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Student loyalty assessment with online master's programs

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Student Loyalty Assessment with Online Master's Programs

by

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Dissertation

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Dissertation Committee:

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Ypsilanti, Michigan

Dedications

This dissertation is dedicated to my loving parents.

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Abstract

Relationship marketing is attracting, maintaining, and, in multi-service organizations, enhancing customer relationships. Educational programs and services, like those of businesses, depend highly on the repeated purchases of their loyal customers. The purpose of this descriptive research is to investigate the relationships between factors that may lead to student loyalty in online graduate educational programs. Specifically, the study seeks to examine the relationships between service quality, technology, trust, commitment and satisfaction, reputation and ultimately loyalty. A new model is presented, which includes the results of testing these variables.

The results of this study concluded that satisfaction with the program has the highest degree of association with student loyalty. Although service quality was found to be one of the key correlates to student loyalty to the program in face-to-face educational settings, it was found to bean insignificant element in assessing student loyalty to the program in online courses. Surprisingly, the construct of technology was found to be an important factor, especially, the role of using synchronous online tools. The findings also support relationship marketing theory (Morgan & Hunt, 1994) and the roles of commitment and trust. However, this research found the role of commitment more important than that of trust. This study recognized reputation of the university as a vital mediator for building a mutually beneficial relationship between students and universities. The research includes implications to help service providers (educational institutions) improve their marketing strategies to ensure that online students (customers) remain with their desired online programs.

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Chapter 1. Introduction

Because of the low cost, fast expansion of the Internet and increasing demand for innovative educational systems, online learning is becoming popular and attractive (Zhang, Zhao, Zhou, and Jr, 2004). As of 2009, almost 12 million out of 20.4 million post-secondary students within the United States took at least one online course, and this number is projected to reach 22 million by 2014 (Nagel, 2009). The explosion of the use of online learning systems in higher education allows students to leave the online programs quite easily (Tham and Werner, 2005). Therefore, educational institutions should try to retain their existing students. Thus, student satisfaction and student loyalty with online learning systems become crucial concerns for educational institutions (Tham and Werner, 2005).

The purpose of this descriptive research is to investigate the relationships between factors that may lead to customer loyalty in online educational organizations. Specifically, the study seeks to examine the relationships between service quality, technology, trust, commitment and satisfaction, reputation, and ultimately loyalty. A new model is presented which includes and tests these variables.

Nature and Significance of the Problem

In order to discuss the nature and significance of the problem, a few concepts such as Relationship Marketing, satisfaction, loyalty, and student loyalty should be explained and elaborated upon. Relationship Marketing (RM) is a marketing theory that focuses on retaining customers by developing a network paradigm, rather than concentrating on sales (Morgan and Hunt, 1994). Relationship marketing theory has other major elements such as satisfaction and loyalty.

Relationship Marketing

Berry (1983) defines relationship marketing as "attracting, maintaining and in multi-service organizations-enhancing customer relationships" (p.25). In order to establish, maintain, and develop relationship exchanges, one must look towards relationship marketing and establish marketing activities accordingly (Morgan and Hunt, 1994). Approximately twenty years ago, this emphasis on relationships or relationship marketing led to a major shift in marketing theory and practice (Morgan and Hunt, 1994; Akarapanich, 2006). Gummesson (1994) found "Relationship marketing (RM) is marketing seen as relationships, networks and interactions" (p. 5). Building long-term satisfying relations with major parties rather than focusing on discrete, short term transactions is the gist of relationship marketing (Kotler, 1987). Strengthening the relationship and converting different customers into loyal ones are the goals of relationship marketing. The connections with customers lead to benefit profitability, reducing costs, and increasing revenue (Fournier et al., 1998). In addition, relationship marketing creates opportunities for firms by lowering transactions costs, increasing profits, and helping them achieve above-average performance.

Satisfaction and Loyalty

Satisfaction occurs when someone successfully achieves his/her goals (Johnson, Aragon, Shaik, and Palma-Rivas, 2000). Pleasure and satisfaction are the products of fulfillment of one's goals (Oliver, 1997). Customer satisfaction can be achieved when the actual performance of an organization providing a service or product exceeds the expectations of those being served (Spreng, Mackenzie, and Olshavky, 1996; Mckinney, Yoon, and Zahedi, 2002; Liu and Khalifa, 2003). A consensus has emerged that customer satisfaction is a critical success factor for any business system (Wong, 2005).

Customer satisfaction and customer loyalty are extensively intertwined (Zeithaml, Berry, and Parasuraman, 1996; Bloemer, Ruyter, and Peeters, 1998). Customers may be loyal if they are satisfied and intend to keep the relationship (Mokhtar, Maiyaki, and Mohd Noor, 2011). There is a positive correlation between customer satisfaction and loyalty (Anderson and Sullivan, 1993; Mokhtar et al., 2011).

The success of a service firm is often measured by the loyalty of its customers. This is a widely accepted practice to determine long-term success (Hennig-Thurau, Langer, and Hansen, 2001). A loyal customer is a valuable asset for any business (Rower, 2010). Dehghan and Shahin (2011) state, "It reduces the need to seek new customers and serves as positive feedback that the organization's products and services are meeting the needs of a particular group of people" (p. 3). Losing a customer occurs when he/she stops or reduces re-buying, which leads to a decline in sales volume (Zins, 2001). While one would assume new customers would reflect the success of a business, it is returning customers that best demonstrate success. Businesses measure their success in profits; therefore returning customers are far less expensive than nurturing new ones (Hoyt and Howell, 2011).

Educational programs and services, like those of other retail businesses, depend highly on the repeated purchases of their loyal customers (Hoyt and Howell, 2011). This means repeat purchases of credit hours to complete a degree over a time. Furthermore, it is word of mouth that adds to the viability of the success of educational programs and services (Hoyt and Howell, 2011).

Student Loyalty

Running an educational institution and a business are similar and can profit by applying similar techniques (Hoyt and Howell, 2011). In some accepted models, students are considered

as customers and educational institutions as service providers (Hennig-Thurau, Langer, and Hansen, 2001). It is an undeniable fact that student loyalty has become a significant theme for educational institutions because:

a) The financial foundation of all universities is based on tuition fees, and retaining the students may be of a great help in this regard;

b) Retaining existing students is less costly than gaining new students;

c) Loyal students help the university raise the teaching quality by their contribution and commitment; and

d) Loyal students likely recommend their schools before and after graduation (Hennig-Thurau, Langer, and Hansen, 2001).

Student (customer) loyalty, student (customer) satisfaction, and the success of an educational institution are supposed to be positively related (Kotler and Fox, 1995; Zeithaml, 2000; Helgesen, 2006). Researchers believe that student satisfaction is positively related to student loyalty (Helgesen and Nesset, 2007b). To investigate student loyalty, service quality, technology, trust, commitment, satisfaction, and reputation will be used (Helgesen and Nesset, 2007a). Each of these elements will be elaborated.

In the e-learning systems, students and instructors are separate and at different locations (Bolliger and Martindale, 2004; Moore and Kearsley, 1996). Over the past decade, electronic learning (e-learning) has become a critical construct for colleges. Online education institutions provide a wide variety of programs thatlet students easily leave their schools and switch to another service provider (Helgesen and Nesset, 2007a). Therefore, profitable growth of educational institutions is dependent on an in-depth understanding of the loyalty intention in

online learning programs (Reichheld, 2003). Various factors make student loyalty a significant theme for educational institutions. According to Helgesen and Nesset (2007b), these criteria are:

1) Increased performance-based public funding;

2) New legislation designed to reform higher education;

3) Increased student mobility;

4) Increased global competition. (p. 330)

Understanding the factors that drive students' interests are imperative to managers of higher educational institutions. Having a clear understanding of these criteria that students use will assist them in attracting and retaining students (Helgesen and Nesset, 2007a). Teaching professionals are faced with their performance being measured through their professional degrees, performance in publications, and research as well as student performance. Therefore, loyalty is vital and carries significant strategic importance.

There are several models that investigate student loyalty. Although some researchers such as Hennig-Thurau et al. (2001), Akarapanich (2006), and Helgesen and Nesset (2007a) have studied the factors that may influence student loyalty, no one has investigated the relationship between service quality, technology (facilities), trust, commitment, satisfaction, reputation, and loyalty in online educational programs. This research proposes investigating a combination of all of these factors.

Statement of the Problem

The relationship between service quality, technology, trust, commitment, satisfaction, reputation, and loyalty have not been investigated in online master's programs.

Objective of the Research

Relationship marketing theory helps to explain mutually beneficial relationships between service providers and customers. This research assessed customer loyalty intentions by examining the service quality, technology, trust, commitment, satisfaction, and reputation of online students in master's level online programs.

In general, students obtaining master's degrees have a clear understanding that they are going into more intensive programs than when they earned their bachelor's degrees. Traditionally, higher education requires that a student start with a bachelor's degree and then move onto the master's degree before even considering a Ph.D. Normally, a student must commit to a course of study that involves one to six years of study in a specific field of his choosing. However, when choosing an on-line option, a student can earn his own master's degree quickly and easily. Working business professionals can earn their master's degrees at their own pace while furthering their educational and career goals.

According to Thomas (2011), a master's degree holder has a better chance to improve his earnings than someone with a bachelor's degree alone. Announced by U.S. Bureau of Labor Statistics, the average salary for a master's degree holder in 2011 was $102,000 (Riot, n. d). This is significantly higher than an individual holding a bachelor's degree. Furthermore, it is reported that only 5.9 percent of American adults hold master's degrees. This demonstrates the significance of obtaining master's degrees.

It is difficult to get an MS degree and, in fact, a significant number of students drop out. Attrition (drop out) rates in online undergraduate courses are 10 - 20 percent more than face-to-face courses (Car, 2000). However, an attrition rate in some online graduate programs is 33- 48 percent, while these rates are 13 - 23 percent in traditional courses (Terry, 2001). These numbers

demonstrate that online master's students leave their schools in higher numbers than bachelor's students. Thus, it is important to address the loyalty issues in online master's programs.

This research contributes to prior research by investigating whether trust, commitment, satisfaction, and new elements like reputation, service quality, and technology influence the loyalty intentions of online master's students. If loyalty increases, growth and profitability of universities will be influenced, proving that enhancement of satisfaction, reputation, service quality, commitment, trust, and technology is a desired goal for any educational institution (Reichheld, 2003; Akarapnich, 2006).

The outcomes of this study help service providers (educational institutions) improve their marketing strategies to ensure that online students (customers) remain with their desired online programs. The mutual benefits to service providers and customers ensure the future success of online programs and specifically master's ones. Additionally, student value offered may be increased if resources are allocated to activities that are important for the students (Helgesen and Nesset, 2007a). The outcomes of this research (key success factors) may increase student retention, which leads to increases in future tuition revenues.

Proposed Model

This study adopted the work of Hennig-Thurau et al. (2001), Helgesen and Nesset, (2007a; 2007b) and Akarapnich (2006) by positioning satisfaction and reputation as mediators to the understanding of relationship marketing outcomes (loyalty intentions). Akarapanich (2006) and Hennig-Thurau et al. (2001) found significant relationships between the mediators of satisfaction, trust, commitment, and customer loyalty between customers and service employees. Morgan and Hunt's commitment-trust theory has been rarely used to investigate the relationship

between higher education institutions and students in an educational context (Hennig-Thurau et al., 2001). This study proposes a model to address this theory.

Helgesen and Nesset (2007a) argued that technology, service quality, and reputation are associated with student loyalty. This study implemented Helgesen and Nesset's (2007a) model in an online environment; however, the role of trust was tested as well because of its importance in relationship marketing theory. This study suggested that the same results may be true for online master's students and their academic institutions. The proposed conceptual framework consisting of loyalty intentions (service quality, technology, trust, commitment, satisfaction and, reputation) can be found as follows:
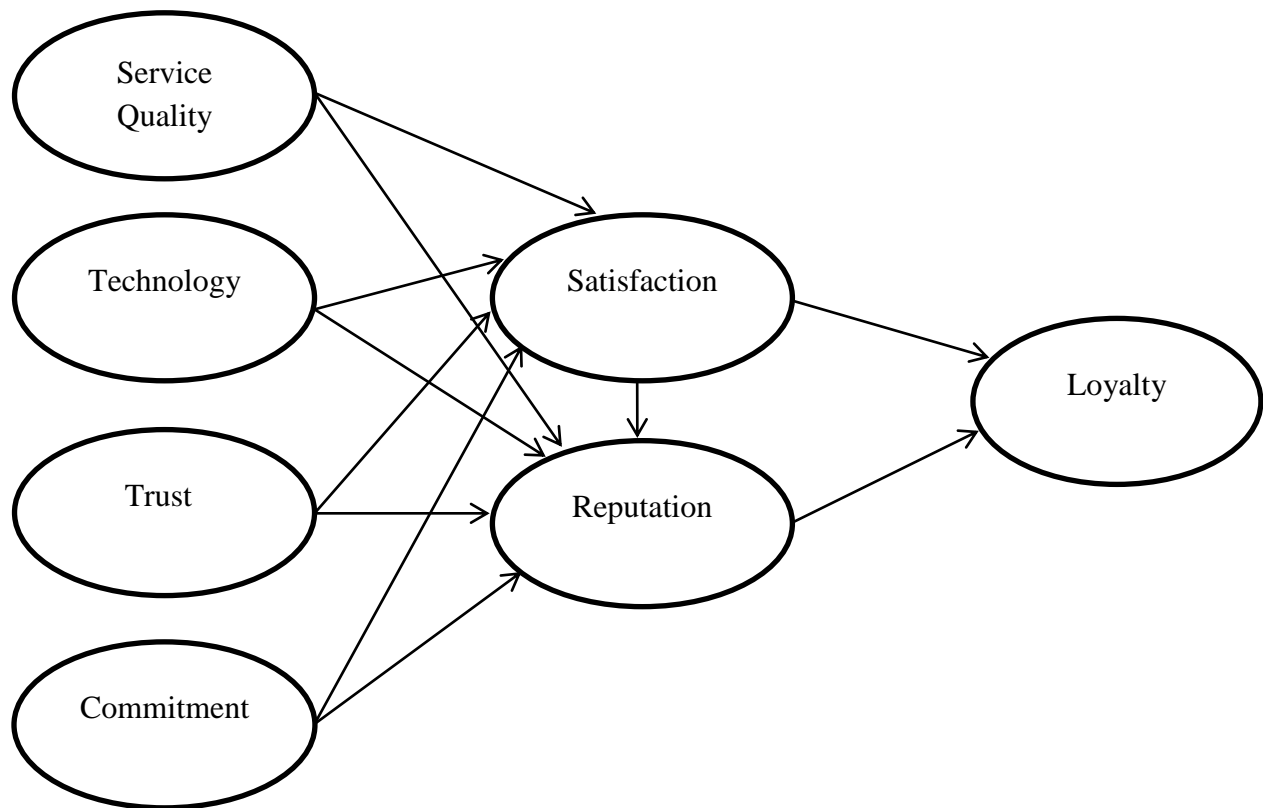
Figure 1. Research Framework

Research Question(s)

This study focuses on the flowing questions:

(1) What is the relationship between student satisfaction and student loyalty in online graduate educational systems?

(2) What is the relationship between the university's reputation and student loyalty in online graduate educational systems?

(3) What is the relationship between student satisfaction and the university's reputation in online graduate educational systems?

(4) Which of the antecedents have the highest degree of association with student loyalty?

Research Hypotheses

Service quality, technology, trust, and commitment are considered independent variables. Satisfaction and reputation are mediators between all independent variables and loyalty.

$H0_1$: There is no significant relationship between service quality and satisfaction in graduate online educational systems.

$H0_2$: There is no significant relationship between service quality and reputation in online graduate educational systems.

$H0_3$: There is no significant relationship between technology and satisfaction in online graduate educational systems.

$H0_4$: There is no significant relationship between technology and reputation in online graduate educational systems.

$H0_5$: There is no significant relationship between trust and satisfaction in online graduate educational systems.

$H0_6$: There is no significant relationship between trust and reputation in online graduate educational systems.

$H0_7$: There is no significant relationship between commitment and satisfaction in online graduate educational systems.

$H0_8$: There is no significant relationship between commitment and reputation in online graduate educational systems.

$H0_9$: There is no significant relationship between satisfaction and reputation in online graduate educational systems.

$H0_{10}$: There is no significant relationship between satisfaction and loyalty in online graduate educational systems.

$H0_{11}$: There is no significant relationship between reputation and loyalty in online graduate educational systems.

Delimitations and Limitations

This research was conducted in online master's programs within a regional Midwestern university, and the results may be used to improve online programs and offerings. This study was delimited to those students who enrolled in online master's programs at this university for Winter 2012 and limited to those who checked their emails regularly.

Assumptions

It was assumed that online programs at this regional Midwestern university represent online programs at other universities and also that the respondents answered honestly. Moreover,

it was assumed that an instrument can be developed which addresses the important factors and can gather the critical information from the respondents. It was assumed that students are able to provide valid responses to the items regarding the programs.

Definitions of Terms

Student Satisfaction: According to Arbaugh (2000), there are several factors that may lead to student satisfaction such as satisfaction with the course, learning outcomes, interaction with the instructor and classmates, and personal activities in the course. Satisfied students become active ambassadors for their colleges and support recruitment and retention offers to switch to another institution.

Online learning systems: Delivering educational experiences through the Internet is called online learning (Govindasamy, 2002; Kahiigi, Ekenberg, Hansson, Tusubira, and Danielson, 2007). Online courses usually consist of different tools such as web-based textual materials, discussion forums in either synchronous (live chat) or asynchronous (threaded discussion or email) format, assignments (homework, exam, project), communication capabilities (voice chat), and other items such as visual case studies and videos (Carr-Chellman and Duchastel, 2000).

Reputation: According to Herbig and Milewicez (1993), reputation is the sum of all interactions between the entity and parties over time. For a reputation to be built and grown successfully, it is critical to the entity to have a mission, goal, and actions that have been consistent. This is not done over a short period of time, but rather involves prolonged periods. Furthermore, a reputation is based on information that is passed between others concerning the entity.

Technology (Facilities): Helgesen and Nesset (2007b) identified educational facilities as reading room, library, location of lectures, group rooms, cleanliness, temperature indoor, and canteen.

However, this definition can be offered for online systems. Video conferencing, Email systems, Elluminate, online library, and online live chat can be counted as online facilities.

Service quality: Service quality is a scale of how well the delivered service meets the customer expectation (Lewis and Booms, 1983). Service quality is identified by the result of the comparison between the customers' expectations and perceptions about the service of the way the service has been performed (Caruana and Malta 2002; 1984; Parasuraman and Zeithaml, 1985). According to Hennig-Thurau et al. (2001):

> A student's assessment of the university's service quality involves the evaluation of teaching-related structures and teaching-related processes and the actual results or outcomes of these teaching processes (p. 334).

Summary

Chapter 1 is an introduction to the study. It consists of the purpose of the study, the research conceptual framework, the research scope, and research objectives. This section provides brief information about the factors that account for loyalty in Online master's programs. This chapter describes the justification for this study. In the following chapter, the literature will be reviewed and relevant concepts such as relationship marketing theory and student loyalty will be elaborated upon in more detail.

Chapter 2. Literature Review

This chapter will review the literature and related models to the research problem. In this chapter, the concepts of relationship marketing, satisfaction, trust and commitment, service quality, reputation, customer loyalty, customer satisfaction and loyalty in online environments, student satisfaction, online learning, student loyalty, and student loyalty assessment models will be discussed. Six dimensions of student loyalty are identified as key components affecting online student loyalty. Each of these elements will be elaborated.

Relationship Marketing

Relationship marketing theory is based on maintaining and expanding customer relationships in multi-service organizations. Relationship marketing is a major shift in marketing practices and theory is the establishment, development, and maintenance of relationships and exchanges (Morgan and Hunt, 1994). This theory focuses on retaining the existing customers by enhancing the relationships. Relationship marketing emphasizes existing customers. Berry (2002) states, "Serving and selling existing customers is viewed to be just as important to long-term marketing success as acquiring new customers" (p. 61). For instance, if a company attracts 120 new customers and loses 20 current ones (100 remain), it is much better off than a company that attracts 150 new customers and loses 80 (remains 70).

In order to reach the customers effectively, relationship marketing is a mixture of general advertising, sales promotion, public relations, and direct marketing (Copulsky and Wolf, 1990; Akarapanich, 2006). Relationship marketing increases marketing productivity and both parties' (customer and service provider) mutual values.

When there is ongoing demand or desire for service and the customer is permitted to have choice and control of choosing service providers, relationship marketing becomes applicable. Service firms become vulnerable to customer dissatisfaction and can suffer losses due to intratype and/or intertype competitions (Berry, 2002). According to Morgan and Hunt (1994), trust and commitment are the most important factors for any relationships. Morgan and Hunt (1994) believe commitment and trust are the major players in relationship marketing and influence marketers:

(1) Cooperation with exchange partners to preserve relationships,

(2) Avoid utilizing short-term alternatives by maintaining long-term benefits through loyalty with existing partners, and

(3) Evaluate high-risk actions as prudent as it is likely partners will avoid taking potentially high risks and miss opportunities.
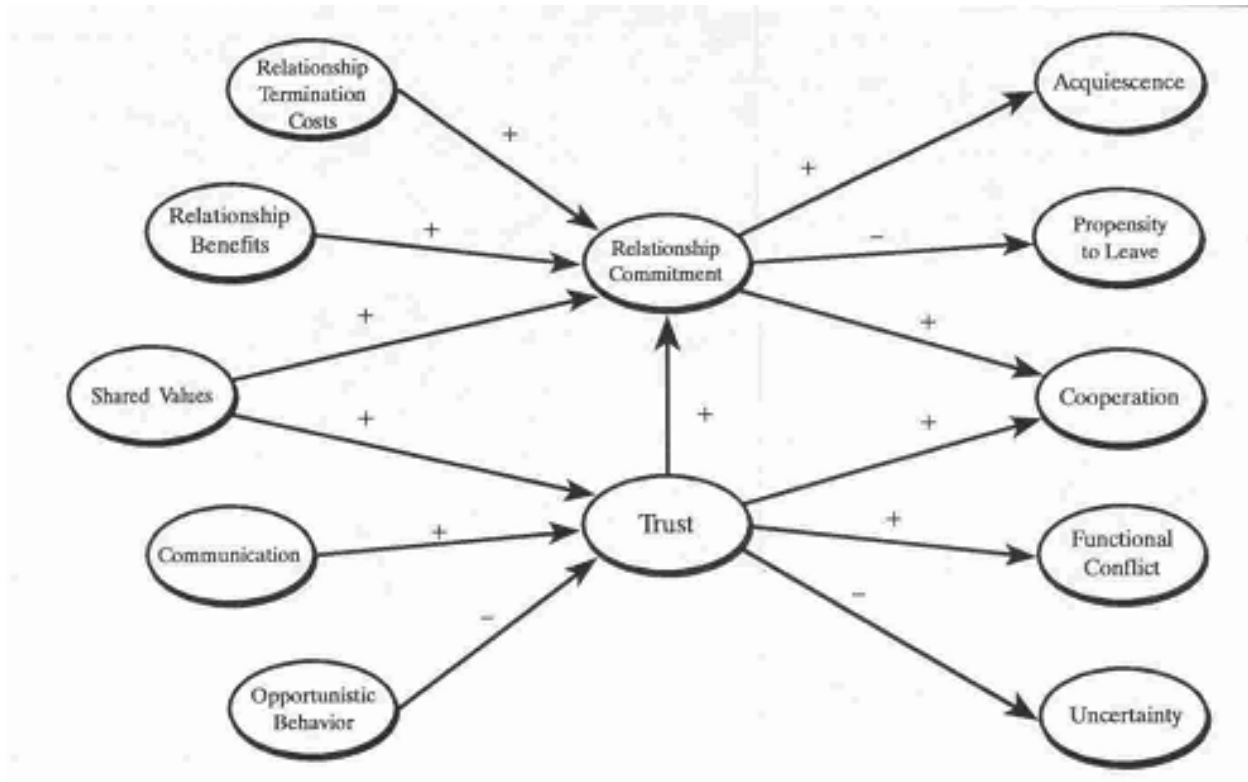
Figure 2. The Relational Exchanges in Relationship Marketing Model

Source: Morgan, R. M., and Hunt, S. D. (1994). The commitment-trust theory of

relationshipmarketing. *Journal of Marketing, 58*, 20-38.

       This research utilizes relationship marketing theory. The proposed conceptual framework

is based on three constructs: satisfaction, trust and commitment. All three terms will be explained

in detail.

Satisfaction

Satisfaction occurs when someone feels he has achieved his goals (Sheldon and Elliot, 1999). Customer satisfaction is a critical success factor for traditional or online business system (Ho and Wu 1999) and is a famous and established term in different sciences. Expectations and experienced service performance are two factors that impact customer satisfaction (Shahin, 2006;Dehghan and Shahin, 2011). Perceived performance is impacted by a) the customer's perception of service quality, b) marketing mix and brand name, and c) image of the company (Andreassen and Lindestad, 1998a). Several researchers believe that an attitude of satisfaction is formed by customers when the performance they received from the products surpasses their pre-purchase expectations (Oliver, 1980). Some of the well-known definitions of customer satisfaction are:

Table 1

Some Definitions of Customer Satisfaction

Definition	Author
"Satisfaction is a person's feelings of pleasure or disappointment resulting from compared a product's perceived performance (or outcome) in relation to his or her expectations" (p. 36).	Kotler (2000)
Customer satisfaction is determined as "a post choice evaluative judgment of a specific purchase occasion" (p. 54).	Anderson, Fornell, and Lehman (1990)
"Customer satisfaction is based, conceptually, on the amalgamation of service quality attributes with such attributes as price and convenience" (p. 192).	Athanasopoulos (2000)

When product performance is less than expected performance, negative disconfirmation and respectively dissatisfaction occur (Chen-Yu, Williams and Kincade, 2009). Customer expectation is described as a customer's pretrial beliefs about a product (Mckinney, Yoon, and Zahedi, 2002). Customers' predictions about what may happen during an impending transaction or exchange are expectations (Zeithaml and Berry, 1988). Perceived performance is viewed as a customer's perception of how a product's performance meets their needs, wants, and desires (Cadotte, Woodruff, and Jenkins, 1987). Perceived quality is the customer's judgment about an organization's excellence or superiority (Zeithaml, 1988). In addition, disconfirmation can be defined as customers' judgments from comparing their expectations and their perceptions of received performance (McKinney, Yoon, and Zahedi, 2002; Spreng, Mackenzie, and Olshavky, 1996).

Churchill and Surprenant (1982) believe that disconfirmation theory is the primary foundation for satisfaction models. Discrepancy between perceived performance and expectation determines satisfaction (Khalifa and Liu 2003). Customers' beliefs about a product are called expectation (Mckinney, Yoon, and Zahedi 2002). Perceived performance is how a customer judges an organization's overall excellence (Zeithaml 1988). Disconfirmation is a consumer's perception obtained from comparing their expectations and their perceptions of received performance (Mckinney et al., 2002).

Trust and Commitment

Pavlou and Fygenson (2006) argue, "Trust has long been a central defining feature of economic and social interactions where uncertainty, delegation of authority, and fears of opportunism are present" (p. 123). Over the last two decades, the construct of trust has taken on a

significant element in marketing (Morgan and Hunt, 1994; Sirdeshmukh, Singh, and Sabol, 2002; Grönroos, 2007). Confidence in an exchange partner's reliability and integrity allows trust to exist (Morgan and Hunt, 1994). Moorman, Deshpande, and Zaltman (1993) have defined trust "as a willingness to rely on exchange partner in whom one has confidence" (p. 82). Trust serves as a glue in a relationship (Singh and Sirdeshmukh, 2000). According to Jarvenpaa, Tractinsky, Saarinen, and Vitale (1999), trust is "willingness to rely on the seller and take actions in circumstances where such action makes the consumer vulnerable to the seller" (p. 4). Developing mechanisms to build consumers' trust and converting that into value and loyalty is the first step in building a framework of understanding of consumers' behavior. In addition, Flavián, Guinalíu, and Gurrea (2006) found that both trust and satisfaction resulted in loyalty.

Online customers have become skeptical about online transactions because they are concerned about information security and privacy (George, 2002; Pavlou and Fygenson, 2006). Due to high uncertainty and lack of legal protection, trust plays a big role in online markets (Luo, 2001). Cyr, Head, and Ivanove (2009) have defined trust as "an attitude of confident expectation in an online situation or risk that one's vulnerabilities will not be exploited" (p. 4). Trust is a major determinant of commitment in a relationship (Dwyer, Schurr, and Oh, 1987). In addition, trust and commitment lead to successful relationship marketing (Morgan and Hunt, 1994).

Commitment is a key factor of any successful long-term relationship (Gundlach, Gregory, Achrol, and Mentzer 1995). Anderson and Weitz (1992) defined commitment as "an enduring desire to maintain a valued relationship"(p. 18). According to Gundlachet al. (1995), "Commitment is thought to be closely related to mutuality, loyalty and forsaking of alternatives, variables that are at the core of the meaning of relationalism" (p. 79). Commitment and customer loyalty are interconnected (Pritchard, Havitz, and Howard, 1999). Also, loyal customer behaviors

can be measured by commitment and the positive relationship that exists between customer commitment and the purchase of goods (Bowen and Shoemaker, 2003). The other element (Service Quality) of the conceptual framework will be explained.

Service Quality

The best way to measure the user satisfaction is to assess the relationship between customer satisfaction and service quality (Pitt, Watson, and Kavan, 1995). Service quality has different definitions. To what extent a service meets customers' needs or expectations is called service quality (Lewis and Mitchell, 1990; Dotchinand Oakland, 1994a; Asubonteng, Mccleary, and Swan, 1996; Wisniewski and Donnelly, 1996). Service quality is the difference between customers' expectations of service and perceived service (Parasuraman, Zeithaml, and Berry, 1985). Dissatisfaction occurs when expectations are greater than performance and perceived quality is less than satisfactory (Parasuraman et al., 1985). Cronin, Taylor, and Taylor (1987) state, "Service quality has been described as a form of attitude, related but not equivalent to satisfaction that results from the comparison of expectations with performance" (p. 56). Some of the definitions that are commonly used are as follows:

Table 2

Some Definitions of Service Quality

Definition	Author
"Service quality perceptions result from a comparison of consumer expectations with actual service performance" (p. 42).	(Parasuraman et al., 1985)
Service quality is derived from a comparison of what customer feels the company should offer with the company's service performance.	(Parasuraman and Zeithaml, 2005)
Service quality has been defined as an assessment of the performance of a service or a service provider.	(Edwardson, 2005)

Service quality has been the subject of practitioners and researchers in recent years. Definitions of service quality indicate this is the result of the customers' comparison between their expectations of a service and their perceptions about the performed service (Caruana and Malta, 2002; 1984; Parasuraman et al., 1985; Dehghan, 2006). Parasuraman et al. (1985) identified 10 detailed determinants of service quality through focus group studies: 1) tangibles, 2) reliability, 3) responsiveness, 4) communication, 5) access, 6) competence, 7) courtesy, 8)credibility, 9) security, and 10) understanding/knowledge of customer, which were enhanced and reduced to five dimensions to measure service quality and named SERVQUAL: tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). The SERVQUAL scale is a major tool to measure quality in the services marketing literature (Parasuraman et al., 1988; Parasuraman et al., 1991). SERVQUAL has been vastly used in academia and industry to assess customer perceptions of service quality (Parasuraman et al., 1991).

Reputation

Jøsang, Islami, and Boyd (2007) defined reputation as "what is generally said or believed about a person's or thing's character or standing" (p. 620). Customer satisfaction and brand reputation are the principals of loyalty (Selness, 1993). Selnes (1993) states, "Although both brand reputation and satisfaction have been found to affect loyalty separately, very little is known about the interaction effect" (p. 45). Reputation can be the customer's overall perception about a company. Generally, trust is trustworthiness assessment (Jøsang et al., 2007). According to Jøsang et al., (2007), there is a relationship between trust and reputation in two ways: (1)

Someone trusts other one because of a good reputation and (2) Someone trusts another one regardless the bad reputation.

Customer Loyalty

Oliver (1999) has defined customer loyalty as "a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior" (p. 34). Customer loyalty is considered important since it impacts long-term profitability positively (Ribbink, Van Riel, Liljander, and Streukens, 2004).

Losing a customer either definitely or partially (re-buying rate reduction) will impact sales volume negatively, meaning more marketing activities are needed to keep them attracted (Zins, 2001). The relationship between a customer and a seller after the first transaction is defined as customer loyalty (Hallowell, 1996; Dehghan, 2006). Kuehn (1962) believes loyalty is the probability of product repurchase. Loyal customers are the best ones, because they are less costly to serve, they usually pay more than other customers, and most likely they act as marketers for your company through word-of-mouth (Reinartz and Kumar, 2002). Undoubtedly, loyalty becomes a crucial construct in the burgeoning field of customer relationship management (Ball, Coelho, and Machas, 2004; Soderlund, 2006). Loyal customers are active ambassadors for any businesses. Existing customers are less price-sensitive with less maintenance costs compared with new ones (Lee-Kelly, Davis, and Kangis, 2002). Brands, products, or services can invoke loyalty, creating positive attitudes and behaviors in repeat patronage, additional purchases, and recommendations (Rowley, 2005). This form of loyalty can influence actual and potential

customers. Additionally, a base of loyal customers increases the positive feedback of the organization's products and services. Further, they are more valuable assets, thus reducing the need to seek new customers.

Dehghan (2006) states, "Existing customers tend to buy additional services, provide favorable recommendations, have lower maintenance needs and prefer service over pricing unlike new customers' needs" (p. 30). Customer loyalty programs pursue two aims: increase sales revenues by raising the levels of purchase/usage and build a close bond between existing customers and the brand. Achieving these aims will lead to profit increases (Uncles, Dowling, and Hammond, 2003; Dehghan and Shahin, 2011). Dehghan and Shahin (2011) argue, "Those consumers that demonstrate the greatest levels of loyalty toward the product or service activity tend to repurchase more often, and spend more money" (p. 3). According to Reinartz and Kumar (2002):

> Many advocates of loyalty initiatives argue that loyal customers pay their way because the up-front costs of acquiring them are amortized over a large number of transactions. But, of course, that argument presupposes that the customers are profitable in those transactions. A more plausible argument for the link between loyalty and decreased costs can be built on the idea that loyal customers will be more familiar with a company's transaction processes. Since they need less hand-holding, the company should find it cheaper to deal with them. (p. 5)

Customer satisfaction cannot be assessed directly using an objective measure. Hallowell (1996) proposes that customer satisfaction impacts customer loyalty, which in turn influences profitability. Service providers benefit from the connection a loyal customer has, while a

satisfied customer has a passive connection (McGarry, 1995). Customer satisfaction can mediate the relationship between perceived quality and customer loyalty (Hsu, 2008).

According to a Bowen and Chen (2001) study, customer satisfaction does not equal customer loyalty. The findings of Tecepi (1999) and Bowen and Chen (2001) verified the nonlinear and asymmetric relationship between customer satisfaction and customer loyalty. The following figure depicts this relationship:
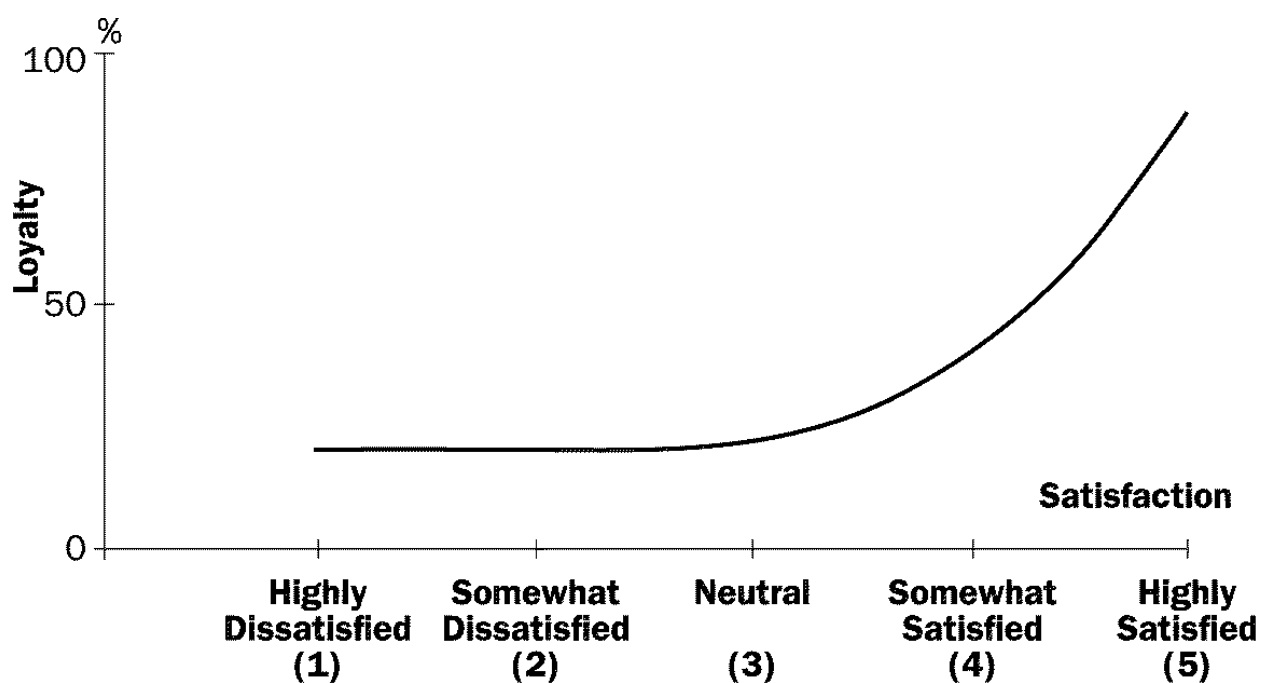
Figure 3. Customer satisfaction / loyalty Relationship

Source: Tepeci, M. (1999). Increasing Brand Loyalty in the Hospitality Industry. *International Journal of Contemporary Hospitality Management, 11*(5), 223-229.

There are several ways to assess customer loyalty. Some of the famous academic surveys are as follows:

Table 3

Questions used for the assessment of customer loyalty (Dehghan and Shahin, 2011, p. 7)

Author	Questions
Chaudhuri and Holbrook, 2001; Oliver, 1997;Pritchardet al., 1999; Sirdeshmukh et al., 2002;Taylor et al., 2004	- I use heavy equipment from the company I am evaluating because it is the best choice for me. - I consider myself to be a loyal patron of the manufacturer of heavy equipment I am evaluating.
Wong (2004)	- Customer says positive things about retail store XYZ to other people -Customer recommends retail store XYZ to someone who seeks his advice -Customer encourages friends and relatives to shop at retail store XYZ
Colwell et al., (2009)	- I believe I have a strong relationship with my bank and would not leave because of better fees - I believe I have a strong relationship with my bank and would not leave because of better rates

Thuy and Hau (2010)	- If I need other types of bank service I will choose this bank
	- I will recommend this bank to others who seek my advice
	- I will continue to use this bank service
	- I only pay my attention to this bank
Kassim and Abdullah (2010)	- I will recommend the online organization to other people (WoM)
	- I would recommend the organization's website to others (WoM)
	- I intend to continue using the online organization (Intent)
	I prefer the online organization above others (Intent)

Customer Satisfaction and Loyalty in Online Environments

Shopping online creates a lot of ease for shoppers and merchants. Customers can find and obtain their merchandise online without leaving their homes. It enables service providers to target more customers. These time and browsing advantages of online purchasing are constructing positive perceptions of e-satisfaction (Szymanski and Hise, 2000).

The rapid growth of online transactions has raised significant questions about customer satisfaction and loyalty in the online environments (Wind and Rangaswamy, 2001). McKinney, Yoon, and Zahedi (2002) found, "In a turbulent e-commerce environment, Internet companies need to understand how to satisfy customers to sustain their growth and market share" (p. 296).

The explosion of the Internet has influenced customer satisfaction and loyalty differently (Shankar, Smith and Rangaswamy, 2003). Online customers have more alternatives compared with offline customers. Szymanski and Hise (2000) argue that, "As more e-retailers promise their customers that online experiences will be satisfying ones, understanding what creates a satisfying customer experience becomes crucial" (p. 309). In addition, use of the Internet may lead to lower customer satisfaction and loyalty compared with traditional systems (Shankar et al., 2003).

Acquiring customers on the Internet is exceedingly costly, and profits will remain considerable if the customers repeat their purchases constantly (Reichheld and Schefter, 2000; Hsu, 2008). Online systems make the competition too tough for service providers, since just few clicks may let the customers leave any websites (Anderson and Swaminathan, 2011). Srinivasan, Anderson, and Ponnavolu (2002) identified 8 factors which impact e-loyalty: (1) customization, (2) contact and interactivity, (3) cultivation, (4) care, (5) community, (6) choice, (7) convenience, and (8) character.

Online environments offer more opportunities for buyers and sellers; however, these opportunities may impact customer satisfaction and loyalty differently than offline environments (Shankar, Smith, & Rangaswamy, 2003). Having a clear understanding of the relationship between online loyalty and satisfaction helps businesses to allocate their marketing budgets more efficiently between satisfaction initiatives and loyalty programs (Shankar et al., 2003).

Student Satisfaction

It is a widely accepted idea for educational institutions that higher education is a service industry; therefore, they put more emphasis on meeting the expectations and needs of their customers who are their students (DeShields Jr, Kara, and Kaynak, 2005). DeShields et al. (2005) believe that due to the intensive competition found in the higher education market, universities must assess and adopt marketing orientation strategies that meet the target market needs. They should understand the needs of the customer, modify, and enhance their offerings in order to successfully deliver services of superior quality. This is a competitive market that requires a thorough understanding of the target markets including students and external and internal stakeholders.

Athiyaman (1997) and DeShields et al. (2005) have researched student satisfaction in the context of customer satisfaction and service quality. Athiyaman (1997) found that service and service characteristics are "(1) emphasis on teaching students well (2) availability of staff for student consultation (3) library services (4) computing facilities (5) recreational facilities (6) class sizes (7) level and difficulty of subject content (8) student workload" (p. 531). DeShields et al. (2005) argued that dissatisfied students may take fewer courses or leave the university completely. Therefore, student satisfaction and retention in higher education should be taken into serious consideration.

Online Learning

Delivering educational experiences through any electronic media such as Internet, TV, CD-ROM, and so on, is called e-learning (Kahiigi et al., 2007). Approximately, 1/6 of all American students enrolled in higher education in 2006, about 3.2 million people, had taken at

least one online course (Pope, 2006). Ambient Insight, a well-known educational research firm, announced that almost 12 million American post-secondary students took one or all of their courses online in 2009, and there will be more than 22 million by 2013 (Nagel, 2009). Adkins (a survey organization) has predicted that these numbers will be changed dramatically by 2014; 5.14 million will take face-to-face courses, 3.55 million will enroll solely in online courses, and 18.65 million will take some of their courses online (Nagel, 2009).

It can also be considered as one of the most important achievements in the burgeoning field of education and an invaluable asset for any education institution. Twenty years ago, no one could have predicted that there would be higher educational institutions that allow students to attend from anywhere (Levy, 2007). E-learning not only delivers the knowledge to anyone at any time, but it also can be used to train the right people at the right time with the relevant knowledge package (Govindasamy, 2002). To have a better image of online learning systems, a brief comparison between e-learning and traditional face-to-face classroom learning seems to be necessary. According to Zhang et al. (2004), Table 4 depicts the major dimensions of both educational approaches (online-learning and traditional face-to-face classroom learning).

Table 4

Traditional classroom learning vs. online learning

	Traditional Classroom Learning	Online Learning
Advantages	• Immediate feedback • Being familiar to both instructors and students • Motivating students • Cultivation of a social community	• Learner-centered and self-paced • Time and location flexibility • Cost-effective for learners • Potentially available to global audience • Unlimited access to knowledge • Archival capability for knowledge reuse and sharing
Disadvantages	• Instructor-centered • Time and location constraints • More expensive to deliver	• Lack of immediate feedback in asynchronous e-learning • Increased preparation time for the instructor • Not comfortable to some people • Potentially more frustration

Student Loyalty

Student loyalty has become incredibly important for educational organizations involved in higher education (Helgesen and Nesset, 2007a). Student (customer) loyalty is strongly related to two factors: student (customer) satisfaction and the university's performance (business unit) (Helgesen and Nesset, 2007b).

Helgesen and Nesset (2007a) state, "Student satisfaction has the highest degree of association with student loyalty, representing a total effect about three times the effect of the image of the university college" (p. 37). The main income source of private universities is tuition

fees; therefore retaining students will help educational institutions to develop their future activities. In addition, based on relationship marketing theory, gaining new students is more costly than maintaining current ones. Student retention helps universities to reduce their costs dramatically (Reichheld, 1996; Akarapanich, 2006). Those educational institutions that have the ability to attract new students and retain the existing ones benefit of having loyal students (Oliver, 1997; Henning-Thurau et al., 2001, Helgesen and Nesset, 2007a).

Loyal students can impact teaching quality positively by functioning participation and committed behavior (Helgessen and Nesset, 2007b). Henning-Thurau et al. (2001) found "The lecturer's own involvement in the course increases if students are highly motivated, jointly contributing to a classroom atmosphere that stimulates learning" (p. 332). Loyal students may take part in research activities by proposing innovative research idea or participate in data collection for a research project (Henning-Thurau et al., 2001). According to Henning-Thurau et al. (2001), as an alumni, a loyal student may financially support his or her university through a variety of donations; provide written or verbal recommendations to pre-current-post students; and provide other services valuable to the university such as lectures, assisting with placements for students. It behooves the university to nurture student loyalty as the benefits of growing student loyalty are a multiphase process extending from enrollment to retirement and beyond.

Student Loyalty Assessment Models

Customer loyalty in traditional class settings has been addressed by some researchers.

Hennig-Thurau et al. (2001) used following model to assess student loyalty in face-to-face

learning settings:
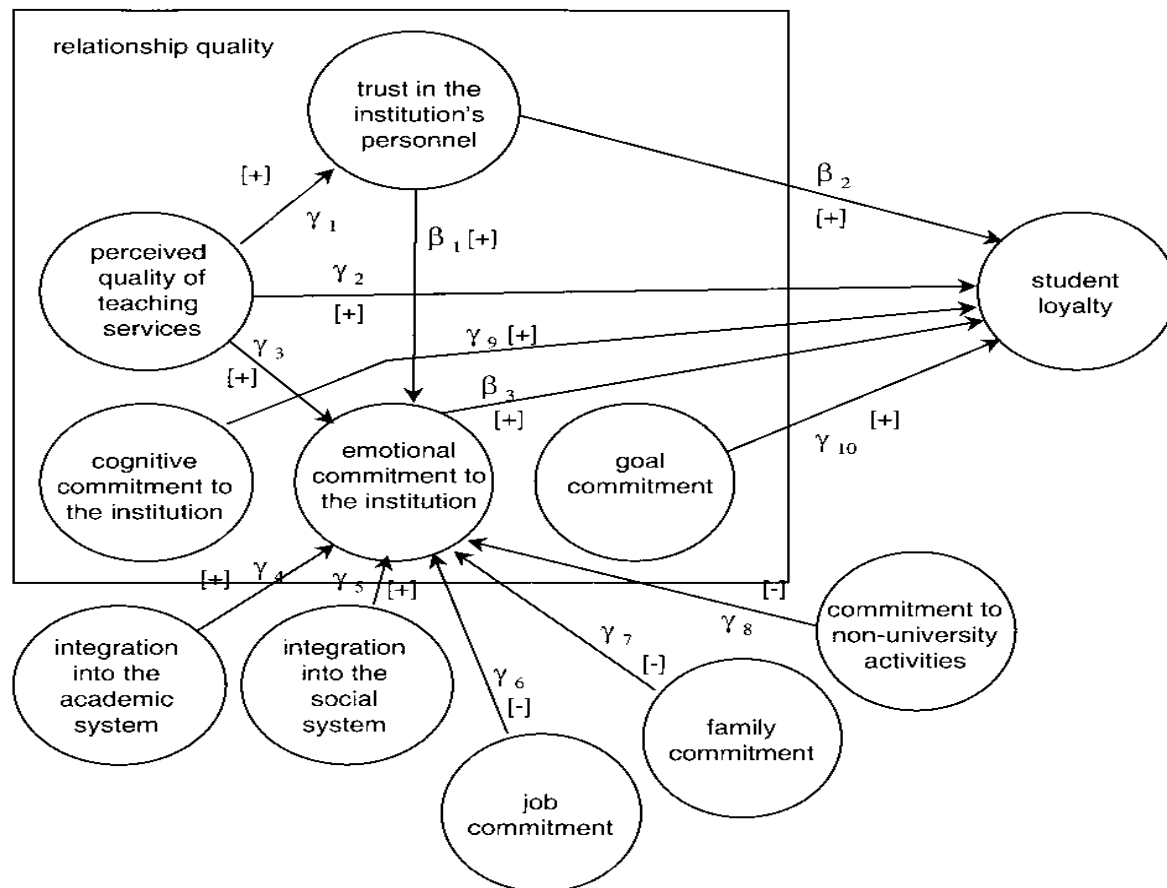
Figure 4. The Relationship Quality-Based Student Loyalty Model

Source: Hennig-Thurau, T., Langer, M. F., & Hansen, U. (2001). Modeling and Managing

Student Loyalty. *Journal of Service Research, 3* (4), 331-344.

The Hennig-Thurau et al. (2001) model proposes an integrative model of student loyalty

including the key elements of the Tinto (1975, 1993) focusing on relationship quality theory. In

this model, student loyalty is determined in the Relationship Quality-Based Student Loyalty

(RQSL) context by three constructs:

1) Students' perception of the teaching quality,

2) Students' trust in the university's staff and faculty,

3) Students' commitment to the university.

Akarapanich (2006) utilized the Hennig-Thurau et al. (2001) model by positioning

satisfaction and commitment as mediators to the understanding of relationship marketing

deliverables (loyalty intentions). He investigated the relationship between three constructs (Trust,

Satisfaction, and Commitment) and their impacts on loyalty in MBA programs.
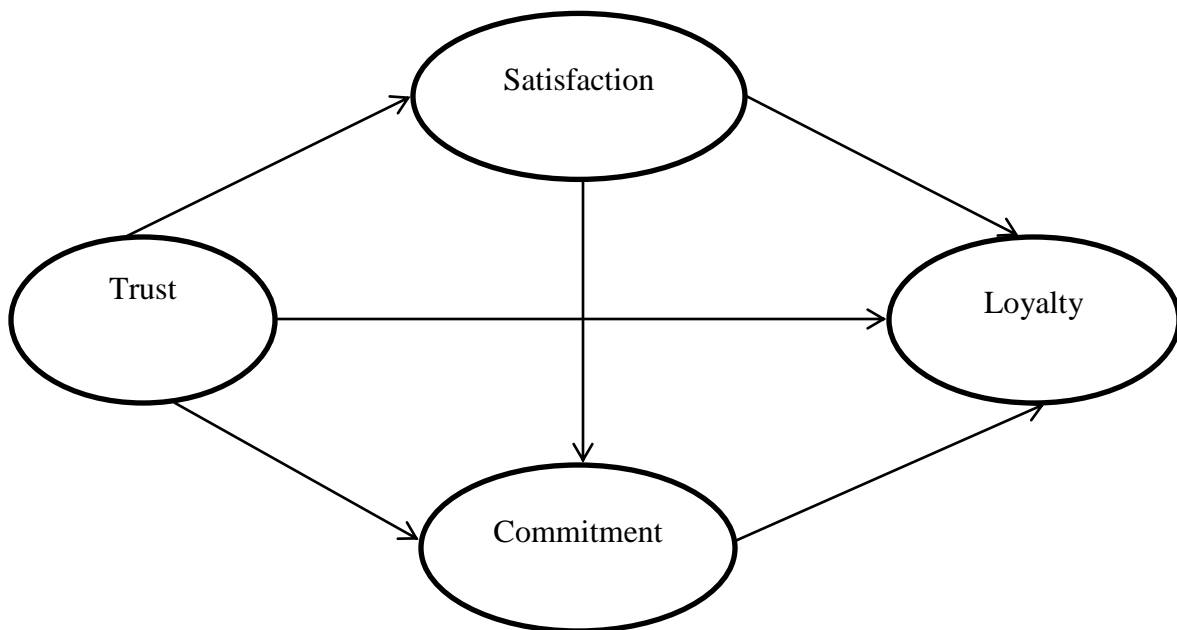
Figure 5. Research Framework

Source: Akarapanich, S. (2006). *Comparing customer loyalty intentions using trust,*

satisfaction, and commitment of online MBA students versus traditional MBA students.

Dissertation.

In order to assess student loyalty in face-to-face educational settings, Helgesen and

Nesset (2007a) suggested the following model using seven factors: service quality, info, social,

facilities, commitment, satisfaction, and reputation.
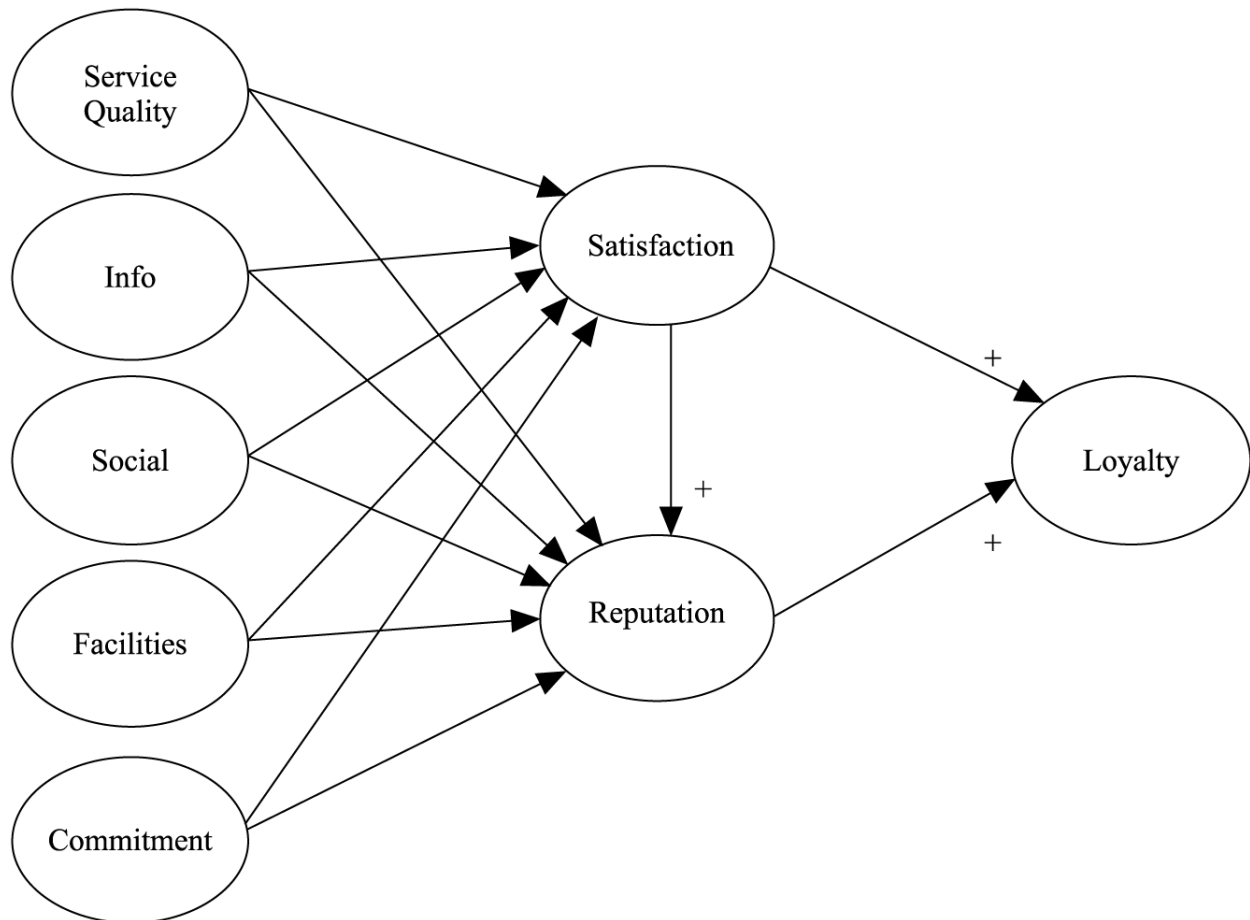
*Figure 6.*Student Loyalty Assessment Model for Face-to-Face Programs

Source: Helgesen, Ø., and Nesset, E. (2007). Images, Satisfaction and Antecedents: Drivers of

Student Loyalty? A Case Study of a Norwegian University College. *International Journal of*

Educational Management, 21 (2), 126 - 143.

Finally, the proposed researcher's model can be found as follows, which is a combination of all three models used by Hennig-Thurau et al. (2001), Akarapanich (2006), and Helgesen and Nesset (2007a).
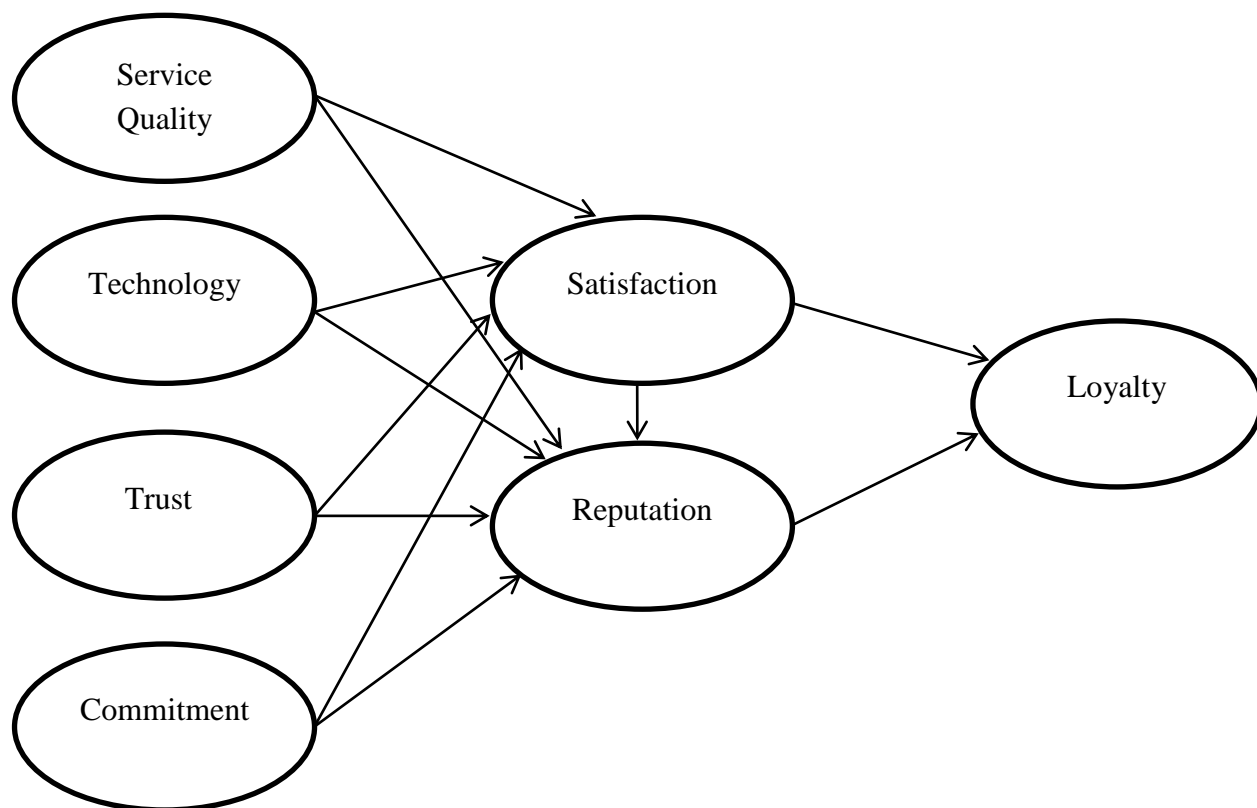
Figure 7. Research Framework (Derived from Hennig-Thurau et al. [2001], Akarapanich, [2006] and Helgesen & Nesset, [2007a])

Summary

Chapter 2 provided background information about graduate online programs and student loyalty and has reviewed the concept of relationship marketing, commitment, and satisfaction as trust's mediators. It has indicated how satisfaction and loyalty in Online master's programs are important. The research methods will be elaborated in Chapter 3.

Chapter 3. Research Methods

This chapter will present a detailed description of the research methods. This includes the research method, the population and sampling, the instrumentation design, the instrumentation validity, the pilot study, the scale reliability, the human subjects, the data collection, and data analysis.

Research Method

This research investigated the relationship between satisfaction, reputation, service quality, commitment, trust, technology, and their effects on loyalty within online educational environments at the master's level using an electronically distributed survey. In order to study online master's programs, descriptive research was selected. Descriptive research methodology has been used extensively in hypothesis-testing research. According to Siadat (2008):

> Quantitative approach is one in which the investigator primarily uses post positivist claims for developing knowledge (i.e. cause and effect thinking, reduction to specific variables and hypotheses and questions, use of instrument and observation, and the test of theories), employs strategies of inquiry such as experiments and surveys and collects data on predetermined instruments that yield statistical data. (p. 43)

Population and Sampling

The population for this research was all master's students enrolled in online programs within the US. Despite the fact that the Internet is being used nearly in all face-to-face programs as a teaching tool, this study targeted those students who have solely registered for online master's programs. Finally, only online master's students enrolled at this regional Midwestern university were being considered for this research.

The research sample included all the students registered in the online master's programs within a regional Midwestern university. According to the office of Institutional Research and Information Management (IRIM) at this university, were are 1140 master's students enrolled in online courses for Fall 2011. Of those, 687 were enrolled exclusively in online programs. In addition, according to Extended Programs and Educational Outreach Office (EPEO) at the regional Midwestern university, nine online master's programs were offered:

- Master of Science in Dietetics (MS-CPD)

- Master of Science in Earth Science Education

- Master of Arts in Educational Leadership for K–12 Leaders

- Master of Arts in Educational Media and Technology (EDMT)

- Master of Arts in Educational Media Psychology, The Development Learner

- Master of Science in Engineering Management (EGMT)

- Master of Science in Human Nutrition

- Master of Science in Integrated Marketing Communications

- Master of Science in Quality Management

Instrumentation Design

For the purpose of this research, a draft was prepared utilizing and combining two questionnaires. The draft was enhanced based on Akarapanich's (2006) and Helgesen and Nesset (2007a) surveys. Once the draft was prepared, it was submitted to the panel of experts consisting of the researcher's advisor and two more experts. After refining the initial draft based on the review of the panel of experts, it was used in the pilot test. A six-item socio-demographic section was included in the main survey instrument. The respondents were asked about their majors as well to explore the several characteristics of respondents (customers).

The measurement items were related to seven constructs: service quality, technology, trust, commitment, satisfaction, reputation, and loyalty. These constructs were measured to test the hypotheses. This research used items that have measured these four constructs based on their high level of reliability and validity in previous research. All these constructs were operationalized using multi-item measures. All questions were based on a five-point Likert-type scale from "1 = strongly disagree" to "5 = strongly agree." The proposed questionnaire (items for measurement), which has been derived, integrated, and enhanced from Henning-Thurau et al., Akarapanich (2006), and Helgesen and Nesset (2007a) is as follows:

Table 5

Questionnaire

No	Service quality
1	Within my program, student exercises are relevant to topics
2	Instructors are accessible
3	Instructors provide students with timely and appropriate feedback
4	My program contains some synchronous elements, such as live chat, Elluminate, etc.
5	I am required to interact with my classmates by using online discussions, peer reviews, etc.
	Technology
6	I am satisfied with the services provided by the Library in support of my program
7	I am satisfied with www.----online.edu
8	The courses within the program can be displayed on a smartphone
9	I have found the supplemental materials (including online texts, links, graphics, videos, online simulations and so on) useful
	Trust
10	I trust this university completely
11	Faculty members in my program kept their promises to me
12	I have a great confidence in faculty members
	Commitment
13	I am committed to those faculty in my program
14	My relationship with faculty is very important to me
15	I am committed to this program
	(Student) Satisfaction
16	I am satisfied with this university
17	I did the right thing of entering this program
18	I talk positively about this program to others
19	I am satisfied with the university compared with an ideal one
	Reputation
20	This university has a good reputation
21	My program of study has a good reputation
	(Student) loyalty
22	I would recommend this university to my friends
23	I would choose to attend this university if starting if given the opportunity to start again
24	I would consider enrolling in more programs at this university

Instrumentation Validity

This research followed the measurement techniques that were used by Henning-Thurau et al. (2001) and (2002), Akarapanich (2006), and Helgesen and Nesset (2007a). Therefore, validity and reliability were addressed.

Construct validity assesses to what extent a measurement is represented and logically concerned. In this research, construct validity was determined by content validity, internal consistency, convergent validity, and discrminant validity. According to Akarapnich (2006), content validity is the degree to which the content of a test or questionnaire covers the extent and depth of the topics it is intended to cover (p. 74). Content validity was established by an extensive literature review by the research committee, along with a panel of experts including three professors at this regional Midwestern university who were expert in the fields of education and marketing. In addition, since the survey questionnaire has been used and tested in a similar environment, this strengthened the case for strong construct validity. Moreover, average variance extracted (AVE) technique was used to assess convergent validity. Finally, the constructs' correlations were calculated to examine the discriminant validity.

Pilot Study

Once the content validity was determined by the panel of experts, a pilot test was conducted at MKT510 master's course at this regional Midwestern university in Winter 2012. A pilot can be used to test logistics and collect information before conducting the larger research, in order to improve the latter's readability and obtain an estimate of reliability.

A cover letter including the URL of the survey was emailed to the students by the researcher. The students were asked to comment on the validity of the questions and the overall

survey design. The respondents were asked about the readability, ease of use and browsing, and transition from one page to another. At the end, the respondents were asked to provide their overall views.

Scale Reliability

According to Siadat (2008), "Reliability refers to the degree to which data collection method or methods will yield consistent findings, similar observations would be made or conclusions reached by other researchers or there is transparency in how sense was made from the raw data" (p. 52). The internal consistency of the measurement items was measured using Cronbach's alpha. Nunnually (1978) and other researchers suggested that Cronbach's alpha should exceed 0.7. In order to calculate the Cronbach's alpha coefficient values, SPSS software was used.

Human Subjects

The students at a regional Midwestern university were used as subjects for this research; therefore, students' consent was needed. Approval was obtained from the Human Subjects Committee prior to administering the survey. Students were assured of anonymity and confidentiality. The results were aggregated and individual responses were destroyed.

Data Collection

After obtaining the Human Subjects approval, the final revised version of the questionnaire was created using SurveyMonkey. The survey URL was sent to all online master's students at a regional Midwestern university. Follow-up activities were pursued to increase the response rate. These activities included sending two reminder emails to all respondents. The first

reminder email was sent one week after the initial invitation email, and the second one was sent another week later.

   The data collection process was finished after seven weeks in order to get the highest possible response rate. The SurveyMonkey collects and categorizes the data. It also analyzes and saves the data in Micro Soft Excel spread sheets upon request. Once the data were collected, SPSS and SmartPls were used to analyze the data.

Data Analysis

   The first stage was identifying any missing data and outliers. Although completed data for all surveys are desired, it is possible that some data items will not be available.

   According to High (2005), there are three ways to resolve the missing data issue:

   (1) Using those variables that are completely recorded for each subject.

   (2) Filling the missing data by mean substitution or regression estimates.

   (3) Inferences based on predictions.

   The second stage was reliability analysis to assess the data quality. Cronbach's alpha was used to measure the consistency, and the value of Cronbach's should exceed 0.7. The third stage was normality. Normality tests were used to determine whether a data set is normally distributed or not. A non-normal data set may invalidate the statistical hypothesis (Browne, 1982; Hu, Bentler and Kano, 1992; Henning-Thurau et al., 2001). Skew and kurtosis can make the distribution non-normal. In the fourth stage, mean, variance, standard deviation, kurtosis, and skewness were computed.

In order to assess the construct validity, confirmatory factor analysis was performed using SmartPLS. A wide range of unmeasured sources of variability in a data set can be modeled by using Factor Analysis (Hoyle, 2000). Hoyle (2000) states, "Confirmatory factor analysis (CFA), otherwise referred to as restricted factor analysis, structural factor analysis, or the measurement model, typically is used in a deductive mode to test hypotheses regarding unmeasured sources of variability responsible for the commonality among a set of scores" (p. 466). Factor analysis can also identify the sources of errors in the original model (Paatero, 1994). The last stage was testing the hypotheses using SmartPLS.

Summary

Chapter 3 provides a description of the research methods, population, sampling, research design, instruments for assessing validity and reliability, and the procedures of conducting the research. The operationalization of this research was discussed in this chapter. The next chapter will be about the results and findings of the study.

Chapter 4. Results

This chapter provides the statistical analysis and findings. The first section discusses the sample demographics. Thereafter the assessment of measures including reliability analysis, descriptive analysis, normality, factor analysis and hypothesis testing are presented. Data collection began on February 28, 2012, and concluded on April 18, 2012. Questionnaires were emailed to a pre-identified sample through a regional Midwestern university. Although the survey was supposed to be sent via the Continuing Education department or Institutional Research and Information Management (IRIM) at the regional Midwestern university based on the early agreements, once the survey link along with the consent form was sent to all online master's students within the university, the survey was taken down suddenly at the direction of the Provost's office. Therefore, the research was pursued in other ways. The researcher was asked to obtain each of the nine online master's programs coordinators' approvals for conducting the research. In addition, the researcher was instructed to obtain each faculty member's written agreement to survey his or her classes. Thus, the data collection process was prolonged much more than had been expected, and the researcher had additional barriers to overcome during data collection.

Return Rate

Based on information provided by the Office of Institutional Research and Information Management (IRIM) at the university, a total of 687 students were enrolled in nine online master's programs at this university during the Winter 2012 semester. Since one online master's program coordinators would not agree to conduct the survey and not all faculty members from other programs would permit dissemination of the survey solicitation to their students, the

sample size was reduced to approximately to500 students. During the data collection period, 112respondents participated in the survey, and 93completed the questionnaires. Therefore, the return rate was approximately 22 percent.

Demographic Characteristics of the Sample

The demographic characteristics of the sample are summarized in Table 6. The respondents were asked to provide their gender, marital status, and working status. In addition, they were asked whether they received their bachelor's from the university and the number of credit hours they had taken thus far in their online master's program at the university. The respondents included 36 males (34.3%) and 69 females (65.7%). More than half (55.2%) of the respondents reported that they were married. These percentages demonstrate that females are interested in online master's programs around two times more than males.

In terms of employment, 88 of the respondents (84.6%) reported that they were employed and 16 of them (15.4%) reported that they were unemployed. Interestingly, 81 of the respondents (72.4%) did not get their bachelor's from the university and only 31 of the respondents (27.6%) were graduated from the university at undergraduate level. In addition, the average number of credit hours that respondents reported having taken this far in their master's program at the university was almost 19.82 semester hours. The following table depicts the demographic characteristics of the sample:

Table 6

Demographic Characteristics of the Sample

Gender	Male	Female
	34.3%	65.7%
Marital Status	Single	Married
	44.8%	55.2%
Working Status	Employed	Unemployed
	84.6%	15.4%
Did you get your bachelor's from this university?	Yes	No
	27.6%	72.4%
Average number of credits students taken this far in their master's program at this university?	19.82	

Assessment of Measures

The data analysis process involved five steps including reliability analysis, descriptive analysis, normality, factor analysis, and hypothesis testing.

1-Reliability Analysis

Although 112 respondents participated in the survey, only 93 completed the entire survey. Incomplete responses were excluded from the data analysis. Only complete responses were used in reliability test. A Cronbach's alpha coefficient was used to estimate the reliability and internal consistency. A value of 0.7 or above is desirable (Nunnually, 1978). A reliability estimate was calculated for each construct. The results demonstrated that the Cronbach's alpha value for each construct surpassed the minimum level (0.7). The following table depicts the Cronbach's alpha value for each construct:

Table 7

Cronbach's Alpha for Scale Items

Variable	Case Processing Summary			Reliability Statistics	
	Cases Valid	Excluded	N	Number of Items	Cronbach's alpha
Service Quality	93	0	93	5	.831
Technology	93	0	93	4	.851
Trust	93	0	93	3	.890
Commitment	93	0	93	3	.843
Satisfaction	93	0	93	4	.931
Reputation	93	0	93	2	.863
Loyalty	93	0	93	3	.882

2-Descriptive Analysis

Descriptive statistics for each construct were calculated including mean, variance, standard deviation, item means, item variances, inter-item correlations, item-total statistics, and so on. This section provides details about all of the constructs. Each construct consisted of several items, and each item was assessed using a five-point Likert-type scale: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree (5). Following sections and items are included in item analysis from SPSS output:

- Statistics for Scale: Including Mean, Variance, and Standard Deviation of the construct.

- Item Statistics: Including Mean, Variance, and Standard Deviation for each item related to the construct.

- Summary Item Statistics: Including Means, Variances, and Inter-Item Correlations for the whole items within a construct.

- Item total Statistics: Including "Scale Mean if Item Deleted," "Scale Variance if Item Deleted," "Corrected Item-Total Correlation," "Squared Multiple Correlation," and "Cronbach's Alpha if Item Deleted."

Service Quality (SQ)

This five-question sub-scale assesses the respondents' point of view about service quality. The average mean of the five SQ items is 3.80, with a standard deviation of 1.07. Item 3 (instructor's feedback to students) and 4 (synchronous elements) have lower means than the average SQ. The SQ construct has produced a reliability estimate of 0.831based on the Cronbach's alpha method, which exceeds the acceptable minimum level of .7. Table 8 provides the item-analysis results.

Table 8

Service Quality Item-Analysis from SPSS Output

Statistics for	N	Mean	Variance	SD		
Scale	5	19.00	17.391	4.170		

Item Statistics	Mean		SD		N	
Item 1	3.97		.961		93	
Item 2	3.90		.968		93	
Item 3	3.55		1.079		93	
Item 4	3.30		1.342		93	
Item 5	4.28		1.004		93	

Summary	Mean	Min.	Max.	Range	Max/Min	Variance
Means	3.800	3.301	4.280	.978	1.296	.145
Variances	1.166	.923	1.800	.877	1.950	.135
Inter-Item Correlations	.523	.300	.728	.428	2.428	.022

Item-Total Statistics	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 1	15.03	11.488	.765	.655	.764
Item 2	15.10	11.284	.796	.676	.755
Item 3	15.45	11.446	.655	.562	.790
Item 4	15.70	11.278	.479	.263	.857
Item 5	14.72	12.508	.546	.436	.819

Technology

This four-question sub-scale assesses the respondents' point of view about technology.

The average mean of the four technology items is 3.632, with a standard deviation of0.968. Item

3 (display courses on a smartphone) have a lower mean that the average technology. The

technology construct has produced a reliability estimate of 0.851 based on the Cronbach's alpha

method, which exceeds the acceptable minimum level of .7. Table 9 demonstrates the item-analysis results.

Table 9

Technology Item-Analysis from SPSS Output

Statistics for Scale	N	Mean (Sum)	Variance	SD			
	4	14.54	10.795	3.286			
Item Statistics	Mean			SD		N	
Item 1	3.78			.901		93	
Item 2	3.81			1.010		93	
Item 3	3.17			1.047		93	
Item 4	3.78			.914		93	
Summary	Mean	Min.	Max.	Range	Max/Min	Variance	
Means	3.632	3.169	3.809	.640	1.202	.096	
Variances	.941	.813	1.096	.284	1.349	.019	
Inter-Item Correlations	.595	.498	.669	.171	1.343	.004	
Item-Total Statistics	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted		
Item 1	10.75	6.484	.683	.503	.817		
Item 2	10.72	5.818	.738	.546	.792		
Item 3	11.36	6.051	.638	.426	.839		
Item 4	10.75	6.279	.725	.550	.800		

Trust

This three-question sub-scale assesses the respondents' point of view about trust. The average mean of the trust items is 3.746, with a standard deviation of 0.0071.021.Item 1 (trust on

this university) has a lower mean than the average trust. The trust construct has produced a

reliability estimate of 0.890 based on the Cronbach's alpha method, which exceeds the

acceptable minimum level of .7. Table 10 demonstrates the item-analysis results.

Table 10

Trust Item-Analysis from SPSS Output

Statistics for Scale	N	Mean (Sum)	Variance	SD		
	3	10.75	6.775	.691		
Item Statistics	Mean		SD		N	
Item 1	3.72		1.036		93	
Item 2	3.84		1.014		93	
Item 3	3.68		1.013		93	
Summary	Mean	Min.	Max.	Range	Max/Min	Variance
Item Means	3.746	3.677	3.839	.161	1.044	.007
Item Variances	1.042	1.025	1.073	.048	1.047	.001
Inter-Item Correlations	.729	.650	.773	.123	1.190	.004
Item-Total Statistics	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted	
Item 1	7.52	3.622	.758	.606	.866	
Item 2	7.40	3.720	.750	.592	.872	
Item 3	7.56	3.467	.846	.716	.788	

Commitment

This three-question sub-scale assesses the respondents' point of view about commitment. The average mean of the three commitment items is 3.98, with a standard deviation of 0.936. Item 1 (commitment to faculty) and 2 (relationship with faculty) have lower means than the average commitment. The construct commitment has produced a reliability estimate of 0.843 based on the Cronbach's alpha method, which exceeds the acceptable minimum level of .7. Table 11 demonstrates the item-analysis results.

Table 11

Commitment Item-Analysis from SPSS Output

Statistics for Scale	N	Mean (Sum)	Variance	SD		
	3	11.97	6.010	2.451		

Item Statistics	Mean		SD		N	
Item 1	3.75		.952		93	
Item 2	3.91		.952		93	
Item 3	4.30		.906		93	

Summary	Mean	Min.	Max.	Range	Max/Min	Variance
Item Means	3.989	3.753	4.301	.548	1.146	.079
Item Variances	.878	.821	.906	.084	1.102	.002
Inter-Item Correlations	.642	.624	.661	.036	1.058	.000

Item-Total Statistics	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 1	8.22	2.866	.695	.483	.795
Item 2	8.05	2.834	.709	.505	.781
Item 3	7.67	2.942	.723	.522	.769

Satisfaction

This four-question sub-scale assesses the respondents' point of view about satisfaction. The average mean of the four satisfaction items is 3.892, with a standard deviation of 0.995. Item 4 (satisfied with this university compared to ideal one) has a lower mean than the average satisfaction mean. The construct satisfaction has produced a reliability estimate of 0.931 based on the Cronbach's alpha method, which exceeds the acceptable minimum level of .7. Table 12 demonstrates the item-analysis results.

Table 12

Satisfaction Item-Analysis from SPSS Output

Statistics for Scale	N	Mean (Sum)	Variance	SD		
	4	15.57	13.139	3.625		

Item Statistics	Mean		SD		N	
Item 1	3.89		.961		93	
Item 2	4.04		.955		93	
Item 3	3.99		1.037		93	
Item 4	3.65		1.028		93	

Summary	Mean	Min.	Max.	Range	Max/Min	Variance
Item Means	3.892	3.645	4.043	.398	1.109	.031
Item Variances	.992	.911	1.076	.165	1.181	.008
Inter-Item Correlations	.773	.658	.823	.165	1.251	.004

Item-Total Statistics	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 1	11.68	7.504	.895	.806	.891
Item 2	11.53	7.839	.821	.731	.915
Item 3	11.58	7.268	.857	.741	.903
Item 4	11.92	7.636	.782	.663	.928

Reputation

This two-question sub-scale assesses the respondents' point of view about reputation. The average mean of the two Reputation items is 3.725, with a standard deviation of 0.981. Item 1 (the university's reputation) has a lower mean than Item 2. The construct reputation has produced a reliability estimate of 0.863 based on the Cronbach's alpha method, which exceeds the acceptable minimum level of .7. Table 13 demonstrates the item-analysis results.

Table 13

Reputation Item-Analysis from SPSS Output

Statistics for	N	Mean (Sum)	Variance	SD		
Scale	2	7.44	3.401	1.844		

Item Statistics	Mean		SD		N	
Item 1	3.58		1.035		93	
Item 2	3.86		.928		93	

Summary	Mean	Min.	Max.	Range	Max/Min	Variance
Item Means	3.720	3.581	3.860	.280	1.078	.039
Item Variances	.966	.861	1.072	.212	1.246	.022
Inter-Item Correlations	.764	.764	.764	.000	1.000	.000

Item-Total Statistics	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 1	3.86	.861	.764	.584	.
Item 2	3.58	1.072	.764	.584	.

Loyalty

This three-question sub-scale assesses the respondents' point of view about service

quality. The average mean of the three Loyalty items is 3.81, with a standard deviation of 0.995.

Item 3 (consider enrolling in more programs at this university) has a lower mean than the

average loyalty. The construct loyalty has produced a reliability estimate of 0.882 based on the

Cronbach's alpha method, which exceeds the acceptable minimum level of .7. Table 14

demonstrates the item-analysis results.

Table 14

Loyalty Item-Analysis from SPSS Output

Statistics for Scale	N	Mean (Sum)	Variance	SD		
	3	11.43	7.226	2.688		

Item Statistics	Mean		SD		N	
Item 1	3.97		.972		93	
Item 2	3.83		.974		93	
Item 3	3.63		1.040		93	

Summary	Mean	Min.	Max.	Range	Max/Min	Variance
Item Means	3.810	3.634	3.968	.333	1.092	.028
Item Variances	.992	.945	1.082	.138	1.146	.006
Inter-Item Correlations	.718	.613	.844	.231	1.376	.011

Item-Total Statistics	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 1	7.46	3.273	.855	.764	.759
Item 2	7.60	3.438	.786	.713	.821
Item 3	7.80	3.490	.683	.489	.915

3-Normality

Skew and Kurtosis are well known calculations in assessing the data normality (Kline,2005). Skewness is a measure of symmetry about the mean. Kurtosis indicates whether the data are peaked or not relative to a normal distribution. Normally distributed data have skewness and kurtosis ranges between +2 and -2 (Kline, 2005). However, there are transformation techniques to correct the abnormally distributed data and convert it to a normally distributed one. The following table depicts the skewness for all items fall within the acceptable range; however, items 1, 5, 15, and 17 are out of range in terms of the Kurtosis, which does not affect the data normality. By using a Sin (Sqrt(x)) transformation formula, normally distributed data are obtained.

Table 15

Normality-Analysis from SPSS Output

No	Items	Before Transformation		After Transformation	
		Skewness	Kurtosis	Skewness	Kurtosis
1	Within my program, student exercises are relevant to topics	-1.654	3.144	-.451	-.755
2	Instructors are accessible	-1.273	1.666	-.325	-.924
3	Instructors provide students with timely and appropriate feedback	-.856	.300	-.537	-.626
4	My program contains some synchronous elements, such as live chat, Elluminate, etc.	-.317	-1.180	-.336	-1.287
5	I am required to interact with my classmates by using online discussions, peer reviews, etc.	-1.527	2.254	.539	-1.263
6	I am satisfied with the services provided by the Halle Library in support of my program	-.784	1.291	-.525	-.871
7	I am satisfied with www.-----online.edu	-.974	.687	-.390	-.964
8	The courses within the program can be	-.164	-.094	-1.073	-.203

	displayed on a smartphone				
9	I have found the supplemental materials (including online texts, links, graphics, videos, online simulations and so on) useful	-1.139	1.577	-.605	-.220
10	I trust this university completely	-.801	.333	-.424	-1.061
11	Faculty members in my program kept their promises to me	-1.106	1.157	-.390	-.885
12	I have a great confidence in faculty members	-.667	.064	-.542	-.905
13	13-I am committed to those faculty in my program	-.810	.754	-.515	-.853
14	My relationship with faculty is very important to me	-1.165	1.544	-.327	-1.005
15	I am committed to this program	-1.875	4.346	.409	-1.311
16	I am satisfied with this university	-.930	.689	-.322	-1.135
17	I did the right thing of entering this program	-1.504	2.790	-.131	-1.217
18	I talk positively about this program to others	-1.371	1.824	-.064	-1.265
19	I am satisfied with the university compared with an ideal one	-.591	-.129	-.563	-.932
20	This university has a good reputation	-.583	-.036	-.617	-.834
21	My program of study has a good reputation	-1.072	1.893	-.365	-1.025
22	I would recommend this university to my friends	-1.197	1.495	-.191	-1.210
23	I would choose to attend this university if starting if given the opportunity to start again	-.772	.307	-.366	-1.177
24	I would consider enrolling in more programs at this university	-.757	.112	-.550	-.747

4-Confirmatory Factor Analysis

Although this research survey has been applied in other fields, the construct validity of the research instrument was examined using factor anaysis. Factor analysis is a wide range of methods that can be used to examine whether the responses are influenced by underlying constructs (DeCoster, 1988). Correlations between the observed measures are extensively used in factor analysis. According to DeCoster (1988), "Measures that are highly correlated are likely influenced by the same factors, while those that are relatively uncorrelated are likely influenced by different factors" (p. 1).

Using principal component analysis is very constructive in determining how items are linked to their related factors. Principal component analysis (pca) is a statistical technique that converts the correlated variables into a set of linearly uncorrelated values (Abdi & Williams, 2010). Factor analysis is related to principal component analysis; however, there are significant differences between these two. Factor analysis assumes that the measured responses are based on the underlying factors, but PCA is based on the measured responses.

There are two types of factor analysis: Exploratory factor analysis (ECA) and confirmatory factor analysis (CFA). Confirmatory factor analysis is usually used to examine whether measures of a construct are consistent with a researcher's understanding of the nature of that construct (Anderson & Gerbing, 1998). Confirmatory factor analysis was used in this study to assess the construct validity.

Factor loadings are important criteria in assessing the factors' significance. Partial Least Square (PLS) was used to analyze the data and specifically, assessing the construct validity. The measurement model is assessed based on the items loadings. Factor loadings of less than 0.30 are considered insignificant, those greater than 0.4 are more important, and any loadings over 0.50

are considered significant; however, in confirmatory factor analysis, loadings greater than 0.7 are considered very significant (Costello & Osborne, 2005). Figure 7 shows that factor loadings for each construct and its indicators are greater than 0.5., which validates the model.

According to Segars (1997), to justify using a construct, the average variance extracted (AVE), which measures the variance captured by the indicators relative to measurement error, should be greater than 0.50. AVE can be calculated using this formula: (summation of squared factor loadings)/ (summation of squared factor loadings) (summation of error variances). Table 16 depicts the AVE scores for each construct in the proposed research model. Interestingly, the AVE scores for all constructs meet the minimum requirement confirming the construct validity as follows:

Table 16

Average Variance Extracted (AVE)

Item	Construct	Factor Loading	Average Variance Extracted (AVE)
1	Service Quality	0.940	0.607
2		0.940	
3		0.780	
4		0.576	
5		0.573	
6	Technology	0.817	0.674
7		0.864	
8		0.734	
9		0.861	
10	Trust	0.888	0.809
11		0.876	
12		0.934	
13	Commitment	0.859	0.728
14		0.837	
15		0.864	
16	Satisfaction	0.935	0.815
17		0.894	
18		0.912	
19		0.868	
20	Reputation	0.936	0.874
21		0.934	
22	Loyalty	0.946	0.794
23		0.903	
24		0.819	

Constructs' Correlation

Table 17 displays the correlation score between constructs. Program Loyalty has a significant correlation (0.752) with Commitment. Reputation of the university is correlated with commitment (0.662) and loyalty (0.779) to the program. The highest correlation, 0.870, belongs to satisfaction and loyalty. Additionally, satisfaction is correlated with commitment (0.796) and reputation (0.731). Service Quality (SQ) is correlated with satisfaction (0.654), commitment (0.564), loyalty (0.551), and reputation (0.454). However, none of these correlations are very significant. Technology is strongly correlated with satisfaction (0.7670) and commitment (0.7210). It is moderately correlated with loyalty (0.6610) and SQ (0.6283). Moreover, technology is slightly correlated with loyalty (0.5510) and reputation (0.454). Technology is significantly correlated with satisfaction (0.7670) and commitment (0.7210). It is moderately correlated with loyalty (0.6610) and SQ (0.6283). Also, it is weekly correlated with reputation (0.5148). Finally, trust is strongly correlated with satisfaction (0.8032), loyalty (0.7272) and commitment (0.7122). It is slightly correlated with SQ (0.6949), technology (0.6870), and reputation (0.6740). Table 18 displays the constructs' correlations as follows:

Table 17

Constructs' Correlation

	Commitment	Loyalty	Reputation	Satisfaction	SQ	Technology	Trust
Commitment	1.000	0.000	0.000	0.000	0.000	0.000	0.000
Loyalty	0.752	1.000	0.000	0.000	0.000	0.000	0.000
Reputation	0.662	0.779	1.000	0.000	0.000	0.000	0.000
Satisfaction	0.796	0.870	0.731	1.000	0.000	0.000	0.000
SQ	0.564	0.551	0.454	0.654	1.00	0.000	0.000
Technology	0.7210	0.6610	0.5148	0.7670	0.6283	1.0000	0.0000
Trust	0.7122	0.7272	0.6740	0.8032	0.6949	0.6870	1.0000

Structural Equation Modeling (SEM) Using the Partial Least Squares (PLS) Method

The last stage was testing the hypotheses using a Structural Equation Modeling (SEM) procedure with SmartPLS (Partial Least Squares) software. Casual relations and qualitative assumptions can be tested and estimated by using SEM. The major strength of SEM is constructing latent variables (Gefen, Straub, and Boudreau, 2000). SmartPLS has strong graphical capability, which is used for path modeling and visualizing the latent variables (LVP). This software follows the Partial Least Squares (PLS) method for latent variables analysis. Interestingly, PLS software can be used effectively when the sample size is small for any type of distribution (Nijssen and Douglas, 2008).

Chin and Newsted (1999) argued that the structural part in a PLS model consists of several elements such as the relationship between latent variables, measurement of the components and path coefficients that are used for estimating the latent variables values. SmartPLS tests the hypothesis using a Student t-test. Gefen, Straub, and Boudreau (2000) state, "SEM has become *de rigueur* in validating instruments and testing linkages between constructs" (p.6). For any score greater than +2 or -2, the hypothesis is accepted (Weaver, 2011).SmartPLS generates various reports such as a latent variable correlation table for each of the seven constructs and path coefficient table including t-test values, which clearly depict whether the hypothesis are rejected or not. The Figure 7 displays the relationships between 7 constructs (Service Quality, Technology, Trust, Commitment, Satisfaction, Reputation, and Loyalty) and the relationships between each construct (latent variable) and its indicators. Additionally, this graph contains path coefficients and factor loadings.
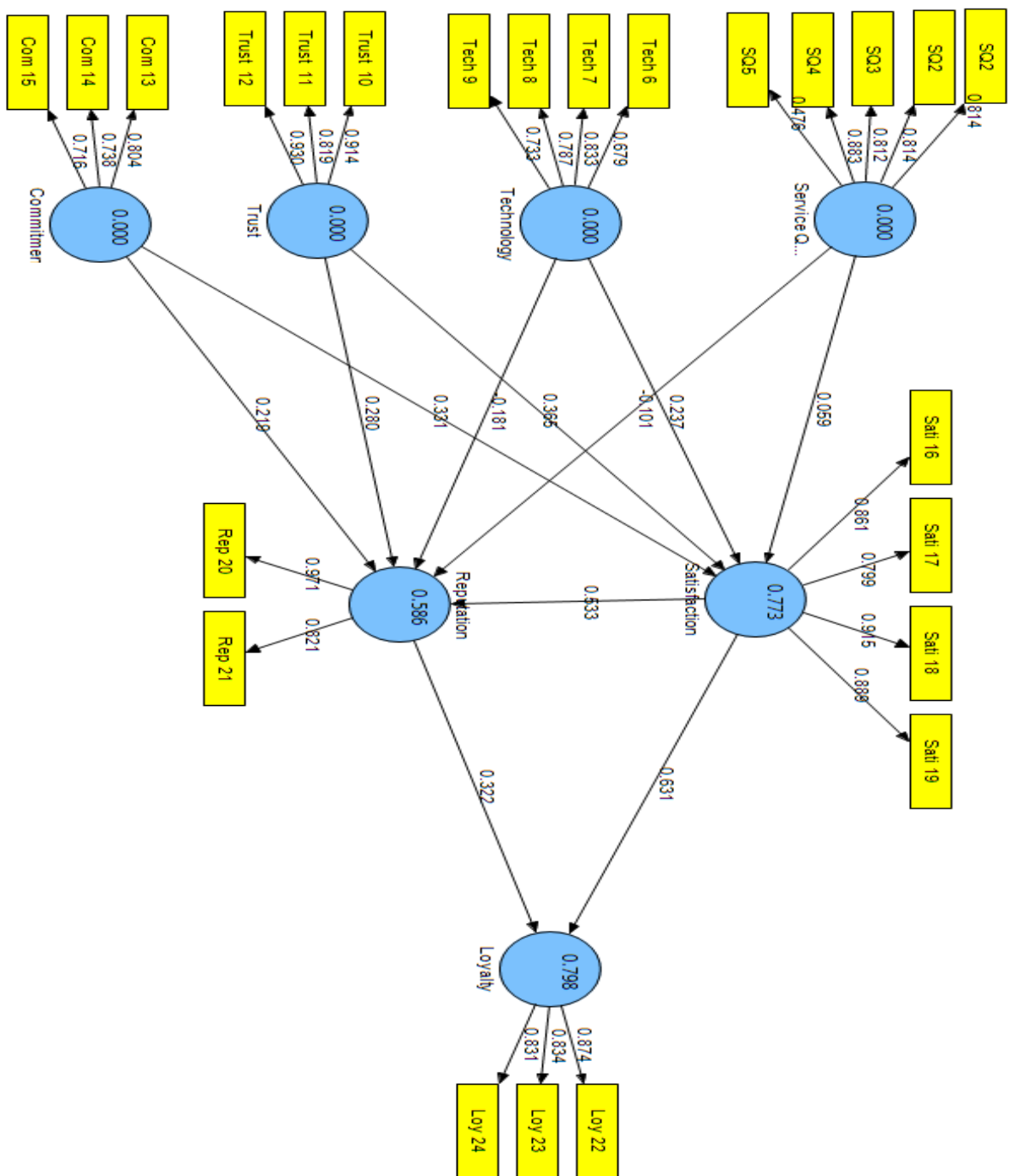
Figure 7. Structural Equation Modeling

5-Hypothesis Testing

Table 18

Hypothesis Testing

Path	Hypothesis	Path Coefficient	t-Value	Result
Service Quality →Satisfaction	$H0_1$	0.071	1.1242	Failed to reject
Service Quality →Reputation	$H0_2$	-0.101	1.0533	Failed to reject
Technology →Satisfaction	$H0_3$	0.237	3.6218	Rejected
Technology →Reputation	$H0_4$	-0.181	1.4418	Failed to reject
Trust →Satisfaction	$H0_5$	0.365	3.6976	Rejected
Trust →Reputation	$H0_6$	0.280	1.7327	Failed to reject
Commitment →Satisfaction	$H0_7$	0.331	4.0715	Rejected
Commitment →Reputation	$H0_8$	0.219	1.9531~2	Rejected
Satisfaction →Reputation	$H0_9$	0.533	3.2196	Rejected
Satisfaction →Loyalty	$H0_{10}$	0.631	7.4883	Rejected
Reputation →Loyalty	$H0_{11}$	0.322	3.3225	Rejected

Hypothesis 1

$H0_1$: There is no significant relationship between service quality and satisfaction in graduate online educational systems.

The SEM results revealed that there is no significant relationship between service quality and satisfaction in graduate online educational systems based on the perceptions of the sample. This analysis failed to reject the null hypothesis because the t-value (1.1242) did not meet the threshold for a p value of .05.

Hypothesis 2

$H0_2$: There is no significant relationship between service quality and reputation in online graduate educational systems.

The SEM results revealed that there is no significant relationship between service quality and reputation in graduate online educational systems based on the perceptions of the sample. This analysis failed to reject the null hypothesis because the t-value (1.0533) did not meet the threshold for a p value of .05.

Hypothesis 3

$H0_3$: There is no significant relationship between technology and satisfaction in online graduate educational systems.

The SEM results revealed that there is a significant relationship between technology and satisfaction in graduate online educational systems based on the perceptions of the sample. This null hypothesis was rejected because the t-value (3.6218) met the threshold for a p value of .05.

Hypothesis 4

$H0_4$: There is no significant and relationship between technology and reputation in online graduate educational systems.

The SEM results revealed that there is no significant relationship between technology and reputation in graduate online educational systems based on the perceptions of the sample. This analysis failed to reject the null hypothesis because the t-value (1.4418) did not meet the threshold for a p value of .05.

Hypothesis 5

$H0_5$: There is no significant relationship between trust and satisfaction in online graduate educational systems.

The SEM results revealed that there is a significant relationship between trust and satisfaction in graduate online educational systems based on the perceptions of the sample. This null hypothesis was rejected because the t-value (3.6976) met the threshold for a p value of .05.

Hypothesis 6

$H0_6$: There is no significant relationship between trust and reputation in online graduate educational systems.

The SEM results revealed that there is no significant relationship between trust and reputation in graduate online educational systems based on the perceptions of the sample. This analysis failed to reject the null hypothesis because the t-value (1.7327) did not meet the threshold for a p value of .05.

Hypothesis 7

$H0_7$: There is no significant relationship between commitment and satisfaction in online graduate educational systems.

The SEM results revealed that there is a significant relationship between commitment and satisfaction in graduate online educational systems based on the perceptions of the sample. This null hypothesis was rejected because the t-value (4.0715) met the threshold for a p value of .05.

Hypothesis 8

$H0_8$: There is no significant and positive relationship between commitment and reputation in online educational systems.

The SEM results revealed that there is a significant relationship between commitment and reputation in graduate online educational systems based on the perceptions of the sample. This null hypothesis was rejected because the t-value (1.9531) was so close to +2 and could be considered in the acceptance range which is any number greater than +2 and greater than -2. It also met the threshold for a p value of .05.

Hypothesis 9

$H0_9$: There is no significant relationship between satisfaction and reputation in online graduate educational systems.

The SEM results revealed that there is a significant relationship between satisfaction and reputation in graduate online educational systems based on the perceptions of the sample. This null hypothesis was rejected because the t-value (3.2196) met the threshold for a p value of .05.

Hypothesis 10

$H0_{10}$: There is no significant relationship between satisfaction and loyalty in online graduate educational systems.

The SEM results revealed that there is a significant relationship between satisfaction and loyalty in graduate online educational systems based on the perceptions of the sample. This null hypothesis was rejected because the t-value (7.4883) met the threshold for a p value of .05.

Hypothesis 11

$H0_{11}$: There is no significant relationship between reputation and loyalty in online graduate educational systems.The SEM results revealed that there is a significant relationship

between reputation and loyalty in graduate online educational systems based on the perceptions of the sample. This null hypothesis was rejected because the t-value (3.3225) met the threshold for a p value of .05.

Summary

Chapter 4 provides a statistical analysis of the collected data including reliability, normality, validity, and hypothesis test. A Cronbach's alpha coefficient was used to estimate the reliability and internal consistency. The data normality was assessed using skew and kurtosis calculations. Construct validity was tested using average variance extracted (AVE).

Structural Equation Modeling was used to assess the appropriateness of the null hypothesis. An analysis of the data revealed that hypotheses $H0_1$, $H0_2$, $H0_4$ and $H0_6$ were failed to reject, while hypotheses $H0_3$, $H0_5$, H07, $H0_8$, $H0_9$, $H0_{10,}$ and $H0_{11}$ were rejected. As was expected, satisfaction and loyalty has the most significant relationship. In addition, satisfaction has a significant relationship with trust, commitment, and technology. The findings and their implication will be discussed.

Chapter 5. Discussion, Conclusion, and Implication

This chapter includes a discussion about the findings and presents conclusions based on the research results. In addition, the implications of the findings are discussed. Finally, the study limitations and suggestions about further research are proposed.

Discussion

In this study, eleven hypotheses that applied to constructs that may relate to online educational program loyalty were tested. The findings reveal that seven hypotheses were accepted, and four were rejected. Although service quality as it relates to the program had a direct effect on student loyalty to the program in face-to-face (F2F) educational systems (Hennig-Thurau et al., 2001), the results obtained from this study suggest that program service quality is the least important factor among all constructs investigated regarding perceived student loyalty to the program. Analyzing the items related to program service quality in this study revealed that students put more weight on tangible services. Therefore, program service quality becomes more important in F2F settings because more tangible services involving various methods of interaction likely occur in F2F programs.

Additionally, there are no significant relationships between service quality and satisfaction or reputation of the program, respectively. Moreover, it contradicts two well-known previous studies by Hennig-Thurau et al. (2001) and Helgesen and Nesset (2007a). Service quality is not significantly related to satisfaction with 0.071 path coefficient, and interestingly it affects reputation negatively with -0.101 path coefficient, although not significantly. Surprisingly, the technology construct had a significant relationship with satisfaction. However, it did not have a significant relationship with the university reputation, and this supports the findings

obtained by Helgesen and Nesset (2007b). Technology affects satisfaction and reputation with 0.237 and -0.181 path coefficients, indicating that technology and reputation appear to be more independent with a slight reverse relationship.

Trust and satisfaction are highly correlated based on the conclusions reported by Morgan and Hunt (1994). This was validated by this study. Trust and reputation do not have a significant relationship in this study, which contradicts the results found in two previous studies by Bennett and Gabriel (2001) and Jøsang et al. (2007). According to Jøsang et al. (2007), there is a relationship between trust and reputation in two ways: (1) Someone trusts another because of a good reputation and (2) Someone trusts another regardless of the bad reputation.

Commitment and satisfaction have a significant relationship with 0.331 direct effects. This given path coefficient is greater than what was found by Helgesen and Nesset (2007b). The relationship between commitment and satisfaction was stronger in online educational systems. But commitment and reputation are weakly related these online programs, which affirms the results obtained by Helgesen and Nesset (2007b) when studying F2F programs. The authors argued that, although there is not a significant relationship between commitment and reputation, educational institutions should focus on this factor, which helps attract faculty and researchers.

An analysis of the results of this study demonstrates that satisfaction and reputation are significantly correlated. Moreover, both have significant relationships with loyalty; however, satisfaction and loyalty have the highest correlation with the highest t-value, indicating that program satisfaction has the greatest impact in terms of loyalty in online master's programs. The obtained results support the research by Helgesen and Nesset (2007a) in F2F settings as they found that "student satisfaction has the highest degree of association with student loyalty" (p. 37).

Conclusion

In this study, four research questions were addressed. These questions and the obtained results are discussed as follows:

Research Question 1

"What is the relationship between student satisfaction and student loyalty in online educational systems?"

Findings from the test of Hypothesis 10 confirm the results given by Hennig-Thurau et al. (2001), Akarapanich (2006), and Helgesen and Nesset (2007a). The results from this study reveal that the strongest determinant of student loyalty is student satisfaction with the program.

Research Question 2

"What is the relationship between the university's reputation and student loyalty in online educational systems?"

Results from the testing of Hypothesis 11 supports the findings of Hennig-Thurau et al. (2001) and Helgesen and Nesset (2007b). As was expected, the results show that program reputation affects program loyalty. The findings demonstrate that the relationship between program reputation and program loyalty in graduate online educational systems is more significant than traditional ones.

Research Question 3

"What is the relationship between student satisfaction and the university's reputation in online educational systems?"

Findings from the test of Hypothesis 9 confirm the perception that student satisfaction with the program depends to a large degree on the university's reputation. These results support those found in the research of Helgesen and Nesset (2007b).

Research Question 4

"Which of the antecedents have the highest degree of association with student loyalty?"

As was expected and based on several studies, program satisfaction plays a leading role in program loyalty, and the higher the level of program satisfaction, the greater the program loyalty (e.g., Zeithaml, Berry, and Parasuraman, 1996; Bloemer, Ruyter, and Peeters, 1998). These results support previous research by Garbarino & Johnson (1999), Hening-Thurau et al. (2001; 2002), Akarapanich (2006), and Helgesen and Nesset (2007a), which confirms that student satisfaction with the program is the most important determinant of student loyalty in online master's programs.

Implications

Most of the previous studies have focused on assessing student loyalty to the program in traditional educational systems; however, this research targets student loyalty to the program in online settings. This difference in settings appears to have yielded slightly different results.

The socio-demographic findings revealed that most of the respondents (72.4%) did not get their bachelor's from this university. Therefore, graduates from other universities appear to be a rich source of students for online programs. In addition, the results demonstrate that there are some niche programs that can attract people from outside this university.

Program service quality was found as one of the key factors in determining the student loyalty to the program in face to face educational systems (Hening-Thurau et al., 2001; 2002; Helgesen and Nesset, 2007a; 2007b); however, it was found as an insignificant element in assessing the student loyalty to the program in online courses. Surprisingly, the construct of

technology was found as an important factor. Specifically, the role of using synchronous elements in the online educational systems, such as Elluminate, was found to be significant.

The research findings also support relationship marketing theory (Morgan & Hunt, 1994) and the roles of commitment and trust. However, this research found the role of commitment more important than that of trust. Conversely, Akarapanich (2006) put more weight on trust in his research. This study recognized reputation of the university as a vital mediator for building a mutually beneficial relationship between students and universities. However, student satisfaction with the program was found as a key predictor for enhancing student loyalty to the program. Program satisfaction promotes program loyalty more than other constructs. Thus, this construct warrants the most attention when institutions desire to increase the student loyalty to the program in online master's programs. Meanwhile, managers of higher educational institutions would be well served to focus on student satisfaction with the program and technology when designing or modifying online master's programs.

Limitation and Future Studies

There are several limitations in this research. The first limitation involves the nature of the sample. The sample included only online master's students within this regional Midwestern university. Therefore, there is a risk that the results do not represent other educational institutions.

The second limitation was the sample size. A larger sample size and selecting sample subjects from other institutions would strengthen external validity. Finally, the researcher was faced with unexpected difficulties during the data collection period. Although all required approvals were obtained by the researcher and the survey link was initially administered by the

university, the survey was taken down suddenly and the researcher was required to contact the all program coordinators and faculty members, obtain permission to survey their students, and then request that the coordinator in some cases and faculty in others distribute the survey to their students. This required approach allowed students who were enrolled in more than one program course to receive more than one survey solicitation, and the annoyance of receiving more than one solicitation may have impacted the response rate or altered the perceptions of the survey. Additionally, some students who were active in the program but not enrolled in any program courses during Winter of 2012 were not represented in the sample. The impact of this required data collection approach is unclear.

Based on the results of this study, the following recommendations for future research are provided:

1. Similar studies can be conducted using a much larger sample by targeting several online educational institutions.

2. Future studies should not be limited to online master's students and may include other categories such as undergraduate and PhD programs. Online certifications should also be studied in the future.

3. Since this research was conducted at an American university, non-American universities should be studied in future efforts.

4. Since confirmatory factor analysis was used in this research to analyze the data, using exploratory factor analysis in analyzing the data may result in a new model that is more appropriate for student loyalty assessment in online educational systems.

5. Finally, the researcher used SmartPLS to analyze the items in Structural Equation Model (SEM); however, LISREL and SmartPLS could be used in future research and the results could be compared.

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Appendices

Appendix A

Student Informed Consent Agreement

<u>Purpose and Duration of This Research:</u>

This research will be conducted for one semester (Winter 2012). This study contributes to prior research by investigating whether trust, commitment, satisfaction and new elements like reputation, service quality and facilities influence the loyalty intentions of master's online students.

<u>Subject Participation and Duration:</u>

This is a one-time survey being conducted during Winter semester 2012. Your participation is completely voluntary and refusal to participate will not influence your course grade or future interactions with your professor. There are no anticipated risks in taking this survey. If, at any time, you wish to discontinue your participation in the study, you may do so at any time.

<u>Benefits of this Research:</u>

The outcomes of this study will help educational institutions to improve their marketing strategies to ensure that online students remain with their desired online programs. The mutual benefits to service providers and customers will ensure the future success of online programs and specifically master's programs.

<u>Dissemination of Research Results:</u>

The results of this study will be presented within the University (as PhD dissertation) and at regional and national conferences. This work will also be submitted for publication in academic journals.

The study is conducted through Surveymonkey and your responses are anonymous. At no time will your name be associated with your responses to the questionnaires Surveymonkey will not capture the IP addresses for further confidentiality. All data will be reported as aggregated results. The results of this study will be stored in a password protected secured computer.

<u>Student Work Release</u>

I have read or had read to me all of the above information about this research study, including the research procedures, duration of the study, and the likelihood of any benefit to me. The content and meaning of this information has been explained and I understand. All my questions, at this time, have been answered. I hereby consent and do voluntarily offer to follow the study requirements and take part in the study by checking the button electronically showing my consent.

If you have any questions or concerns regarding this consent form, please contact:

Ali Dehghan
PhD Student at College of Technology, Eastern Michigan University
adehghan@emich.edu   734-277-4914
This research protocol and informed consent document has been reviewed and approved by the Eastern Michigan University Human Subjects Review Committee for use for Winter 2012. If you have any questions about the approval process, please contact Dr.Deb de Lski-Smith (734-487-0042, Interim Dean of the Graduate School and Administrative Co-chair of UHSCR, human.subjects@emich.edu).

Appendix B

Data Gathering Instrument

Student Loyalty Assessment

This survey is designed as a PhD research tool and the results will be used by Ali Dehghan, a PhD candidate in Technology, to complete his dissertation. As students enrolled in online master's programs, your help is greatly appreciated.

Please take a few minutes of your time to complete this instrument designed to determine how educational institutions might better serve online master's students. The results may help educational institutions better serve student enrolled in graduate online programs. Your response to this survey is extremely important and again your feedback is greatly appreciated!

Student Informed Consent Agreement

Purpose and Duration of This Research:
This research will be conducted for one semester (Winter 2012). This study contributes to prior research by investigating whether trust, commitment, satisfaction and new elements like reputation, service quality and facilities influence the loyalty intentions of Master's online students.

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This is a one-time survey being conducted during Winter semester 2012. Your participation is completely voluntary and refusal to participate will not influence your course grade or future interactions with your professor. There are no anticipated risks in taking this survey. If you wish to discontinue your participation in the study, you may do so at any time.

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Student Work Release
I have read or had read to me all of the above information about this research study, including the research procedures, duration of the study, and the likelihood of any benefit to me. The content and meaning of this information has been explained and I understand. All my questions, at this time, have been answered. I hereby consent and do voluntarily offer to follow the study requirements and take part in the study by checking the button electronically showing my consent.

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Student Loyalty Assessment

Co-chair of UHSCR, human.subjects@emich.edu).

1. I have read or had read to me all of the information about this research study, including the research procedures, possible risks, side effects, and the likelihood of any benefit to me. The content and meaning of this information has been explained and I understand. All my questions, at this time, have been answered. I hereby consent and do voluntarily offer to follow the study requirements and take part in the study.

◯ Yes

2. How many credit hours have you taken this far in your Master's program at this university?

Number of semester hours. _____

3. Gender

◯ Male

◯ Female

4. Marital Status

◯ Single

◯ Married

5. Working Status

◯ Employed

◯ Unemployed

6. Did you get your Bachelor's from this university?

◯ Yes

◯ No

Student Loyalty Assessment

Research Dimensions

Please provide responses to each of the items beneath each dimension regarding your experiences with your online master's program at this university.

7. Service Quality

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Within my program, student exercises are relevant to topics.	○	○	○	○	○
2. Instructors are accessible.	○	○	○	○	○
3. Instructors provide students with timely and appropriate feedback.	○	○	○	○	○
4. My program contains some synchronous elements, such as live chat, Elluminate, etc.	○	○	○	○	○
5. I am required to interact with my classmates by using online discussions, peer reviews and etc.	○	○	○	○	○

8. Technology

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
6. I am satisfied with the services provided by the Halle Library in support of my program.	○	○	○	○	○
7. I am satisfied with www.------online.edu .	○	○	○	○	○
8. The courses within the program can be displayed on a smartphone.	○	○	○	○	○
9. I have found the supplemental materials (including online texts, links, graphics, videos, online simulations and so on) useful.	○	○	○	○	○

9. Trust

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10. I trust this university completely.	○	○	○	○	○
11. Faculty members in my program have kept their promises to me.	○	○	○	○	○
12. I have great confidence in the faculty members in the program.	○	○	○	○	○

10. Committment

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
13. I am committed to those faculty in my program.	○	○	○	○	○
14. My relationship with faculty is very important to me.	○	○	○	○	○
15. I am committed to this program.	○	○	○	○	○

Student Loyalty Assessment

11. Satisfaction

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
16. I am satisfied with this university	○	○	○	○	○
17. I did the right thing by entering this program	○	○	○	○	○
18. I talk positively about this program to others	○	○	○	○	○
19. I am satisfied with the university compared with an ideal one	○	○	○	○	○
20. This university has a good reputation.	○	○	○	○	○
21. My program of study has a good reputation.	○	○	○	○	○

12. Loyalty

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
22. I would recommend this university to my friends	○	○	○	○	○
23. I would choose to attend this university if given the opportunity to start again.	○	○	○	○	○
24. I would consider enrolling in more programs at this university	○	○	○	○	○

Appendix C

Cover Email

Dear Online master's Students,

A study of online master's programs at the university is being conducted by Mr. Ali Dehghan, a PhD candidate in Technology, in an effort to identify factors that affect student loyalty and may be used to ultimately improve programs. Please consider helping Mr. Dehghan with his research by voluntarily participating in this short (approximately 5 minutes) survey. You and your fellow classmates may ultimately benefit from the results of this research.

Please click on the following link to access the survey:

https://www.surveymonkey.com/s/9CBHDYP

The Human Subjects approval and other guidelines can be found in the survey. Please read this section before completing the survey. Your assistance is truly appreciated. Please contact Mr. Dehghan (adehghan@emich.edu) if you have any questions.

With Many Thanks,

Ali Dehghan& John Dugger

Appendix D

Human Subject Approval

EASTERN MICHIGAN UNIVERSITY

Education First

UHSRC

February 22, 2012

INITIAL APPROVAL

To: Ali Dehghan
School of Engineering Technology

Re: **UHSRC** #120120   Category: EXEMPT #2
Approval Date: **February 22, 2012**

Title: Student Loyalty Assessment with Online Master's Programs

The Eastern Michigan University Human Subjects Review Committee (UHSRC) has completed their review of your project. I am pleased to advise you that **your research has been deemed as exempt** in accordance with federal regulations.

The UHSRC has found that your research project meets the criteria for exempt status and the criteria for the protection of human subjects in exempt research. **Under our exempt policy the Principal Investigator assumes the responsibility for the protection of human subjects** in this project as outlined in the assurance letter and exempt educational material.

Renewals: Exempt protocols do not need to be renewed. If the project is completed, please submit the **Human Subjects Study Completion Form** (found on the UHSRC website).

Revisions: Exempt protocols do not require revisions. However, if changes are made to a protocol that may no longer meet the exempt criteria, a **Human Subjects Minor Modification Form** or new **Human Subjects Approval Request Form** (if major changes) will be required (see UHSRC website for forms).

Problems: If issues should arise during the conduct of the research, such as unanticipated problems, adverse events, or any problem that may increase the risk to human subjects and change the category of review, notify the UHSRC office within 24 hours. Any complaints from participants regarding the risk and benefits of the project must be reported to the UHSRC.

Follow-up: If your exempt project is not completed and closed after three years, the UHSRC office will contact you regarding the status of the project and to verify that no changes have occurred that may affect exempt status.

Please use the UHSRC number listed above on any forms submitted that relate to this project, or on any correspondence with the UHSRC office.

Good luck in your research. If we can be of further assistance, please contact us at 734-487-0042 or via e-mail at human.subjects@emich.edu. Thank you for your cooperation.

Sincerely,

Deb de Laski-Smith, Ph.D.
Interim Dean
Graduate School
Administrative Co-Chair
University Human Subjects Review Committee

University Human Subjects Review Committee · Eastern Michigan University · 200 Boone Hall
Ypsilanti, Michigan 48197
Phone: 734.487.0042 Fax: 734.487.0050
E-mail: human.subjects@emich.edu
www.ord.emich.edu (see Federal Compliance)

The EMU UHSRC complies with the Title 45 Code of Federal Regulations part 46 (45 CFR 46) under FWA00000050.