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Brian Tung^a & Jamie Carlson^a

^a Newcastle Business School, University of Newcastle, Newcastle, Australia

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Modeling a Formative Measure of Relationship Quality and Its Effects: Evidence From the Hong Kong Retail Banking Industry

BRIAN TUNG and JAMIE CARLSON

Newcastle Business School, University of Newcastle, Newcastle, Australia

This article explores a formative, hierarchical model of relationship quality and its effects in the Hong Kong retail banking services sector. Data were collected from a survey of 269 customers and analyzed using structural equation modeling (SEM). The findings support the theoretical framework showing relationship quality impacts repurchase intention, cross-buying intention, recommendation behavior, and reduced switching behavior to competitor offerings. Further, a moderating effect of gender was not observed in the framework. The study offers relevant implications as it is among the first to adopt a hierarchical, formative configuration of relationship quality and its effects on consumer behavior in retail banking.

KEYWORDS *relationship quality, retail banking, relationship marketing, Hong Kong*

INTRODUCTION

In recent years, greater focus has now been placed upon “customer experience management” (Verhoef et al., 2009) and “customer engagement” in services which has been argued to act as a vehicle for enhancing consumer relationships, profitability and growth (Brodie, Hollebeek, Juric, & Ilic, 2011; Vivek, Beatty, & Morgan, 2012). However, the retail banking service sector has undergone tremendous change arising from adverse global market conditions, increasing competition, rising operating costs, and the

Address correspondence to Jamie Carlson, Newcastle Business School, University of Newcastle, Level 3, University House, Corner King and Auckland Streets, Newcastle 2300, Australia. E-mail: jamie.carlson@newcastle.edu.au

growing sophistication of customers representing challenges to adequately engage with customers (Soureli, Lewis, & Karantinou, 2008; Rajaobelina & Bergeron, 2009). Further, studies highlight the complexity of managing relationships in retail banking noting that not all customers desire to form relationships with some customers focusing on transactional exchanges and others on the relational aspect. For example, Aurier and N'Goala (2010) noted that the retail bank industry is affected by a partial defection phenomenon stating (p. 304) that while less than 5% of customers definitively leave their bank annually, 35% develop multiple relationships. They also highlight that customers use fewer existing services (level of credit and savings) and buy additional products from other banks (bonds, stocks, savings, or insurance).

Importantly, the concept of relationship quality has been found to be the core of maintaining a healthy relationship between buyers and sellers (Hennig-Thurau, Gwinner, & Gremler, 2002). In retail banking, it has been argued that the development of a strong, high quality customer relationship improves customer loyalty (Lewis & Soureli, 2006), and cross-buying opportunities (Liu & Wu, 2009; Soureli et al., 2008). Although relationship quality's relevance for maintaining successful relationships with customers has been discussed widely in relation to consumer markets (Athanasopoulou, 2009), it still has room for further advancement in retail banking in terms of its conceptualization and measurement properties. Prior examinations of relationship quality retail banking services have yet to capture the conceptual richness of the construct as a unified whole which often rely on separate attributes in its measurement. Instead, we argue that relationship quality represents a hierarchical, formative multidimensional construct formed by three dimensions—satisfaction, trust, and commitment—and empirically assesses this conceptualization in the retail banking setting in Hong Kong. In doing so, this study contributes to existing literature by (a) conceptualizing the relationship quality construct as composed of hierarchical, formative indicators with multiple, theoretically defensible dimensions; (b) providing evidence that explores relationship quality's influence on key consumer behavior outcomes in the retail banking industry, and (c) examines the moderating effect of gender in the research model.

To best of our knowledge, this study is the first to consider relationship quality in retail banking in such a hierarchical, formative configuration. Such investigation is necessary if relationship quality is to be meaningful managerially in the retail banking industry. To this end, the paper is organized as follows: the theoretical framework of the study is discussed where the research model is developed and hypotheses proposed. The research methodology and empirical findings is then outlined. Finally, the study discusses the implications of the research in terms of contributions, limitations, and future research directions.

THEORETICAL BACKGROUND AND HYPOTHESES

Prior Conceptualizations of Relationship Quality

Relationship quality is considered as an overall assessment of the strength of a relationship (Garbarino & Johnson, 1999). Relationship quality can be described as a multidimensional construct reflecting the overall nature of relationships between companies and consumers (Hennig-Thurau et al., 2002). Over the past two decades, scholarly work has explored the conceptualization of relationship quality to better understand its dimensionality. Notably, Dwyer, Schurr, and Oh (1987, p. 13) pointed out that relationship quality is stated as “a higher order construct consisting of several distinct, although related dimensions.” However, an analysis of the literature in consumer markets cites different dimensions and conceptualizations of relationship quality in empirical papers (c.f. Athanasopoulou, 2009). For example, a volume of research consistently suggests trust and satisfaction (e.g., Bejou, Wray, & Ingram, 1996; Lin & Ding, 2005), where others include a third dimension of commitment (e.g., De Wulf, Odekerken-Schroder, & Iacobucci, 2001; Garbarino & Johnson, 1999; Moliner, Sanchez, Rodriguez, & Callarisa, 2007).

Toward a Conceptualization of Relationship Quality in Retail Banking

A review of the literature indicates few empirical studies investigating relationship quality in retail banking with the available work focused on satisfaction and trust dimensions. For instance, as shown in Table 1, it has been argued that relationship quality is unidimensional (e.g., Ndubisi, 2006; Ndubisi & Madu, 2009), two-dimensional (e.g., Liang & Wang, 2006; Liu & Wu, 2009; Wong, Hung, & Chow, 2007), and four dimensions (Roberts, Varki, & Brodie, 2003). In many instances, these works have modeled relationship quality as separate independent dimensions, and in some cases, having a direct effect on consumer behavior outcomes.

Based on the analysis of the literature, we follow the approach of prior studies who define relationship quality as a multidimensional construct (e.g., Crosby, Evans, K., & Cowles, 1990; De Wulf et al., 2001; Roberts et al., 2003), and conceptualize relationship quality as a hierarchical construct in the retail bank environment with three dimensions trust, commitment, and satisfaction. In this sense, we define each of the three dimensions in the context of retail banking as follows: (a) consistent with Verhoef (2003), we define *commitment* as the extent to which an exchange partner desires to continue a valued relationship which is based on the affective commitment and focuses on the psychological attachment with the retail bank; (b) *trust* can be defined as “existing when one party has confidence in the exchange partner’s

TABLE 1 Prior Empirical Studies on Relationship Quality in Retail Banking Services

Author	Components	Modelled as multidimensional?	Outcomes	Context
Roberts, Varki, & Brodie (2003)	Satisfaction, trust, commitment, conflict	No	Behavioural intentions	Country setting unknown. 232 customers of various service types including banking
Liang & Wang (2006)	Satisfaction, trust	No	Behavioural loyalty	1,043 retail bank customers in Taiwan
Ndubisi (2006)	Overall measure of RQ as perceived by customers	No	None	220 retail bank customers in Malaysia
Wong, Hung, & Chow (2007)	Satisfaction, trust	No	Willingness to refer, anticipation of future interaction	207 consumers of bank services in Hong Kong
Liu & Wu (2009)	Satisfaction, trust	No	Cross buying	470 retail bank customers in Taiwan
Ndubisi & Madu (2009)	Overall measure of RQ as perceived by customers	No	None	220 retail bank customers in Malaysia
Aurier & N'Goala (2010)	Trust, commitment	No	Service usage, cross buying, duration, exclusivity	Retail bank customers in France (Sample 1 = 1,721; Sample 2 = 1,467)

reliability and integrity” (Morgan & Hunt 1994, p. 23) which is reinforced by positive service evaluations and satisfactory consumption experiences which make future exchanges more predictable (Aurier & N’Goala, 2010); and (c) relationship *satisfaction* refers to the consumer’s overall fulfillment response (Oliver, 1997).

According to Podsakoff, MacKenzie, Lee, and Podsakoff (2006), social researchers should use higher-order models when the construct is complex, because such models treat each dimension as an important component of the construct. These higher order constructs have proven to be successful in increasing theoretical parsimony and reducing model complexity (MacKenzie, Podsakoff, & Jarvis, 2005). On this basis, we conceptualize relationship quality in the retail bank context from the consumer perspective as a complex multidimensional construct formed by the three dimensions of trust, commitment and satisfaction. Similarly, relationship quality provides a higher-order construct, with different dimensions that represent distinct facets of the construct. This research focuses on the three dimensions that have the strongest theoretical support from the literature and generalize best to relationship quality across a variety of contexts. In this sense, the formative construct includes measures that influence the underlying latent construct rather than being influenced by it. Therefore, the measurement of relationship quality contains formative dimensions or components that can cause changes in the latent construct relationship quality.

Operationalizing Relationship Quality in Retail Banking

In specifying the operationalization of relationship quality, we follow the decision rules outlined by Jarvis, Mackenzie, and Podsakoff (2003) who distinguished between reflective and formative multidimensional models. This is because failure to specify a model properly can bias estimates of the structural relationships between constructs, undermine statistical conclusions about theoretical relationships among the constructs drawn from the research and can lead to incorrect managerial decision making (Mackenzie et al., 2005). Using Jarvis et al. (2003) typology as the foundation, we configure relationship quality in this study as a Type II reflective first-order, formative second-order index model. The calculation of such an index requires the use of formative rather than reflective indicators (Arnett, Laverie, & Meiers, 2003). This configuration does not assume that the second-order latent construct is caused by a single underlying construct of relationship quality. Rather, it assumes that the dimensions of satisfaction, trust and commitment (which each adopt reflective indicators) have an impact on (i.e., cause) relationship quality. This is because we argue that each first-order dimension (i.e., satisfaction, trust, and commitment) possesses reflective indicators because we see the indicators of these specific dimensions as giving rise (i.e., causality is from construct to measure) to its observable indicators (Jarvis et al., 2003).

Thus, each dimension should be internally consistent because all the measures are assumed to be equally valid indicators of the underlying construct with any two measures that are equally reliable are interchangeable.

Subsequently, each dimension then forms the latent (unobservable) second-order construct of relationship quality (i.e., direction of causality is from measure to construct). As such, omitting one or more formative indicators in effect omits part of the construct. The literature indicates that each of the dimensions of relationship quality should be essential to customer's perception of relationship quality. Thus, our index is comprised of measures that influence the underlying latent construct rather than being influenced by it.

Hypothesis Development

To examine the relationship quality model (i.e., type II formative index model) and its effects on customer retention outcomes in retail banking, we have framed it with behavioral loyalty outcome constructs. As such, these constructs include repurchase intention, cross-buying behavior, word-of-mouth behavior, and reduced switching behavior. We also examine for gender differences on the series of relationships and controlled for age and relationship duration. These proposed relationships appear in Figure 1 and will now be discussed.

RELATIONSHIP QUALITY AND REPURCHASE INTENTION

Repurchase intention refers to the degree of perceptual conviction of a customer to repurchase a particular product (or service) or to repurchase any product (or service) at a particular organization (Rajaobelina & Bergeron, 2009). The best predictor of the likelihood that a customer will seek future contact with a financial services provider is the quality of the relationship to

FIGURE 1 Research model.

date (Wong et al., 2007). Prior empirical evidence in business to consumer markets has also been found for relationships between the dimensions of relationship quality and behavioral loyalty (e.g., Hennig-Thurau et al., 2002; Vesel & Zabkar, 2010), as well as in financial service contexts including financial advisors (e.g., Rajaobelina & Bergeron, 2009) and retail banking (e.g., Aurier & N'Goala, 2010; Liang & Wang, 2006). Based on these collective findings in consumer markets and credence-based service settings, we argue in the context of retail banking, that when a retail bank consumer evaluates the quality of the relationship (based on the evaluation of trust, satisfaction, and commitment to the relationship), the consumer will then be more likely to repurchase financial service products from the bank in the future. This reasoning leads to the following hypothesis:

H1: Relationship quality has a significant, positive influence on re-purchase intention.

RELATIONSHIP QUALITY AND CROSS-BUYING BEHAVIOR

Cross buying, which occurs when customers purchase additional services from the same company, has been the topic of increasing research and empirical attention in recent years. Customer cross buying and its antecedents represent important topics, especially to retail banks that sell multiple financial services. As such, cross-buying behavior reflects the breadth of a relationship, which is common among retail banks. Prior research has shown that customers' relationship perceptions (e.g., via attributes of trust and commitment) had a positive influence on cross-buying decisions in retail settings (e.g., De Wulf et al., 2001; Hennig-Thurau et al., 2002) and financial service settings (e.g., Aurier & N'Goala, 2010; Liu & Wu, 2009). Based on these findings, we argue that favorable relationship quality perceptions (via trust, commitment, and satisfaction) by retail bank consumers enhances cross-buying behavior since a strong relationship with the customer increases the customers' likelihood to purchase additional services such as insurance, stocks and loan products in the future. This reasoning leads to the following hypothesis:

H2: Relationship quality has a significant, positive influence on cross-buying behavior.

RELATIONSHIP QUALITY AND WORD-OF-MOUTH RECOMMENDATION BEHAVIOR

Attracting new customers has been considered a critical element of relationship marketing with getting existing customers to provide referrals should be one of the effective ways to add new business and promote future company revenues by creating new relationships (Palmatier, Dant, Grewal, & Evans,

2006). Maintaining high-quality relationships with customers has been shown to increase their willingness to provide referrals and recommend the seller's offerings to colleagues (Finn, 2005). In the retail banking context, Rajaobelina and Bergeron (2009), found that when the quality of a relationship is high, customers are more willing to recommend the bank's offerings to colleagues. They further note that referral from a customer can often open opportunities and allow a firm access to previously unreachable prospective customers. Based on the aforementioned arguments, the following hypothesis is proposed:

H3: Relationship quality has a significant, positive influence on word-of-mouth recommendation behavior.

RELATIONSHIP QUALITY AND SWITCHING BEHAVIOR

Customer switching behavior can be regarded as a serious issue which can impact the development of long-term relationships, reduced market share, impaired profitability, and increased costs (Rust, Zahorik, & Keiningham 1995). Furthermore, the consequences that losing a customer can have for the firm (negative word-of-mouth communication, damage on brand image, reputation) are expected to have a harmful impact on the firm's future prospects (Lopez, Redondo, & Olivan, 2006). In the retail bank context, the available findings show that aspects of the quality of the service relationship (in terms of relationship duration, responsiveness, empathy and reliability) significantly lower an individual's propensity to switch banks (Chakravartya, Feinberg, & Rhee, 2004). Therefore, we argue that when the consumer perceives the quality of the relationship with the retail bank as favorable, the consumer will be more likely to have a reduced likelihood in switching to competitor offerings, which prevents customers from developing multiple relationships with competitor offerings. This reasoning leads to the following hypothesis:

H4: Relationship quality has a significant, positive influence on reduced likelihood of switching behavior.

MODERATING EFFECT OF GENDER

Gender often serves as a moderator variable for marketing in general and consumer behavior in particular. For example, studies have found that the relationship between satisfaction and repurchase behavior is stronger for men than for women (Homburg & Giering, 2001; Mittal & Kamakura, 2001). Findings on gender differences in retail banking are limited with the available research showing mixed results. For example, Ndubisi (2006) detected gender to moderate the relationship between trust and customer loyalty of Malaysian banking customers. However, in a later study, Ndubisi and Madu

(2009) found no significant gender differences between commitment, communication, and conflict handling on overall relationship quality perceptions of Malaysian bank customers. Despite the limited findings on gender effects in relationship management, this study draws on the broader marketing studies and attempts to enhance the current understanding of the role of gender in the association of relationship quality and consumer behavior outcomes. On this basis, a moderating effect of gender on the relationship quality model can be assumed:

H5: Gender significantly moderates the association between the relationship quality and (a) repurchase intention, (b) cross-buying behavior, (c) word-of-mouth, (d) and reduced likelihood of switching behavior.

RETAIL BANKING SERVICES IN HONG KONG

The scope of retail banking services provided in Hong Kong is extensive where a high concentration of financial institutions has been allowed to exist and develop (Jao, 1997; Wong et al., 2007). For example, Hong Kong has one of the largest representation of international banks in the world with 75 of the world's 100 largest banks are located. Hong Kong is considered an ideal location in Asia for the regional offices of many leading financial institutions. It is characterized by free movement of capital, information, people, and a large number of sophisticated customers enabling favorable conditions for the introduction of new financial services. The total gross premium value of the industry grew by 14.6% between 2002 and 2003, to HK\$102 billion (US\$13 billion), which represented 8.3% of Hong Kong's gross domestic product in the same year. Finally, banks in Hong Kong have also been identified as having best practices in retail banking sales and service channels (Booz Allen Hamilton, 2007).

METHODOLOGY

Nonprobability convenience sampling was used to collect data for the research which is a common sampling method adopted in consumer behavior research in the retail banking context (e.g., Ndubisi, 2006; Soureli et al., 2008). We collected information from adult consumers ages 18 and older (and reside in Hong Kong) who were studying postgraduate level study from four tertiary institutions in Hong Kong. Respondents were asked to focus on their main bank with which use for most of their transactions. The measurement of relationship quality was adapted from prior empirical studies. Items for relationship satisfaction were drawn from Hennig-Thurau et al. (2002), which were based on a subset of the original items by Oliver (1980). Items

for trust were drawn from Verhoef, Franses, and Hoekstra (2002), whereas the measurement of commitment was adapted from Morgan and Hunt (1994). The measurement of repurchase intentions was drawn from Rajaobelina and Bergeron (2009), with one item each used to measure word-of-mouth recommendation behavior and reduced switching behavior which was drawn from Zeithaml, Parasuraman, and Berry (1996). In terms of cross-buying behavior, respondents were confronted with hypothetical situations with their retail bank and asked to state how they would react if there bank offered additional services or suggested the customer to transfer such service products from other service providers to the bank. Three items were adapted from Ngobo (2004) to measure cross-buying intentions. All items were measured via 7-point scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). We also controlled for age and for relationship duration defined as the length of time that the relationship between the exchange partners has existed (Palmatier et al., 2006).

RESULTS

Profile of the Sample

A total of 269 usable responses were deemed usable for analysis. The sample consisted of 42% of males and 57% of females, which is consistent to the Hong Kong overall distribution of 47% to 53% male-to-female ratio (Census and Statistics Department, HK Special Administrative Region, 2010). The mean age of the respondents was 31.1 years. In terms of consumers' relationship with their main bank, 13.3% of respondents have established the relationship with their main bank for 5 years or less, whereas 41.5% have established the relationship with their main bank for 6 to 10 years. A further 45.2% of respondents reported to have over 11 years or more of relationship with their main bank. The mean relationship duration in the sample was 12.42 years.

Assessment of the Measurement Model

Partial least squares (PLS), specifically PLS-GRAPH, was used to assess the adequacy of the measurement models and the predictive relevance of the conceptual model, and thereby test the hypothesized relationships. The selection of PLS was based on criteria as outlined in the guidelines for selecting PLS-SEM by Hair, Ringle, and Sarstedt (2011). These include: (a) if the goal is predicting key target constructs or identifying key "driver" constructs (e.g., specific relationship quality outcomes), (b) if the research is exploratory or an extension of an existing structural theory, (c) if the structural model is complex and formative constructs are part of the structural model

(e.g., relationship quality was operationalized as a Type II model containing reflective first order dimensions, and a formative second order configuration). Furthermore, research suggests the characteristics of PLS analysis make it an especially useful tool for index construction such as the relationship quality construct (Arnett et al., 2003; Diamantopoulos & Winklhofer, 2001; O'Cass and Carlson 2012). As such, PLS was selected to assess the measurement (i.e., outer) model and structural (i.e., inner) model of the study.

The initial preliminary analysis focused on assessing the adequacy of the measurement models via evaluation of the component loadings and critical ratios of the items for each measure, the reliability of the measures, convergent validity, and the discriminant validity of the various constructs. Table 2 summarizes the results concerning the measurement model related to the assessment of reliability, and convergent validity, whereas, Table 3 provides an overview of the correlation coefficients and descriptive statistics of the constructs under study. As theorized earlier, relationship quality was measured via a Type II formative index model, in which relationship quality was treated as a latent variable formed by three first order dimensions including trust, satisfaction and commitment each with reflective indicators. As such, instead of examining the factor loadings, the weights for each dimension are analyzed which refer to the extent to which each indicator contributes to the formation of the construct to assess the formative outer-measurement model for relationship quality and can be interpreted similarly to estimated beta coefficients from multiple regression analysis (Chin 1998). Table 2 indicates that all the weights were acceptable with all t values > 1.96 and that Commitment (0.40) has the largest relative contribution to relationship quality, closely followed by Trust (0.38), and Satisfaction (0.33). A concern with formative measures is the potential multicollinearity among the items that could produce unstable estimates. Thus, we performed a collinearity test; the results showed minimal collinearity with the variance inflation factor (VIF) of all items ranging between 1.38 and 2.31, far below the common cut-off threshold of 5 to 10. Overall, these results suggest the three dimensions are salient contributors to the relationship quality index.

Convergent Validity

Fornell and Larcker (1981) argued that convergent validity is achieved if the average variance explained (AVE) in items by their respective constructs is greater than the variance unexplained (i.e., $AVE > 0.50$). To assess the constructs for convergent validity, the squared multiple correlations from the principal component factor analysis were used to calculate the AVE. The analysis indicate that all first-order constructs have an AVE greater than 0.50, therefore meeting the recommended criteria for convergent validity. Table 3 presents the AVE and reliability scores for each construct. Having assessed convergent validity, an evaluation of discriminant validity was initiated.

TABLE 2 Outer Measurement Models

Construct (and description)	Loading	<i>t</i> value
Trust	CR = 0.88, AVE = 0.65	
My bank has high integrity	0.80	40.86
My bank can be counted on to do what is right	0.77	25.76
My bank cares about me.	0.76	31.31
If problems arise, my bank is honest about the problems	0.82	41.68
Commitment	CR = 0.87, AVE = 0.63	
(The relationship that I have with my bank ...)		
is very important to me	0.80	33.28
is something I intend to maintain indefinitely	0.77	26.24
is very much like being family	0.79	30.47
is something I really care about	0.72	24.57
Satisfaction	CR = 0.88, AVE = .70	
My choice to use this bank was a wise one	0.83	34.22
Overall, I am satisfied with this bank	0.86	43.30
I think I did the right thing when I decided to use this bank	0.83	36.94
Repurchase intention	CR = 0.82, AVE = 0.69	
Intend to do business with the bank again	0.95	70.50
Expect to purchase financial products and/or services from the bank in the future	0.68	8.86
Cross-buying intentions	CR = 0.84, AVE = 0.72	
I will accept the offer when my bank proposes new/additional services to me	0.85	24.07
I will seriously consider the offer when my bank proposes new/additional products and services to me	0.77	14.60
Relationship quality (formative Type II outer model)	Beta weights	<i>t</i> value
Trust	0.38	24.46
Commitment	0.40	24.15
Satisfaction	0.33	22.09

Discriminant Validity

We assessed the discriminant validity of the constructs in two ways. First, we examined the AVE where values should exceed 0.50 with the findings in Table 2 showing all AVE values greater than 0.63. Second, in Table 3 we compared the square root of the AVE (i.e., the diagonal) with the correlations among constructs (i.e., the off-diagonal elements). The results show the square root of AVE for all reflective constructs exceeds 0.79 and each is greater than the correlation between the constructs; in order to demonstrate discriminant validity, diagonal elements should be greater than off-diagonal elements (Fornell & Larcker 1981).

Assessment of the Structural Model

The assessment of the support for the hypotheses is not made using a single general fit index, but with multiple indices. As such, an examination

TABLE 3 Evidence of Discriminant Validity for Constructs With Multiple Items

Construct	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Trust	4.74	0.79	(0.88) 0.81				
2. Commitment	4.46	0.82	0.71	(0.87) 0.79			
3. Satisfaction	4.56	0.83	0.75	0.73	(0.88) 0.84		
4. Repurchase intention	4.48	0.92	0.54	0.63	0.59	(0.82) 0.83	
5. Cross-buying intentions	4.42	0.70	0.33	0.40	0.33	0.39	(0.84) 0.84

Note. Diagonal entries are square root of AVE and composite reliabilities in bracket; others are correlation coefficients.

of the adequacy of the hypotheses as represented in the model was undertaken via path coefficients (β values), R^2 , average variance accounted for (AVA), path weights, bootstrap critical ratios (t values) and path variance (see Tables 4 and 5). The bootstrap re-sampling procedure (500 subsamples) was used to generate the standard errors and the t values, which allows the β coefficients to be made statistically significant. Following Chin (1998), standardized β values should be at least 0.20 (and ideally above 0.30) in order to be considered meaningful with Carlson and O’Cass (2011) stating that bootstrap ratios are acceptable at greater than 1.96, $p < .05$. With this, the next stage of analysis was to test the inner model that is based on the hypotheses.

In H1, we predicted that relationship quality is positively related to repurchase intention. In Table 4 the results supported this hypothesis with a β coefficient of 0.66 (t value = 20.48). In H2, we predicted that relationship quality is positively related to cross-buying intentions. Results provide evidence supporting H2 with β coefficient of 0.41 (t value = 8.27). In H3, we predicted that relationship quality is positively related to word-of-mouth recommendation behavior. In Table 4 the results supported this hypothesis in with a β coefficient of 0.69 (t value = 21.56). In H4, we predicted that relationship quality is positively related to reduced likelihood of switching behavior. In Table 4, the results supported this hypothesis with a β coefficient of 0.56 (t value = 11.36).

A multigroup analysis was performed to test the gender differences (H5) between the strengths of relationships (paths) within the inner model. This test is analogous to a t test and determines if the structure of the model differs between the two samples (i.e., males vs. females). This analysis was undertaken using a procedure advocated by Chin (2002), and documented by Keil et al. (2000). The results of the differences between the strengths of relationships are shown in Table 4 showing no paths

TABLE 4 PLS Results for Hypotheses Tests (1-4)

Hypotheses	Predictor variables	Predicted variables	β	Path variance	R^2	Critical ratio
H1	Relationship quality	Repurchase intention	0.66	0.43 ^a	0.43	20.48 ^b
H2		Cross-buying intention	0.41	0.16 ^a	0.17	8.27 ^b
H3		Word-of-mouth behavior	0.69	0.47 ^a	0.47	21.56 ^b
H4		Reduced switching behavior	0.56	0.32 ^a	0.31	11.36 ^b
	Average variance accounted				0.35	

^aPaths exceeded minimum acceptable levels of 0.015. ^bPaths exceeded minimum acceptable levels of 0.015 and *t* values of >1.96.

found to be significantly different with *t*-values all less than the benchmark of 1.96.

PREDICTIVE RELEVANCE

When investigating the quality of the structural model in the aggregate sample, the target constructs' percentage of variance explained (R^2) is a key criterion. As such, all R^2 are larger than the recommended levels of 0.10 (Falk & Miller, 1992) for all of the predicted variables. The predictive relevance of the structural model was also assessed via inspecting the AVA which is the mean R^2 of the structural model and represents the predictive power of the structural model without regard to the measurement model. As presented in Table 4, the AVA values are of acceptable magnitudes for the inner-structural model at 0.35. Given the indices for predictive relevance of the structural model are higher than the recommended benchmarks, the theoretical soundness of the conceptual model is supported.

TABLE 5 PLS Results for Hypotheses Tests (5a-5d)

Hypotheses		Male		Female		<i>t</i> value	Result
		β	<i>SE</i>	β	<i>SE</i>		
H5a: Relationship Quality	Repurchase intention	0.71	0.03	0.61	0.05	1.60	Not supported
H5b: Relationship Quality	Cross-buying intention	0.39	0.07	0.40	0.07	1.55	Not supported
H5c: Relationship Quality	Word-of-mouth behavior	0.64	0.04	0.72	0.04	0.06	Not supported
H5d: Relationship Quality	Reduced switching Behavior	0.61	0.05	0.55	0.05	0.84	Not supported

DISCUSSION

Our research of marketing relationships with customers in the competitive Hong Kong retail banking context contributes to marketing knowledge in at least three ways: (a) by focusing on the conceptualization and operationalization of relationship quality in the Hong Kong retail banking context as a type II formative, hierarchical construct; (b) by examining the impact of relationship quality on customer retention outcomes; (c) by examining the moderating effect of gender on the research model.

In the relationship marketing literature, a growing body of research has been devoted over the last few years to better understanding the nature associated with relationship quality. Building on this literature base, this study extended relationship quality theory in the context of retail bank services in Hong Kong by considering three primary dimensions (satisfaction, trust, commitment) to capture its richness in a unified construct. By improving one or more of these dimensional parts, managers can affect, or cause, relationship quality, and ultimately impact customer retention outcomes. As such, it advances theory development by modeling the relationship quality construct in a formative hierarchical fashion and testing the association of relationship quality on key customer retention constructs. Such an integrated relationship quality framework has not been investigated simultaneously before in the retail banking service environment. Consequently, the modeling approach developed in this study leads to theoretical parsimony and model simplicity (MacKenzie et al., 2005). Thus, we believe that the proposed research model of this study can make a contribution to knowledge because of its unique modelling and validation in the context of relationship quality research.

The implications of this research are highly relevant to retail bank service providers. The findings suggest that customers evaluate relationship quality of retail bank services at an overall level (via the formative index-based score) and a dimensional level (trust, satisfaction, and commitment). For managers, this finding improves the overall understanding in the measurement of how customers evaluate relationship quality. This is of strategic importance since the findings show that relationship quality influences the formation of repurchases intention, cross-buying behavior, word-of-mouth recommendation behavior, and switching behavior. As such, firms must not consider programs which aim to enhance the relationship quality dimensions in isolation but closely monitor their customers' commitment, trust, and satisfaction in an integrated fashion to develop specific programs which improve the quality of the relationship with the retail bank which convert to positive consumer behavior. This being the case, all elements of this relational chain require attention and investment. These findings also apply to both male and female retail bank customers, as gender is not a significant moderator. The results provide empirical support for, and build on some of the past efforts in this area. For example, Ndubisi and Madu (2009) found no gender differences

in the impact of commitment, communication, and conflict handling on customer loyalty. However, the outcome of the present study does differ from that of Ndubisi and Madu (2009), which detected gender effects in the relationship between trust and loyalty. Nevertheless, the proposed relationship quality model in this study provides retail bank managers with a tool for conducting an integrated analysis of relationship quality health with customers (irrespective of gender), and supports the importance of relationship quality as a decision-making variable in predicting customer behavior outcomes.

Another important implication for practitioners is to be aware of model misspecification when conceptualizing and measuring relationship quality. As noted in the review of literature, this is because failure to accurately configure the relationship quality measurement model can bias estimates of the structural relationships between constructs and lead to flawed or poor managerial conclusions and actions based on such conclusions (Jarvis et al., 2003). Subsequent incorrect decision-making could guide the manager to allocate scarce organizational resources to firm capabilities that have minimal effect on improving relationship quality perceptions and customer retention outcomes. The formative model developed in this study will enable managers to comprehensively (and accurately) measure relationship quality. In turn, retail bank practitioners can allocate resources and invest funds to improve the specific dimensions (in the case of this study commitment having a large impact followed by trust and satisfaction) to maximize relationship quality perceptions and enhance the corresponding impact on customer retention outcomes. In particular, we believe that our discussion of the multidimensional formative modeling approach will stimulate discussion among relationship marketing researchers and practitioners, which could result in richer measures leading to improved marketing decision making and efforts to develop, manage and monitor relationship quality.

LIMITATIONS AND FUTURE RESEARCH

Several limitations are worth noting. First, this research was conducted within the specific domain of the retail bank context, and in one country of Hong Kong. Though relationship quality research by its nature is context specific, replications in other cultural contexts would increase the confidence in the research model. For example, there may be cultural differences in bank–consumer relationships relating to individual values and/or the intensity of economic regulation, which may have some influence on consumer behaviors. Second, in our study, we did not find any moderating effect of gender. Because the previous research has produced mixed findings in retail banking services, an area for future research could be to investigate if the links between relationship quality and loyalty might not be equally strong for men and women for certain cultures, age groups and education level across countries. One might speculate that for each gender group, the links between

relationship quality and loyalty are themselves moderated by these personal and situational characteristics. Third, data was collected under a cross sectional design which may contain the typical limitations associated with this kind of research methodology. For example, the model represents its static nature of relationship evaluation by consumers and the findings are confined to a single point of time. To gain a deeper understanding, this study suggests longitudinal study to evaluate consumer perceptions in the strength of their relationship with retail banks over time.

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