

# The Impact of Customer Education on Customer Loyalty Through Service Quality

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*Marketers strive to create compelling and sustainable value propositions for their customers. One of the important factors acknowledged in the literature but not thoroughly tested is customer education. In this article we examine the importance of customer education as it contributes to enhancing customer loyalty through perceived service quality employing empirical data. Several hypotheses are formulated to measure the impact of customer education and other factors in a customer loyalty model. All hypotheses were confirmed, supporting the belief that customer education can play an important role in building and enhancing customer loyalty.*

**KEYWORDS** *customer education, service quality, loyalty, information quality*

## INTRODUCTION

Customer learning is central to the co-creation of value (Payne, Storbacka, Frow, & Knox, 2009). Customers need to learn skills and behaviors relevant to purchasing, production, and use of goods and services to effectively participate in and contribute towards value creation (Bitner, Faranda, Hubbert,

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& Zeithaml, 1997). Many firms have recognized the benefit of educating customers and some have made it a priority (Aubert, 2007), believing that it leads to greater customer loyalty and more profitable relationships.

Service organizations in competitive markets attempt to connect with customers, recognizing the value of long-term relationships (Day, 2000). Key factors to success include constant communication and mutual learning. It is suggested that educating customers is important for creating customer expertise, which leads to strengthening the customer relationship (Bell, Auh, & Smalley, 2005).

Customer education can be delivered through a variety of educational programs: professional advice, seminars, advertising, booklets, blogs, and forums. Service providers can educate consumers (Buttle & Burton, 2002; Gruen, Osmonbekov, & Czapslewski, 2006) and consequently enhance their business relationships. Service providers can also offer technical support that can create dependent relationships, which in turn may enhance customer loyalty (Macintosh & Lockshin, 1997).

Service quality has also been recognized as a primary factor that enhances business performance (Bell et al., 2005) and customer loyalty. Thus it is important to examine the effect of service quality in conjunction with customer education.

Providing educational support requires a better understanding of what to offer customers and in what manner, especially in the service industry. In prior studies there has been some effort made to investigate the value of customer education and its impact on loyalty. Aubert (2007) investigated the effect of customer education on product usage, and Bell et al. (2005) examined customer education and service quality as factors that affect customer loyalty.

In a service encounter, well-educated customers can utilize service more effectively because they understand application more thoroughly and can assess service performance more accurately. Educated customers can perceive and appreciate “technical and functional services” as they experience them during the service process. Finally, well-educated customers have the potential for achieving higher levels of satisfaction and a stronger sense of customer loyalty for their service providers. Thus, we formulate a model that consists of a dual process of factors that are affected by customer education and which impacts customer loyalty through technical and functional service quality.

For the reasons mentioned previously, examining the impact of customer education on customer loyalty through perceived service quality with empirical data will advance our understanding of the value of customer education.

## LITERATURE REVIEW

The marketing service literature suggests that effective relationship selling will be most critical when: (a) the service is complex, customized, and

delivered over a continuous stream of transactions (Shostack, 1977); (b) buyers are relatively unsophisticated about the service (Crosby, Evans, & Cowles 1990); and (c) customers face uncertainty regarding technical outcomes (Alba & Hutchinson 1987, 2000; Zeithaml, 1981).

In an effort to mitigate customer difficulties, customer education strategies have been applied throughout several service industries. In financial services, Burton (2002) noted that customer education has been used to differentiate institutions from competitors, add value to service offerings, increase loyalty, and assist in customer retention. In the technology sector, customer education has been used to enhance service quality (Kaeter, 1994) and in electronics retailing, customer education has been used with more complex and sophisticated products to overcome customer insecurity (Balabanis, Reynolds, & Simintiras, 2006). In health care services, Gummesson (2000) discussed the positive effects of customer education before surgery.

## Customer Education

Meer (1984) defined customer education as:

Any purposeful, sustained and organized learning activity that is designed to impart attitudes, knowledge or skills to customers or potential customers by a business or industry. It can range from self-instructional material for a particular product to a formal course related to a product or service.

McNeal (1978) suggested that companies should consider education as a major competitive strategy and considered the following potential outcomes:

- Companies will realize many benefits including larger profits.
- Companies will recruit and retain satisfied customers, contributing to favorable attitudes toward products.
- There will be a reduction in confrontations.

Other researchers shared this vision and suggested that education would have a long-term impact throughout the decision-making process (B. S. Bloom, 1976; P. N. Bloom & Silver, 1976).

Noel, Ulrich, and Mercer (1990) defined customer education as “the active involvement of customers in all aspects of training efforts.” Honebein (1997) explained the value of customer education as “the process by which companies systematically share their knowledge and skills with external customers to foster the development of positive attitudes.” Dankens and Anderson (2001) furthered this notion, “It directly increases their (customers) levels of satisfaction. Well trained customers are more knowledgeable about products and more likely to use them efficiently.”

A growing body of empirical research has demonstrated that customer education is an essential step in improving, soliciting and enhancing customer participation (Lovelock & Young, 1979; Zeithaml, Parasuraman, & Malhotra, 2002). Prominent methods of customer education include: advertising, service personnel interaction, leaflets, seminars, and web sites (Aubert, 2006; Burton, 2002). There is a greater demand for customer education for difficult to use products (Aubert, 2006) for complex services and for novice consumers (Burton, 2002; Goodwin, 1988). It is also required for services that involve a high level of customization, whether the service acts are directed at people (medical services and health club) or intangible entities (e.g., stock broker and trust bank; Kelley, Skinner, & Donnelly, 1992). Empirical evidence suggests that customer education enhances perceived control (Bitner et al., 1997; Dabholkar, 1999), perception of trust with the service provider (Eisingerich & Bell, 2008) and satisfaction with the firm (Kelley et al., 1992; Faranda, 1994). McNeal (1978) argued that there were three potential advantages of using consumer education as a marketing strategy: It helps obtain and keep satisfied customers, it contributes to a favorable attitude among consumers towards a product or company, and it helps reduce confrontations with consumer advocates. Utilizing these strategies, businesses can gain a competitive advantage and enhance customer loyalty.

### Customer Expertise

Customer expertise is a customer's accrued knowledge about product performance and a general understanding of performance of similar brands in the product category (Sharma & Patterson, 2000). Alba and Hutchinson (1987) referred to the: (a) ability to perform product-related tasks successfully; (b) developing cognitive structures, creating more associations with a given product (Park, Mothersbaugh, & Feick, 1994); and (c) developing cognitive processes (consumers can make high-quality decisions; e.g., Park et al., 1994; Sujan, 1985). Expertise is the ability of customers to perform product/service related tasks successfully and their understanding of and knowledge about various attributes in a product/service category (Alba & Hutchinson, 1987; Jamal & Anastasiadou, 2009).

Customer education has long been seen as a means for creating value for customers. It is associated with customer satisfaction and in the development of customer expertise. Customer expertise refers to a customer's acquired knowledge and skills about product/brand performance, as well as competitive brands (Sharma & Patterson, 2000). Customer education helps customers fully understand the proper usage of a service (Aubert & Humbert, 2001), and helps the customer understand the value of the product (Henning-Thurau, Gwinner, & Gremler, 2002). Educational efforts will

increase customer expertise and will deepen their understanding of the service delivery process (Lovelock & Young, 1979). Consequently, we posit:

*H1: Customer education will positively impact customer expertise.*

## Trust

Trust has been acknowledged as an important factor in customer loyalty (Bell et al., 2005). Trust reflects expectance or reliability of action on the part of another party. In service relationships two kinds of trust are described, cognitive and affective. Cognitive trust is a customer's confidence or willingness to rely on a service provider's competence and reliability (Moorman, Zaltman, & Deshpande, 1992; Rempel, Holmes, & Zanna, 1985). It arises from accumulated knowledge that allows one to make confident predictions that a partner will live up to obligations. Affective trust is confidence based on feelings, generated by the concern a partner demonstrates (Johnson-George & Swap, 1982).

In business, trust is one of the most relevant antecedents of collaborative relationships. It is essential for building and maintaining long-term relationships (Rousseau, Sitkin, Burt, & Camerer, 1998; Singh & Sirdeshmukh, 2000). According to Lau and Lee (1999), trust leads to positive behavior towards a partner. Customer education also contributes to the management of expectations and trust.

Anderson and Narus (1990) suggested that if one party believes that the actions of the other party will bring positive outcomes, trust can be developed. These positive outcomes are generated from customer knowledge about product performance (Sharma & Patterson, 2000). Therefore we posit:

*H2: Customer education will positively impact customer trust for an organization.*

## Service Quality

Early conceptualizations of service quality are based on the disconfirmation paradigm (Churchill & Surprenant 1982; Olshavsky & Miller 1972). It is suggested that service quality results from a comparison of perceived and expected performance (Gronroos, 1983). In addition to adapting the disconfirmation paradigm to the measurement of service quality, Gronroos (1983) identified two service quality dimensions: functional quality and technical quality. Technical service quality refers to the quality of service output, or what the customer receives during the service encounter. Functional service quality represents how the service is delivered, or the customer's perceptions of service delivery. Functional service quality is also the extent to which the

server provides courteous and attentive service as well as empathy towards the customer's circumstances (Hartline & Ferrell, 1996).

Customer expertise reflects a customer's product knowledge and ability to assess performance. As customers gain experience, they are better able to evaluate different attributes of service offerings (Moorthy, Ratchford, & Talukdar 1997). Expert customers are better able to make meaningful contributions to the technical outcomes of a service encounter and should develop an appreciation (their perception) for an increase in control (Bateson, 1985). Thus,

*H3: Customer expertise will positively influence technical service quality.*

### Customer Education, Trust, and Functional Service Quality

Trust is defined as a customers' confidence in a service seller's reliability and integrity (Morgan & Hunt, 1994). In the context of customer relationships with salespeople, trust is a central aim (Johnson & Auh, 1998). Consumers who trust rely on relational and tangible characteristics of the service (Sharma & Patterson, 2000). Gronros (1983) described functional service quality as the customer's perception of the interaction that takes place during service delivery. An inexperienced customer typically perceives a higher risk of decision-making. By informing and explaining service-related concepts, service employees can reduce risk, thus contributing to the development of a trusting relationship (Bendapudi & Berry, 1997). Also, effective relationships in which service professionals care about, listen to, and relate to the consumer's thoughts, feelings, and concerns mitigate the level of risk (Sheth, 2002). Accordingly, we posit:

*H4: Trust will positively affect functional service quality.*

### Loyalty

Customer loyalty is defined as a consumer's intent to stay with an organization (Zeithaml, 2000), their commitment to increase the depth (transaction volume) and breadth (breadth of products purchased) of their relationship with the organization, and their intent to help the organization to succeed through word-of-mouth. Loyalty continues to be defined as frequency of repeat purchase or relative volume of same-brand purchasing (Tellis, 2005). Measuring loyalty in a service context is important for two specific reasons. Service loyalty is frequently dependent on the development of interpersonal relationships (Czepiel, 1990; Heide & Miner, 1992). Loyalty viewed from a behavioral intention perspective captures the relative attitude customers hold toward the organization (Dick & Basu, 1994).

The conceptualization of loyalty has evolved. Gremler and Brown (1996) extended the concept of loyalty to include service loyalty, possessing a positive disposition toward a provider, and only considering a specific provider when a need for service occurs.

Groonros (1983) defined service quality along two dimensions: 1) functional, the interaction between the service provider and customer, the process by which service is delivered; 2) technical, the quality of service output. Customer perceptions along both dimensions enhance a customer's attitude toward a service organization (Chen McCain, Jang, & Hu, 2005; Sharma & Patterson, 1999; Zeithaml, Berry, Parasuraman, 1996). Positive customer attitudes towards service quality leads to more loyal customers. Therefore, we suggest:

*H5:* Technical service quality will have a positive impact on customer loyalty.

*H6:* Functional service quality will have a positive impact on customer loyalty.

### Perceived Information Quality

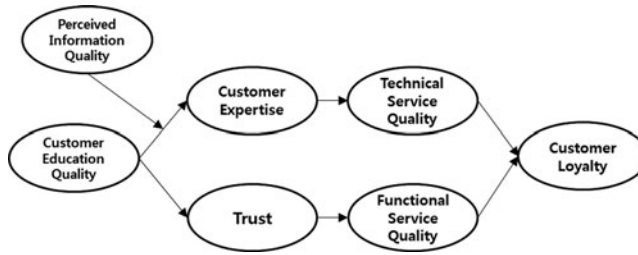
Perceived information quality (PIQ) represents a user's reaction to the characteristics of output information versus the user's information requirements (Bailey & Pearson, 1983). It has been examined in the IT literature (DeLone, 2003) specific to information integrity (Boritz, 2005), data quality (Wang & Strong, 1996), and information quality (Bovee, 2004). Information integrity incorporates accuracy, timeliness, and completeness and has been judged using the criteria of relevance, accessibility (validity), interpretability, and integrity (composed of accuracy and completeness; Bovee, 2004). The context determines which dimensions are most relevant. DeLone and McLean (1992) defined PIQ as the information characteristics of information systems.

DeLone and McLean (1992) defined PIQ as information characteristics, which include accuracy, precision, currency, reliability, completeness, conciseness, relevance, understandability, meaningfulness, timeliness, comparability, and format. PIQ provides more useful information to support a customer's decision-making by enhancing customer expertise. PIQ should reduce the uncertainty related to exchange outcomes (Sitkin & Pablo, 1992). Researchers suggest that PIQ improves the quality of decision-making (Kinney, 2000) and will positively impact decision-making. Accordingly:

*H7:* PIQ aids in strengthening customer expertise.

### Model Development

Customer education is hypothesized to contribute to customer loyalty. Other factors gleaned from the literature that need to be considered are trust,



**FIGURE 1** Research model.

service quality (functional and technical), and customer expertise. We also include a moderating factor, PIQ. Next, we provide a theoretical model that illustrates how customer education, customer expertise, trust, and service quality relate to each other and how they impact customer loyalty. A model is proposed in this study as shown in Figure 1.

## METHODOLOGY

### Empirical Instrument

Data was gathered via a Likert-item survey distributed to university students in South Korea. The survey items used in this study were originally written in English and then translated into Korean. The survey items were checked for accuracy by means of the conventional back-translation process.

All items used in this study were adapted from existing scales found in the literature. In total, seven different scales were used (scale anchors ranged from 1 = *strongly disagree* to 7 = *strongly agree*).

The construct of technical service quality was created from a four-item scale developed specifically to measure technical service quality in the financial services industry (Sharma & Patterson, 1999). Functional service quality items were created using Hartline and Ferrell's (1996) five-item perceived service quality scale. This scale focuses on the employee-related aspects of service quality. Customer education was created using a four-item scale developed by Sharma and Patterson (1999); it was chosen because it captures the extent to which a service provider explains concepts to customers and provides appropriate information to help customers understand specific products and services. Customer expertise is defined as the extent of a customer's product knowledge and ability to assess product performance; it was evaluated using three items from a four-item scale developed by Sharma and Patterson (2000). PIQ was measured with four items selected from Goodhue (1998), Doll and Torkzadeh (1988), and Bailey and Pearson (1983). The items represent the different aspects of information quality and data exchange. The measure of trust consisted of four items and was constructed from the scale of Morgan and Hunt (1994) and Sirdeshmukh, Singh, and Sabol (2002). Lastly,



customer loyalty was adapted from the four-item behavioral intentions scale developed by Boulding, Kalra, Staelin, and Zeithaml (1993), along with the loyalty dimension of the behavioral intentions scale used by Zeithaml et al. (1996). In total, 30 items were used for the seven main constructs in the model. The survey is included in the Appendix.

### Survey Sample

The participants in this survey consisted of undergraduate and graduate university students from Busan University in South Korea. The survey was conducted over two weeks from May 12 to May 23, 2014. Data were collected from students who had recently used bank, medical, and beauty services. These services provide a high level of face-to-face contact and require a moderate level of customer participation. A total of 200 surveys were distributed and 180 responses were judged appropriate for the analysis. Twenty responses were eliminated because they either had too many missing values, lacked consistency, thoughtfulness, seriousness, or sincerity.

Participants were asked to check the types of services they had recently used and answer questions that required them to recall their service experience. The participants were asked to answer questions regarding customer relationships, customer service interactions, and relationship values. They were also asked to provide basic demographic information. Of the respondents, 58% were male, 42% were female, and 85% were between 21 and 25 years old. Approximately 64% of the sample was undergraduate students.

### Reliability and Validity Tests

Reliability and validity checks were conducted on items used to develop the theoretical constructs. A factor analysis of the measured variables and a reliability analysis using Cronbach's alpha, AVE, and CR coefficient were conducted. At least two items were used to measure each model construct. Partial least squares (PLS) regression was utilized for empirical analysis, using Smart PLS 2.0. The reliability test using the PLS measurement model was used to verify internal consistency, reliability, and composite reliability.

Composite reliability utilizes Cronbach's alpha phabachite reliability correlations and factor loadings. Nunnally and Bernstein (1994) suggested a cut-off value greater than 0.7, the Cronbach's alpha values shown in Table 1 confirm the reliability of all the variables. The composite reliability assessed by the PLS measurement model is also larger than 0.7, indicating internal consistency. The average variance extracted (AVE) is greater than 0.5, also indicating reliability.

Convergent validity was tested by using the AVE (Fornell & Larcker, 1981) and discriminant validity by Fornell-Larcker's criteria and cross-loadings.

**TABLE 1** Reliability and Model Fit

Variables	AVE	CR	R <sup>2</sup>	Cronbach's alpha	GOF
EDU	0.682	0.895		0.845	
EXP	0.811	0.928	0.123	0.883	
TSQ	0.804	0.925	0.043	0.880	0.366
LOY	0.815	0.946	0.239	0.924	
TR	0.762	0.941	0.244	0.992	
FSQ	0.584	0.794	0.255	0.618	

*Note.* AVE = average variance extracted; CR = composite reliability; GOF = goodness of fit; EDU = customer education; EXP = customer expertise; TSQ = technical service quality; LOY = customer loyalty; TR = customer trust; FSQ = functional service quality.

Fornell-Larcker's criteria state that the square root of AVE of each factor should be larger than the correlation coefficients between the factor in question and other factors. According to the cross-loading criteria, loading of items measuring each variable should be larger than cross-loadings and also larger than 0.7. In the analysis, three items (EC1, IA1, and IA2) were eliminated because they did not satisfy factor loadings criteria. All other items satisfied the .7 criterion indicating that the measurement tool is valid.

In terms of evaluating model fit for the theorized model, Tenenhaus, Vinzi, Chatelin, and Lauro (2005) proposed the use of GoF (goodness-of-fit) for PLS model. The GoF<sup>1</sup> for the research model (0.366) is satisfied at the recommended level 0.31, proposed by Chin (1998). The results of reliability and validity checks are presented in Tables 1, 2, and 3 respectively.

## RESULTS

Tables 4 and 5 depict the results of the study. H1 asserts that customer education would have a positive influence on customer expertise ( $\beta = 0.351$ ,  $p < .05$ ) and it is accepted. Educated customers increase their expertise as

**TABLE 2** Discriminant Validity

Variables	EDU	EXP	TSQ	LOY	TR	FSQ
EDU	<b>0.826</b>					
EXP	0.351	<b>0.900</b>				
TSQ	0.486	0.057	<b>0.764</b>			
LOY	0.405	0.201	0.367	<b>0.903</b>		
TR	0.494	0.144	0.505	0.755	<b>0.873</b>	
FSQ	0.678	0.207	0.496	0.463	0.553	<b>0.897</b>

*Note.* EDU = customer education; EXP = customer expertise; TSQ = technical service quality; LOY = customer loyalty; TR = customer trust; FSQ = functional service quality. Bold = square root of AVE.

**TABLE 3** Factor Loading

Variables	EDU	EXP	TSQ	LOY	TR	FSQ	Loading	S.E	t-value
CL1	0.394	0.182	0.354	<b>0.922</b>	0.694	0.458	0.922	0.017	53.513
CL2	0.352	0.195	0.326	<b>0.927</b>	0.695	0.424	0.927	0.017	56.046
CL3	0.369	0.181	0.315	<b>0.912</b>	0.676	0.397	0.912	0.020	45.926
CL4	0.345	0.168	0.328	<b>0.848</b>	0.660	0.387	0.848	0.024	34.719
FSQ3	0.385	0.008	<b>0.865</b>	0.324	0.429	0.410	0.865	0.053	16.242
FSQ4	0.504	0.603	<b>0.910</b>	0.336	0.479	0.469	0.910	0.017	54.325
TBC1	0.406	0.119	0.447	0.632	<b>0.843</b>	0.447	0.843	0.031	27.553
TBC2	0.432	0.106	0.410	0.675	<b>0.881</b>	0.465	0.881	0.019	45.592
TBC3	0.441	0.111	0.440	0.655	<b>0.873</b>	0.496	0.873	0.025	34.772
TBC4	0.447	0.116	0.477	0.734	<b>0.912</b>	0.514	0.912	0.016	56.325
TBC5	0.430	0.117	0.430	0.595	<b>0.853</b>	0.488	0.853	0.030	28.346
TSQ2	0.518	0.068	0.406	0.365	0.489	<b>0.855</b>	0.855	0.035	24.565
TSQ3	0.634	0.192	0.449	0.413	0.479	<b>0.923</b>	0.923	0.019	47.817
TSQ4	0.654	0.264	0.473	0.455	0.520	<b>0.911</b>	0.911	0.015	61.888
EDU1	<b>0.814</b>	0.300	0.361	0.214	0.293	0.450	0.814	0.039	20.851
EDU2	<b>0.838</b>	0.344	0.363	0.245	0.384	0.540	0.838	0.030	27.830
EDU3	<b>0.847</b>	0.290	0.458	0.453	0.464	0.579	0.847	0.028	30.216
EDU4	<b>0.803</b>	0.228	0.412	0.396	0.466	0.650	0.803	0.038	21.407
EXP1	0.296	<b>0.892</b>	-0.011	0.159	0.075	0.174	0.892	0.031	28.746
EXP2	0.322	<b>0.916</b>	0.126	0.236	0.191	0.201	0.916	0.022	41.444
EXP3	0.329	<b>0.894</b>	0.032	0.147	0.118	0.183	0.894	0.025	36.373

Note. EDU = customer education; EXP = customer expertise; TSQ = technical service quality; LOY = customer loyalty; TR = customer trust; FSQ = functional service quality; CL = LOY; TBC = TR. Bold = cross loading of items.

**TABLE 4** Results of the Main Effect

Hypothesis	Path coefficient	S.E	t-value	Result
H1 EDU → EXP	0.351	0.095	3.710	Accepted
H2 EDU → TR	0.494	0.075	6.593	Accepted
H3 EXP → TSQ	0.207	0.098	2.119	Accepted
H4 TR → FSQ	0.505	0.057	8.909	Accepted
H5 TSQ → LOY	0.372	0.115	3.249	Accepted
H6 FSQ → LOY	0.182	0.097	1.880	Accepted

Note. EDU = customer education; EXP = customer expertise; TSQ = technical service quality; LOY = customer loyalty; TR = customer trust; FSQ = functional service quality.

**TABLE 5** Model With Moderating Effect of PIQ

Hypothesis	Path coefficient	S.E	t-value	Result
EDU → EXP	0.211	0.126	1.675	Accepted
EDU → TR	0.494	0.074	6.644	Accepted
EXP → TSQ	0.216	0.110	1.968	Accepted
TR → FSQ	0.518	0.059	8.737	Accepted
TSQ → LOY	0.200	0.107	1.872	Accepted
FSQ → LOY	0.321	0.119	2.691	Accepted
<b>H7 EDU × PIQ → EXP</b>	<b>0.206</b>	<b>0.067</b>	<b>3.060</b>	Accepted
PIQ → EXP	<b>0.189</b>	<b>0.087</b>	<b>2.184</b>	Accepted

Note. EDU = customer education; EXP = customer expertise; TSQ = technical service quality; LOY = customer loyalty; TR = customer trust; FSQ = functional service quality. Bold in this table is for highlight.

customers. H2 was also supported; education was shown to have a positive impact on trust ( $\beta = 0.494, p < .01$ ). As customers gain knowledge and skill they increase their trust with the service provider. H3, customer expertise, was shown to have a positive effect on technical service quality ( $\beta = 0.207, p < .05$ ) and H4 demonstrates that trust has a positive influence on functional service quality ( $\beta = 0.505, p < .01$ ). H5 and H6 were also found to have positive impacts on customer loyalty ( $\beta = 0.372, p < .05, \beta = 0.182, p < .05$ ). This implies that customers that enjoy functional and technical service quality develop stronger loyalty to their service provider.

### Moderating Effect Analysis

To test moderating effect of PIQ, we used an interaction term recommended by Baron and Kenny (1986). We added PIQ and  $\text{PIQ} \times \text{Education}$  into the model. All reliability and validity tests were satisfied. H7 was confirmed; PIQ helps strengthen customer expertise (as a moderator) when educating customers, ( $\beta = 0.206, p < .05$ ). Table 5 shows the result of the moderating effect.

## DISCUSSION

The goal of this study was to investigate the impact of customer education on the factors that contribute to long-term relationships and customer loyalty. Customers of service organizations are affected by both performance of the core product and the process by which it is delivered in forming their loyalty.

The positive relationship between customer education and customer expertise seems intuitive. The behavior of service providers, particularly sales staff, along with the information and explanations they provide, appears to be especially important for relationship building and for reducing perceived risks (Ennew & Binks, 1999). Our study supports this claim. We demonstrate that developing expertise among customers is valuable for service providers. It strengthens the business relationship by mitigating risk and enhancing service quality. Another result of the study is that customer education positively affects customer trust. Customer education provides customers with a deeper understanding of product qualities and usage. It provides customers with information that enables them to make complicated and critical decisions, thus empowering them and increasing their self-confidence. Service providers that can effectively empower their customers will increase customer credibility and will deepen their feelings of sincerity in the organizations' efforts. Knowledge reduces information asymmetries between relationship partners. Faced with highly complex and intangible service products, consumers perceive an organizations' effort to provide essential information as an important and

valuable service augmentation. The findings also indicate that customers may feel more comfortable asking questions when they are educated. Logically, more frequent communication between parties can enhanced information sharing, which in turn may increase mutual knowledge between parties, fostering the development of similar goals, emotional contagion, and ultimately, reciprocity (McFadden et al., 2004). Past research has shown that frequent and strong linkages among exchange partners are likely to enhance trust and level of commitment (Crosby et al., 1990; Palmatier, Gopalakrishna, & Houston, 2006).

Customers with higher levels of expertise are likely to know what technical outcomes to expect and they are able to evaluate different attributes of different service offerings (Moorthy et al., 1997). This study supports that concept as we show that customer expertise positively affects technical service.

Regarding the relationship between trust and functional service quality, our findings indicate that trust has emotional consequences; customers develop emotional feelings for service providers who deliver courteous and attentive service and who empathize with their circumstances (Hartline & Ferrell, 1996). In this study we demonstrated the impact of two types of service quality—they both positively impact customer loyalty. This result confirms the findings of Bloemer, De Ruyter, and Wetzels (1999) and Wong and Sohal (2003).

Lastly, we studied the moderating role of PIQ demonstrating that it is significant and can strengthen customer expertise derived from customer education. This also supports Davis' (1989) claim that PIQ is a useful factor for enhancing decision-making.

## MANAGERIAL IMPLICATIONS

This research supports the claim that customer education can provide a competitive advantage to an organization. However, service firms have to be aware of the potential difficulty that may arise with educating customers. As customers become more educated, they increase their level of expertise and their perceptions. Their expectations of service will change. Managers of service providers must understand that their expert customers will have greater appreciation for the organization but also greater expectations. One might consider that expert customers exposed to the processes of the provider will expect a greater degree of customization. The current findings suggest that customer expertise has a positive impact on technical service quality. However, when customers no longer need help in understanding the complexities of a product or service they may elect to leave the market entirely and produce the service themselves (Fodness, Pitegoff, & Truly Sautter, 1993). Consequently, managers must thoroughly understand the quality of service

output and focus on educating consumers on those aspects of service that are not easily replicated by the consumer.

One aspect of developing consumer trust is providing consumers with reassurance that the service provider is prepared to deliver special care to the customer. Businesses will be more successful when they communicate the value of their services. Management might consider creating employee-training programs that focus on creating customer interactions sensitive to addressing desirable customer outcomes.

Education contributes to customer expertise, thereby changing customer perceptions over time. Service providers have to adapt to clients' expertise and create appropriate sensitivity to generate positive feelings and favorable evaluations. The customer education required to enhance customer expertise in various products and services should be identified and developed to create opportunities for co-production. Organizations that view relationships with clients as dynamic should develop training programs to manage the distribution of knowledge to achieve a competitive advantage.

## LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

In this study we did not utilize control variables such as age, gender, and length of relationship. These variables could be explored further. The subjects in this study represent a limited age range, 21 to 25 years old. Older people may respond differently in their attitudes and beliefs. Older consumers may also have different responses to trust and loyalty.

Another interesting investigation would be to capture relevant longitudinal data to test our hypotheses. Potentially, the rates of customer learning and the impact of customer education might prove to be nonlinear. This might be an intriguing avenue for future research.

## NOTE

1.  $GoF = \sqrt{AVE \times R^2} = \sqrt{Communalitu \times R^2}$

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#### APPENDIX: ASSESSMENT INSTRUMENT (CONSTRUCT ITEMS)

##### Customer Education:

My service provider continually supplies information related to product purchases or planned purchases.

My service provider has made recommendations and explained information in several ways.

My service provider has delivered sufficient information to me when I request it.

My service provider has performed sincerely in helping me purchase the right product.

##### Customer Expertise:

I can understand most aspects of my purchased service.

I understand whatever is necessary about product service.

I know about the services associated with my customer experience very well.

##### Technical Service Quality:

My service provider has assisted me with the purchase of the service.

My service provider has performed well in helping me gain the best return on my purchase.

My service provider has helped me protect my current position as a customer.

My service advisor is sincere in helping me purchase the right service.

##### Functional Service Quality:

A service provider's behavior instills confidence in me in during my purchasing decision.

A service provider is courteous.

A service provider gives me personal attention.

A service provider has my best interests at heart.  
I can share my thoughts with the service provider.

Perceived Information Quality:

My service provider provides me sufficient information to satisfy my needs.  
My service provider provides me appropriate level of detail information corresponding to my purpose.

Acquired information via service provider is trustful.

Acquired information via service provider is the newest one corresponding to my purpose.

Trust:

In my opinion there is confidence in the relationship between the service provider and me.

I think that service provider has honest personality.

A service provider will try to praise a service continuously.

A service provider is trustful.

A service provider provides all necessary and effective information.

A service provider perform his role faithfully as an information provider.

Customer Loyalty:

I will purchase service via this service provider in the future.

Keeping relationship with my service provider is desirable.

I think I will purchase more service through my service provider.

Even though there is service of competitive firm I will purchase service via my service provider.

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