Investigating the Impact of Information Quality on Relationship Marketing with Mediating Role of Salespeople' Relational Competency: Survey about Iranian ISP

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Abstract

Despite the vital role of information in relational-oriented firms, there are limited studies on the impact of information quality on relationship marketing. To address this gap, this study develops a conceptual model to examine the impact of information quality on the successful implementation of relationship marketing by assessing the mediating role of salespeople's relational competency. The proposed model is tested using structural equation modeling (SEM) technique with data collected from 140 employee-customer pair sample of Shatel Group (Tehran, Iran). Stratified sampling is our applied research methodology, we also employed questionnaire for data collection. The results indicate that while there is no meaningful relationship between information quality and salespeople's relational competency, there is a significant relationship between salespeople's relational competency and relationship marketing. Accordingly, it could be concluded that salespeople's relational competency cannot act as a mediating variable and thus information quality cannot affect relationship marketing indirectly.

Keywords: Information quality, Salespeople's relational competency, Relationship marketing.

Introduction

Internet Service Provider (ISP) is a company that provides services for accessing the Internet. ISPs act as gateways to the Internet and everything that could be done online. The history of ISPs goes back to 1989 when the first ISPs were established in the United States and Australia. The first ISP in Iran, Neda Rayaneh, was established in 1994. According to the Communications Regulatory Authority (CRA) of Iran, there are currently around 1244 ISPs operating in this country. It is not surprising that a large number of companies in this field has led to a competitive market. The intense rivalry has made these firms very responsive to their customers' needs in order to give them the satisfaction of using their services. In fact, these companies have realized that retaining current customers and acquiring new ones in today's competitive market require strategic planning and adopting appropriate marketing models. One of the most commonly used marketing models is relationship marketing, which emphasizes on keeping current customers and building permanent relationships with them (Buttle, 1996; Morgan and Hunt, 1994). Based on previous findings, the formation of relational orientation is heavily dependent on salespeople and their competencies; one of these key competencies that all salespeople must meet is relational competency (Barber and Tietje, 2006; Lambert et al., 2014; Pillai and Sharma, 2002). Marshall et al. (2003) state that one of the key components of a successful relationship marketing is the ability of salespeople in continuity and consistency of their relationships with their customers. Similarly, Pillai and Sharma (2002) suggest that seller's relational assets can influence buyer's relational orientation. They argue that a seller's capability to maintain relationships with customers can result in buyer's lower motivation in changing the existing seller. Lambert et al. (2014) also state that relational competency is one of the most essential competencies in business-to-business exchanges. Moreover, according to Webster (1992), relational competency can create added value for companies, thereby improving the firm's competitive position in the market. Information is considered to be the main ingredient of relational competency. In order to establish and retain any long-term relationships with customers, firms need to maintain customers' information (Nicolaou et al., 2013). In fact, stored information in firms' data warehouses is the cornerstone of any relationship-based marketing. Relationship marketing requires the development of an online information system; the system will provide an up-to-date database of its customers' information (Grönroos, 1995). The main target of relationship paradigms is to boost the information flow and interaction between the firm and its customers (Barnes and Howlett, 1998; Ennew, 1996). Accordingly, improving information quality and updating the stored records of information play a key role in these companies (Ballou et al., 1998; DeLone and McLean, 1992; Huang et al., 1999; Lee et al., 2002). The importance of information quality is widely discussed in academic circles. For instance, Feldmann and Müller (2003) state that managers must be aware of the importance of information quality and ensure that the information is shared without any delay and falsification. Van Hoek (1999)

suggests that meeting unpredictable customers' need requires sharing precise information in a timely manner. Moreover, Li and Lin (2006) believe that the loss of information can result in losing future sale opportunities. Despite the determinant role of information in relationship marketing (DeLone and McLean, 1992; Lee et al., 2002), a review of information quality, relational competency, and relationship marketing literature reveals that few research studies have been conducted to find any significant relationship between the quality of customers' stored information and the improvement of relationship marketing. To address this gap, our study aims at answering the following questions:

1) Is there any significant relationship between information quality and relationship marketing?

2) Does the salespeople's relational competency act as a mediator in this relationship or not?

The rest of this paper is organized as follows. In section two, we begin with a brief review of the literature on relationship marketing, the importance of relationship marketing, relationship marketing elements, salespeople's relational competency, and information quality. In section three, theoretical justification, conceptual model, and hypotheses development are provided. Section four outlines the methodology used, which includes sampling, data analysis, and results. In section five, we first provide a discussion of the results and then conclude the paper and discuss future research directions.

Literature Review

Relationship Marketing

Unlike traditional marketing, which focuses on a single transaction and recruiting new customers, relationship marketing is concerned with acquiring new customers and establishing long-term relationships with them (Grönroos, 1994). The phrase of "relationship marketing" was first coined by Berry (1983) when he was searching for marketing services (Barners, 1994; Grönroos, 1994). He defined it as: "Attracting, maintaining, and–in multi-service organizations- enhancing customer relationships". Relationship marketing grew to a widespread concept stemming from the development of various managerial domains including industrial marketing, traditional marketing, service marketing, customer services quality, customer retention, quality management, supply chain management, and industrial network (Godson, 2009). As a result, despite scholars' efforts to find a common definition of relationship marketing, there are various definitions from different perspectives. For instance, Berry and Parasuraman (1991) propose that relationship marketing is to attract customers and to develop and maintain relationships with them. Similarly, Morgan and Hunt (1994) state that "Relationship marketing refers to all marketing activities directed toward establishing, developing, and maintaining successful relational exchanges". Gummesson (1994) considered relationship marketing as relationships, networks, and interaction (Hunt et al., 2006). Some

definitions are broader than the others. For instance, Sheth and Parvatiyar (1995) suggest that relationship marketing is an attempt to integrate customers, suppliers, and other key stockholders into firm development and marketing activities. Buttle (1996) believes that relationship marketing is concerned with establishing and maintaining mutually beneficial relationships with strategically important markets. Grönroos (1997) defines relationship marketing as "process of identifying and establishing, maintaining, enhancing, and when necessary terminating relationships with customers and other stakeholders, at a profit, so that the objectives of all parties involved are met, where this is done by a mutual giving and fulfillment of promises". Based on all definitions above, keeping current customers and maintaining relationships are two pillars of relationship marketing (Christopher et al., 1991).

The importance of relationship marketing

Implementation of relationship marketing can be mutually beneficial for both firms and customers (Grönroos, 1994; Hennig-Thurau et al., 2002). According to Riechheld and Sasser (1990), establishing a mutually beneficial relationship between a firm and its customers leads to a better interaction among them, and helps both parties to decrease their relationship costs. Customers who engage in a relational exchange would experience risk-reducing benefits, lower transaction costs, and greater efficiency in their decision making (Hunt et al., 2006) .

Engaging in a long-term relationship with customers allows firms to learn more about their customers' needs, thereby achieving better customization of products and services to the customers' requirements. Furthermore, proponents of relationship marketing believe that establishing permanent relationships with customers can help firms in decreasing customer defection rate (NG, 2010). According to Reichheld and Sasser (1990), a 5 percent reduction in customers' defection rate would lead to a 25-to-85 percent increase in a firm's profit. In addition, it is widely reported that keeping existing customers is much less costly than acquiring new ones (Rust, Moorman, and Dickson, 2002). In fact, customer retention and loyalty programs focus on customers' repetitive purchase behavior and result in generating revenue for an extended period of time (Hennig-Thurau et al., 2006; Ng, 2010).

Relationship Marketing Elements

According to previous studies, several factors have been proposed as critical elements of relationship marketing. For instance, Doney and Cannon (1997) and Sirdeshmukh et al (2002) express trust as the most considerable relationship marketing element. Alternatively, Gunlach, Achrol, and Mentzer (1995) suggest that commitment is the most significant ingredient of a successful relationship marketing. Dwyer et al (1987) believe that trust, commitment, and relationship satisfaction are the key elements of relational exchanges. Similarly, Morgan and Hunt (1994) propose trust and commitment as the substantial relationship marketing' elements. Gubta and Sahu (2013) identified fourteen relationship marketing variables,

namely, conflict handling, trust, commitment, communication, bonding, shared values, reciprocity, experience, cooperation, empathy, technology, and firm performance. The results of conducted research studies on relationship marketing elements are summarized in Table 1.

Table 1. Summary of relationship marketing elements

Factors	Researchers
relationship quality	Crosby et al. (1990)
loyalty	Parasuraman et al. (1991)
trust, commitment	Morgan and Hunt (1994)
communications, benefits, commitment	Parsons (2002)
trust, commitment, value-creation	Ryssel et al. (2000)
trust, bonding, communication, shared value, empathy, reciprocity	Sin et al. (2005)
customer loyalty	Ndubisi, 2007
trust, commitment, interaction	Johns et al. (2009)
satisfaction, quality, personalization/ customization , conflict handling, trust and commitment, communication, bonding, shared values, reciprocity, experience, cooperation, empathy, technology, firm performance	Gubta and Sahu (2013)
trust, commitment, relationship satisfaction	Wulf et al (2001), Kumar et al. (1995)
trust	Doney and Cannon (1997), Sirdeshmukh et al. (2002)

Based on the repetition of relationship marketing elements in the past research studies, we selected trust, commitment, satisfaction, loyalty and conflict handling in our study to investigate the indirect impact of information quality on relationship marketing.

Salespeople's Relational Competency

Today, companies consider salespeople as the most important part in establishing long-term relationships with customers and achieving sales targets (Price and Arnould, 1999; Punwatkar, and Verghese, 2014; Weitz, and Bradford, 1999). Langerak (2001) demonstrates that firms are reliant on the attitudes and competencies of their salespeople in building and retaining relationships with customers. Relational competency is one of the most significant competencies that all salespeople must meet (Day, 1994; Van den Bulte, 2002) and it refers to the ability of an individual in facilitating the acquisition, building, and keeping of mutually beneficial relationships (Hansson, and Carpenter, 1994). Relational competency has been defined in several ways (Smirnova et al., 2011). As an example, Day (1994) conceptualizes relational competency as "Customer linking capability-creating and managing close customer relationships." Dyer and Singh (1998) consider relational capability as a competitive advantage, which entails the ability to create, expand, and control relations of partnerships.

Moreover, Day and Van den Bulte (2002) argue that relational competency is a bundle of three interdependent sections: orientation, information, and configuration. Carpenter et al (1993) offer a more comprehensive definition for relational competency. They state that required competencies to initiate and maintain the relationship between a buyer and a seller consist of two categories and 10 dimensions. For this study, we use three dimensions of the first category, which is related to relationship initiation competency and all five dimensions of the second category, which belongs to relationship maintenance competency. The categories, dimensions, and definitions are summarized in Table 2.

Table 2. Relational competency categories and their dimensions, Carpenter (1993)

Categories	Dimensions	Dimensions definitions
Relationship initiation competency	Assertiveness	The tendency of a person to admit, state, and effectively look for and support rational personal needs and desires, including resistance to irrational infringements by others.
	Dominance	The longing and capacity to be in control, at least of one's condition, to participate in tasks expressing leadership, ascendance, and freedom.
	Instrumental competence	The opinion that one is generally proficient, talented, and achieved, successfully finishing tasks and meeting goals are underscored.
Relationship maintenance competency	Intimacy	The behavioral tendency toward helping and supporting others, particularly those in need or trouble.
	Trusting ability	The tendency to believe that others are reliable, faithful, dependable, and the behavioral tendency to show such trust to others.
	Interpersonal sensitivity	The tendency to promote and look for intimacy in relationships by encouraging sharing, deep mutual comprehension, shared interest, and openness.
	Altruism	Attitudes and behaviors which indicate consideration, warmth, and caring, and which reflect active attempts to be aware of, and to be responsive to the needs of others.
	Perspective taking	The tendency to view issues from various viewpoints, particularly that of another with whom one is collaborating.

Information Quality

Information quality has turned into a critical issue for organizations that deal with customers' information or organizations that have bilateral relationships with their business partners (Bovee, 2004; Ibrahim et al., 2008; Lee et al., 2002; Nicolaou et al., 2013). In the past two decades, information quality studies have expanded remarkably to meet the need of organizations to measure and enhance the quality of information (Huang, Lee and Wang, 1998; Madnick, and Wang, 1992; Nicolaou et al, 2013; Strong, 1997; Wang and Strong, 1996). The most admitted definition for information quality is "fitness to use'' (Helfert and Ge, 2006), which means that the necessary dimensions of information quality should be

closely dependent on user's usage of data, the best-fitting information quality dimensions can be different between various usages (Caballero et al., 2008). In other words, information quality reflects the user's assessment of the shared information in a mutual relationship (Nicolaou et al., 2013; Nicolaou and McKnight, 2006; Song and Zahedi, 2005). This requires identifying the characteristics of qualified information. Several research studies have addressed the crucial information quality dimensions: According to Davis and Olson (1985), accuracy, precision, and completeness are the information quality aspects. Huh et al (1990) state that accuracy, completeness, consistency, and timeliness are the main characteristics of qualified information. From other perspectives, Wang and Strong (1996) offer the key dimensions of information quality as "accessibility, appropriate amount of information, believability, completeness, concise representation, consistent representation, ease of manipulation, free of error, interpretability, objectivity, relevance, timeliness, understandability, and value-added". Lee et al (2002) classified information quality dimensions in four groups: intrinsic, contextual, representational, and accessibility. The components of each group are summarized in Table 3:

Table 3. Information quality dimensions and characteristics, Lee et al (2002)

Intrinsic	Contextual	Representational	Accessibility	
accuracy, believability, reputation, objectively	value-added, relevance, completeness, timeliness, appropriate amount	understandability, interpretability, concise representation, consistent representation,	accessibility, ease of operation, security	Wang, and Strong (1996)
accurate, factual	quantity, reliable/timely	arrangement, readable, reasonable		Zmud (1978)
believability, accuracy, credibility, consistency, completeness	relevance, usage, timeliness ,source currency, data warehouse currency, non-volatility	interpretability, syntax, version control, semantics, aliases, origin	accessibility, system, availability, transaction, availability, privileges	Jarke, and Vassiliou (1997)
accuracy, precision, reliability, freedom from bias	importance, relevance, usefulness, informativeness, content, sufficiency, completeness, currency, timeliness	understandability, readability, clarity, format, appearance, conciseness, uniqueness, comparability	usability, quantitativeness, convenience of access	DeLone, and McLean (1992)
accuracy, reliability	currency, level of detail	compatibility, meaning, presentation, lack of confusion	accessibility, assistance, ease of use	Goodhue (1995)
accuracy, consistency	completeness, timeliness,			Ballou and Pazer (1985)
correctness, unambiguous	completeness	meaningfulness		Wand and Wang (1996)

In our research study, we adopted those that are commonly identified as information-quality dimensions in the literature. These dimensions include accessibility, completeness, ease of operation, free of error, objection, relevancy, reputation, security, and timeliness.

Hypotheses

The conceptual model presented in Figure1 includes the key sub-constructs of information quality, salespeople's relational competency, and relationship marketing. The proposed model has been developed to investigate the impact of information quality on relationship marketing improvement. Specifically, the model evaluates (i) the impact of information quality on salespeople's relational competency and (ii) the impact of salespeople's relational competency on relationship marketing. Moreover, the research model suggests that salespeople's relational competency will mediate the relationship between information quality and relationship marketing, and three hypotheses concerning the relationship between these variables are discussed.

Information quality and salespeople' relational competency

Incorporation of information technology tools in buyer-seller relationships affects salespeople's relational competency (Geiger and Turley, 2006; Muffatto and Payaro, 2004). Likewise, Hagel and Brown, (2005) suggest that applying information system capabilities with the goal of improving the information flow, helps firms raise their relational values. Therefore, we hypothesize that

H1: Information quality has a positive effect on salespeople's relational competency

Salespeople's relational competency and relationship marketing

The success or failure of implementation of relationship marketing in a competitive business environment is dependent on salespeople and their competencies (Crosby et al., 1990). Relational competency, which includes relation initiation and maintenance competency, affects relationship marketing by enhancing the interactions between firms and their customers. In fact, relational competency is required for salespeople to establish and foster key business relationships with partners and customers (Lambert et al., 2014). Moreover, in business-to-business markets, relational competencies ensure better mutual understanding and benefits in customer relationships, and also help firms to acquire relevant market knowledge (Webster, 1992; Hitt and Borza, 2000; Jacob, 2006; Ma et al, 2009). We hypothesize that

H2: Salespeople' relational competency has a positive effect on relationship marketing

Information quality, salespeople's relational competency, and relationship marketing

There are only a few articles which have analyzed the relationship between information quality and relationship marketing. According to Saraf, Langdon, and Gosain (2007),

information systems' capabilities cause firms to have a better relationship with customers and business partners. Likewise, Ahmad and Zailani, (2007) believe that firms continuously tend to find that they need to rely on effective information flow to communicate with their business partners and customers and successfully achieve their sales goals. Considering the critical role of information quality in firms (Lee et al., 2002) and also consulting with management experts, we decided to survey the presence of any indirect relationship between these variables with the mediating role of salespeople's relational competency. Therefore, we hypothesize that

H3: Salespeople's relational competency has a mediating role between information quality and relationship marketing.
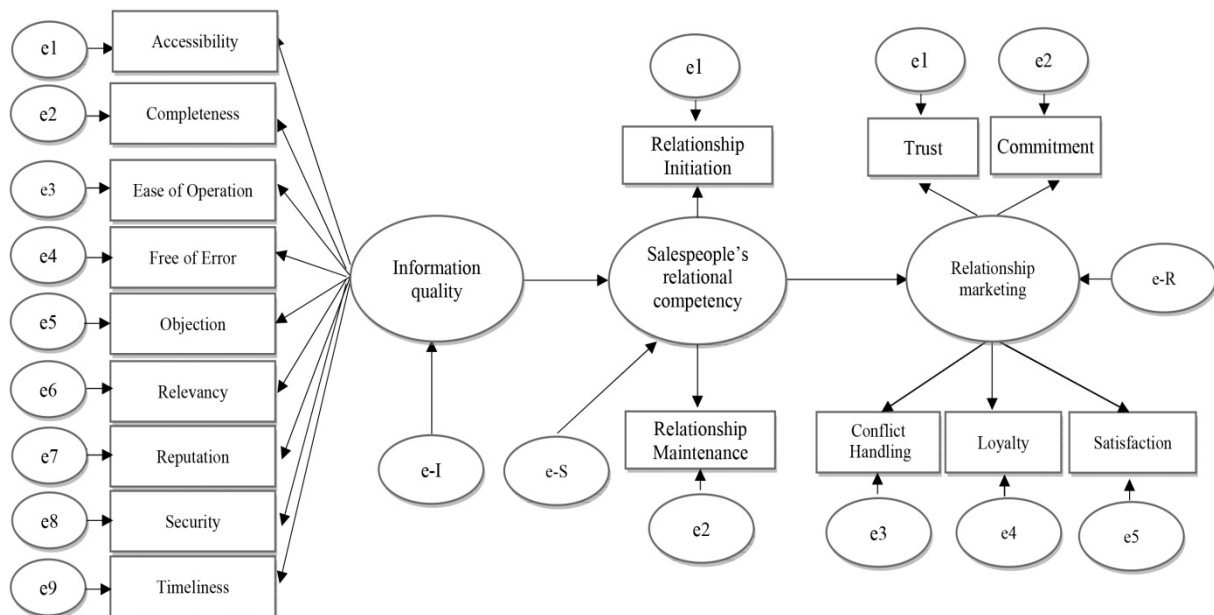

Figure 1. Conceptual model of research that shows the relationship between information quality and relationship marketing

Research methodology

Sample

Shatel Group (Tehran, Iran) is one of the largest ISPs in Iran with more than 2000 employees. The statistical population of our research consists of staff employees and customers in Tehran, Iran. A sample of 140 staff employees and customers were drawn from this population. Since employees need to have frequent interactions with their customers, the sample was drawn in employee-customer pairs. The participants were taken by stratified random sampling. To ensure anonymity, no names were recorded in the questionnaires. As discussed in section three we hypothesize a relationship between information quality and relational marketing with information quality as the independent latent variable, salespeople's relational competency as

the mediating latent variable and relationship marketing as the dependent latent variable. We selected nine sub-constructs of information quality, namely, accessibility, completeness, ease of operation, free-of-error, objectivity, relevance, reputation, study security, and timeliness with 23 indicators (Lee et al., 2002). The information-quality measurements were assessed by the participating employees.

The dimensions of salespeople's relational competency were chosen based on Carpenter's study on relational competencies with two sub-constructs of relationship initiation competency and relationship maintenance competency with eight indicators (Carpenter, 1983). The success rate of relationship marketing implementation is often measured by its sub-constructs. Therefore, in our study, we selected those sub-constructs that were commonly used in previous studies. Hence, trust, commitment, conflict handling, loyalty, and satisfaction are selected from Ndubisi's survey with 21 indicators (Ndubisi, 2007). The relational competency and relationship marketing were measured by customers.

According to Segars (1997), measurement issues may vary across different industries or may even differ from one culture to another. Moreover, it is obvious that direct observation and accurate measurement of marketing variables are very challenging. Hence, prior to testing the hypotheses, we first check suitability, reliability, and validity of the measurement tools using confirmatory factor analysis technique and the SEM approach.

Measurement

Before testing the hypotheses, we need to ensure the precision and compatibility of information quality, salespeople's relational competency, and relationship marketing measurement models. We have explained the measurement model for these three latent variables and our response options range from 1 - "strongly agree' to 5 - "strongly disagree". To measure the validity of the questions, we used exploratory factor analysis. Using the first-order exploratory factor analysis, the initial factors of the latent variables have been extracted. We then ran the first-order and second-order confirmatory factor analysis. The taken steps to check the validity of the latent variables are summarized below:

1) Selecting the initial factors (sub-constructs) to measure the latent variables based on the literature.
2) Using the first-order exploratory factor analysis to extract the identified factors in the prior step.
3) Using the first-order confirmatory factor analysis to affirm the factorial structure.
4) Using the second-order confirmatory factor analysis to show the sub-constructs that are related to constructs.

Information quality. The measured information quality dimensions are as follows: accessibility (3 items, CR=0.772), completeness (3 items, $CR = 0.858$), ease of operation (2 items, $CR = 0.676$), free of error (3 items, $CR = 0.804$), objectivity (3 items, $CR = 0.797$),

relevancy (2 items, CR=0.686), reputation (2 items, $CR = 0.715$), security (3 items, $CR=0.805$) and timeliness (2 items, $CR = 0.738$). The results of information quality confirmatory factor analysis demonstrated that the information quality measurement model is appropriate and all the figures and parameters are meaningful ($\chi^2 = 328.06$; $df = 221$; $\chi^2/df = 1.48 < 3$; $p - value = 0.00000$; $RMSEA = 0.059$; $GFI = 0.90$; $NFI = 0.92$; $CFI = 0.95$).

Salespeople's relational competency. The measured salespeople's relational competency dimensions are as follows: relationship initiation competency (4 items, $CR = 0.825$) and relationship maintain competency (4 items, $CR = 0.811$). The results of salespeople' relational competency confirmatory factor analysis demonstrated that measurement model is appropriate and all figures and parameters are meaningful. Fit indexes fell within an acceptable range ($\chi^2 = 29.37$; $df = 18$; $\chi^2/df = 1.63 < 3$; $p - value = 0.04401$; $RMSEA = 0.067$; $GFI = 0.95$; $NFI = 0.97$; $CFI = 0.99$).

Relationship marketing. The measured relationship marketing dimensions are as follows: trust (6 items, $CR = 0.861$), commitment (3 items, $CR = 0.767$), conflict handling (3 items, $CR = 0.788$), loyalty (5 items, $CR = 0.834$), satisfaction (4 items, $CR = 0.891$). The results of relationship marketing confirmatory factor analysis indicated that relationship marketing measurement model is appropriate and all of the figures and parameters are meaningful ($\chi^2 = 317.41$; $df = 184$; $\chi^2/df = 1.72 < 3$; $p - value = 0.0000$; $RMSEA = 0.072$; $GFI = 0.92$; $NFI = 0.93$; $CFI = 0.97$).

Results

Table 4 summarizes the standardized loading and t-values in the first-order and the second-order analysis. Table 5 shows descriptive statistics for study variables, correlation among the variables, and the results of composite reliability analysis.

Structural model (Path analysis)

The primary purpose of our study is to investigate the relationships between information quality, salespeople's relational competency, and relationship marketing. In order to achieve this goal, the structure of the model depicted in Figure 1 was analyzed through structural equation modeling (SEM) using LISREL 8.53 (Scientific Software International, Chicago, IL). Figure 2 illustrates the SEM results of the structural model. The results of fit indexes indicate an acceptable fit of the model ($\chi^2 = 196.29$; $df = 103$; $\chi^2/df = 2.061 < 3$; $p - value = 0.00000$; $RMSEA = 0.08$; $GFI = 0.89$; $NFI = 0.91$; $CFI = 0.93$).

Table 4. Standardized loading and t-values in first and second order analysis

Constructs and indicators		Standardized loading in second-order CFA	Indicators	AVE	t-value in second order CFA	t-value in first order CFA
Accessibility	AC1	0.30	0.80	0.531	2.50	0.00
	AC2		0.67			4.41
	AC3		0.71			4.40
Completeness	CO1	0.72	0.69	0.513	6.22	0.00
	CO2		0.65			6.36
	CO3		0.80			7.13
Ease of Operation	EO1	0.5	0.6	0.516	2.21	0.00
	EO2		0.82			2.29
Free of Error	ER1	0.76	0.82	0.582	7.66	0.00
	ER2		0.83			9.24
	ER3		0.62			7.00
Objectivity	OB1	0.84	0.71	0.571	4.44	0.00
	OB2		0.88			3.39
	OB3		0.66			3.49
Relevancy	RE1	0.62	0.80	0.525	5.73	0.00
	RE2		0.64			4.71
Reputation	R1	0.98	0.70	0.557	8.65	0.00
	R2		0.79			6.43
Security	SEC1	0.58	0.82	0.580	5.89	0.00
	SEC2		0.75			8.05
	SEC3		0.71			7.75
Timeliness	TI1	0.83	0.78	0.585	5.90	0.00
	TI2		0.75			5.27
Relationship initiation competency	RIC1	0.85	0.81	0.542	7.90	0.00
	RIC2		0.73			8.65
	RIC3		0.70			8.27
	RIC4		0.70			8.33
Relationship maintain competency	RMC1	0.96	0.67	0.520	7.24	0.00
	RMC2		0.79			7.52
	RMC3		0.78			7.52
	RMC4		0.63			5.46
Trust	TR1	0.77	0.55	0.511	4.14	0.00
	TR2		0.74			4.24
	TR3		0.66			4.11
	TR4		0.77			3.10
	TR5		0.74			4.25
	TR6		0.80			4.32
Commitment	C1	0.88	0.75	0.524	8.49	0.00
	C2		0.74			5.83
	C3		0.68			7.27
Conflict Handling	CH1	0.69	0.78	0.554	4.59	0.00
	CH2		0.7			4.03
	CH3		0.75			4.70
Loyalty	L1	0.90	0.59	0.506	6.85	0.00
	L2		0.62			5.93
	L3		0.87			7.42
	L4		0.67			5.57
	L5		0.77			6.90
Satisfaction	S1	0.96	0.88	0.682	11.90	0.00
	S2		0.72			10.16
	S3		0.82			12.46
	S4		0.85			13.28

Notes: CFA, confirmatory factor analysis; AVE, average variance extracted

Table 5. Descriptive statistics, correlations among the variables and constructs reliability

Indicators	Mean	SD	CR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.Accessibility	1.9869	0.68560	0.772	1															
2.Completeness	2.2122	0.73332	0.758	0.349**	1														
3.Ease of Operation	2.4892	0.79278	0.676	0.281**	0.288**	1													
4.Free of Error	2.3024	0.72870	0.804	0.228**	0.462**	0.226**	1												
5.Objectivity	2.3595	0.57606	0.797	0.255**	0.434**	0.476**	0.469**	1											
6.Relevancy	1.8821	0.67752	0.686		0.230**	0.274**	0.273**	0.274**	1										
7.Reputation	2.1071	0.68590	0.715		0.460**	0.241**	0.515**	0.465**	0.457**	1									
8.Security	2.0083	0.71980	0.805		0.231**		0.369**	0.255**	0.255**	0.513**	1								
9.Timeliness	2.2286	0.74276	0.738		0.339**	0.198**	0.402**	0.233**	0.415**	0.509**	0.437**	1							
10.Relationship initiation competency	2.4119	0.80193	0.825										1						
11.Relationship maintain	2.7536	0.81148	0.811										0.676**	1					
12.Trust	2.5983	0.75303	0.861									-0.178**	0.572**	0.561**	1				
13.Commitment	2.6560	0.85994	0.767										0.552**	0.475**	0.660**	1			
14.Conflict Handling	2.7024	0.85096	0.788										0.301**	0.373**	0.419**	0.509**	1		
15.Loyalty	2.7914	0.93511	0.834										0.353**	0.295**	0.252**	0.595**	0.447**	1	
16.Satisfaction	2.5494	0.99157	0.891										0.480**	0.325**	0.605**	0.669**	0.491	0.725**	1

Notes: SD, standard deviation; CR, composite reliability

H1 (Figure 2) is rejected since the coefficient path between information quality and salespeople' relational competency is negligible ($t - value = 0.34, \beta = 0.12, p > 0.05$). In contrast, the coefficient path between salespeople's relational competency and relationship marketing is significant ($t - value = 2.95, \beta = 0.69, p < 0.05$) (Figure 2), which supports H2.

Due to the fact that salespeople's relational competency cannot act as a mediator variable in H2, based on the results from SEM (Figure 2), H3 is rejected and thus the mediating role of salespeople's relational competency in the relationship between information quality and relationship marketing is rejected.

Fig 2. Results of SEM on the mediating role on salespeople's relational competency

Discussion, conclusion, acknowledgment, and suggestions for future research

Discussion and conclusion

The primary goal of our research study was to propose and empirically test a model linking information quality and relationship marketing with the mediating role of salespeople's relational competency. In the following, we discuss the key findings of our study.

First, there is no meaningful relationship between information quality and salespeople's relational competency. One justification for this finding can be the low-level flow of information in relationship-focused firms. The finding suggests that these firms require planning, designing and implementing information systems in order to improve information quality flow. In this study, we examined accessibility, completeness, ease of operation, free of error, objectivity, relevance, reputation, security, and timeliness as the most repeated dimensions of information quality in the literature. Considering the IPA matrix which is the combination of loading factors and means, it could be concluded that 'relevance' and 'accessibility' are weaker than other dimensions, which explains why information quality cannot affect salespeople's relational competency. According to Lee et al (2002), the accessibility dimension measures whether or not this part of the information is easily retrievable when needed, and the relevance dimension examines the applicability of the information to a particular field of work. Hence, this finding suggests that those firms that are

involved with customers' information need to prioritize planning for information quality improvement. To this end, accessibility improvement through data retrieval modification methods has the highest priority. However, firms must be careful of their gathered information to ensure that the collected information is related to their field of work. They also need to be aware that any effort for improvement of the information system should primarily focus on boosting salespeople's relational competency. It should be noted that this finding is inconsistent with the study of Harrison (2016) demonstrating that information quality can positively affect customer relationship marketing.

Second, relationship marketing is positively affected by salespeople's relational competency. As shown in Section four, one-unit of increase in salespeople's relational competency leads to 0.69-unit increase in relationship marketing, and it demonstrates that relationship marketing is heavily dependent on the ability of salespeople in establishing and maintaining relationships with their customers, which corroborates former studies of Jacob (2006), Hitt and Borza (2000), Grönroos (1997), Ma et al (2009), Marshall et al (2003), Lambert et al (2014), Pillai & Sharma (2003) and Webster (1992). Their findings also indicate that relational competency is one of the most vital competencies that all salespeople must meet, potentially influence relational orientations. The finding suggests that in order to implement a successful and effective relationship marketing, firms need to boost their salespeople's relational skills. For instance, firms may plan for holding regular training courses in communications, emotional intelligence, customer relationship management, and other similar topics. Along with training courses, firms and their sales force need to have sufficient knowledge on the relevant industry and their customers' characteristics and demands. Additionally, the use of other intervention strategies such as service promotion and compensation is of great importance.

Third, salespeople's relational competency does not act as a mediating variable between information quality and relationship marketing and thus information quality has no indirect effect on relationship marketing. According to this finding, firms need to establish an appropriate level of information quality, which, in turn, will be expected to promote salespeople's relational competency. Nevertheless, information quality improvements usually have long-term effects and do not typically provide immediate results. Another important consideration is the extent of salespeople's interest in information quality improvement efforts, which can be a topic of future research.

Limitations and Suggestions for future research

In this study, there are some limitations, which must be taken into account when interpreting the results. To begin with, we have only examined a single aspect of information, that is, information quality. However, there are other aspects such as information quantity, whose effect on relationship marketing can be examined in future research. Due to the interconnectedness of information aspects, it is expected that the incorporation of other

aspects may lead to more accurate findings. Furthermore, the salespeople's relational competency is the only mediating variable considered in this study. Other mediators such as seller expertise, relationship benefits, and relationship duration could be considered in the examination of the indirect relationship between information quality and relationship marketing (Palmatier et al., 2006). Moreover, our sample was from a private company with a unique setting, which may cause limitations in the extension of the obtained results to other settings. For future research, one may consider a mixed population of respondents including a wide range of companies with relationship marketing, broadening the applicability of the study findings. Finally, due to lack of customers' familiarity with the field of information technology, some respondents were unable to answer a number of questions related to the basic demographic variables such as technical aspects of services used in their company, limiting the accuracy of findings.

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