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Effects of structural and bonding-based attachment on brand loyalty

Structural and bonding-based attachment

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Abstract

Purpose – The purpose of this paper is to ascertain the effects of structural and bonding attachment on brand loyalty. The authors identified network quality, network coverage and mobile number portability (MNP) as structural elements of attachment that affect brand loyalty. Similarly, the authors identify brand trust and social interaction ties as elements of bonding-based attachment that affects brand loyalty.

Design/methodology/approach – The authors employed a survey as the research design. There were 500 respondents who were customers of telecommunication network brands in Ghana. Data collected were analyzed using the partial least square approach to structural equation modeling (PLS-SEM) on SmartPLS 3.

Findings – The findings indicate that structural and bonding-based attachments affect the brand loyalty. Specifically, the authors found that network coverage, network quality, brand trust and social interaction ties have positive effects on brand loyalty while MNP has a negative effect on brand loyalty.

Originality/value – This study conceptualizes attachment from both structural and bonding perspectives, which are rare in the marketing literature. Thus, this study advances the conceptualization of attachment in the marketing literature.

Keywords Ghana, Brand loyalty, PLS-SEM, Attachment theory, Bonding attachment, Structural attachment, Telecommunication network brands

Paper type Research paper

Introduction

Brand loyalty is one of the marketing concepts that have received much attention from researchers in the marketing discipline. The determinants of brand loyalty have been well studied (Gursoy Chen and Chi, 2014), and it will continue to be a topic of interest for many researchers due to its strategic importance to firms. Factors such as physical quality, passion, connection, affection and brand trust have been associated with brand loyalty (Menidjel *et al.*, 2017; Hemsley-Brown and Alnawas, 2016). These results imply that the attachment theory can explain customers' loyalty to a brand since these elements are central to attachment theory (Bowlby, 1988; Ainsworth, 1973). Attachment theory has been applied in many fields of academic research. For example, in the marketing literature, attachment is normally defined through affection (Hemsley-Brown and Alnawas, 2016). In addition, emotional connections have been associated with brand choice (Narteh *et al.*, 2012). However, as shown in the humanistic geography literature, attachment is a multi-faceted concept which goes beyond bonding; it involves bonding, process, people and structures



associated with a place (Scannell and Gifford, 2010). In line with this extant literature, we posit that attachment can be viewed from two perspectives; structural and bonding. We also argue that there is a relationship between attachment and brand loyalty. Providing an empirical support for our arguments, we used data sets from the mobile telecommunication sector in Ghana. This study is timely since the introduction of the mobile number portability (MNP) policy by National Communication Authority of Ghana has provided opportunities for customers of mobile telecommunication brands to easily switch from one service provider to another. Again, the telecommunication sector is one of the fastest growing economic sectors in Ghana and the sector is very competitive. Thus, there is the need for the telecommunication companies to find new ways of creating a customer base that is loyal to their brands. The main aim of this study is to ascertain the relationship between attachment and brand loyalty. Our study contributes to the extant literature as it offers an alternative and additional dimension of attachment as theorized in the marketing literature. The study also offers suggestions as to how brand managers can develop attachment-based marketing strategies to create a customer-base that is loyal to their brands. The rest of the paper is divided as follows: theoretical background; research model and hypotheses development; methodology; results and analysis; discussions of findings; theoretical contributions; and practical contributions, and limitations of the study.

Theoretical background

Attachment theory

The attachment theory posits that people have the tendency to emotionally bond with a particular individual (Bowlby, 1988). Example is the enduring emotional relationship between a child and a caregiver that affects the child's behavioral patterns (Ainsworth, 1967). According to Scannell and Gifford (2010), place attachment has structural and bonding components. The structural components deal with features of a place that make an individual have a sense of attachment to the place by default while bonding attachment deals with affection and related elements that bond a person to a place. In the operations of mobile telecommunication network services, structural elements such as network coverage, network quality and MNP can make a customer have a sense of attachment to a particular telecommunication network brand (Chakraborty and Sengupta, 2013) thus, we define structural attachment by these three elements. On the other hand, the marketing literature has normally treated attachment from bonding perspectives (see Hemsley-Brown and Alnawas, 2016). Following these, we identify social interactions ties and brand trust, which are key elements of brand attachment (Hemsley-Brown and Alnawas, 2016), as the constituents of bonding-based attachment. Evidence from the existing literature suggests that attachment and its constituents are associated with brand loyalty. For example, Hemsley-Brown and Alnawas (2016) found that physical quality of a place is associated with brand loyalty. Tsai *et al.* (2006) found a positive relationship between social interactions and brand loyalty. From these studies, we can infer that attachment is associated with brand loyalty. Thus, we investigate the relationship between elements of attachment (as identified in this study) and brand loyalty.

Brand loyalty

Oliver and Rust (1997) define brand loyalty as an intensely held commitment to purchase goods or services in a repeated and consistent manner in the future. This commitment makes it possible for consumers to patronize services despite all the marketing efforts from competing brands. Similarly Oliver (1997) in his work on consumer satisfaction defined customer loyalty as a "deeply held commitment to repatronize a preferred product or service consistently in the future, thereby causing repetitive same-brand or same brand-set

purchasing, despite situational influences and marketing effort shaving the potential to cause switching behavior.” Senić and Marinković (2014) add that the loyalty is usually defined as “a customer’s intention to give exclusive patronage to a particular product or service over a sustained period of time.” In this study, brand loyalty is defined as the continuous usage of a particular mobile network brand. Aaker (2004) expressed the view that regardless of the actions of competing brands, loyal customers would purchase products or services from their preferred brand. Lee and Jee (2016) contend that brand loyalty is influenced by consumer preferences.

Structural and bonding-based attachment

Research model and hypotheses development

We propose that brand attachment can be viewed from structural and bonding perspectives. Each of these two dimensions has elements that are associated with brand loyalty. We identified network quality, network coverage and MNP as structural elements of attachment that affect brand loyalty. Similarly, we identify brand trust and social interaction ties as elements of bonding-based attachment that affects brand loyalty. Figure 1 is a pictorial depiction of our research model.

Network coverage

Network coverage is an important element worthy of consideration for the telecommunication service providers. Coverage refers to the area covered by the network. It determines the subscriber identity module (SIM) card a subscriber uses because the service providers may not cover all parts of the country. Depending on their destinations, subscribers use service providers with the network that covers their areas of operations. Muto and Yamano (2009) postulate that when the network covers a community it is expected that households with more assets and educational levels purchase mobile phones more than others with lesser assets. Lai *et al.* (2009) conducted research on customer satisfaction and loyalty in a Chinese telecommunication. They found a significant relationship between network coverage and loyalty. This current study, therefore, argues that network coverage is an important factor that increases brand loyalty in the telecom industry in Ghana. Consequently, we hypothesize that:

H1. Network coverage is positively associated with brand loyalty.

Network quality

The quality of a network is essential in the telecommunication industry as Chan and Leung (2003) argue that the quality of service is important in the mobile network infrastructure level.

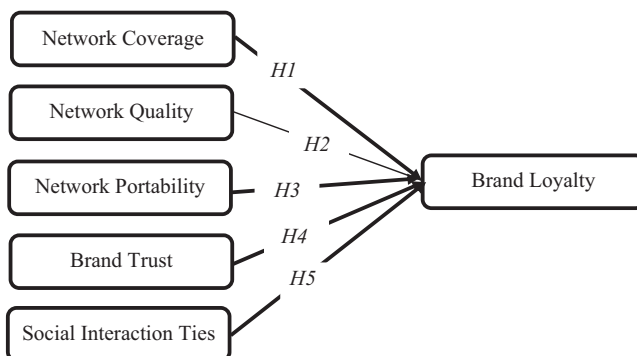


Figure 1.
Hypothesized model

Connectivity is imperative as it makes it possible for quality of information to be shared, hence it avoids disconnections (Chan and Leung, 2003). Lai *et al.* (2009) found that network quality is an important determinant of overall service quality in the telecommunications industry. Stated in Chakraborty and Sengupta (2013), Gerpott *et al.* (2001) explain network quality refers to the “excellent indoor and outdoor coverage and in the clarity of voice reproduction without any connection break downs.” Wang *et al.* (2004) also expressed the opinion that in the telecommunications industry network quality involves the quality and strength of the network signal. Network quality has become a critical dimension that forms customers’ perception of service quality of cell phone service providers (Chakraborty and Sengupta, 2013) and satisfaction (Caruana and Ewing, 2010). Since service quality and customer satisfaction affect customer loyalty, we argue that network quality is associated with brand loyalty. Thus, we conclude and hypothesize that:

H2. Network quality is positively associated with brand loyalty.

Mobile number portability (MNP)

Polo and Sese (2009) note that the cost associated with switching from one service provider to the other is a key factor that determines switching behavior. For example, prior to the introduction of MNP in Ghana, it was highly impossible for customers of telecommunication service brands to switch from one brand to another and still maintain their numbers. This situation made some customers loyal to some brands by default since they did not want to lose their mobile phone numbers. Before the introduction of MNP, subscribers had to use multiple SIM cards or even had to use a number of mobile phones, which placed an unnecessary burden on the subscriber (Kagwathi *et al.*, 2013).

However, with the introduction MNP, mobile telecommunication network subscribers can maintain their phone numbers when moving from one service provider to another (Kim and Shin, 2007). When customers feel dissatisfied with the current network provider, they have an opportunity to switch to a new one while maintaining the same number. That is, the switching cost is no longer high for the customer. In other words, the structures that made customers loyal to some telecommunications brands by default are no longer there and customers can now switch from one brand to another. This means that MNP can reduce customers’ loyalty to a telecommunication network brand. Thus, we hypothesize that:

H3. MNP is negatively associated with brand loyalty.

Brand trust

Boateng *et al.* (2016) define trust as the assurance an individual may have in the honesty or goodness of a brand. Trust makes it possible for social relationships to be regulated and it minimizes uncertainty of human behavior in some instances (Lee *et al.*, 2011). Bashir and Madhavaiah (2015) shared their view on trust by stating trust to refer to the assured confidence a consumer may have in a service provider’s ability to provide reliable services. Stated in Lee and Jee (2016), Chaudhuri and Holbrook (2001) define brand trust as the willingness of the consumer to rely on the ability of a brand to perform its stated function. Brand trust is defined in the context of mobile phones to refer to “a relational chemistry upon which the customer is emotionally and rationally attached to a specific brand name” (Hawass, 2013). Brand trust has been found to be an important predictor of brand loyalty (Srivastava *et al.*, 2015). In a study on the trust-loyalty relationship, Paulssen *et al.* (2014) establish a positive relationship between brand trust and brand loyalty. Similarly, a study by Reast (2005) on brand trust and brand extension also provides evidence of the relationship between brand trust and brand loyalty. Following the extant literature, this

study proposes the existence of a relationship between brand trust and brand loyalty. Thus, we hypothesize that:

Structural and
bonding-based
attachment

H4. Brand trust is positively associated with brand loyalty.

Social interaction ties

Godes *et al.*(2005) have generally defined social interaction as “actions [...] taken by an individual not actively engaged in selling the product or service and that impact others’ expected utility for that product or service.” The actions of some consumers influence the decisions of others with respect to the product or service. Social interaction has been proven vital in developing relational ties that go on to facilitate neighborliness and contribute to a “sense of community” (Reid, 2015). This study conceptualizes social interaction ties as the bond that service providers may have formed with consumers as a result of social interaction. Telecommunication network brands in Ghana maintain relationships with their customers on Facebook as well as offline. This creates ties between customers and their telecommunication network brands. The strength of the ties makes it difficult for consumers to break away and so they are willing to stay connected. Tsai *et al.* (2006) in their work on online customers found positive effects from customers’ “sense of community” on customer loyalty (Shi *et al.*, 2015). To this end, this study proposes that social interaction ties influence brand loyalty in the telecommunication industry. Therefore, we hypothesize that:

H5. Social interaction ties is positively associated with brand loyalty.

Methodology

Measurement instrument

In order to improve content validity the measurement items for the latent constructs used in this study were drawn from previous studies. The items were then reworded to fit our specific context. The items used to measure brand loyalty were adapted from Lewis and Soureli (2006) while those for brand trust were derived from Gurviez and Korchia (2002). Social interaction ties was also measured with items adapted from Kim *et al.* (2011). Items for number portability and network coverage were self-developed while those for network quality were adapted from Paulrajan and Rajkumar (2011).

Sample and data collection

The respondents were customers of the mobile telecommunication networks companies in Ghana. The study used a survey method of questionnaires which were self-administered to respondents. While some respondents completed the questionnaire on the spot and returned it to us, others returned their completed questionnaire later. With the support of ten undergraduate students, we were able to follow-up and collect those who were not returned on time. There were 500 respondents; 53.2 percent were male while the rest (46.8 percent) were females. Details of the demographic characteristics of the respondents are contained in Table I.

Data analysis method

Data collected were analyzed using the partial least square approach to structural equation modeling (PLS-SEM) on SmartPLS 3 (Ringle *et al.*, 2015). SEM is a second-generation statistical technique that allows researchers to test causal relationships between latent variables. There are two approaches to SEM (Hair *et al.*, 2016); the covariance-based SEM, which requires that the data exhibits multivariate normality and the variance-based approach PLS-SEM which does not require multivariate normality. The study employs

Profile	Measurements	Frequency	Percent
Gender	Male	266	53.2
	Female	234	46.8
Age (years)	18–27	180	36
	28–37	207	41.1
	38–47	65	13
	48–57	37	7.4
	58 and above	11	2.2
Educational level	No formal education	6	1.2
	Vocational/high school	29	5.8
	HND	14	2.8
	University degree	438	87.6
	Post graduate	13	2.6
Network brand	MTN	210	42
	Vodafone	102	20.4
	Airtel	67	13.4
	Tigo	106	21.2
	Glo	11	2.2
	Expresso	4	0.8
Years of using network services	5–9	4	0.8
	10–14	282	56.4
	15–19	15	3.0
	20 and above	199	39.8
Average spending per month	Below GHC 100	387	77.4
	GHC 100–199	67	13.4
	GHC 200–299	26	5.2
	GHC 300–399	4	0.8
	GHC 400 and above	16	3.2

Table I.Profile of respondents **Note:** $n = 500$

PLS-SEM because the data were non-normal. Values of skewness and excess kurtosis in Table III show that all constructs are non-normal. It was also to help us explain the variance of the endogenous constructs.

Common method bias

As the research adopts a cross-sectional design and also both dependent and independent variables are collected from the same respondents, there is the likelihood that common method bias may present a threat to the validity of the conclusions drawn from the hypothesized relationships (Podsakoff *et al.*, 2003). In order to address this issue, the researchers followed suggestions by Podsakoff *et al.* (2012). First, some items were reversed to guarantee that not all responses correspond to a larger effect. Second, items relating to one construct were dispersed throughout the questionnaire to prevent respondents from thinking these items were redundant. In addition, we statistically tested the impact of CMB using the Harman's one factor test and the full collinearity variance inflation factor (VIF). The first factor accounts for only 28.42 percent, which shows that common method bias is not likely to pose a significant problem in this study. Kock (2015) also recommends that VIF values less than 3.3 signify that there is no problem with common method bias. Evidence of this is shown in Table II.

Results and analysis

Data from the survey were validated and the proposed hypotheses tested using the partial least square approach to SEM with the aid of SmartPLS version 3. Using the two-step

	BL	NC	NP	NQ	ST	TT	CA	CR	AVE	VIF	Structural and bonding-based attachment
BL1	0.850	0.433	-0.078	0.400	0.392	0.454	0.857	0.904	0.701	1.816	
BL2	0.882	0.404	-0.043	0.424	0.415	0.425					
BL3	0.834	0.376	-0.062	0.398	0.458	0.424					
BL4	0.781	0.342	-0.019	0.401	0.463	0.386					
NC1	0.429	0.759	0.033	0.457	0.268	0.314	0.799	0.860	0.552	1.516	
NC2	0.310	0.790	0.101	0.382	0.280	0.292					
NC3	0.317	0.665	0.082	0.310	0.346	0.241					
NC4	0.234	0.758	0.087	0.387	0.287	0.181					
NC5	0.370	0.736	0.110	0.334	0.374	0.237					
NP1	-0.021	0.122	0.784	0.106	0.060	-0.021	0.872	0.902	0.699	1.039	
NP2	-0.069	0.088	0.906	0.094	0.025	0.003					
NP3	-0.025	0.125	0.769	0.092	-0.009	0.023					
NP4	-0.057	0.073	0.878	0.066	0.031	0.011					
NQ1	0.317	0.444	0.081	0.785	0.240	0.212	0.873	0.907	0.661	1.508	
NQ2	0.340	0.340	0.082	0.823	0.281	0.153					
NQ3	0.362	0.346	0.105	0.804	0.346	0.187					
NQ4	0.452	0.475	0.023	0.836	0.331	0.277					
NQ5	0.459	0.445	0.119	0.818	0.333	0.311					
ST1	0.446	0.341	-0.028	0.335	0.817	0.290	0.819	0.872	0.578	1.453	
ST2	0.326	0.243	0.013	0.274	0.755	0.211					
ST3	0.261	0.328	0.138	0.248	0.677	0.255					
ST4	0.415	0.324	0.020	0.266	0.788	0.331					
ST5	0.454	0.354	0.019	0.311	0.757	0.319					
TT1	0.353	0.250	-0.030	0.226	0.277	0.768	0.855	0.896	0.632	1.377	
TT2	0.309	0.146	-0.054	0.194	0.262	0.756					
TT3	0.430	0.324	0.011	0.209	0.307	0.821					
TT4	0.442	0.320	0.036	0.271	0.322	0.800					
TT5	0.445	0.314	0.038	0.240	0.315	0.827					

Notes: BL, brand loyalty; NC, network coverage; NP, number portability; NQ, network quality; ST, social interaction ties; TT, brand trust; CA, Cronbach's α ; CR, composite reliability; AVE, average variance extracted; VIF, full Collinearity Variance Inflation Factor

Table II.
Results for reliability discriminant and convergent validity testing

approach to evaluating structural equation model recommended by Chin (1998), we first tested the reliability and validity of the measurement model and then went on to test the significance of structural path between the variables in the hypothesized model.

Measurement model assessment

The measurement model was assessed based on the reliability, convergent validity and discriminant validity of the latent construct in the proposed model. The reliability of constructs was assessed using both Cronbach's α and composite reliability. It is recommended that for a construct to be reliable values for both Cronbach's α and composite reliability must be above the acceptable level of 0.7 (Henseler *et al.*, 2009). From the results presented in Table II, it can be seen that values for both Cronbach's α and composite reliability for all construct are above 0.7.

Convergent validity was also assessed using the AVE. From Table II, it can be seen that the AVE values are above the 0.5 threshold recommended by Henseler *et al.* (2009). Discriminant validity on the other hand was assessed based on the following guidelines: the loadings of each indicator should be greater than all its cross loadings (Chin, 1998; Götz *et al.*, 2010; Henseler *et al.*, 2009); the Fornell-Larker criterion which states that the AVE of each latent construct should be greater than the highest squared correlations between any other construct (Fornell and Larcker, 1981); and the more recent Heterotrait-Monotrait

(HTMT) criterion proposed by Henseler *et al.* (2015). Evidence for discriminant validity is provided in Tables II–IV. From Table II, it can be seen that items for each construct load are higher on their respective construct than on other constructs.

Again, from Table III, it is an evident that the square root of the AVEs for each construct is greater than the cross correlation with other constructs. Using HTMT0.85, it can be seen from Table IV that all values are below the threshold suggested by Henseler *et al.* (2015).

Structural model assessment

Having verified the measurements model, we went ahead to assess the structural model. The bootstrap resampling procedure (with an iteration of 5,000 sub-samples drawn with replacements from the initial sample of 500) was used to determine the significance of the path coefficients in the structural model. The explanatory power of the structural model was assessed by its ability to predict endogenous construct using the coefficient of determination R^2 . Results for the structural model assessment are presented in Table V and Figure 2.

In support of *H1*, network coverage was found to have a significant positive effect on brand loyalty ($\beta = 0.145$, $p = 0.001$). Network quality was also found to be a significant positive predictor of brand loyalty ($\beta = 0.240$, $p = 0.000$). As expected, number portability

Table III. Testing discriminant validity using Fornell–Larcker criterion

	Skewness	Excess kurtosis	BL	TT	NC	NQ	NP	ST
Brand loyalty	-0.735	0.565	<i>0.837</i>					
Brand trust	-0.551	0.638	0.505	<i>0.795</i>				
Network coverage	-0.370	0.220	0.465	0.351	<i>0.743</i>			
Network quality	-0.411	0.079	0.484	0.289	0.509	<i>0.813</i>		
Number portability	-0.656	0.246	-0.061	0.006	0.107	0.100	<i>0.836</i>	
Social interaction ties	-0.147	-0.416	0.516	0.375	0.420	0.381	0.031	<i>0.760</i>

Note: Square roots of average variance extracted (AVEs) shown on diagonal while off-diagonals are inter-construct correlations

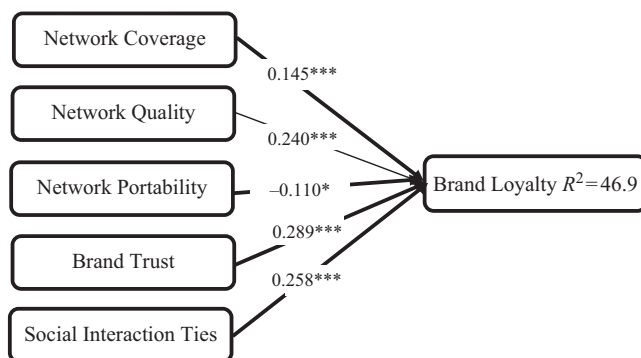
Table IV. Discriminant validity testing using the HTMT ratio

	BL	TT	NC	NQ	NP	ST
Brand loyalty						
Brand trust	0.580					
Network coverage	0.539	0.398				
Network quality	0.548	0.321	0.594			
Number portability	0.059	0.055	0.149	0.122		
Social interaction ties	0.597	0.438	0.514	0.440	0.083	

Table V. Path coefficients and their significance

Hypotheses	Path	Path coefficient	<i>t</i> -statistics	<i>p</i> -values	Result
<i>H1</i>	NC → BL	0.145***	3.233	0.001	Supported
<i>H2</i>	NQ → BL	0.240***	5.068	0.000	Supported
<i>H3</i>	NP → BL	-0.110*	2.023	0.043	Supported
<i>H4</i>	TT → BL	0.289***	5.455	0.000	Supported
<i>H5</i>	ST → BL	0.258***	5.806	0.000	Supported

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$



Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Structural and bonding-based attachment

Figure 2.
Structural model results

was found to have a significant negative relationship with brand loyalty ($\beta = -0.110$, $p = 0.043$) thereby providing support for *H3*. In support of *H4*, brand trust was found to have the most significant influence on brand loyalty ($\beta = 0.289$, $p = 0.000$). Social interaction ties was found to have a significant positive effect on brand loyalty ($\beta = 0.258$, $p = 0.000$). The entire model accounted for 46.9 percent of the variation in brand loyalty.

Multi-group analysis

The results from Table VI indicate that gender moderates the path between social interaction ties and brand loyalty. The link was found to be stronger in males as compared to females. The moderating effect of gender on all other paths was found to be insignificant. Data on average spending per month were segmented into two categories; below GHC100 and above GHC 100.

From Table VII, it can also be seen that the link between social interaction ties and brand loyalty is stronger for those who spend higher than GHC100. The moderating effect of average spending on all other paths was insignificant. Finally, data on age were segmented into two, respondents between 18 and 37 were put in one group (young group, $n = 387$) and the others were put in to the old group ($n = 113$). Table VIII shows that age did not moderate any of the paths in the model.

Path	$\hat{\beta}$ (Male)	$\hat{\beta}$ (Female)	Difference Male-Female	p -value	Results
TT → BL	0.335	0.337	0.002	0.980	Not significant
NC → BL	0.021	0.181	0.160	0.070	Not significant
NQ → BL	0.223	0.270	0.047	0.586	Not significant
NP → BL	-0.176	-0.040	0.136	0.122	Not significant
ST → BL	0.364	0.141	0.222	0.010	Significant

Table VI.
Welch-Satterthwait test of difference between male and female groups

Path	$\hat{\beta}$ (High)	$\hat{\beta}$ (Low)	Difference Low-High	p -value	Result
TT → BL	0.203	0.332	0.145	0.171	Not significant
NC → BL	0.011	0.150	0.143	0.157	Not significant
NQ → BL	0.238	0.233	0.006	0.950	Not significant
NP → BL	-0.154	-0.073	0.075	0.468	Not significant
ST → BL	0.543	0.186	0.380	0.000	Significant

Table VII.
Welch-Satterthwait test of difference between low and high spending groups

Discussion of findings

The study posited that the factors that determine brand loyalty in the telecommunication industry are network coverage, brand trust, MNP, network quality and social interaction ties. Findings of the study reveal that network coverage are an important factor that determines brand loyalty ($\beta = 0.145$, $p = 0.001$). This means that it is important for telecommunication companies in Ghana to expand their networks to cover several places in the country and outside of the country as well. Previous studies (e.g. Lai *et al.*, 2009) have also confirmed the importance of network coverage as a factor that determines brand loyalty. The consumers would also perceive that the service provider provides more telecommunication services than their competitors.

As stated earlier, network quality was also found to be a significant positive predictor of brand loyalty ($\beta = 0.240$, $p = 0.000$). Network quality contributes to the satisfaction level of consumers; hence, the development of loyalty. Network quality has become a critical dimension that forms customers' perception of service quality of cell phone service providers (Chakraborty and Sengupta, 2013). When network quality is good, call drop rate reduces which means there is a high call completion rate. Consumers also perceive the importance of signal as it ensures good connectivity for quality information to be shared. Connectivity is vital for quality of information to be shared, hence it avoids disconnections (Chan and Leung, 2003). Due to this, consumers can anticipate a realistic time between placing a call and the actual connection to the receiving party (Kim and Shin, 2008).

The outcome of the research also suggests that MNP has a negative relationship with brand loyalty ($\beta = -0.110$, $p = 0.043$). This indicates that when customers have the opportunity to switch from one telecommunication network brand to the other, it negatively affects their loyalty. This is especially so when customers do not enjoy superior services from service providers. This is parallel to Polo and Sese (2009) who notes that the cost associated with switching from one service provider to the other is a key factor that determines switching behavior.

Findings of the study further indicate that brand trust has the most significant influence on brand loyalty ($\beta = 0.289$, $p = 0.000$). This is expected as trust minimizes uncertainty. Respondents trust that the brands they use represent the best telecommunication network. The service providers, the consumers believe, are largely transparent in their charges, reliable and innovative. This means that consumers are willing to rely on the abilities of their service providers to perform. Chaudhuri and Holbrook (2001) suggest that brand trust refers to the willingness of the consumer to rely on the ability of a brand to perform its stated function. Brand trust further manifests in how comfortable a consumer would be in patronizing the services of a provider. The influence of brand trust on brand loyalty has been confirmed by previous studies (e.g. Paulssen *et al.*, 2014; Reast, 2005). Furthermore, a study by Srivastava *et al.* (2015) on the antecedents and moderators of brand trust found trust to be an important predictor of brand loyalty.

Social interaction was also found to have a significant positive effect on brand loyalty ($\beta = 0.258$, $p = 0.000$). Social interaction has been found to be necessary for human health

Table VIII.
Welch-Satterthwait
test of difference
between the young
and old groups

	$\hat{\beta}$ (Old)	$\hat{\beta}$ (Young)	Difference (Young-Old)	p -value	Result
TT → BL	0.226	0.307	0.080	0.503	Not significant
NC → BL	0.111	0.156	0.045	0.686	Not significant
NQ → BL	0.264	0.237	0.027	0.800	Not significant
NP → BL	-0.140	-0.113	0.027	0.831	Not significant
ST → BL	0.295	0.250	0.046	0.639	Not significant

(Cook *et al.*, 2010). With this, consumers feel a sense of closeness with the service provider as a result of the interactions they have with each other. These interactions usually take place on the service network and on social media. Social interaction has been recognized to be essential in developing relational ties (Reid, 2015). The service providers usually engage their customers on different platforms.

Theoretical implications

This study makes some theoretical contributions. Previous studies in the marketing discipline have normally conceptualized attachment from the bonding perspective and focus mostly on affection and emotions to a brand (Hemsley-Brown and Alnawas, 2016). However, for a customer to have that emotional connection, the customer must trust the brand and have strong ties with the brand (Srivastava *et al.*, 2015). That is, these features are important for bonding attachment. Rather than treating bonding holistically, our study focused on identifying elements of bonding that create brand loyalty. Again, our study conceptualized attachment from a structural perspective and identified network coverage, network quality and MNP as its constituents. We also found empirical support for their relationship with brand loyalty. Thus, in the context of telecommunication sectors in developing countries such as Ghana where network coverage by some mobile network companies can be limited, customers will subscribe to networks whose network coverage is available at customer's place of residence. By default, these customers become loyal to such telecommunication networks brands because switching from these networks will mean that the customers will be out of coverage area or not have access to the telecommunication services. Furthermore, the findings imply that where telecommunications networks brands provide poor services and customers have the opportunity to switch, social bonding attachment and provision of quality service should be at the center of brand loyalty strategies. In other words, brand trust, social interactions ties and network quality increase customers' loyalty to the telecommunication brands in a context where mobile telecommunication services are poor.

Practical implications

Our study provides insights for telecommunication brands managers in Ghana and other economies whose telecommunication network sector is similar to that of Ghana. That is, where network coverage is limited and service is substandard. Our study suggests in these situations brands managers' marketing strategies should focus on bonding attachment. They need to interact regularly with their customers whether in a physical space or virtual space, such as Facebook. They need to instil customers' confidence in the brand by fulfilling their promises. Also brands managers' marketing strategies should focus on delivering superior services. For example, they should ensure that the call drop rate is reduced and customers experience uninterrupted network.

Limitations of the study

In our study, we conceptualized attachment theory from two perspectives. However, from the work of Hemsley-Brown and Alnawas (2016) and Scannell and Gifford (2010), there can be other dimensions of attachment such as identity and cognitive dimensions. Thus, we recommend that future studies should analyze these dimensions together. Again, the elements we identify in each dimension of attachment were few, however, from the literature there can be other elements of each dimension. For example, brand pride can be an element of the bonding dimension (Hemsley-Brown and Alnawas, 2016). Therefore, we recommend that future studies should examine these elements.

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