TQM Role in Achieving Student Satisfaction in Higher Education Institutions
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Abstract: This paper examines the dimensions of Total Quality Management (TQM) and their role in achieving student satisfaction. The study reviewed the relevant literature belonging to TQM, in addition to analyzing the literature over the years related to TQM in general in Jordan. This study analyzed the relationship between TQM dimensions (tangibility, assurance and responsiveness) and student satisfaction in higher education in Jordan. The sample was selected from different universities in Jordan by using questionnaire method to collect the data. Multiple linear regression was conducted to test the hypotheses as well descriptive analysis and reliability test to validate the instrument of the study. The study showed that the student satisfaction was significantly related to tangibility and assurance dimensions, whereas the responsiveness dimension was insignificant. The study concluded that TQM and its execution in higher education institutions in Jordan need to develop and add new methods and approaches to maintain its reputation.

Keywords: TQM, higher education institutions, student satisfaction, University, Jordan.

Introduction
TQM has been designed as a management system by a lot of organizations over the world. Subsequently it has spread vastly and smoothly to other organizations and many industries. Hence the competitive environment become more complicated and mysterious and the organisational structure in universities are invited to adapt and adopt effective quality systems. TQM models basically involves a group of rules and principles like critical thinking, innovation, creativity, teamwork, managerial leadership, customer orientation, employee engagement and training (Ali and Shastri, 2010). TQM means the management process with all basic functions: planning, organizing, leading and controlling are involved, develop or damage in the way the quality they produced (Stanciu, 2003). The overall objective of TQM is to originate inside the organization a catalyst environment in the way where the resources are utilized and invested sufficiently and efficiently and provide the employee job security and trust with the management. Some characteristics of TQM are considered to be fundamental (Vinn, 2011): adoption, customer orientation, technology acceptance, continuous development, corrective actions, organizational culture and innovation. Adopting essential principles of TQM in an educational institution requires minimum quality climate and attitudes within the university as well culture among the staff.

1.1 Literature Review
(Harvey and Green, 1993) stated five various systems to defining quality: In terms of remarkable (achieving high standards); In terms of coherence (Zero defects and getting right the first time); matching a purpose (meaning the product or service meets customer satisfaction); value money (by efficiency and effectiveness); and transformation (in terms of qualitative approach). These several ideas of quality make (Reeves and Bedner, 1994) to conclude “the search for a universal definition of quality and statement of law like relationship has been unsuccessful”. According to (Gummesson, 1990) it may unlikely to originate a single thought into different aspects which create an indefinite insight indicate to quality through social agreement instead of definite it. TQM employs staffs’ abilities and competences in all activities and operations to create cooperation and commitment (Schargel, 1994). TQM can be characterized a comprehension of the functions of the management which closely interconnected process that focuses on maintain and enhance the improvement of all functions within the organisation which aim to meet and exceed customer
expectations and other stakeholders (Kaynak, 2003). Different definitions of TQM given by several quality-practice organizations, as well quality experts. Nonetheless, most of these definitions focus on the activities and practices applied by organizations to achieve customer requirements and expectations. British Standards Institution Standard (BSIS) defined TQM as a management philosophy and vision, as well company operations which aim to exploit the human and material resources well in the most sufficient and effective way to obtain its strategic objectives of the organization. While The Chartered Quality Institute defined TQM as a philosophy how to manage the organizations in a way smoothly enable them to fulfill stakeholder expectations effectively without violating the core values. According to The American Society for Quality; TQM was a concept used firstly to describe a management method to accomplish quality development. Simply, it is a managerial way to meet long-term sustainability and survival through customer satisfaction and loyalty.

There are various attempts in literature which discussed the TQM in the higher education institutions over the world and studied its applications which provide a comprehensive view on higher education quality. Many of these frameworks have been proposed to evaluate the higher education institutions as a general, including not only teaching and researching tools but also new duties like institutionalization and modernization to fit the global requirements (Sarroco et al., 2010). Some of universities examine quality management frameworks designed for higher education industry. One of the main restrictions in some of these studies was certain context which the TQM had being applying. Continuous discussion about the role of the students as customer in the higher education process, this impact on the assessment of higher education when using quality methods. When evaluating the results, the frameworks are designed to get a greater implementation in assessing the service provided by higher education institutions such as teaching and training (Rosa and Amaral, 2007). Present literature reviewed different models were designed to develop magnificent traits of universities and support the student learning experience. Authors obviously debate the quality of teaching and learning which is basically decreasing under present models. Unless the quality of universities is controlled and supervised, the economic demanding for some world governments will not be recognized (Michael et al., 1997). In 2007 (Brookes and Beckett, 2007) wrote a review of literature on quality in higher education institutions and concluded a set of environmental factors which running inside and outside leading to enhance the development of the quality management. The review resulted that the most common response in higher education institutions was the implementing the quality models developed by industry.

A study conducted by Abdullah founded that customer-orientation was the most important benchmark considered to measure service quality development. He also designed HEPERF (Higher Education Performance) model and utilized a methodology where he confirmed variables relevant to service quality from customers such as student’s perspective. Focused groups were employed with developed survey and the questionnaire was self-administered distributed (Abdullah, 2006). The results were significant and revealed that the dimensions have an effect on the service quality management. (Basheer, 2009) focused on total students satisfaction who studied in different higher education institutions in Jordan and examined the difference in satisfaction degree of the students in both public and private universities. It showed that private universities are competing highly and even public universities are interested in developing the quality services and other related issues. As (Lin, 1997) indicated, many governmental supported universities being have preferred to not focus on the needs of its objectives still encountering modern and more competitive conditions, these institutions also need to build a strong relationship for a better penetration to the market, looking for to win competitive advantages compared to its competitors, as well creating a positive image related to its strategic goals in the market. Generally, there are some methods can play major role in sustain and increase the satisfaction such as a positive word of mouth from student to student which can attract a potential future students, as well deep partnership with the students, especially after completing the study and graduation, contributing in finding a job for their graduates. Contrarily, dissatisfied students, may cause ominous ramifications for university and students (Walther, 2001), leaving or transferring (Astin, 2001) and negative word of mouth causing damage to future attempts to build a great image (Chadwick and Ward, 1987). By reviewing literature, we note that formation of satisfaction is a complicated process need a set of tools and efforts regardless the type of the
business whether it in services like higher education or producing a product such as manufacturing sectors. The conclusions from several empirical and theoretical studies about student satisfaction in higher education revealed various antecedents while forming the satisfaction.

The following dimensions may be used as measurement indicators for TQM by students (Parasuraman et al., 1988)

- Tangibility: the appearance of physical facilities, equipment, academic and administrative staff and communication means.
- Responsiveness: the willingness to help students and to provide professional services.
- Assurance: the knowledge and kindness of academic and administrative staff and their ability to make a long-term trust.

Many factors affect student satisfaction such as perceived quality and value obtained from using the service or product, usually these factors motivate the customer to make repeated purchase decisions which resulted from the value of the services characteristics. As well, their satisfaction based on their assessments of the services used and regardless the service met their expectations or not (Athanassopoulos et al., 2001). If the higher education institutions realize the factors which motivate students’ level of satisfaction, they will be ready to provide a better service as well enhancing present one. (Petruzzevis and Romanazzi, 2010) recommend winning competitive advantage; higher educational institutions have to focus on the long-term benefits of values obtained by students. However, the authors debated that these institutions have to state the tools which they use to boost students satisfaction. In order to compete competitors, universities required to work hardly on developing their services through different features, such as reliability, empathy, responsiveness, tangibility and assurance (Zeithaml et al., 2009). Reliability can be defined providing the service as it is promised. Other note that this idea is critical in the education industry where it need a requirement of quick plans and actions where flaws appear to recollect the students’ trust (Danish et al., 2010). All organizations must provide great services to their customers timely and promptly as well in professional manner, in addition they should do the best in their operations to solve and overcome any obstacles at the time they may appear; this is what known as the responsiveness aspect in service quality (Zeithaml et al. 2009). (Danish et al. 2010) indicated that these dimensions particularly depend on the employee and frontline desk; thus, the interpersonal competences related to dealing with customers’ complaints demonstrate the backbone of perceived service quality.

Expectations and the quality perceived have discussed in some studies (Rautopuro and Vaisanen, 2000) and showed that the students may have a weak expectation, especially related to intangible environment which has a little effect on satisfaction; thus the variable performance is considered a major factor in satisfaction formation. On contrary for others like (Patterson, 2000) the other opposite finds. While (Anderson and Sullivan, 1993) found the perceived quality is more difficult to evaluate, which occurs in educational services, the higher the influence will be of expectations in the formation of satisfaction. However, (Anderson and Sullivan, 1993) noted that the impact of expectations is fully affected by quality perceived. On the other hand, Walker (1995) also suggests that the difficulty of assessing the basic service make students among other characteristics to concentrate more on education environment and on the lecturers’ functional skills. In other words focus on how the service way is provided. A research for (Clow et al., 1997) was conducted in different service industries and found that the image was only influential factor in forming satisfaction in some industries. Moreover, its effect in anticipations has appeared to be more affect. While in studies conducted by analyzing the European Customer Satisfaction Index as a measurement (Kristensen et al., 1999), the variable image often appears as one of the influential factor within the strongest impact in the creating and sustaining of satisfaction, notice that its direct effect through anticipations is outstanding to its indirect effect. Based on (Eskildsen et al., 2000), the image variable is closely the one that has the most influential on student loyalty in higher education institutions. The variable value was investigated by (Hartman and Schmidt, 1995) and proved that student satisfaction was effected by variable of value perceived by student. On the other hand, (LeBlanc and Nguyen, 1997) found that the value perceived can engage in other variable
connected to quality received such as the university’s reputation, emotional and social values. Nonetheless, (Caruana and Money, 1997) and (Ismail and Abdullah, 2001), revealed that the value variable was affected by the world understanding of a service quality and (McDougall and Levesque, 2000) focused on the ideas that affect of value may differ from service to another. The outcomes of satisfaction in higher education do not connected with the consequences of satisfaction in different services; since the education service is considered a non-commercial sector compared to other sectors and has many certain aspects. In light of higher education, the major outcomes discovered by some scholars were loyalty, positive word of mouth and complaints (Athiyaman, 1997).

TQM has a fundamental and vital factor in achieving and maintaining high quality level and excellence in universities, it is also customer-oriented and focuses on the core of customer satisfaction and the ways to create this satisfaction through adoption different methods and tools work together in make strategic organizational objectives true (Walsh et al., 2002). (Beaver, 1994) indicated that TQM was the most important to cement that higher education institutions do well and the customers are satisfied from the rendered services and they are satisfactorily served. These institutions realized that higher education was considered as a service industry and increasingly affirmation on accomplishing the wants and needs of their potential customers such as students (DeShields et al., 2005). (Sahney et al., 2004) say “...the use of student and stakeholder in place of customer may communicate to educational institutions that students are the only customers and lead them to view students’ satisfaction as their only ultimate objective...” Customer satisfaction is the outstanding criteria to state the real quality actually provided to the customers. (Wierrs-Jenssen et al., 2002) demonstrated that student satisfaction as ultimate goal for universities may be a pathway to establish a long-term relationship between classic and modern approaches which concern on improve higher education quality.

1.2 Toward TQM in Higher Education Institutions in Jordan

The sector of higher education in Jordan has a key fundamental role in the process of comprehensive development with all its various dimensions and levels. It still encounter many obstacles and challenges, emerging from the high revolution of information technology, economic growth, melting the borders among the countries which make the globe as one village as well results of the globalization and its sequences like free trade and signing the international agreements, all these reasons and others affect in shaping the world though (Wei Fang, 1999). Official figures indicated that Jordanian higher education institution include about 34 public and private universities and 51 community colleges and registered hundred thousand of students controlling of the Ministry of Higher Education and Scientific Research which was founded in 1985 (http://www.mohe.gov.jo). The ministry has stated its roles in improving and create the competitiveness environment and maintain the quality of higher education in Jordan. It has an achievement which was issued a new "Law of Higher Education No. (23), for the year 2009” and "The Jordanian Universities Law No. (20), for the year 2009". The achievements also encompass expand and enhance the management information system to support university decision-making process, strategic management and development of higher education infrastructure. As well, establishing a Higher Education Accreditation Council for both public and private universities which is now independent financially and administratively (http://www.mohe.gov.jo).

Although group of continuous efforts to maintain high quality education, many universities and colleges in Jordan still suffer to combine the quality into their visions and missions. (Khader, 2009) demonstrated that "Jordan has missed many spotlights on the road to educational excellence" (p.1). there are many of studies discuss and spotlight the role of TQM in higher education institutions in Jordan and found significant results and great recommendation which aim and help in improving the quality process as general (Abdel-Qader et al., 2013; Salameh et al., 2011). A model of TQM proposed by (Badah, 2003) aimed to develop the management in the Jordanian public universities. The suggested model consisted of several scopes including leadership, university mission, organizational culture, information technology, strategic planning, human resources, operation management, continuous development and customer satisfaction. The researcher investigated the
model with different academic positions and ranks such as deans, heads of department, and division managers in eight public universities. The study concluded that the public Jordanian universities in order to adopt the idea of TQM and apply it, they should establish and create TQM training departments and spread the quality culture among the all employees. Also, he recommended focusing on the values and behaviors which are essential in establishing proper climate may help in root quality activities within all universities operations and control the good application of TQM to assure better performance. Another study examined the extent of implementing the ideas of TQM at Mutah University which is one of public Jordanian universities. The results of the study showed that the ability to implement the TQM tools was high in many dimensions such as leadership, university mission and vision, strategic management, teamwork, IT systems, customer satisfaction and decision-making (Abd-al-Qader, 2004).

(Sabri and El-Refae, 2006) debated the accreditation system for undergraduate business administration major in private universities in Jordan; they made a comparison with the standards of the Quality Assurance Agency in the UK. The results found the processes utilized in Jordan and related to accreditation system in universities still inconvenience although the high applicable for accreditation standards in the business administration program, and there is a need to adopt more dynamic tools and methods can root the TQM. Apply the accreditation system in higher education institutions in Jordan was one of the study’s recommendation. (Jaff, 2008) explored the level of implementing the standards of Deming in TQM (Deming 14 points on quality management which is a key concept in implementing TQM, also it is a set of managerial activities may help companies to increase their quality and productivity, indicate to some of these concepts like adopt a modern and new philosophy, institute training for the job, adopt and institute leadership styles, overcome fear and break down barriers between employee). The sample of the study was member of the faculties of educational sciences in private Jordanian universities. The study showed that Deming’s principles of TQM have been believed and applied in the colleges. Also, there no significant difference related to gender and experience between sample’s responses. (Salameh et al., 2011) attempted to state the requirements for conducting TQM in the faculty of planning and management at Al-Balqa Applied University. The findings revealed that the applying of TQM was restricted in Arab regions, generally in higher education institutions. Also they found that there was a low rate in training dimension for leadership which is necessary to successfully implementing of TQM. As well, the teamwork, continuous improvement and coordination have not been focused and paid attention enough which may affect on the performance and innovation.

(Jordan, 2010) indicated a set of main indicators of the higher education strategy which can be measured through: numbers of students who enrol into several academic programs and vocational programs; the constant increasing in academic staff; increasing in public support from Jordanian government for public high education; the percentage of duties and responsibilities of public sector education; establishing a Higher Education Accreditation Commission which aims to supervise on quality assurance both public and private universities; forming a database in the libraries of universities and providing all higher education institutions with electronic searching networks; establishing a Scientific Research Support Fund which the main function is finance academic projects, offering grants for students, giving research prizes; and require English skill thorough TOEFL as admission condition to apply for postgraduates programs. (MOHE, 2011) The future strategic visions and objectives for the Ministry of Higher Education and Scientific Research in Jordan are: enhancing the higher education sector; raising the awareness of the quality of these institutions and create an outstanding academic environment; developing the scientific research process and its quality and assure the role of higher institutions in this stream.

Research Method

(Lovelock, 1981) proposed that educational institutions were connected with student communication and involved deeply in personal interactions. Basic methods in service quality approach and satisfaction dimensions in education industry mostly focus on enhancing quality of
education, such as, students’ assessment of teaching process (Guolla, 1999). Scholars emphasized that quality of education is the essence service that higher institutes provide and prevail the concept of total quality (Bigne et al., 2003). (Oldfield and Baron, 2000) also suggested that the indispensable components explain these factors which are fundamental in making students to fill their expectations and usually include staff’s experience and knowledge, caring about students’ affairs, management’s response, and its reliability and assurance. (Curran and Rosen, 2006) claimed that lectures, course topics, and course teaching were the most important factors which influence students’ perceptions when they assess the whole university or college, as well they identified lecturers’ empathy and expertise as a significant factor when they evaluate instructors’ skills in teaching process. The objective of this research to uncover critical factors of TQM dimensions that may contribute in creating satisfaction of the students in the higher educational institutions in Jordan. Hence, the research question established is: “What influence on the TQM dimensions in higher educational institutions in Jordan if these dimensions in educational services are upgraded. Based on the research question we developed following hypotheses:

H1: Tangibility: improving in the quality of tangible of services will increase student satisfaction.

H2: Responsiveness: improving in the responsiveness of services will increase student satisfaction.

H3: Assurance: improving in the assurance of services will increase student satisfaction.

[Figure 1 here]

To carry out a literature review on TQM subject, this study reviewed critical studies closely to the subject in the various databases. A systematic review of literature was conducted through electronic search. The search keywords included TQM, higher education institutions, student satisfaction and Jordan, only studies that were categorized as articles in the database were selected to analyze in this paper. The paper written in English and published has selected to make this study; any failure to meet any of these criteria cannot be included in the literature reviews. A questionnaire was adopted and adapted following with thorough analyzing of the related literature. Since the questionnaire was designed mainly for this study, a pre-test process was used to prove the questionnaire’s reliability and validity. In this step, ten students studying different majors in several universities in Jordan were asked to read the questionnaire, respond to the items, and give feedback if any misunderstood or ambiguous statements were appeared. The questionnaire was divided into three sections. First is about demographics that include gender, age and major. The second section contains statements related to the three dimensions of TQM namely tangibility, assurance and responsiveness, using Likert scale from 1 for strongly disagree to 7 for strongly agree. The last section is about the student satisfaction. Some modifications and wordings were done as an outcome of this step. In this study, the instrument of this study was survey questionnaire which used to collect data. The data was collected from students currently studying in different Jordanian universities during the period of April to June, 2018. The target population was all students, 18 years and older, enrolled during the 2018 academic year in all Jordanian universities. The questionnaires were distributed online due to its easiness and convenient specially the most of the students have emails as well social media accounts. A total of 200 questionnaires were distributed and 177 questionnaires were returned. Ten questionnaires were incomplete or not suitable for further analysis. This resulted in 167 completed questionnaires, and 83.5 percent valid response rate.

Results and Discussion

Table 1 presents the descriptive results of profile of the respondents. Male respondents (41.9%) are represented in larger cases than female respondents (58.1%) which explain the male young in Jordan prefer to study vocational majors rather than academic as well the females are more superior and diligent in school than males. Respondents aged 22–25 account for 53.9% of the sample, and the humanities major represent the largest major at 35.9% of the sample.
The reliability of instrument of the study was tested by Cronbach Alpha test. The value of 0.70 or above is considered to be a good measurement of internal consistency (Nunnally, 1967). All reliability alpha coefficients were achieved the minimum cut-off point ≥ 0.70 as shown in Table 2.

Table 3 presents that assurance had strong relationship with student satisfaction, followed by tangibility and responsiveness. The relationship between assurance and student satisfaction is $r = 0.510$ which indicates the strongest relationship. While responsiveness ($r=0.456$) and tangibility ($r=0.496$) had moderate relationship towards student satisfaction.

Table 4 showed that R Square = 0.339 (adjusted R square = 0.327), it means that 33.9% of the variance in student satisfaction are explained by the three TQM dimensions. As shown in Table 5 the value of F=27.915 is significant at 0.000. This represents that model is significant. From the result shown in Table 6 tangibility (unstandardized coefficient B=0.275 at significance of 0.000 at T=4.168), responsiveness (unstandardized coefficient B=0.014 at significance of 0.817 with T=0.232) is insignificantly related with student satisfaction and assurance (unstandardized B=0.223 at significance of 0.001 with T=3.268) is significantly related with student satisfaction. It means that tangibility and assurance are significantly related with student satisfaction. Thus, H1 and H3 are accepted whereas H2 is rejected. We run multiple linear regression models to test the hypotheses and interrelationships. The variables (tangibility and assurance) were significantly correlated with the student satisfaction (Table 3). The results also revealed that the relationship of responsiveness with student satisfaction was statistically insignificant.

Conclusion

We encountered some limitations of this study which should take into consideration to avoid future flaws. First, it was a cross-sectional study as the data was collected at once point of time which may reflect response biases. Second, this study highlighted only on higher educational industry; thus its findings can’t generalize to other industries such as healthcare or tourism. The third limitation of the research was the most of students were freshmen and sophomore which they can’t measure the quality of their universities, so we recommend to select experienced sample like postgraduate students which have mature knowledge and understanding of TQM concepts. In Future, in order to study if the quality processes are entrenched within universities strategy to achieve great enhancement, changes should be observed with different periods of time (longitudinal approach). Future research required to be conducted on other sectors. Future research should also try to examine the mediators like organizational performance to understand TQM and performance relationships. The mediating effect may be tested with the help of Structural Equation Modeling (SEM).
The rapidly changes in different dimension economic, political, social, cultural, technological had a role in developing and create a knowledge for people. The quick growth for economic can be generally increased if the organization pursue to become a power in business sector. A concept of TQM in higher education institutes is based on many factors may lead to customer satisfaction. Customer feedback and permanent feedback from the customer (students) also lead to continuous progress in the process of quality which was an essential to accomplish excellence. The dimensions analyzed were: tangibility, responsiveness and assurance. The sample was drawn from different universities spread across the cities of Jordan. The study found that the student satisfaction was significantly related to tangibility and assurance, whereas responsiveness was insignificant. Thus, in order to improve the students’ satisfaction in higher educational institutions in Jordan need to highlight on these factors. Generally, TQM in higher education was a key factor distinguishes itself as an organization’s brand from another which should practice both inside and outside, taking into consideration the relationship with all stakeholders which include government, non-government organizations and local society as a whole to develop staff to be capable and coping with rapidly complex business environment that requires specific skills. In our opinion, quality in academic organizations reflect its performance and all higher educational institutions aim to achieve the sustainability and competitive advantages with the educational process, by introducing a modern method to get the quality with its entire dimension. We think the achieving great standards of quality is important in the higher education marketing to get the ability to expect the needs of customer (students) and potential customer of education process and making the decisions to allow the higher institutions to obtain great market positioning, enhancing their images and reputations among the public, national and international recognition institutions. TQM was a global managerial and strategic philosophy and group of approaches which aims to build a modern definition of quality and create tools of maintain quality, the quality should be a continuous movement not restricted with time or seasonal trends and focus to achieve customers’ expectations with the services they look forward. TQM as any plans can be applied in different sector, but it should be adapted to completely realize some certain conditions in context of education which is attributed as an intangible service industry and can’t measure obviously.

Theoretically point of view, the study provided a preliminary understanding of TQM factors in order to win student satisfaction in higher education sector Jordan. The study as well provided a theoretical model that may help the practitioners to design strategies to maximize the impact of TQM factors in enhancing student satisfaction. From managerial corner, the study suggests that officials of universities and higher education in Jordan who want to achieve great performance by implementing TQM dimensions should concentrate on the physical facilities, equipment and intercommunication channels, as well the knowledge of academic and administrative staff and their ability to build a long-term confidence with students. The current research empirically confirmed that two TQM dimensions (tangibility and assurance) were key indicators of student satisfaction. Hence, the planners of higher education sector should give more attention to these two dimensions while implementing and maintaining TQM to obtain great performance and satisfaction.

References


Lovelock, C.H., (1981). Why marketing management needs to be different for services.


Walther, E.S., (2001). The relationships between student satisfaction and student retention in higher education.


Table 1. Descriptive Statistics

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<th>Gender</th>
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<td>Female</td>
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<tr>
<td>Age</td>
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<td>18-21</td>
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<td>22-25</td>
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Table 2. Reliability Results

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<td>Assurance</td>
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Figure 1. Research Model
Table 3. Correlation Matrix Results

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Table 4. Model Summary

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Table 5. ANOVA

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Table 6. Coefficients

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