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The Mediating Role of Relationship Quality in the Linkage between Perceived Quality and Customer Loyalty

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Abstract:

This study is the first attempt to approach the quality of university-business relationships based on the theory of relationship marketing and test the mediating role of this concept in the impact of perceived service quality (PSQ) on the loyalty of corporate customers. A combination of online and in-depth interview instruments was adopted to gather the data from 486 enterprises. Estimation of the structural model and hypothesis testing were performed via structural equation modeling. The findings of our empirical research in the context of researching the university-business relationship in Ho Chi Minh City, Vietnam have determined that PSQ not only has a direct effect on the loyalty of corporate customers but also has a much stronger effect on customer loyalty when impacting through relationship quality (RQ) mediation. Current results imply that better relationship quality is likely to induce more loyal customers, given the same PSQ.

Keywords: Customer loyalty, perceived service quality, relationship quality, service quality

1. Introduction

There have been some studies referring to the relation between PSQ and RQ. Liljander & Strandvik (1995) explained that PSQ is one of the main components in their relationship quality model. Similarly, in the context of studying the business-to-business (B2B) relationship in courier delivery service, Rauyrueen et al. (2007) also argued that the quality of service is a component of RQ. However, many B2B relationship quality studies have identified RQ as a higher-order structure measured by trust, commitment, and satisfaction constructs; without service quality (Smith, 1998; Walter et al., 2003; Ivens, 2004; Ivens & Pardo, 2007; Ulaga & Eggert, 2006; Chu & Wang, 2012; Susanta et al., 2013; Purnasaria & Yuliandoa, 2015; Gremler et al., 2020). Although the above views are not consistent with each other, they have suggested a close relation between PSQ and the quality of B2B relationship in the service sector.

In addition, many researchers have found the loyalty of customers as a result of a quality relationship (Palaima & Auruskeviciene, 2007; Li Ling et al., 2012; Gremler et al., 2020). Thus, it is possible that PSQ not only has an influence on the quality of B2B relationship but also has an effect on the loyalty of customers. The purpose of this research is to approach the quality of the university-business relationship based on the theory of relationship marketing and compare the direct effect of the service quality of the university as perceived by customers (PSQ) on the loyalty of corporate customers (LOY) with the indirect effect of PSQ on LOY when impacting through this relationship quality mediation.

2. Literature Review

2.1. The Relationship between Universities and Businesses

In an era where science and technology are becoming increasingly important for development, both the research and development and higher education sectors can also be analyzed by the market (Dasgupta & David, 1994), many authors have supported the idea that universities and colleges are also service providers (Athiyaman, 1997; Hennig-Thurau et al., 2001; Segarra-Moliner et al., 2013). According to the service marketing approach, there have been several kinds of research on the higher education institutions and students' relationship (Holdford & White, 1997; Athiyaman, 1997; McCollough & Gremler, 1999) or the service exchange relationships between universities and cultural institutions

(Segarra-Moliner et al., 2013). The services universities provide to businesses are those such as training courses, internships, research projects, licenses, patents, product and service development, innovation, etc. (Dan, 2013). However, there have been no studies that address the quality of university-business relationships according to the marketing approach. In this article, the author wants to expand on previous efforts by approaching the service relationship between universities and business customers based on the theory of relationship marketing.

2.2. Customer Loyalty (LOY)

Customer loyalty is recognized by many researchers as a very important concept in marketing theory. Indeed, successfully creating and maintaining the loyalty of customers is a key issue for suppliers (Ramaseshan et al., 2013). In a B2B relationship, service providers always try to build a good relationship with their customers to make more loyal customers and thereby increase profits (Athanasopoulou, 2013). There are many different definitions of customer loyalty, for example, Jacoby & Chestnut (1978) have mentioned more than 50 ways to interpret this concept in their research. However, in the context of studying the university-business relationship, the author supports the definition of Gremler & Brown (1996) and argues that the loyalty of a corporate customer is reflected in the repeated behavior of using the service from a given university, has good faith showing a positive attitude towards that university, and intends to use the service only of that university. In our research model, customer loyalty is a dependent variable, the author will test the effect of PSQ and RQ on this dependent variable.

2.3. Relationship Quality (RQ)

Relationship quality (RQ) is one of the foremost important concepts in relationship marketing theory (Hennig-Thurau et al., 2004) and has become a concept used to evaluate the success of a business relationship (Palmatier et al., 2006). In other words, a good quality business relationship is synonymous with a successful business relationship and vice versa (Athanasopoulou, 2013). Crosby et al. (1990) argue that RQ is an overall assessment of the strength of a relationship, this view has been agreed upon by plenty of researchers (Bejou et al., 1996; Naude & Buttle, 2000; Wong & Sohal, 2006; Gremler et al., 2020). Besides, in the context of B2B relationship in the service sector, Holmlund (2001, p.15) defined that '*perceived relationship quality is the joint cognitive evaluation of business interactions by significant individuals in both firms in the dyad. The evaluation encompasses a comparison with potential alternative interactions of a similar kind which represent comparison standards.*

Although no consensus has been reached on the definition, many researchers agree that RQ is a higher-order structure including some components that support, reinforce, and complement each other (Dwyer et al, 1987; Smith, 1998; Skarmeas et al., 2008). In the circumstances of research on B2B relationships, Smith (1998) suggested that RQ is a higher-order structure consisting of components that represent the power of the relationship and the degree of fulfillment of the relationship's requirements, these components include satisfaction, trust, and commitment. Many recent B2B relationship studies have also determined that RQ includes the three components mentioned by Smith (1998) (Ulaga & Eggert, 2006; Chu & Wang, 2012; Gremler et al., 2020). According to Aurier & N'Goala (2010), satisfaction, trust, and commitment factors play different roles in maintaining and developing relationships. However, to gain commitment, it is necessary to first build trust, and both aspects of trust and commitment are driven by satisfaction (Segarra-Moliner, et al., 2013). The author's qualitative research results have supported the point of view of Smith (1998), businesses that have a service relationship with universities all confirm that the main factors of the quality of university-business relationship are satisfaction, trust, and commitment.

Related researches have shown that depending on the research contexts or approach, several outcomes of the quality relationship have been mentioned, in which the results are confirmed by many researchers as the loyalty of customers (Rauyruen et al., 2007; Gil-Saura & Ruiz-Molina, 2009; Vesel & Zabka, 2010; Naoui & Zaiem, 2010; Aurier & Lanauze, 2011; Rahmani-Nejad et al., 2014). Besides, many researchers have also determined that the quality-of-service relationship affects the loyalty of customers (Palaima & Auruskeviciene, 2007; Bojei & Alwie, 2010; Liu et al., 2011; Li Ling & dtg, 2012; Gremler et al., 2020). Based on the above arguments and analysis, the author expects the quality of university-business relationships to have a positive direct effect on the loyalty of corporate customers and propound a hypothesis:

- *Hypothesis 1: Relationship quality has a positive direct impact on customer loyalty.*

2.4. Perceived Service Quality (PSQ)

Some scholars have mentioned service quality and perceived quality in different ways. According to Parasuraman et al. (1988), the quality of service is the perception of customers from the results of comparing their expectations with the experience they received. Besides, perceived quality is defined by Zeithaml (1988) as the evaluation of a customer of a service or product. Meanwhile, Bitner & Hubbert (1994) argue that perceived quality is a customer's general perception of how superior or inferior a product or service is. However, the structure of service quality conceptualized in service marketing literature focuses on perceived service quality. In this study, the author supports the definition of perceived service quality by Grönroos (1982) and argues that the service quality of university as perceived by business customers is the result of the assessment according to the perception of businesses when comparing their expectations of the service with the actual service they experience.

Although there is no agreement on the content of components of PSQ, some scholars agree that the PSQ is a multifactorial construct (Parasuraman et al., 1988; Grönroos, 1982; 1990). According to the researches of Grönroos (1990; 1993; 2000), PSQ includes three components: technical quality of service, functional quality of service, and the service provider's image according to customer's perception. Technical quality answers the question of what services are provided? It refers to five related components which are: the technical capabilities of employees, the knowledge of

employees, solutions in technical, systems are computerized and the quality of machines. Functional quality represents the entire service delivery process and answers the question how are services provided? It refers to seven related components which are 'behaviour, attitude, accessibility, appearance, customer contact, internal relationship, service-mindedness' (Akhtar, 2011, p.147). Another important element of PSQ is the image of the service provider, a service provider can gain customer support in many respects, and the customer will implicitly assume that its quality of service is better than other competitors in the same business sector if it can establish a good image in its customer's mind (Lehtinen & Lehtinen, 1982; Cabral, 2000; Grönroos, 2001). In this research, the university's service quality as perceived by corporate customers also includes the factors of technical quality, functional quality, and the image of the university as perceived by customers.

There have been some researches mentioning the influence of PSQ on customer satisfaction. Shemwell et al. (1998) argue that PSQ is built through encounters, not just in a single contact; if regularly experience excellent service in service encounters, customers will be satisfied and continue the relationship. Besides, many studies, both theoretical and experimental, have determined that service quality directly affects customer satisfaction (Rust & Zahorik, 1993; Athiyaman, 1997; Wetzels et al., 1998; Shemwell et al., 1998; Sharma & Patterson, 1999; Gray & Boshoff, 2004; Kang & James, 2004; Wong & Shohal, 2006; Arambewela & Hall, 2006; Cristobal et al., 2007; Rahman, 2012). Service quality not only affects customer satisfaction, many empirical studies have determined that it also affects customer trust (Shemwell et al., 1998; Sharma & Patterson, 1999; Wong & Shohal, 2006; Caceres & Paparoidamis, 2007; Ou et al., 2011). Regarding the impact of PSQ on commitment, Hennig-Thurau & Klee (1997) determined that overall quality directly affects commitment, because the overall quality achieved at a high level can receive a commitment to use from the customer. From the results of the previous research and the above arguments, the author expects the quality of university's service as perceived by corporate customers to have a positive direct effect on the quality of the university-business relationship and proposes the following hypothesis:

- *Hypothesis 2: Perceived service quality has a positive direct effect on relationship quality.*

There have been some studies mentioning the influence of PSQ on customer loyalty. Rust & Zahorik (1993) systematized related concepts and proposed a sequence of effects from the quality of service to profitability through the mediation of customer satisfaction and loyalty. Besides, Caceres & Paparoidamis (2007) suggest that PSQ can be seen as a premise of satisfaction, supporting customer's trust, commitment, and loyalty. According to these authors, the quality of service only indirectly affects loyalty. However, there have been some empirical studies that have determined that PSQ directly affects customer loyalty. Studying the relationship between universities and their students, Hennig-Thurau et al. (2001, p.335, 337) determined that 'the educational institution's service quality, as perceived by the students, has a significant positive impact on student loyalty'. Similarly, the research results on the B2B service relationship of Palaima & Auruskeviciene (2007) also determined that the quality of service directly affects customer loyalty. From the research results of Hennig-Thurau et al. (2001) and Palaima & Auruskeviciene (2007) and the above arguments, the author expects that the quality of university service, as perceived by the corporate customers, has a positive direct effect on corporate loyalty and recommend hypothesis

- *Hypothesis 3: Perceived service quality has a positive direct influence on customer loyalty.*

2.5. Conceptual Model

Figure 1 depicts a conceptual model explaining the role of RQ and PSQ in LOY.

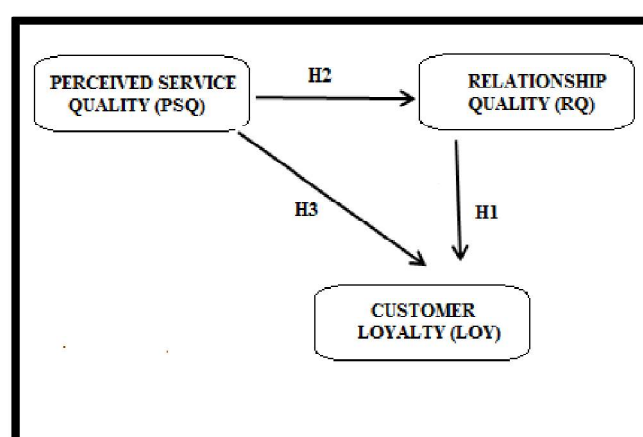


Figure 1: Conceptual Model

3. Research Methodology

3.1. Selection of Respondents

The sample of the study is businesses located in HCMC, Vietnam that have relationships with at least 1 of 60 universities, institutes, and branches in HCMC. The sample was selected by the convenience sampling method with two control attributes: (1) having a service relationship with the university and (2) the geographical location where the business operates. The study used an email survey combined with in-depth interviews. Leaders of enterprises or officials of enterprises managing connection activities with selected universities were chosen for an interview.

3.2. Research Process

All questions in the email survey are made mandatory. In case the question is not answered, the respondent is reminded to answer all questions. Data cannot be sent if all questions have not been answered. This helps to eliminate estimation mistakes in the model of the structural equation due to values being missing (Kline, 2005). A total of 114 responses were gathered by in-depth interviews that were used for the pilot study. There are 486 valid answers were gathered via email with full values used for formal research.

The structural equation modeling (SEM) method requires that the number of samples collected is large enough to ensure the necessary reliability estimates of the model (Raykov & Widaman, 1995). To guarantee the accuracy of research results when using SEM, it is necessary to collect 10 times as many answers as the number of observed variables (corresponding ratio 10:1); in cases where the ratio is less than 5:1, the accuracy of the results can be questioned doubt (Kline, 2005). In this study, the author combined 2 software programs SPSS 20 and AMOS 24 in data analysis. SPSS serves for data entry, data cleaning, statistical tables, reliability testing, and exploratory factor analysis. AMOS serves for CFA analysis and SEM model validation.

3.3. Sample Characteristics

Among the 486 enterprises that responded, 199 enterprises have a relationship with the university of 5 years or more (41%) and 287 enterprises have a relationship of fewer than 5 years (59%); there are 348 enterprises with private capital (71%) and 138 enterprises with state capital (28%); there are 224 enterprises with revenue below 20 billion VND (46%), 130 enterprises with revenue from 20 to 100 billion VND (27%) and 132 enterprises with revenue over 100 billion VND (27%).

3.4. Measurement

All constructs used established and validated scales with minor modifications in qualitative research to reflect the research context. Although self-assessment has been criticized for being less accurate compared to objective criterion measures, it is valuable when anonymity is guaranteed. All items were measured by a 5-point Likert scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *somewhat disagree or agree*, 4 = *agree*, 5 = *strongly agree*) All the measures were initially prepared in English and then translated into Vietnamese by an academic fluent in both languages. This procedure was performed because all interviewees are not well-understood English. These scales are presented in an appendix.

4. Research Results

Through reliability testing with Cronbach's alpha, 2 items SAT4 and TRU4 were eliminated. The results of the EFA analysis of independent and dependent variables showed that all indicators met the requirements, in which, PSQ (Perceived Service Quality) has coefficient KMO = 0.890 > 0.5; KMO and Bartlett's tests in factor analysis have the results sig=0.00, at eigenvalue = 1,787; the extracted variance is 64.106% (>50%), extracted 3 components, proving that PSQ is a multi-directional scale. Through analysis of the dependent variable LOY (Customer Loyalty), we see that the coefficient KMO = 0.875, the KMO and Bartlett's test in the factor analysis have the result sig=0.00, extracted 1 component at eigenvalue = 3,300, the extracted variance is 66.005% (>50%). However, the EFA analysis of the intermediate variable RQ (Relationship Quality) has the coefficient KMO = 0.873, the KMO test and Bartlett's in the factor analysis has the result sig = 0.000, which can only extract 2 components at eigenvalue = 1.738; the extracted variance is 60.924% (>50%), of which, the items belonging to the SAT and TRU are grouped into 1 factor, proving that RQ is a multidimensional scale with 2 components.

The outcomes of CFA (Confirmatory Factor Analysis) show that our model responds well to market data. The correlation between the factors shown in Table 1 presents that reliability (CR), extracted variance (AVE) of all components are >0.5, AVE indexes are all larger than the corresponding MSV (AVE > MSV). However, the research results show that the two components SAT (satisfaction) and TRU (trust) of RQ have high intrinsic consistency and merge into a component with 7 observed variables, the author named this new component satisfaction-trust (SATTRU). The correlation between the factors in the model shown in Table 1 shows that we can conclude that the pairs of concepts are different. Convergence test results show that all weights of variables are > 0.5 and statistically significant at 99.9%. The correlation analysis' outcomes show that the variables' correlation is < 1 and the difference is statistically significant.

As discussed above, the scales in the theoretical model of this study have been evaluated and the results are appropriate. This section will use SEM to verify the formal theoretical model and the research hypotheses mentioned above. The SEM results in Figure 2 present that the indexes of the model meet the requirements. Chi-squared= 773.843 with 455 degrees of freedom with p= 0.000, relative to degrees of freedom CMIN/df= 1.701 (< 2); RMSEA= 0.038 (< 0.05); GFI= 0.909 (> 0.9); CFI= 0.960 (> 0.9); and TLI= 0.956 (> 0.9). Therefore, it can be determined that the model fits the market data.

All the hypothetical correlations in the research model are proved in Table 2. The estimated outcomes of the main parameters presented in this table show that these relationships are all statistically significant because all have p < 0.05. With this result, the author determines that the scales measuring the concepts in the model reach the theoretical relevance. Table 2 shows that PSQ not only has a direct impact on LOY (0.415) but also has a stronger direct effect on RQ (0.576). However, the strongest impact in this model is the direct effect of RQ on LOY (0.984). These results supported the hypotheses in the research model. Except that through the analysis of EFA and CFA, there is a difference compared with the theory: According to theory and qualitative research results, RQ includes three distinct components: satisfaction, trust, and commitment. However, the results of this quantitative study show that satisfaction and trust have high intrinsic

consistency and converge into one component. The SEM results indicated that all three proposed hypotheses were supported at the 5% significance level.

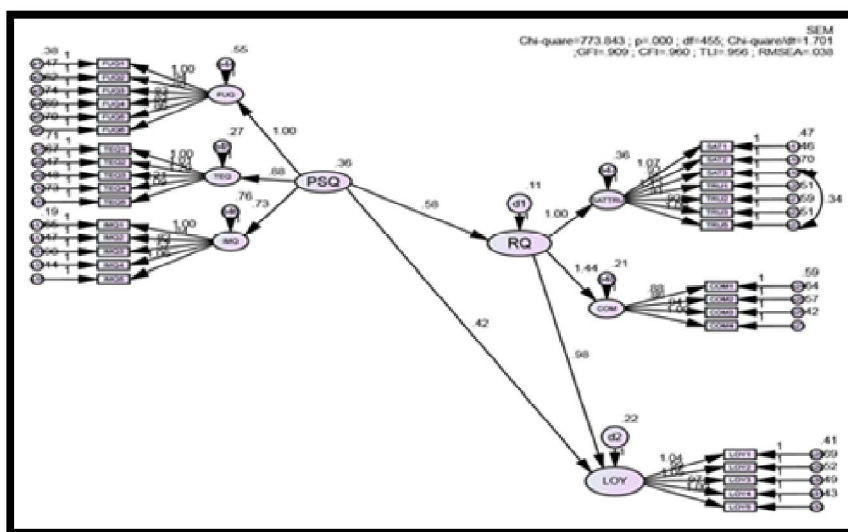


Figure 2: SEM

	CR	AVE	MSV	MaxR(H)	SATTRU	FUQ	IMQ	TEQ	COM	LOY
SATTRU	0.881	0.516	0.265	0.887	0.718					
FUQ	0.878	0.546	0.252	0.888	0.196***	0.739				
IMQ	0.883	0.612	0.165	0.939	0.269***	0.206***	0.782			
TEQ	0.846	0.525	0.252	0.855	0.299***	0.502***	0.290***	0.725		
COM	0.806	0.510	0.424	0.813	0.514***	0.346***	0.407***	0.422***	0.714	
LOY	0.872	0.578	0.424	0.875	0.504***	0.467***	0.352***	0.486***	0.651***	0.760

Table 1: Model Validity Measures

			Estimate	S.E.	C.R.	P	Label
RQ	<---	PSQ	.576	.086	6.701	***	
LOY	<---	PSQ	.415	.152	2.730	.006	
LOY	<---	RQ	.984	.206	4.766	***	

Table 2: SEM Testing Results

5. Conclusion, Recommendation, and Limitations

This study is the first attempt to approach the quality of university-business relationships based on the theory of relationship marketing. The results of our qualitative research have shown that the quality of the university-business relationship (RQ) is a higher-order structure consisting of three components: satisfaction, trust, and commitment. However, the results of quantitative research have determined that satisfaction and trust have a high intrinsic unity and converge into one component named satisfaction-trust (SATTRU). This shows that there is a difference in the perception of corporate customers about relationship quality in a new service sector in a transforming economy. However, to confirm the universality of this result, it needs to be tested in other service industries in Vietnam.

In this research, the service quality of a university as perceived by business customers (PSQ) is the result of the assessment according to the perception of businesses when comparing their expectations of the service with the actual service they experience. Research results have confirmed that this PSQ is a multifactorial construct consisting of three main factors. The first element refers to the services provided by the university to businesses (functional quality), the second component refers to how the university provides these services (technical quality), and the last factor is the image of the university is perceived by enterprises. The scale measuring this concept has been tested and reached theoretical relevance.

There are very few researches that address the effect of PSQ on the loyalty of corporate customers (LOY), but no studies have examined and compared the direct effect of PSQ on LOY with the indirect effect of PSQ to LOY via the mediating role of RQ. The outcomes in Table 3 show that PSQ has a significant direct effect on LOY (0.415). However, it is worth noting that PSQ has a much stronger effect on LOY when effecting via the mediation of RQ (total impact = 0.982). These results imply that for the same perceived service quality, service providers that develop better relationship quality will acquire more loyal corporate customers.

Dependent Variable	Impact	PSQ	RQ
LOY	Direct	.415	.984
	Indirect	.568	
	Total	.982	.984

Table 3: Direct, Indirect, and Total Impacts

Like most studies, our study also has some limitations. First, our research only examined and compared the direct effect of PSQ on LOY with the indirect effect of PSQ to LOY via the mediating role of RQ. Although research has confirmed the importance of concepts related to theoretical modeling, there may be other concepts with a similar influence that deserve to be explored. Another limitation is that this sampling is only limited to businesses that are using services of universities in the area of HCMC, Vietnam. Therefore, the generalizability of the research results will be higher if it is repeated with the sample structure including enterprises in other major cities in Vietnam.

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Appendix

Code of Indicator	Dimension	Questionnaire Statement	Source
TEQ1	Technical quality	The capacity of XYZ university graduates meets the requirements of my company.	Adapted from Grönroos (1993; 2000) and qualitative research.
TEQ2	Technical quality	XYZ university's training courses exclusively developed for my company help the company improve the quality of human resources.	
TEQ3	Technical quality	The applied/technological studies transferred by XYZ university are useful to my company.	
TEQ4	Technical quality	XYZ University has a strong and secure information technology system, which helps to quickly and smoothly fulfill my company's orders.	
TEQ5	Technical quality	XYZ university applies technological advancements to provide useful technical solutions for my company.	

Code of Indicator	Dimension	Questionnaire Statement	Source
FUQ1	Functional quality	XYZ university shows an interest in my company's interests.	Adapted from Sharma & Patterson (1999); Palaima & Auruskeviciene (2007); Auruskeviciene et al. (2010); and qualitative research
FUQ2	Functional quality	XYZ university leaders cherish the relationship with my company.	
FUQ3	Functional quality	XYZ University is very accessible when my company needs to provide services.	
FUQ4	Functional quality	When providing services, XYZ university seeks to communicate with my company's employees	
FUQ5	Functional quality	XYZ university's representatives respond promptly to my company's requests/questions.	
FUQ6	Functional quality	I highly appreciate the hospitality of XYZ university's representatives and staff.	
IMQ1	Image	XYZ is a reputable higher education institution.	Adapted from Grönroos (1993; 2000); and qualitative research
IMQ2	Image	XYZ University is sincere with my company	
IMQ3	Image	I have good experience using XYZ university's services.	
IMQ4	Image	XYZ University has great contributions to the society	
SAT1	Satisfaction	We are satisfied with the services provided by XYZ university.	Adapted from Crosby et al. (1990); Ling & Ding (2006); Liu et al. (2011)
SAT2	Satisfaction	We are completely satisfied with the processes and procedures that XYZ University has done with us	
SAT3	Satisfaction	The communications between my company and the representative of XYZ university always make us feel satisfied.	
SAT4	Satisfaction	Overall, I think XYZ university is a good service provider	
TRU1	Trust	The staff of XYZ university follows what XYZ university promises to my company	Adapted from Crosby et al. (1990); Morgan & Hunt (1994); Ulaga & Eggert (2006); Wong & Sohal (2006); Auruskeviciene et al. (2010)
TRU2	Trust	I believe that XYZ university considers the best benefit of my company	
TRU3	Trust	I feel that I can always trust XYZ university.	
TRU4	Trust	I believe XYZ University will do everything correctly.	
TRU5	Trust	XYZ university's staff are honest.	
COM1	Commitment	The relationship with XYZ university is very important to our operations.	Adapted from Morgan & Hunt (1994); Hennig-Thurau et al. (2002); Wong & Sohal (2006); Ulaga & Eggert (2006); Auruskeviciene et al. (2010)
COM2	Commitment	The relationship with XYZ university is worthy of my company's highest effort to maintain.	
COM3	Commitment	We will maintain the current relationship with XYZ university for an infinite time.	
COM4	Commitment	Our relationship with XYZ university is like a family.	
LOY1	Customer Loyalty	My company hopes to expand the scope of cooperation with XYZ University.	Adapted from Sharma & Patterson (1999); Palaima & Auruskeviciene (2007)
LOY2	Customer Loyalty	My company intends to develop more projects with XYZ university	
LOY3	Customer Loyalty	I think we should choose another university as a partner as soon as possible. (reversed)	
LOY4	Customer Loyalty	I would recommend XYZ university to other companies.	
LOY5	Customer Loyalty	If someone tells me that the quality of XYZ university's provided service is poor, I will try to prove that it is not true.	

Table 4