharif & Kassim, 2012; Wicks & Roethlein, 2009; Kitchroen, 2004; Parasuraman et al. 1985; Carman, 1990; Bolton & Drew, 1991). Similarly, Sahrif and Kassim (2012) reported that SQ is a customer oriented issue and it is difficult for service organizations to describe and use the term "service quality" and develop appropriate concepts specifically (Zeithaml, 1981). In spite of these difficulties, however, a good number of authors conceptualized service quality in various ways.

The pioneers in conceptualizing SQ are Lewis and Booms (1983, p.100) who defined SQ as a "...evaluation of the extent to which services provided fulfills the demands of customer". Following Lewis and Booms, another scholar namely Juran (1988) developed one more concept and defining SQ as fulfilling the demands of

customers, while Zeithaml (1988) conceptualized SQ as the supremacy or superiority of delivering service. Crosby (1979) offered a quite different concept of service quality describing it as conforming to demands and expectations. Other scholars like Parasuraman et al. (1985, 1988) and Gronroos (2007) argued that service quality is related with perception and expectations whereas other researchers reported that it is obtained from an assessment of service performance against predetermined principles (Teas, 1993a) otherwise from opinions of service performance merely (Cronin & Taylor, 1992). According to Kasper *et al.* (1999), SQ is the degree of satisfaction about the demands of service recipients with regards to service and delivery procedure with the organization.

Various constructs have been so far developed to describe and understand the service quality dimensions. Although, according to Seth *et al.* (2005), there is a lack of unique construct which is widely accepted and applied to evaluate service quality. However, SERVQUAL is the most widely applied construct that measures service quality based on perception and expectation of customers about the services provided (Ali et al., 2012). Perceived service quality is the outcome of evaluating demands and perceptions (Parasuraman et al., 1988; Gronroos, 2007); though, some authors (Cronin & Taylor, 1992; Teas, 1994) have criticized this concept regarding its application as well as generalization. Previous studies confirm that merely measurement of perception-oriented SQ generates more appropriate outcome than evaluating perception against expectations (Sultan & Wong, 2013).

2- Service Quality in Higher Education

Service quality is regarded as a critical aspect of higher educational institutions. It is evident from the extant literature that positive perceptions of students about service quality of tertiary educational institutions have been found to have a considerable impact on student satisfaction (Alves & Raposo, 2010). Although, defining service quality in terms of tertiary education remains on the top of debate (Becket & Brookes, 2006). First of all, Cheng and Tam (1997, p. 23) defined service quality as “[...] education quality is a somewhat unclear and contentious concept”. Defining SQ with regards to tertiary education is reliant on customers and other clients known as the recipients of services provided by tertiary education institutions. Since students are the most important stakeholders of every tertiary education institutions, their perceptions and opinions in connecting with various services offered throughout their student duration consist of service quality (Jancey & Burns, 2013).

Previous scholars developed various SQ models and assessed SQ models in line with tertiary education. For instance, Abdullah (2005) developed HEDPERF, a construct to evaluate perceived SQ in the field of higher education in Malaysia applying five variables, which are, (1) academic aspects, (2) non-academic aspects,

(3) program issues, (4) reputation and (5) access. The original instrument was designed and examined taking a sample size of 409 students from six Malaysian higher educational institutions i.e. universities. The study found "access" dimension as the only significant variable of SQ. Consequently, additional validation of the construct was suggested by Abdullah (2005). Further, another construct namely "The Performance-based Higher Education" consisting of 67 items was developed by Sultan and Wong (2010) to evaluate perceived service quality of Japanese higher educational institutes i.e. universities. This scale measured service quality using eight dimensions, that is, (1) dependability, (2) effectiveness, (3) capability, (4) efficiency, (5) competencies, (6) assurance, (7) unusual situation management, and (8) semester-syllabus.

On the other hand, researchers like LeBlanc and Nguyen (1997) measured business students' perceptions of service quality and their relative significance to service quality with a 38-item scale using seven dimensions, that is, (1) personnel/faculty, (2) contact personnel/administration, (3) responsiveness, (4) reputation, (5) curriculum, (6) physical evidence, and (7) access to facilities. In addition, Tahar (2008) proposed a framework of service quality that consists of five dimensions, namely, (1) ability to create career opportunities, (2) issues of the program, (3) cost/time, (4) physical aspects and (5) location. All of these works report that the determinants of SQ in the field of tertiary education vary extensively (Angell *et al.*, 2008; Sultan & Wong, 2013).

The present study has applied HEdPERF with an aim to examine the SQ of higher educational institutions in Chittagong, Bangladesh, taking it as an inclusive measurement scale being able to determine the valid antecedents of SQ in the context of tertiary education sector (Abdullah, 2006b). Similar opinion is given by Sultan and Wong (2010b) who conducted a study to investigate and measure the perception of students regarding antecedents and dimensions of SQ with respect to tertiary education. Considering the dimensionalities, the authors suggested HEdPERF being an all-inclusive measurement instrument as it consists of a wide range of service characteristics higher education context.

3- Student Satisfaction

Previous studies on customer satisfaction are based on several definitions rotating around notions like perceptions or service quality, expectations, perceived importance and subsequent measurement of service quality (Ali & Amin, 2014). For instance, satisfaction refers to a condition experienced by an individual who has undergone performance or a result that meets expectations of the individual (Arif & Ilyas, 2013; Kotler & Clarke, 1987). In a similar vein, according to Hunt (1977, p. 459), "satisfaction is a customer's post-purchase assessment about service procedure

and results. It is an emotional condition of feedback in which customer's demands, and requirements throughout the service procedure have been fulfilled or exceeded". Other researchers defined satisfaction as an evaluation of a specific service outcome (Cronin & Taylor, 1992; Bolton & Drew, 1991). Moreover, Fornell (1992) defined satisfaction as an emotional state or as contentment about the aspects of a deal.

In the field of tertiary education, students are considered as the key consumers (Sultan & Wong, 2013). The idea of considering students as customers of tertiary educational institutions is a traditional concept. According to previous scholars, students are the key component and customer of higher educational institutions since they are only buyers of services from institutions (Kuh & Hu, 2001). Furthermore, Elliott and Healy (2001) referred student satisfaction as a short-term perception and the consequence of students' feelings after receiving educational services. Accordingly, Ayoubi and Ustwani (2014) outlined student satisfaction also as a short-term stance and obtained from the assessment of services derived from educational institutions.

Student satisfaction has been found to contribute significantly in shaping the precision and accuracy of the services being delivered as reported by Sapri *et al.* (2009). In a similar vein, Barnett (2011) argued that student satisfaction is significant as this is the mere determinant of performance of SQ for services provided by educational institutions. In another study, according to Khosravi *et al.*, (2013), concentrating on the students' needs and expectations is of utmost importance for tertiary educational institutions for retaining and attracting students. Some scholars like Finney and Finney (2013) suggested that students should be treated viewing them as the customers and services need to be provided keeping in mind their needs and expectations. Some researchers posit that institutions are likely to derive benefits from student satisfaction since this may provide an organization with competitive edge (Rowley, 2003; Tapp *et al.*, 2004). Moreover, student satisfaction may provide higher education institutions with a number of benefits. For example, the dropout rate of satisfied students are less (Tinto, 1993); they are unlikely to obtain poor scores (Bean, 1985); they are more like to advertize in favor of the institutions contributing to attract potential students and likely to extend their cooperation towards their institutions following their graduation (Alves & Raposo, 2009).

There are several antecedents (please see table 2), as proposed by various authors, of service quality. For example, Parasuraman *et al.* (1988) at first proposed 10 determinants of SQ which are: Tangibility, Reliability, Responsiveness, Competence, Courtesy, Credibility, Security, Access, Communication and understanding the consumer. The basic ten antecedents were subsequently

compressed in five and which are: (1) Reliability, (2) Responsiveness, (3) Assurance (4) Empathy, and (5) Tangibles (Mai, 2005). All of these five determinants developed further were included in the SERVQUAL construct to measure customers' perception of SQ.

Table 1: Determinants of Service Quality

Reference s	Determinant s
Parasuraman et al. (1988)	(1) Tangibility, (2) Reliability, (3) Responsiveness, (4) Competence, (5) Courtesy, (6) Credibility, (7) Security, (8) Access, (9) Communication and (10) understanding the consumer.
Mai (2005)	(1) Reliability, (2) Responsiveness, (3) Assurance (4) Empathy, and (5) Tangibles
Abdullah (2005)	(1) non-academic aspects, (2) academic aspects, (3) program issues, (4) access and (5) reputation
Bitner & Zeithaml (1996)	(1) communication skills of academic staff, (2) effective communication between staff and students
Kuh and Hu (2001)	student-faculty interaction
Owlia and Aspinwall (1996)	(1) Tangibility, (2) competence, (3) attitude, (4) content, (5) delivery, (6) reliability.
Wright (1996)	(1) diversity of educational experience, (2) ease of access and facilities, (3) quality of student (4)

	educational system, (5) personalized contact, (6) quality of teachers, (7) computing facilities, and (8) teaching experience of professors.
Cook (1997)	(1) academic staff, (2) study related issues, (3) general welfare issues, (4) practice issues, (5) extracurricular activities
Athiyaman (1997)	(1) social and (2) academic integration of students
Mostafa's (2007)	(1) actual service delivery process of registration, payment and admission, (2) attitudes of administrative staff towards student service, (3) availability of physical facilities and the importance of physical environment
Zineldin (2007)	(1) education itself, (2) education system, (3) infrastructure, (4) dealings and communication, and (5) the environment
Davies (2008)	(1) explored access, (2) attentiveness, (3) communication and (4) availability of facilities
Zeshan, Afridi, and Khan (2010)	(1) tangibles, reliability, responsiveness, assurance, and empathy
Mohamad Yusof et al. (2012)	tangibility
Elliott and Shin (2002)	1) excellent instruction, 2) getting expected classes,

	3) knowledgeable advisor, 4) knowledgeable faculty, 5) excellence in teaching, 6) tuition is a useful investment, 5) friendly advisor, 6) safe and secure campus, 7) clear and reasonable requirement for major, 8) accessibility of advisor, 9) sufficient computer lab facilities, 10) honest faculty, and 11) access to information.
Eom , Wen & Ashill (2006)	(1) Self-motivation of students, (2) student learning method, (3) teachers' knowledge, (4) teachers' feedback,(5) student communications, and (6) course structure.
Alves and Raposo (2007)	(1) Institutional image, (2) student expectations, (3) perceived significance, (4) perceived quality, (5) student satisfaction, (6) word of mouth, and (7) student loyalty.
Afzal et al. (2010)	design, delivery and assessment, academic facilities, non-academic facilities, recognition, guidance, student representation, study opportunities and group size.
Kara & De shields (2004)	faculty performance, advisory staff performance and classes
Kaldenberg et al. (1998)	Coursework quality, non-curriculum events, other

Appleton-Knapp and Krentler (2006)	<p style="text-align: center;">university-related factors.</p> <p>Institutional Factors (quality of instruction, quality and promptness of the instructor's feedback, clarity of expectations, teaching style of the instructor, research emphasis, and class size) (Dana <i>et al.</i>, 2001; Fredericksen <i>et al.</i>, 2000; Krentler and Grundnitski, 2004; Porter and Umbach, 2001). Personal factors (age, gender, employment, temperament, preferred learning styles, students' average grade point ((Brokaw <i>et al.</i>, 2004; Fredericksen <i>et al.</i>, 2000; Porter and Umbach, 2001)</p>
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4- Service quality and student satisfaction

Previous studies explored that SQ has a significant positive influence on satisfaction of customers (Cronin & Taylor, 1992; Johnson & Fornell, 1991; Kristensen *et al.*1999; Theodorakis *et al.* 2001; Bigne, Moliner & Sanchez, 2003; Sultan & Wong, 2012). Various studies in numerous sectors also identified a significant impact of SQ on satisfaction. For example, researches conducted by Wang *et al.* (2000) in Chinese telecom sector, and Kim *et al.*, (2004), Tung (2004), and Turel and Serenko (2006) in mobile service industry in South Korea, Singapore, and Canada respectively reported that customer satisfaction is significantly dependent upon SQ (Cited in Kuo *et al.*, 2009). Hence, the study can hypothesize that SQ has a positive impact on student satisfaction.

Studies in tertiary education sector utilized mainly SERVQUAL and SERVPERF to evaluate service quality. Both approaches employed five variables namely; tangibles, reliability, responsiveness, empathy, and assurance in general. SERVQUAL includes both the perceptions and expectations of customers' assessment but SERVPERF only takes customers' perceptions into account. This

study utilized HEdPERF developed by Abdullah (2005) as it is more specific and inclusive with respect to the field of higher education. HEdPERF is a 41-item instrument consisting of five dimensions, namely (i) academic aspects, (ii) non-academic aspects, (iii) program issues, (iv) reputation, and (v) access. Brochado (2009) conducted a study comparing HEdPERF with other alternative scales of service quality at tertiary level and found that five variables of HEdPERF got higher correlation with student satisfaction. Very recently, Ali et al. (2016) conducted another study on public universities in Malaysian context applying HEdPERF. Findings of the study reveal that all the variables of SQ in the field of tertiary have got a positive impact on student satisfaction having an impact on image of institutions in turn with an influence on student loyalty. Hence, the study can mainly hypothesize that:

H: There is a significant impact of service quality on student satisfaction.

5- Academic Aspects and Student satisfaction

Academic aspects describe the activities performed by academicians including positive approach, subjective knowledge, excellent efficient in communication, rendering enough counseling services, and being capable of giving feedback regularly to students (Abdullah, 2005). Prior studies on service quality and student satisfaction repeatedly have given more focus on academic issues than administrative ones and focused on adopting useful approaches in service performance along with the quality of class-room teaching and courses (Atheeyaman, 1997; Cheng & Tam, 1997; Soutar and McNeil, 1996; Griemel-Fuhrmann & Geyer, 2003). Although, authors like Kamal and Ramzi (2012) gave emphasis on administrative issues of higher education institutions who evaluated students' views about registration as well as rendering academic advices among various academic units and non-academic units to ensure superior services so as to attaining academic goals.

Banwet and Datta's (2003) study conducted a survey on 168 students to know about lecture delivery, the findings indicate that students were found to focus on knowledge and skills, availability of lecture materials, experience and depth of knowledge, and comment given on examined works. In another study, Schneider and Bowen (1995) reported that the qualifications of academic staff influence the satisfaction level of students. The findings of study conducted by Schneider and Bowen are consistent with the qualitative study of Hill et al. (2003), which found that knowledge and classroom delivery of course instructors, giving quick feedbacks on assignments, and the behavior with students in the classroom and class size (Coles, 2002) are positively related to satisfaction of students. On the other hand, Kara and DeShields (2004) assumed that presentation skills of academics, quality

teaching, and courses would impact the academic experience of students having a subsequent impact on student perception of satisfaction. Dishields et al. (2005) in another study reported that faculty performance and learning classroom environment were the significant factors influencing the perceptions of students about quality education. Umbach and Porter's (2002) study argued that the size or a number of faculties in a department in higher educational institutions is key factor to determine satisfaction.

Navarro *et al.* (2005) conducted survey including the students of Spanish University which found that students consider knowledge of academic staff, teaching methodology, and courses administration as the main aspects of their satisfaction. Huang (2009) examined service quality and student satisfaction through a survey in Xiamen University of China and found that academic issues followed by non-academic issues mainly influenced student satisfaction. In another study conducted in the United Kingdom, Hill *et al.* (2003) reported that various academic aspects like quality of classroom performance and academics, responses provided to students on examined works and interaction between lecturer and students influence student perception about quality significantly.

García-Aracil (2009) conducted a study in 11 European countries to measure student satisfaction. The findings of the study reveal that student satisfaction across Europe was relatively stable in spite of differences in their education system. The study also found that course contents, teaching efficiency, and availability of academic materials were positively related to student satisfaction. Sojkin *et al.* (2011) conducted a study in Poland which found that learning environment and academic facilities were reported to have a significant impact on student satisfaction of higher education institutes. Similar findings were found by Wells and Daunt (2011) in their study from the UK. Quality of teaching and students' emotional commitment were reported to influence student loyalty in the study conducted by Hennig et al. (2001) in Germany. From the above discussion, it is evident that academic issues of higher educational institutions have a significant impact on student satisfaction. Therefore, the study can hypothesize that:

H1: There is a significant relationship between academic issues and student satisfaction.

6- Non-academic Aspects and Student Satisfaction

Non-academic issues include services, advises and activities performed by administrative staff (Abdullah, 2005). Non-academic aspects reveal the capacity and eagerness of non-academic or administrative personnel to serve students with respect, with equal treatment, and to assure the confidentiality of information.

Moreover, non-academic aspects require administrative staff to be friendly and reachable along with having positive approaches and to be informative and communicative towards students, giving freedom to express them, and rendering services in a specific time frame (Abdullah, 2005).

Non-academic aspects have been found to influence student satisfaction in previous studies. For instance, Fernandes, Ross and Meraj’s (2013) found that good manners and attitudes of administrative staff towards students had a positive impact on student retention and student loyalty leading to overall satisfaction. Galloway (1998) conducted a study on the impact of administrative services in a UK University about student perception of SQ. The findings of the study reveal that administrative office had a significant influence on student satisfaction and impacted the perception about the quality of the institution as a whole. The results also reveal that front-line employees influenced directly both present and prospective students and other stakeholders. The key antecedents of service quality, according to Galloway (1998), are: professional appearance of office, smart dress code of administrative staff, not being too busy to help, and convenient opening hours. In a survey conducted by Price et al. (2003) on some universities during a period of two years to identify the underlying reasons for choosing a specific university. The results of the study reveal that friendly behavior of administrative staff while serving students significantly influences student satisfaction. Sohail and Shaikh’s (2004) study, conducted in King Fahd University of Saudi Arabia, found that interaction with non-teaching staff was one of the significant driving forces influencing student perceptions of service quality of higher education institutions. Thus, the study can draw the following hypothesis:

H2: There is a significant positive impact of non-academic aspects on student satisfaction.

7- Reputation and student satisfaction

Abdullah (2005) defined reputation as the professional image of higher educational institutions. According to LeBlanc and Nguyen (1997), reputation is a factor having a direct influence on ability of management to promote the institutional environment aimed at fulfilling the demands of its customers as well as to escalate the status of higher educational institutions. It also refers to the capacity to encourage self-confidence and trust to focus on individual needs and demands of students with professional service delivery system and care. LeBlanc and Nguyen, moreover, mentioned that reputation is largely obtained from service quality and is strongly related to the ability to deliver adequate services to students and to persuade them about their expected services in exchange for their tuition fees paid by them.

The relationship between service reputation of higher educational institutions and student satisfaction has been well established in extant literature (Helgesen & Nettet, 2007). For example, Price et al. (2003) identified that reputation of teachers is a significant factor affecting student satisfaction and found a positive impact on student perception of SQ. In a similar vein, Ford, Joseph and Joseph (1999) conducted a study taking samples from New Zealand and the USA wherein they found that both the samples ranked academic reputation as most influencing factor of student satisfaction followed by cost/time, program related issues, physical aspects. In another study, Chun (2005) argued that students were found to give greater importance on university's image and the acceptance of the degree to be obtained while selecting university for admission.

Mai (2005) carried out a study on the factors influencing student satisfaction in tertiary educational institutions. The results of the research indicate that overall image of the university, importance of the degree in the job market and in development of career are the most important predictors of student satisfaction. The study, in addition, found a positive impact of reputation on student perceptions which are similar to results of other works (Helgesen & Nettet, 2007; 2011; Palacio et al. 2002). On the other hand, some authors found that reputation has a significant influence on retaining present students and on attracting prospective students (James et al. 1999). Hence, the study hypothesizes:

H3: Reputation is positively related with student satisfaction.

8- Access

Access is defined as the extent to which service locations are easily accessible to the service recipients, the availability of ways in the service delivery phenomenon, the simplicity of means, and the extent to which staffs are easily contacted (Abdullah, 2005). This dimension of SQ, according to Douglas *et al.* (2015), includes suitable time in terms of rendering service, place; signal; right to avail services, amenities, buildings, accommodation, instructor and availability of essential resources. The 'access' antecedent of SQ is of utmost importance for delivering support services (Douglas et al. 2015).

With respect to access, Smith and Ennew (2004) argued that access to canteens and housing facilities were found to have a direct and indirect influence on student satisfaction. Inch and Sun (2013) in their study conducted on full time students of Otago University in Dunedin, New Zealand, found similar findings. In addition, Inch and Sun (2013) reported that socialization and access to transport and dining facilities were also reported to influence student satisfaction positively, though not significantly, about university services.

In a study conducted by ToyinSawyer and Yusuf's (2013), it appears that students' housing facilities significantly drive student satisfaction. Eom (2012) examined the impacts of e-learning management system (LMS) on student perception of satisfaction. The findings, however, revealed that availing e-LMS has not any significant positive impact on user satisfaction. In another study Herson and Altman (1998) found that access to technology and library facilities strengthens students' capability to perform well academically. Moreover, up-to-date technology that allows both the academicians and students to exploit the emerging benefits of technologies may be a great source of enhancing specific skills for the success of their future careers (Mayondo, Tsarenko, & Gabbott, 2004). Thus, the study hypothesizes that:

H4: Access has a positive impact on student satisfaction.

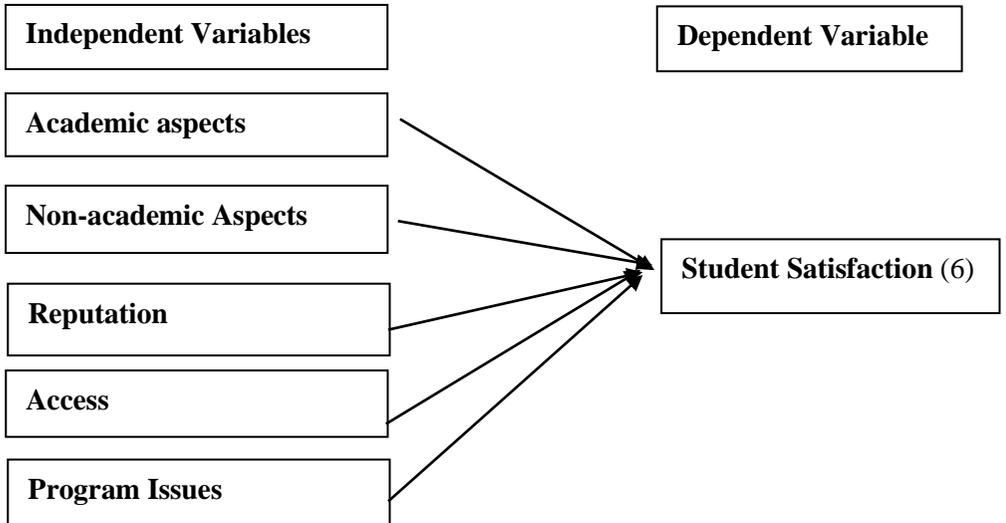
9- Program issues and student satisfaction

Program issues refer to offering a wide range of specialized courses, subjects, designing curriculum, offering various programs with flexibility, providing counseling service (Abdullah, 2005). Offering new courses and subjects may attract new students and may fulfill the needs of students (Mayondo, Tsarenko, & Gabbott, 2004). According to Zineldin et al.(2011), giving focus on program related issues could make the learning process of students more efficient and productive.

The literature in program issues and student satisfaction is rich enough. Though, some studies found impact of program related issues on student satisfaction. For example, findings of the study of Huang (2009) suggested that program issues are positively related to student perception of satisfaction. Similarly, another study conducted by Nadir and Bennet (2011) which examined factors influencing students' preferences in five private higher education institutions. The study found that a variety of specialized programs, flexibility in the program structure, student counseling were found to be positively related with the students' perception of such institutions. Therefore, the study posits that:

H5: Program issues have a positive impact on student satisfaction

Figure 1 Conceptual Framework



METHODOLOGY

Several methods have been applied so far to assess the student satisfaction in the field of higher education. Some studies have applied quantitative methods, some have applied qualitative, and some have employed both qualitative and quantitative i.e. mixed method, although, some studies have used case study method. However, this study prefers quantitative approach based on questionnaire survey methodology aiming to investigate the impact of SQ on student satisfaction. This study applied quantitative approach as this is the most frequently applied approach in various studies (Veal, 2006).

1- Sample and procedure

The sample for this research has come from students studying undergraduate programs of 7 private universities out of 9 and 1 public university located in Chittagong, the second largest city of Bangladesh. Sample students were chosen

randomly and questionnaires were distributed them over a period of one month (April, 2017) by a team of four members led by the authors. The items of the construct were pre-tested to confirm clarity and usefulness in communication ease of completion and absence of confusing questions. However, some items need slight modification to be pertinent to the sample students. The study had randomly chosen the students studying second year and above because they were expected to be better informed than the students of first year, and they would have better experience about teaching, learning and about various aspects of the university as a whole as suggested by Mavondo et al. (2004). Respondents were briefed about the purpose of conducting survey and were given assurance about the confidentiality of answers given by them. Though sometimes the random sampling can be difficult to handle and expensive when the updated listing of the population is available (Sekaran, & Bougie, 2010, p.263). All the items were measured on 5-point Likert type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Babakus and Mangold (1992) recommended that 5-point Likert scale tends to decrease the respondents' "frustration level" and to raise the quality and rate of responses as well. Hence, this study used the five-point Likert type scale.

A total of 437 hard copies of questionnaires were distributed among the students visiting the campuses of the selected universities. Out of 437 distributed questionnaires, 376 questionnaires were received and after eliminating incomplete ones, 360 complete questionnaires were selected yielding a response rate of 82.4%.

2- Measures

The study is based on HEdPERF (Higher Education Performance) model developed by Abdullah (2004). The HEdPERF model which is a five factor new construct consisting of 41 items in the field of higher education. HEdPERF resulted in a better estimations, superior criterion and construct validity, explained greater variance, hence a better fit. HEdPERF instrument is more effective of being specific in measuring SQ in tertiary education industry (Abdullah, 2005). Cronbach's alpha for the factors of HEdPERF varies between 0.81 and 0.92. The HEdPERF model includes five dimensions which are: (i) Non-academic aspects, (ii) Academic aspects, (iii) Reputation, (iv) Access, (v) Program issues. Therefore, the 41 items of service quality dimensions have been adopted from Abdullah (2005) with slight modifications.

'**Academic aspects**' include 10 items which have been adopted from Abdullah (2005). A sample item of academic aspects is: "*Academic staff has the knowledge to answer any question related to course content*".

‘Non-academic aspects’ include 13 items adopted from Abdullah (2005). An example of item for non-academic aspects is: *“When I have problem, administrative staffs show a sincere interest in solving it”*. **‘Access’** dimension contains 7 items, adopted from Firdaus (2005). A sample item is: *“The hostel facilities and equipment are adequate and necessary”*. **‘Reputation’** dimension consists of 5 items and all the items have been adopted from Abdullah (2005). The example of an item is: *“The institution has a professional appearance”*. Finally, the **‘Program issues’** include 6 items have been adopted from Abdullah (2005). An example of item is: *“The institution runs excellent quality programs”*.

There are 6 items of dependent variable i.e. student satisfaction which have been adopted from Atheeyaman (1997). A sample item of measuring student satisfaction is: *“I am satisfied with my decision to attend this university”*.

DATA ANALYSIS AND RESULTS

Table 2: Characteristics of study sample

Measures	Particulars	Frequency	Percentage
Gender	Male	242	67.2
	Female	118	32.8
	Total	360	100
Age	Below 20	18	5.0
	20-24	330	91.4
	25-29	12	3.6
	Total	360	100.0
Tuition fee sponsors	Parents	286	79.4
	Brother(s)	16	4.4
	Self	28	7.8
	Others	30	8.4
	Total	360	100.0
Semesters of study	5 th	30	8.3
	6 th	56	15.5
	7 th	74	20.6
	8 th	64	17.8
	9 th	36	10.0
	10 th	38	10.6
	11 th	34	9.4

	12 th	28	7.8
	Total	360	100.0
University category	Private	282	78.3
	Public	78	21.7
	Total	360	100

The study analyzed 360 questionnaires, as shown in table 1, from the respondents. Table 1 represents the demographic information of the sample of this study. The respondents consist of 67.2% male followed by 32.8% female. In terms of age of the respondents, 91.4% of respondents belong to the age of 20 to 24 years of old. Around 80% sample students tuition fees are sponsored by their parents followed by 8.4%, 7.8% and 4.4% students tuition fees are sponsored by other sources, themselves and brothers respectively. With regards to semesters of study, almost 75% of the sample students were reported to study between 6th semester and 10th semester. Only 8.3% respondents are comprised of 5th semester, 9.4% is comprised of 11th semester, and 7.8% is comprised of 11th semester. About category of university, 78.3% respondents have been selected from private universities and rest of 21.7% respondents have been selected from public (state funded) universities.

Table 3: Descriptive Statistics and Reliability

Constructs	No. of items	Mean Score	SD	Cronbach's alpha
Academic aspects	10	3.97	0.536	0.841
Non-academic aspects	13	3.91	0.571	0.892
Access	7	3.75	0.582	0.763
Reputation	5	3.71	0.617	0.817
Program issues	6	3.56	0.593	0.738
Student satisfaction	6	3.94	0.519	0.806

Table 3 demonstrates descriptive statistics for the dimensions SQ of higher education, and student satisfaction. It is also shown from table 2 that all the mean scores are above three on the five-point Likert scale indicating that respondents understood the items of the instrument and ignored favorable answers (response bias). It also reveals a positive response and agreement of respondents to all the items of higher education service quality, and student satisfaction (Ali et al. 2016).

1- Factor analysis

The study applied Factor Analysis (FA) to assess the construct validity (Sekaran & Bougie, 2010, p.263) of variables and to test the basic structure (Hair, Black, Babin, Anderson & Tatham, 2010) of the study. First of all, we calculated KMO, as shown in table 2, value that measures sampling adequacy which is 0.806 as shown in table 2, indicating adequate inter-correlations with the Bartlett's Test of Sphericity was significant (Chi-square=3642.341, $P < 0.05$). Principal component analysis was applied. Varimax, which is an oblique rotation, was used to extract the number of factors as it is logical to believe that any factor explored related to SQ ought to be inter-correlated. The study applied three usually functional decision laws to find out the number of factors (Hair *et al.* 2010) in SQ construct. Items having less than a loading of 0.35 and that cross-loaded on two or more factors at 0.35 or greater were excluded. An Eigen Value of 1 has been considered as the threshold value of extraction.

Table 4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.806
Bartlett's Test of Sphericity	Approx. Chi-Square	3642.341***
	df	167
	Sig.	.000

*** $P < 0.05$

Table 5: Factor analysis for service quality construct

Item Description	Reliability Test result (α value)	Confirmatory factor analysis result	
		Eigen value	Factor Loading
<i>Non-academic aspects</i>	0.84	3.762	
When I have a problem, administrative staff show a sincere interest in solving it			0.781
Administrative staff provide caring and individual attention			0.825

Item Description	Reliability Test result (α value)	Confirmatory factor analysis result	
		Eigen value	Factor Loading
Inquiries/complaints are dealt with efficiently and promptly			0.804
Administrative staff are never too busy to respond to a request for assistance			0.767
Administration offices keep accurate and retrievable records			0.894
When the staff promise to do something by a certain time, they do so			0.817
The opening hours of administrative offices are personally convenient for me			0.831
Administrative staff show positive work attitude towards students			0.925
Administrative staff communicate well with students			0.743
Administrative staff have good knowledge of the systems/procedures			0.693
Students are treated equally and with respect by the staff			0.757
The staff respect my confidentiality when I disclosed information to them			0.719
The staff ensure that they are easily contacted by telephone			0.672
Academic aspects	0.83	4.614	
Academic staff have the knowledge to answer my questions relating to the course content			0.827
Academic staff deal with me			0.721

Item Description	Reliability Test result (α value)	Confirmatory factor analysis result	
		Eigen value	Factor Loading
in a caring and courteous manner			
Academic staff are never too busy to respond to my request for assistance			0.858
When I have a problem, academic staff show a sincere interest in solving it			0.726
Academic staff show positive attitude towards students			0.797
Academic staff communicate well in the classroom			0.864
Academic staff provide feedback about my progress			0.915
Academic staff allocate sufficient and convenient time for consultation			0.824
Academic facilities are adequate and necessary			0.791
Academic staff are highly educated and experience in their respective field			0.803
Reputation	0.81	2.357	
The institution has a professional appearance/image			0.734
The institution has an ideal location with excellent campus layout and appearance			0.713
Academic staff are highly educated and experience in their respective field			0.704
The institution has a standardized and simple service delivery procedure.			0.749

Item Description	Reliability Test result (α value)	Confirmatory factor analysis result	
		Eigen value	Factor Loading
The institution values feedback from students to improve service performance			0.691
Access	0.851	1.791	
The hostel facilities and equipment are adequate and necessary			0.823
Recreational facilities are adequate and necessary			0.751
I feel secure and confident in my dealings with this institution			0.794
The institution provides services within reasonable/expected time frame			0.758
Students are given fair amount of freedom			0.715
Health services are adequate and necessary			0.761
The institution encourages and promotes the setting up of Student's Union			0.779
Program Issues	0.805	1.342	
The institution runs excellent quality programs			0.754
Class sizes are kept to minimum to allow personal attention			0.819
The institution offers a wide range of programs with various specializations			0.851
The institution offers programs with flexible syllabus and structure			0.789
The institution offers highly			0.718

Item Description	Reliability Test result (α value)	Confirmatory factor analysis result	
		Eigen value	Factor Loading
reputable programs			
The institution operates an excellent counseling services			0.792

The study confirmed a five-factor construct that explains a 67.35% of overall variance. The results of factor analysis reveal that, as shown in Table 3, all the items of 41-item scale have got factor loadings of 0.70 and above. This significant loading of all items on the single factor indicates uni-dimensionality of the construct. However, it is important to indicate the fact that no item has got multiple cross-loadings supporting the primary discriminant validity of the construct. Moreover, the reliability coefficients for all five factors are 0.80 or above demonstrating strong reliability (Nunnally, 1994, p.275).

2- Regression analysis

Table 6: Relationship between transformational leadership and organizational learning

Scale	Dimension	Probability	β
HEdPERF Dimensions	Academic aspects	0.01*	0.34
	Non-academic aspects	0.03*	0.28
	Reputation	0.04*	0.20
	Access	0.02*	0.21
	Program issues	0.14	0.02

Note: *Significant at 0.05

The regression model for service quality construct is stated as:
 Student Satisfaction = $\beta_0 + \beta_1$ Administrative aspects + β_2 Academic aspects + β_3 Reputation + β_4 Access + β_5 Program issues

In case of significance of dimensions of service quality construct, the results, as shown in table 6, indicate that non-academic aspects, academic aspects, reputation and access have significant impact on student satisfaction (P -value=0.03, 0.01, 0.04 and $0.02 < 0.05$, respectively), with a beta (β) value of 0.28, 0.34, 20 and 0.21 for

administrative aspects, academic aspects and access respectively. Other dimension of the construct namely program issues has also positive, though not significant, impact on student satisfaction with a beta (β) value of 0.02 program issues. Hence, the study can posit that administrative aspects, academic aspects, reputation and access dimensions have significant positive impact on student satisfaction, and on the other hand, program issue does not have any significant impact on student satisfaction.

In response to the research question number 2, the regression result of the study reveals that administrative aspects, academic aspects, reputation and access are the significant dimensions influencing student satisfaction of tertiary educational institutions in Bangladesh.

DISCUSSION

The study aims to investigate the relationships between SQ (non-academic aspects, academic aspects, reputation, access and program issues) and student satisfaction of higher educational institutions in Bangladesh. In doing so, the study collected data from 8 private (privately funded) universities and one public (state funded) universities located in Chittagong, the commercial capital and the second largest city of Bangladesh, and findings support the hypotheses. In line with this, the research filled a gap in the extant literature linking SQ and satisfaction of students.

First of all, the study found a significant impact of administrative aspects on student satisfaction. This findings is consistent with the usual results found in previous studies (e.g. Fernandes, Ross & Meraj's, 2012; Galloway, 1998; Price et al. 2003; Sohail & Sheikh, 2004; Kamal & Ramzi, 2012), that revealed a positive impact of non-academic or administrative aspects on student satisfaction. In addition, the study also found a significant positive relationship between academic aspect and student satisfaction. The positive impact of academic issues is well-established in extant literature (e.g. Huang, 2009; Hill et al. 2003; Garcia-Aracil, 2009; Sojkin et al. 2011; Wells & Daunt, 2011). With respect to reputation and student satisfaction, the study found positive, though not significant, impact on student satisfaction. Similar findings have also been found in previous studies (e.g. Helgesen & Nettet, 2011; Huang, 2009; Palacio et al. 2002; Mai, 2005), that indicated a positive impact of reputation on student perception of service quality of higher educational institutions in Bangladesh. The results of this study, moreover, explored a significant impact of access on student satisfaction. These findings are in tune with results of some recent studies that investigated the impact of access to various facilities on student satisfaction (Douglas et al. 2015; Inch & Sun, 2013; Toyin Sawyerr & Yusof, 2013). Moreover, Douglas et al. (2008, 2015) found access a critical aspect of

student satisfaction which may be due to the fact that, according to Hemon and Altman (1998), access to technology, library facilities, and e-learning system strengthens students' capability to perform academically. However, the study found no significant impact of program issues on student satisfaction. Although, some previous works argued that program related issues could facilitate the learning process of pupils more effective and efficient (Zammuto et al. 1996) and may attract new students and fulfill the demands of existing students (Mayondo, Tsarenko & Gabbott, 2004). In addition, other researchers like Huang (2009) and Nadir and Bennet (2011) found program issues to have impact on student perception of satisfaction. Thus, the findings of the study about program issues are not consistent with previous studies. This may be due to the fact that the students of Bangladesh do not consider the issues related to program like specialized courses, curriculum, and programs with flexibility and counseling as important for satisfaction about service quality of higher educational institutions. The other fact might be attributed to this finding is that most of the students are likely to enroll in those courses that are more demandable in the job market or pursuing those courses they are likely to get jobs quickly after finishing their study.

IMPLICATIONS AND DIRECTIONS OF FUTURE RESEARCH

In spite of the explosion of interest in education in Bangladesh after 1990, only a handful of researches have studied so far the impact of service quality dimensions on student satisfaction at higher educational institutions in Bangladesh. Considering this gap, we believe that this has a number of practical implications. First, this study is helpful for university management to plan about higher education market in Bangladesh.

Second, findings may help university management deciding about spending resources and paying more attention on SQ variables like administrative aspects, academic aspects, reputation and access as they were found to report significant impact on student satisfaction. For example, the university authority can attempt enhance the service delivery performance of non-academic employees, possibly through changing their attitudes and appraising performance regularly. Moreover, the university management may offer a range of student-advising regarding career development, higher education, financing or other matters as they influence the level of student satisfaction. Universities may also offer wide range specialized and other programs with flexible structure that may give students more alternatives to enroll. In addition, universities may also ponder the issues like timing of class, size of class enrollment, having easy and frequent interaction with both academics and administrative personnel with an aim to enhance SQ as well as to raise student perception of satisfaction.

Third, the explosion of the education sector in Bangladesh since the beginning of 21st century as well as increase in the number of both the students and higher educational institutions has contributed significantly to the augmented competition prevailing in the sector. Consequently, this increased competition compelled institutions to be attentive about making their marketing efforts and student services effective. Hence, having useful insight regarding factors influencing student satisfaction can make their marketing strategies and SQ more effective with a contribution to decrease the drop-out rate of existing students and to attract potential one (Ali *et al.* 2016). The management of universities can, moreover, draft sound plans and take proper initiatives in line with delivering expected services to the students.

The present research contains various shortcomings. Firstly, this study has not taken additional SQ dimensions into consideration that other studies have considered. Since further researches would be required, this work can nevertheless be regarded as preliminary study for subsequent analysis. Specifically, future study may be required for investigating the extent to which student perception of satisfaction would influence their academic performance. Then, as this study has been confined to limit samples only from higher educational institutions located in Chittagong, there is a need for further studies including samples from universities located in Dhaka, the capital city and the largest city of Bangladesh, because most of the private universities and a number of public ones are located there to generalize the findings.

Regardless of various shortcomings mentioned above, the contributions of this study might be of highly important. First of all, though the relationship between SQ and students satisfaction has been studied by prominent scholars, it is still underdeveloped in an emerging economy context like Bangladesh. Empirical studies that have investigated the relationship show inconsistencies in results and hardly available in the emerging economies like Bangladesh. In view of this, this study can contribute significantly to the extant literature with respect to the impact of SQ dimensions on students satisfaction on various levels of decision making process of higher educational institutions in emerging economies like Bangladesh. Decision making is diverse and critical since it integrates various aspects at different levels of decision making system with a subsequent variations in particular traits (Ali *et al.* 2016). This research, in addition, may help to identify critical dimensions of service quality that can be followed by university management to enhance SQ with a view to meeting or exceeding students' expectations. Moreover, the number of research works conducted on higher educational institutions i.e. universities, are very few in number (Patnaik *et al.* 2013) that may be another significant contribution of this

study. Furthermore, the rapid explosion of tertiary education in Bangladesh and upcoming changes in demographics and increasing competition require higher educational institutions to have an improved understanding of factors affecting student choices and sources of their satisfaction. Finally, this study may provide useful guidelines to cope with changing phenomenon whenever the universities undergo through new changes.

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