

# Antecedents of Overall E-service Quality and Brand Attachment in the Banking Industry

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## Abstract

**Purpose** – The study aims to examine the impact of website design, e-fulfillment, e-service and e-security on overall e-service quality and its impact on brand attachment.

**Design/methodology/approach** – Data of 425 respondents was collected from the internet banking industry users through an online survey. Further, PLS-SEM was employed to analyze the data.

**Findings** – Results indicate that the impact of e-security, e-customer service, and e-fulfillment on overall e-customer service quality was supported. In contrast, the impact of website design was not supported. Further, overall, e-service quality also has a significant impact on brand attachment.

**Originality/value** – This study suggested and tested a brand attachment framework for the banking industry to support strategy formulation for managers.

## Introduction

Brand attachment captures emotional and cognitive bonding and represents the connection of brand and self (Park, MacInnis, & Priester, 2006). Park, MacInnis, Priester, Eisingerich, and Iacobucci (2010) argued that brand and self-connection are recognized by the extent of easiness they bring in customers' minds. Likewise, the brand is a distinctive personality, and customers develop a relationship with the brand in the same way as they do with people even though brands have different attributes (Chowdhury, Chun, Choi, & Friend, 2020; Thach & Olsen, 2006). Hence, brand attachment refers to a strong bond between individuals and brands (Park et al., 2010). Organizations are providing online services structure users' minds to save their time by learning e-services. E-service quality is assessed based on the time of users it saves and fewer hassles it offers, and according to Thach and Olsen (2006), such type of services may cause customers to attach to the brand. Customers can develop a forging relation of a companion with a brand (Dennis, Papagiannidis, Alamanos, & Bourlakis, 2016; Wu, Cai, & He, 2019). Rana, Azizah, Ali, Shah, And Muhammad (2018) also argued that overall e-service quality might enhance a customer's attachment towards a brand providing such services. However, overall, e-service quality can support brand attachment and need to be answered (Blut, Chowdhry, Mittal, & Brock, 2015; Rana et al., 2018).

The concept of service quality remained popular for almost from the previous two decades. Recent technological developments propel this concept to e-commerce, mainly due to the emergence of internet marketing. Researchers are almost agreed that the concept of e-service quality is different from service quality in an offline setting. Since in e-commerce, service quality refers to virtual markets in online settings. Hence, what leads to overall e-service quality in the banking industry is still being debated. This current study is keen to address these questions above, drawing on brand attachment theory.

Based on attachment theory (Bowlby, 1979), this study tends to have theoretical and practical contributions. One current study considers the impact of overall e-service quality on brand attachment in the banking industry, which was yet to be considered (Rana et al., 2018). Two, though the researchers have considered the impact of different constructs on overall e-service quality, the individual effect of e-fulfillment, website design, e-customer service, and security is yet to be considered. This study will empirically test and evaluate the individual influence of each construct on overall e-service quality. Finally, this study also made efforts to have contributions for managers and research students. This study will argue the factors propelling overall e-service quality and its subsequent effect on brand attachment for managers. Hence, managers can adjust their branding strategies. For research students, the concept of branding in the banking industry will further ignite the research. Next, brand attachment theory, literature review, and hypothesis development is discussed, followed by methodology and results. Finally, discussions are made.

## Brand Attachment Theory

Brand attachment theory (Bowlby, 1979) suggests that the scenes, impressions, and experiences are essential to shaping attachment. Based on brand attachment theory, this study, e-fulfillment, website design, e-customer service, and security, is considered scenes and impressions, overall e-service quality as experience while brand attachment as an attachment. Brand attachment theory (Bowlby, 1979) is essential to consider these linkages, particularly in the online banking industry context. Next, details on the literature review and hypothesis development are discussed.

## Literature Review and Hypothesis Development

### Overall e-service quality and brand attachment

Brand attachment refers to a state of mind to feel a strong connection with a brand. Accordingly, Phillips and Baumgartner (2002) argued that attachment results from long-term relationships between customers and those who provide services. The service firm achieves it via reasonable marketing efforts. E-service quality is referred to as customers assessing e-service quality in virtual market service (Van Riel, Liljander, & Jurriens, 2001). Whether overall e-service quality impacts brand attachment is yet to be answered (Blut *et al.*, 2015). An individual can emotionally attach to a particular object based on the interaction between the object and the particular individual (Thomson, MacInnis, & Park, 2005). While attachment theory considers and concentrates more on interactions (Bowlby, 1979), these interactions can be in online settings. Customers attribute human characteristics to different brands and may have relation with brands in the same way as they do with humans (Aaker, 1997; Fournier, 1998). A shortage of research has examined the impact of overall service quality on the banking industry's brand attachment. Hence, based on attachment theory (Bowlby, 1979) and aforementioned arguments, the following relationship is hypothesized;

H1: E-service quality will positively influence brand attachment.

### Website design and overall e-service quality

According to Riaz, Gregor, and Lin (2018), website design is a joint function of a website that facilitates online users' experience in offline settings. In addition to this, it is shaping cyberspace following physical space. In the banking industry, websites are an essential source of online information. Websites provide various information (Manika, Gregory-Smith, & Papagiannidis, 2018) on bank offerings, particularly about account opening procedures, deposit rates, credit cards, personal finance, auto finance, and home financing. A good website is a source of positive impressions and opinions. It is well established in the literature that a well-designed website can improve customers' perceptions about a service firm (Foroudi *et al.*, 2018). Hence, the banking industry is the one that directly can be affected, where the website became intermediary between a customer and the bank for disseminating information regarding balance, account statement, and enabling customers to do transactions. Hence, in the banking industry, it can be argued that the better the perception of website design better be the perception of overall e-service quality and the following relationship is hypothesized;

H2: Website design and overall e-service quality are positively related to each other.

### Fulfillment and overall e-service quality

Fulfillment is considered an organization's ability to ensure that customers received the same what they think they asked for (Blut, 2016). Fulfillment refers to an organization's ability to provide promised service perfectly (Stank *et al.*, 1999, 2003). In the financial service sector, banks encourage their customers to use online sites (Al-Hawari and Ward, 2006). Customers notice about value and convenience they are given by their banks (Lewis and Soureli, 2006). Thus, it can be assumed in the banking industry that customer fulfillment can be related to overall e-service quality. Hence, this can be hypothesized as;

H3: Fulfillment will have a positive relationship with overall e-service quality.

### E-service and overall e-service quality

According to Zeithaml, Bitner, and Gremler (2006), e-customer service is a service that can be delivered through the internet. Accordingly concept of e-customer service has developed, and now organizations have realized the importance of satisfying their customers by providing better services online (Bottani & Rizzi, 2006). Thus, considering customer service's importance due to their organizational profitability contribution, organizations

consider it an important part to excel in the market. The banking sector is developing continuously due to immense competition, discerning customers, globalization, and improved services (Ramseook-Munhurrun & Naidoo, 2011). To become more effective, competitive, and flexible, banks realize the importance of internet usage benefits to satisfy their modern customers. Thus, it can be argued that better customer services may be positively related to overall e-service quality. Furthermore, better customer service is considered to contribute more to overall e-service quality. Based on these arguments, we may propose that:

*H4: Customer service will positively influence overall e-service quality*

### **Security and overall e-service quality**

Security is a customer's concern about the privacy and security of their online banking transactions. Customers are concerned about their personal information and are also conscious of financial loss when they pay through their credit cards (Blut, 2016; Bressolles et al., 2014). Customers also expect organizations to protect their customers from junk emails, theft, and fraudulent activities. Customers can avoid online services due to banks' online security risks (Qayyum, Rehman, Saleemi, Ilyas, & Rafiq, 2018). Based on these arguments, this study considers the effect of e-security on overall e-service quality and hypothesized that;

*H5: Security will have a positive impact on overall e-service quality*

### **Methodology**

The data was collected from the banking customers who used online banking services in an Asian banking industry context, Pakistan, by using an online survey. To decide on sample size Gpower calculator was used. The maximum number of arrows pointing to a construct was 4; the effect size was considered as 0.05, and the power required was 0.90; the required sample size was 313. This study was set out more than the minimum required sample size.

The scales of the constructs were adopted from the previous literature. Website design (5 items), fulfillment (3 items), e-customer service (3 items), and security (3 items) were borrowed from Wolfinbarger and Gilly (2003). Overall e-service quality scale was borrowed from Carlson and O'Cass (2011) with three items, while brand attachment with eight items was adopted from Chiou, Chi-Fen Hsu, and Hsieh (2013). After conducting the pilot test, the primary data was collected. At the design stage, it was ensured that once the customers respond to all the required items, they can proceed with the response submission. Hence, there was no missing value in the data.

### **Results**

This study compromised on data of a total of four hundred and twenty-five respondents. Out of these respondent's 30.4 percent were female, and 69.6 were male. Only 6.6 percent of the respondents were using the internet for less than one hour, while 32.5 percent were using 1-3 hours, 28.5 percent were using 3-5, 15.8 percent were using 5-7 hours, and 16.2 percent were using the internet above 7 hours. Further, to evaluate the results, partial least structural equation modeling is used by employing SmartPLS3. This approach considers the measurement model first, and on a satisfactory measurement model, hypotheses are evaluated (Muhammad, 2019). Accordingly, the measurement model was evaluated first.

### **Measurement Model**

Reliability and validity were considered in the measurement model (Hair, Hult, Ringle, & Sarstedt, 2016; Muhammad, 2019). To test the measurement model PLS algorithm was run. Items Bra3, BraA4, OSQ1 were deleted due to high cross-loadings, and the model was reassessed. For reliability, Cronbach alpha (CrA) and composite reliability (CR) were assessed. The values of CrA and CR were more significant than

the minimum threshold of 0.7. Hence, having satisfactory reliability (Hair et al., 2016; Muhammad & Gul-E-Rana, 2020).

For convergent validity, loadings, and average variance extracted (AVE) were considered. Table 1 shows the loadings and AVE values greater than 0.707 and 0.50, respectively, to confer a good convergent validity (Hair et al., 2016).

*Table 1: Reliability and convergent validity*

Items	Loadings	CrA	CR	AVE
BrA1	0.796	0.921	0.938	0.716
BrA2	0.861			
BrA5	0.838			
BrA6	0.850			
BrA7	0.871			
BrA8	0.860			
ESer1	0.832	0.825	0.896	0.741
ESer2	0.864			
ESer3	0.886			
OSQ2	0.948	0.880	0.943	0.893
OSQ3	0.942			
EFul1	0.820	0.811	0.888	0.725
EFul2	0.868			
EFul3	0.866			
ESec1	0.912	0.895	0.935	0.827
ESec2	0.921			
ESec3	0.895			
WeD1	0.831	0.868	0.904	0.654
WeD2	0.811			
WeD3	0.827			
WeD4	0.734			
WeD5	0.838			

Heterotrait-Monotrait Ratio (HTMT) was suggested by Henseler, Ringle, and Sarstedt (2015) to evaluate discriminant validity. HTMT values should be 0.90 or less for discriminant validity. The results in Table 2 indicate that HTMT values were less than 0.90 to have a satisfactory discriminant validity, as shown in Table 2. Once the measurement model was found satisfactory for reliability and validity, then the structural model was assessed.

*Table 2: Heterotrait-Monotrait Ratio (HTMT)*

	BrA	EFul	ESec	ESer	OSQ	WeD
BrA						
EFul	0.589					
ESec	0.485	0.800				
ESer	0.690	0.812	0.691			
OSQ	0.695	0.820	0.693	0.788		
WeD	0.581	0.889	0.794	0.755	0.719	

## Structural Model

To evaluate the structural model, t-statistics, effect size, and variance explained,  $R^2$  and  $Q^2$  were evaluated (Muhammad, Mahadi, & Hussin, 2017). To evaluate t-values, a bootstrapping procedure with 5000 subsamples was run as suggested by (Hair et al., 2016; Muhammad & Gul-E-Rana, 2020). The results indicated in Table 3, show that H1 ( $\beta= 0.626$ ,  $p<0.000$ ), H3( $\beta= 0.320$ ,  $p=0.000$ ), H4( $\beta= 0.315$ ,  $p=0.000$ ) and H5( $\beta= 0.149$ ,  $p=0.023$ ) were supported, while H2( $\beta= 0.068$ ,  $p=0.189$ ) was rejected. The effect sizes  $f^2$  were ranging from 0.023 to 0.645. Effect  $f^2$  0.02 is considered small, 0.15 as a medium, and 0.35 as large (Cohen, 1992). Hence, the effect sizes of exogenous constructs on endogenous constructs in the proposed model ranged from small to large. Overall, e-service quality (OSQ) explained 39.2 percent in the brand attachment (BrA). While, Website design (WeD), e-fulfillment (EFul), e-service (ESer), and e-security (Eser) collectively explained 58.3 percent of variance in OSQ. In addition to this  $Q^2$  values for predictive relevance were greater than zero. These values were obtained by using a blindfolding approach in SmartPLS3. In sum, all hypotheses were accepted, except H2, as shown in Table 3.

Table 3: Hypothesis results

Hyp	Paths	$\beta$	Std. Error	t-values	p-values	$f^2$	$R^2$	$Q^2$	Decision
H1	OSQ -> BrA	0.626	0.046	13.729	0.000	0.645	0.392	0.261	Accepted
H2	WeD -> OSQ	0.089	0.068	1.315	0.189	0.007			Rejected
H3	EFul -> OSQ	0.320	0.066	4.879	0.000	0.089	0.583	0.490	Accepted
H4	ESer -> OSQ	0.315	0.058	5.408	0.000	0.118			Accepted
H5	ESec -> OSQ	0.149	0.060	2.484	0.013	0.023			Accepted

## Discussion

The study aimed to examine the impact of website design, e-fulfillment, e-customer service, and e-security on overall e-service quality and overall e-service quality on brand attachment in the banking industry was yet to be considered. The impact of overall e-service quality on brand attachment was supported (H1). This result can be explained in the light of brand attachment theory (Bowlby, 1979), which states that the extent to which an individual is emotionally attached to a particular object envisages the interaction with that object (Thomson et al., 2005). Furthermore, attachment theory focuses on human interactions, but literature also shows this relation between humans and brands they use (Aaker, 1997; Fournier, 1998). Hence, this might be why the impact of overall e-service quality on brand attachment was supported. The impact website design overall e-service quality was not supported (H2). This finding is consistent with the argument of Dedeke (2016). Dedeke (2016) argued that e-retailers need to overemphasize the website design's e-service quality as perceived by consumers. Since information task fit affects perceived quality more than web design quality, another reason might be the website with pertinent information, leaving a good impression on consumers compared to the website with less appropriate information despite good design.

The impact of e-fulfillment on overall e-service quality was supported (H3). Recent advancements in technology have changed the service delivery options, specifically in service industries (Dennis, Merrilees, Herington, & Weaven, 2009). Hence customer's perceptions about overall e-service quality are dependent on these exchanges between customers and banks (Jabnoun & Hassan Al-Tamimi, 2003). Hence, the value and convenience they receive from their banks are noticed by them (Lewis & Soureli, 2006), which may be considered a source for evaluating the overall e-service quality. Hence, this might be the reason that the impact of e-fulfillment was supported on overall e-service quality.

The impact of e-customer service on overall e-service quality was also supported (H4). The banking sector is having immense competition and is increasing better services and effectiveness in processes. Hence, to become

more effective, flexible, and competitive, banks have now realized the importance of the internet to provide customer service better. This discussion concludes that banks should focus on providing better customer services to develop their positive perceptions about overall e-service quality. As researchers also emphasized, the banking sector needs to develop strategies that enhance the overall e-service quality of banks (e.g., Goyal & Chanda, 2017). Finding in this study is also consistent with this argument and the impact of e- customer service found to influence overall e-service quality positively.

Finally, the impact of e-security on overall e-service quality was also supported (H5). Online security requires system configuration and third-party endorsement by representing signs and logos known to customers to protect their online transactions. In addition to this, Lee and Turban (2001) also claimed that customers need to check how organizations will protect their personal information and their financial details. Moreover, Chien-Ta Ho and Oh (2009) also argued that e-security seals could shape the customer's trust in websites in an entirely different way. Such studies emphasize getting security assurance by customers during their online transactions because customers can't see the trustworthiness standards visibility. Hence, if companies want to use security seals, they should follow the standards established by third parties to reduce the customers' fear of security. In Pakistani banking, the banking industry's regularity authority assures the customers of banking industry customers to protect financial aspects. This might be the reason that the impact of e-security is supported. Such findings have contributions to theory and practice.

### **Theoretical Contributions**

Brand attachment is an important but unexplored area that needs to be considered by researchers, particularly in online settings (Blut et al., 2015). Further, the parameters that increase overall e-service quality in banks were yet to be considered (Goyal & Chanda, 2017). Therefore, this study contributes to the literature by shedding light on this unexplored area and has considered the impact of overall e-service quality on brand attachment and website design, e-fulfillment, e-service and e-security on overall e-service quality. Findings of this study open new avenues to researchers for better understanding the antecedents of overall e –service quality and thereof impact overall e-service quality on brand attachment in banking industry.

### **Managerial Contributions**

In the banking industry context, this study is important to explore those factors that may influence customers' overall e-service quality and enhance brand attachment to help manager for strategy formulation. This study's results would help policymakers and practitioners of the banking industry understand all significant dimensions of overall e-service quality. Managers can enhance customers' perceptions of overall e-service quality by improving customer service, ensuring secure transactions and e-customer services, and fulfilling their requests on time. Additionally, in service sectors, customers want to have order fulfillment on time. This study suggests that banks should ensure their systems' technical maintenance efficiency to create a better image of order fulfillment and security as a reliable banking firm. Banks need to maintain consistency in providing better services to maintain and enhance their customers' brand attachment and provide unique services is the best way to position the customer's minds and build a strong image of their brand.

### **Limitations of the study**

This study also has some limitations. The majority of the study respondents were using the internet for more than one hour per day. Hence, the finding should be interpreted accordingly, and banks need to have different strategies to attract those customers for brand attachment who are not using the internet. Further, the study aimed to consider antecedents and outcomes. Accordingly, the mediating role of overall e-service quality was not considered. Future research may consider how e-fulfillment, website design, e-customer service, and security affect brand attachment via overall e-service quality by considering overall e-service quality as a mediator.

Further, in developing countries, such customers are in a reasonable number. Such a future study might be necessary for attracting customers for brand attachments who are not internet users. This study considered the banking industry. It would be interesting to test the current research framework in different industries and cultures to validate or contradict the results. Future research may consider the influence of overall e-service quality on willingness to pay and behavioral loyalty in the banking industry. In sum, this reasonable effort to fill the gaps in the literature about overall e-service quality and brand attachment in the banking industry.

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