



Impact of customer relationship management (CRM) on customer satisfaction and loyalty: A systematic review

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ABSTRACT

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In this study, we review literature on Customer Relationship Management (CRM), focusing specifically on the impact of the CRM on customer satisfaction and customer loyalty. CRM is a set of practices that organizations adopt to maintain and increase their customer base. A systematic review of empirical researches from different sources of journals and conferences papers, covering the period 2005 to 2015, is carried out. The results found are diverse in terms of the publication trend, CRM classification, industries, and countries studied. The three dimensions that have been frequently used in prior studies that address the impact of CRM on customer satisfaction and customer loyalty are service quality (SQ), service access (SA), and handling complaints (HC). These factors are found to have effects on customer satisfaction and customer loyalty. The study benefits both academics and practitioners in the context of adding to the existing literature on CRM and providing insights on what drives CRM in real practice.

Keywords:

Customer Relationship Management,
Customer Satisfaction, Customer Loyalty,
Service Quality, Service Access

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1. Introduction

Customer Relationship Management (CRM) is a “concept that is based on the philosophy of using a combination of customers and marketing for relationship building” [1]. Dowling [2] argued that developing a relationship with customers is the best way to gain their loyalty. Customer loyalty refers to a consideration paid to the amount of buying for a given trademark [3].

Business organizations, such as banks, insurance companies, and other service providers, have been aware of the significance of CRM and its potential in helping them to capture new customers, retain existing ones, and maximize their lifetime value. Ibrahim, Hamid, Babiker, and Ali [4] suggested

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that close relationship with customers requires a strong coordination between information technology (IT) and marketing departments to retain customers for a long time. Hence, in achieving CRM, many organizations use a set of tools, technologies, and procedures to support the relationship with the customer to enhance sales [2].

The importance of customer satisfaction cannot be denied as happy customers are like free advertising for the company [5]. It is argued that preserving existing customers is easier than finding new ones. Hence, organizations are setting strategies to ensure customer retention and changing their employees to be more customer-and service oriented [6].

Nowadays, the organization's aim is not only to satisfy the customers, but also to compete in the market place to attain their goals [6]. Customer satisfaction is defined as the level of satisfaction where customer needs, wishes, and expectations are met during the product/service period, giving way to re-purchasing and customer loyalty [7]. Customer satisfaction is often viewed as a central determinant of customer retention [8]. Jain and Singh [9] argued that the most important goal of an organization is to maintain customer loyalty and to focus on customer centric approach in their organizational and marketing strategies.

The main issue of this study is that CRM has become a multi-faceted and complex phenomenon that is ridden by various factors. Due to this complexity, a number of different variables have been used to measure CRM which investigated by several prior studies. However, most of businesses need to know and look at the particular measures and dimensions of the CRM that have a significant impact on customer satisfaction and loyalty, which would enrich the business' performance, especially with the increase in competition as well as lack of differentiation in providing a service.

This paper aimed to review literature on CRM and to identify its impact on customer satisfaction and customer loyalty. The studies are analyzed on the basis of some general characteristics and variables that significantly enhance CRM and its influence on customer satisfaction and customer loyalty. For this purpose, we investigate the existing literature on the impact of CRM on customer satisfaction and customer loyalty along with its spread among publications to identify the potential development in the field.

In this review, we consider only empirical research papers on CRM and its impact on customer satisfaction; for example see [11-13] and customer loyalty; see, for example [4, 14, 15]. Studies that consider both customer satisfaction and customer loyalty; see, for example [16-18] are also included. Conceptual and other sources like textbooks, reports, and publications by different organizations or by government, and master and doctoral dissertations in this area are, however, excluded. The remaining portion of the paper is organized as follows. Section two describes the review methodology, focusing specifically on the inclusion criteria and the selection of the articles. Section three summarizes the reviewed articles, followed by discussion of the findings in section four. The last section concludes the study with the implications, limitations, and future research directions.

2. Review methodology

The systematic literature review is designed to guide the research process [19]. Relevant papers were retrieved from online databases as an essential source to the literature research. There are two main steps in a systematic review: (1) setting inclusion criteria; and (2) electing databases and studies [20].

2.1. The inclusion criteria

The three criteria that we used to identify the possible studies for the review are:

- (1) Articles published in journals and conference proceedings from year 2005-2015. Other published sources, such as textbooks, governments' reports, and students' dissertations (e.g., master or doctoral) were not considered.
- (2) Only literature on the impact of CRM on customer satisfaction and customer loyalty are considered for review. Studies conducted on the effect of CRM, such as on organizational performance; see for example [21, 22] and on competitive advantage; see for example [23, 24] are excluded.
- (3) Only empirical studies are considered. Hence, conceptual and theoretical works are excluded.

2.2. Selection of articles

The articles under review are selected from various online journal databases to provide a comprehensive bibliography of the academic literature on the impact of the CRM. These databases are Emerald Fulltext, Google Scholar, ACM Digital library, and ScienceDirect. The search was carried out from 18th January 2016 to 15th February 2016:

The articles were selected using three steps. First, the literature search was based on the keyword descriptor, "CRM impact", using the above-mentioned databases. We initially scanned the keywords in the title, abstract, and the keyword list of the allotted articles. This search resulted to 1,505 papers. Second, we used the descriptor, "impact of CRM on customer satisfaction and loyalty", resulting to 530 papers. These articles were reviewed to eliminate those that were not actually related to the impact of CRM on the customer satisfaction and customer loyalty. The review finally yielded 35 articles related to the CRM impact on customer satisfaction and customer loyalty, and published in a period ranging from 2005 to 2015.

3. Common qualities of the selected articles

This review involves 35 articles (Table 1). The studies are further investigated by the CRM classification, year of publication, industry, research design, data collection method, and theoretical framework.

3.1. Distribution of articles by journals and conferences

Tables 2 and 3 show the distribution of the articles in journals and conference proceedings, time-period, and number of articles published during the period under investigation. Thirty-two (32) papers were published in journals (Table 2) and only three (3) papers published in conference proceedings (Table 3).

Table 1
Prior Studies of CRM

Citation No	Study	Country	Industry	Method	Data Collection	Classification of CRM	Key Informant	Framework/Theory	Findings
17	Heidari & Najjari (2015)	Iran	Automotive industry	Quantitative	Primary data (Questionnaire)	CRM	Customer	None	CRM (+) → SQ CRM (+) → CS CRM (+) → L SQ (+) → CS SQ (+) → CL
18	Rashmi & Krishnakumar (2015)	India	Mobile telecom	Quantitative	Secondary data	CRM	---	None	CS; T (+) → CL SQ (+) → CS → CL CRM (+) → CS → CL Pr (+) → CS → CL CI (+) → CS → CL
14	Malik (2015)	India	Automobile Sector	Quantitative	Primary data (Questionnaire)	CRM	Vehicle owner/customer	None	SA (+) → CL PIHRW (-) → CL FH (-) → CL AR (-) → CL FOTC (+) → CL
4	Ibrahim, Hamid, Babiker, & Ali (2015)	Sudan	Bank	Quantitative	Primary data (Questionnaire)	CRM	Customer	Commitment-trust theory	CT (+) → AL Comt (+) → AL Com (-) → AL CH (+) → AL CT (-) → BL Comt (-) → BL Com (+) → BL CH (+) → BL
16	Bhakane (2015)	India	Organisation	Quantitative	Primary data (Questionnaire)	CRM	Manager	None	CRM (+) → CS CRM (+) → CL
13	Rostami, Valmoham, & Yousefpoor (2014)	Iran	Bank	Quantitative	Primary data (Questionnaire)	CRM	Customer	None	SQ (+) → CS PSP (+) → CS SA (+) → CS HC (+) → CS
12	Nazir Khan, Jamil, & Mehmood (2014)	Pakistan	Hotel	Quantitative	Primary data (Questionnaire)	CRM	Customer	None	SQ (+) → CS SA (+) → CS PSP (+) → CS
11	Azzam (2014)	Jordan	Bank	Quantitative	Secondary data and primary data (questionnaire)	CRM	Customer	None	SQ (+) → CS EB (+) → CS CD (+) → CS HC (+) → CS PE (+) → CS

25	Ogunnaike, Borishade, & Jeje (2014)	Nigeria	Education	Quantitative	Primary data (Questionnaire)	CRM	University student	Stakeholder Theory & Relationship management theory	SNI	(+)	→	CS		
									LCM	(-)	→	WTR		
									LCM	(-)	→	RP		
									PRM	(-)	→	WTR		
									PRM	(-)	→	RP		
CRM	(-)	→	CS											
15	Pangkey & Saerang (2014)	Indonesia	Bank	Quantitative	Secondary data and primary data (questionnaire)	CRM	Customer	None	Prom;L;ES;CSC	(+)	→	CL		
									Prom	(-)	→	CL		
									L	(-)	→	CL		
									ES	(-)	→	CL		
									CSC	(+)	→	CL		
26	Wang (2013)	Taiwan	Nursing home	Quantitative	Primary data (Questionnaire)	CRM	Nursing staff and resident	None	CF	(+)	→	PE		
									CF	(+)	→	IQ		
									CRMO	(+)	→	PE		
									CRMO	(+)	→	IQ		
									CRMT	(+)	→	PE		
									CRMT	(+)	→	IQ		
									KM	(+)	→	PE		
									KM	(+)	→	IQ		
									CF	(+)	→	CS		
									CRMO	(+)	→	CS		
									CRMT	(+)	→	CS		
									KM	(+)	→	CS		
									PE	(+)	→	CS		
									IQ	(+)	→	CS		
									CF	(+)	→	PE	→	CS
									CF	(+)	→	IQ	→	CS
									CRMT	(+)	→	PE	→	CS
CRMT	(+)	→	IQ	→	CS									
KM	(+)	→	PE	→	CS									
KM	(+)	→	IQ	→	CS									
6	Long, Khalafinezhad, Ismail, & Rasid (2013)	Iran	ABC company	Quantitative	Primary data (Questionnaire)	CRM	Customer	None	EB	(+)	→	CS		
									SQ	(-)	→	CS		
									RD	(+)	→	CS		
									RD	(-)	→	CS		
									EB	(+)	→	CL		
									SQ	(-)	→	CL		
									RD	(-)	→	CL		
									RD	(-)	→	CL		
27	Krishnamoorthy & Srinivasan (2013)	India	Bank	Quantitative	Primary data (Questionnaire)	CRM	Customer	Marketing theory and practice	Rel	(+)	→	CL		
									CIPS	(-)	→	CL		
									HC	(-)	→	CL		
									InfQ	(-)	→	CL		
									FOTC	(+)	→	CL		
									Com	(+)	→	CL		

									FISC	(-)	→	CL	
									APC	(-)	→	CL	
									FIP	(-)	→	CL	
									QAOHTI	(+)	→	CL	
28	Saadat & Nas (2013)	Pakistan	Cellular industry	Quantitative	Primary data (Questionnaire)	CRM	University Student & staff members	Stimulus-organism-response model (S-O-R) model	SE	(+)	→	CRM	
									SQ	(+)	→	CRM	
									Pr	(+)	→	CRM	
									CRM	(+)	→	CL	
29	Saeed, Lodhi, Nazir, Safdar, Mahmood, & Ahmad (2013)	Pakistan	Bank	Quantitative	Primary data (Questionnaire)	CRM	Customer	None	CRM	(+)	→	CS	
30	Zeynep Ata & Aysegul Toker (2012)	Turkey	B2B company	Quantitative	Primary data (Questionnaire)	CRM	Manager	Relationship marketing theory	CRMA	(+)	→	OMP	
									CRMA	(+)	→	OFP	
									CCM	(+)	→	CS	
									CRMO	(+)	→	CS	
									OCRM	(+)	→	CS	
									CS	(+)	→	OMP	
									CS	(+)	→	OFM	
									CS	(+)	→	ED	→ OP
31	Amoako, Arthur, Bandoh, & Katah (2012)	Ghana	Hotel	Quantitative	Primary data (Questionnaire)	CRM	Customer	RBV theory	CRME	(+)	→	CL	
									CRME	(+)	→	Org	
									CRME	(+)	→	CT	
32	Padmavathy, Balaji, & Sivakumar (2012)	India	Bank	Qualitative and Quantitative	Primary data (Interview and Questionnaire)	CRM	Customer	None	Comt	(+)	→	CS	
									CE	(+)	→	CS	
									PDA	(+)	→	CS	
									Rel	(+)	→	CS	
									TO	(+)	→	CS	
									Comt	(-)	→	CL	
									CE	(-)	→	CL	
									PDA	(-)	→	CL	
									Rel	(+)	→	CL	
									TO	(-)	→	CL	
									CS	(+)	→	CL	
									CS	(+)	→	CB	
									CL	(+)	→	CB	
33	Keshvari (2012)	Iran	B2B	Qualitative and Quantitative	Secondary data and primary data (questionnaire & interview)	e-CRM	Customer	None	e-CRMB	(+)	→	CS	
									e-CRMCA	(+)	→	CS	
34	Liu, Tseng, Chuang, & Huang (2012)	Taiwan	Bank	Quantitative	Primary data (Questionnaire)	e-CRM	Customer	None	e-CRMT	(+)	→	SS	
									e-CRMO	(+)	→	SS	
									e-CRMEEn	(-)	→	SS	
									e-CRMCK	(-)	→	SS	
									e-CRMT	(+)	→	PS	
									e-CRMO	(-)	→	PS	

									e-CRMEn	(-)	→	PS	
									e-CRMCK	(-)	→	PS	
									e-CRMT	(+)	→	CL	
									e-CRMO	(+)	→	CL	
									e-CRMEn	(+)	→	CL	
									e-CRMCK	(+)	→	CL	
									e-CRMT	(+)	→	Lsw	
									e-CRMO	(-)	→	Lsw	
									e-CRMEn	(+)	→	Lsw	
									e-CRMCK	(+)	→	Lsw	
									CS	(+)	→	CL	
									CS	(-)	→	Lsw	
10	Koçoğlu & Kirmaci (2012)	Turkey	Bank	Qualitative	Primary data (Interview)	CRM	Customer	None	CRM	(+)	→	CL	
									CRM	(+)	→	CNUOB	
35	Yao & Khong (2012)	Taiwan	Bank	Quantitative	Primary data (Questionnaire)	CRM	Manager	None	CRM	(+)	→	CS	
									CRM	(+)	→	OP	
36	Azila & Noor (2011)	Jordan	Telecommunication	Quantitative	Primary data (Questionnaire)	e-CRM	University Student	None	CRM	(+)	→	CL	
37	Almir & Andela (2011)	Bosnia and Herzegovina	Rent-a-Car	Qualitative	Primary data (Interview)	e-CRM	Rent-a-Car Agency	None	e-CRM	(+)	→	ROC & ANC	
									e-CRM	(+)	→	ICT	
									e-CRM	(+)	→	RQ	
									e-CRM	(+)	→	P	
									e-CRM	(+)	→	CSeg	
38	Sivaraks, Krairit, & Tang (2011)	Thailand	Bank	Qualitative and Quantitative	Primary data (Questionnaire & interview)	e-CRM	Customer	Commitment-trust theory of relationship marketing	e-CRM	(+)	→	Sat	
									e-CRM	(+)	→	IRBC	
									e-CRM	(+)	→	CCon	
									e-CRM	(+)	→	CCC	
									e-CRM	(+)	→	RQ	
									e-CRM	(+)	→	CT	
									e-CRM	(+)	→	CS	
									e-CRM	(+)	→	CComt	
									e-CRM	(+)	→	CL	
									e-CRM	(+)	→	CRet	
									e-CRM	(+)	→	WTR	
									e-CRM	(+)	→	Sat	→ RQ
39	Gilaninia, Alipour, Khosoosi, & Mousavian (2011)	Iran	Financial & Credit Institution	Quantitative	Primary data (Questionnaire)	CRM	Customer	Consistent theory	SA	(+)	→	CS	
									SQ	(+)	→	CS	
									HC	(+)	→	CS	
									SF	(+)	→	CS	
40	Sarlak & Fard (2009)	Iran	Bank	Quantitative	Primary data (Questionnaire)	CRM	Customer	None	SQ	(+)	→	CS	
									SA	(-)	→	CS	
									PSP	(+)	→	CS	
									CC	(-)	→	CS	
41		Korea		Quantitative	Primary data	m-CRM	Customer	TAM	CDi	(+)	→	CS	

	Lee, Sohn, & Lee (2008)		Mobile telecom		(Questionnaire)				CFr CR CDi CFr CR CS CS CT	(+) (-) (-) (+) (-) (-) (+) (+)	→ → → → → → → →	CS CS CT CT CT ITU CT ITU		
42	Hsu & Lin (2008)	Taiwan	Mobile telecom	Qualitative	Primary data (Interview)	m-CRM	Customer	None	m-CRM	(+)	→	CS		
43	Chen & Ching (2007)	Taiwan	Mobile telecom	Quantitative	Primary data (Questionnaire)	m-CRM	Student	TRA & TAM	CSer;Cust LP;CSell MA MC CSer;Cust LP;CSell MA MC	(+) (+) (+) (+) (+) (-) (+) (-)	→ → → → → → → →	CL CL CL CL BI BI BI BI	→ → → → → → → →	CL CL CL CL CL CL CL CL
44	Ndubisi, Kok Wah, & Ndubisi (2007)	Malaysia	Bank	Quantitative	Primary data (Questionnaire)	CRM	Customer	Relationship marketing theory and practice	Comp Com;Comt;CH Comp;Com Comt;CH CT;RQ Comp Com;Comt;CH Comp;Com Comt;CH	(-) (+) (-) (+) (+) (-) (+) (-) (+)	→ → → → → → → → →	CT CT RQ RQ CL CT CT RQ RQ	→ → → → → → → → →	CL CL CL CL CL CL CL CL CL
45	Chen, & Ching (2006)	Taiwan	Mobile telecom	Quantitative	Primary data (Questionnaire)	m-CRM	University Student	TAM model	CSer;Cust LP; CSell CSer;Cust LP; CSell UPU UPUE MC UPU UPUE MC BI CS CRMP MA	(+) (+) (+) (+) (+) (-) (+) (-) (-) (+) (+) (+) (+) (+) (+)	→ → → → → → → → → → → → → → →	BI BI CS CS BI BI BI CS CS CS CS CL CL CL BI;CS BI;CS	→ → → → → → → → → → → → → → →	CL CL CL CL CL CL CL CL CL CL CL CL CL CL CL
46	Liu, Zhou, & Chen (2006)	China	Internet retailer	Qualitative and Quantitative	Primary data (Questionnaire)	e-CRM	Customer	Temporal model	SyQ InfQ SQ SyQ	(+) (-) (-) (+)	→ → → →	Res Res Res Ef		

									InfQ	(+)	→	Ef	
									SQ	(+)	→	Ef	
									SyQ	(+)	→	CS	
									InfQ	(+)	→	CS	
									SQ	(+)	→	CS	
									Res	(+)	→	Ef	
									Res	(+)	→	CS	
									Ef	(+)	→	CS	
									SyQ	(+)	→	InfQ	
									InfQ	(+)	→	SQ	
									SyQ	(+)	→	SQ	
47	Khalifa & Shen (2005)	Hong Kong	Internet retailer	Quantitative	Primary data (Questionnaire)	e-CRM	Customer	Adaptation-level theory & Temporal model	Pre-P e-CRM	(+)	→	CS	
									At-P e-CRM	(+)	→	CS	
									At-P e-CRM	(+)	→	CS	
48	Mithas, Krishnan, & Fornell (2005)	USA	Firm	Quantitative	Secondary data	e-CRM	---	None	CRMApp	(+)	→	CK	
									CRMApp	(+)	→	CS	
									CRMApp	(+)	→	CK	→ CS

Notes: (+) Significant relationship, (-) Insignificant relationship

AL - Attitudinal loyalty	CR - Contents repetition	FOTC - Fulfil its obligation to customer	Pr - Price
APC - Avoid potential conflict	CRet - Customer retention	HC - Handling complaints	Pre-P e-CRM - Pre-purchase e-CRM
AR - Arranging replacement	CRMA - CRM Adoption	ICT - Information-communication technology	PRM - Parent relationship management
At-P e-CRM - At-purchase e-CRM	CRMApp - CRM application	IM - Interaction management	Prom - Promotion
BI - Brand image	CRME - CRM effective	InfQ - Information quality	PS - Product satisfaction
BL - Behavioural loyalty	CRMO - CRM Organisation	ITU - Intention to use	PSP - Properties service provided
CB - Cross buying	CRMT - CRM technology	IQ - Interaction quality	RD - Relationship development
CC - Customer complaints	CS - Customer satisfaction	IRBC - Information received by the customer	Rel - Reliability
CCC - Customer communication channels	CSC - Customer service consultant	KM - Knowledge management	Res - Responsiveness
CCM - Customer-centric management	CSeg - Customer segmentation	LP - Loyalty program	RL - Relationship length
CComt - Customer commitment	CSell - Cross selling	L - Lottery	ROC & ANC - Retention old customer and attraction new customer
CCon - Customer convenience	CSep - Customer separation	LCM - Life cycle management	RP - Repeat patronage
CD - Customer database	CSS - Created a sense of satisfaction	LSw - Loyalty swich	RQ - Relationship quality
CDi - Content differentiation	CT - Customer trust	MA - Mobile acceptance	SA - Service access
CE - Customer expectation	Cust - Customisation	MC - Mobile coverage	SAt - Service attribute
CE - Customer experience	EB - Employees behavior	m-CRM - Mobile-CRM	SCP - Solving customer problem
CF - Customer focus	e-CRM - Electronic CRM	OAHTI - Offer Advice on how to Invest	SE - Store environment
CFr - Contact frequency	e-CRMB - e-CRM benefit	OCR - Operational CRM	SNI - Social network interaction

CH - Conflict handling	e-CRMCA - e-CRM competitive advantage	OFFP - Organisational financial performance	SOITC - System of investigation to compliant
CI - Corporate image	e-CRMCK - e-CRM customer knowledge	OMP - Organisational marketing performance	SQ - Service quality
CIPS - Consistence in providing service	e-CRME - e-CRM environmental	OP - Organisation performance	SS - Service satisfaction
CK - Customer knowledge	ED - Environmental dynamism	Org - Organisation	SyQ - System quality
CL - Customer loyalty	Ef - Efficiency	P - Profit	TO - Technology orientation
CNUOB - Customer not using other bank	ES - Event sponsorship	PDA - Process-driven approach	UPU - Users perceive usefulness
Com - Communication	FH - Friendliness helpfulness	PE - Physical environment	UPUE - Users perceive use ease
Comp - Competence	FIP - Fulfils its promise	PIHRW - Promptness in handling repair work	WTR - Willingness to recommend
Comt - Commitment	FISC - Flexible in serving customer needs	Post-P e-CRM - Post-purchase e-CRM	

Table 2
Distribution of articles in journals and year

Journal	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Academic Research International											1	1
African Journal of Marketing Management								1				1
American Journal of Economics and Business Administration					1							1
Asia Pacific Journal of Research											1	1
Asian Journal of Management Sciences & Education									1			1
Asian Social Science									1			1
Economic Analysis							1					1
European Journal of Business and Management										1		1
Industrial and Commercial Training										1		1
International Business Research								1				1
International Journal of Bank Marketing								1				1
International Journal of Biology Pharmacy and Allied Sciences											1	1
International Journal of Business and Management								1				1

International Journal of Business and Social Science		1		1
International Journal of E-education, E-business, E-management and E-learning		1		1
International Journal of Electronic Customer Relationship Management	1			1
International Journal of Human and Social Sciences	1			1
International Journal of Management			1	1
International Monthly Refereed Journal of Research in Management and Technology			1	1
Journal of Basic and Applied Scientific Research		1		1
Journal of Business & Industrial Marketing		1		1
Journal of Competitiveness			1	1
Journal of Economic Research, Management, Business and Accounting			1	1
Journal of Economics and Behavioral Studies		1		1
Journal of Enterprise Information Management	1			1
Journal of High Technology Management Research		1		1
Journal of Management Info			1	1
Journal of Marketing	1			1
Managing Service Quality: An International Journal			1	1
Trends in Artificial Intelligence	1			1
University Journal of Research			1	1
World Applied Sciences Journal			1	1
Total				32

Table 3
 Distribution of articles in conference proceedings and year

Conference	Year	No. of articles
Proceedings of the 38th Hawaii international conference on system sciences	2005	1
In service systems and service management, 2006 international conference	2006	1
Proceedings of the 40th Hawaii international conference on system sciences	2007	1
Total		3

3.2. Distribution of articles by year of publication

The distribution of articles according to their year of publication, from 2005 to 2015, is shown in Fig. 1. We found that only a few of research on the impact of CRM on customer satisfaction and customer loyalty were published in the period from 2005 to 2010. Thereafter, the interest of researchers in this field increased considerably, which is reflected by a significant increase in the number of papers published on this topic after 2010. The highest number of studies focusing on this topic were published in year 2012 (7 studies).

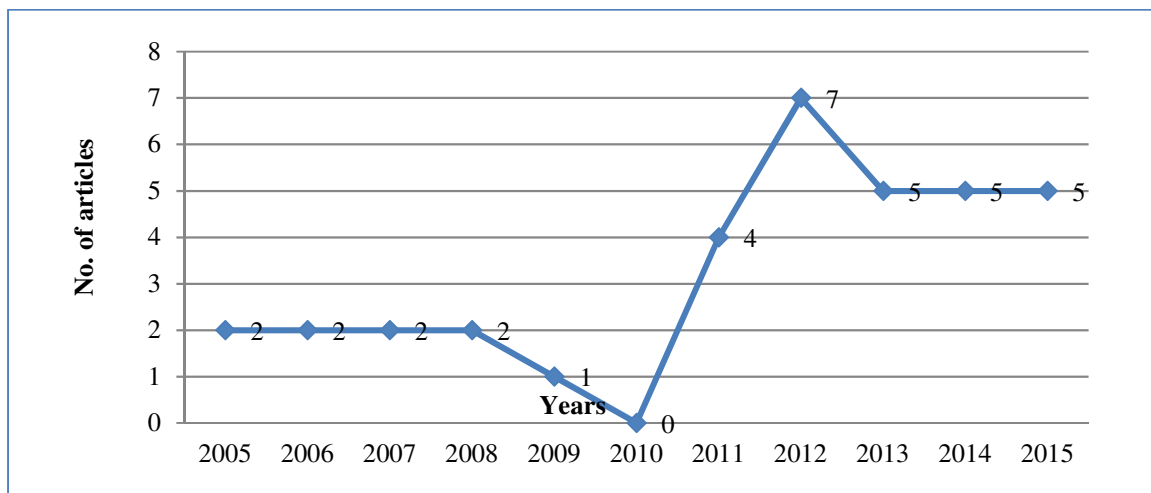


Fig. 1. Distribution of articles by year

3.3. Distribution of articles by CRM classification

The articles are classified into three different categories of CRM, namely, traditional CRM, mobile CRM (m-CRM), and electronic CRM (e-CRM) (see Fig. 2). E-CRM refers to selling, serving, or communicating with customers through the Web [49]. M-CRM refers to the use of mobile phone to communicate with customers [42].

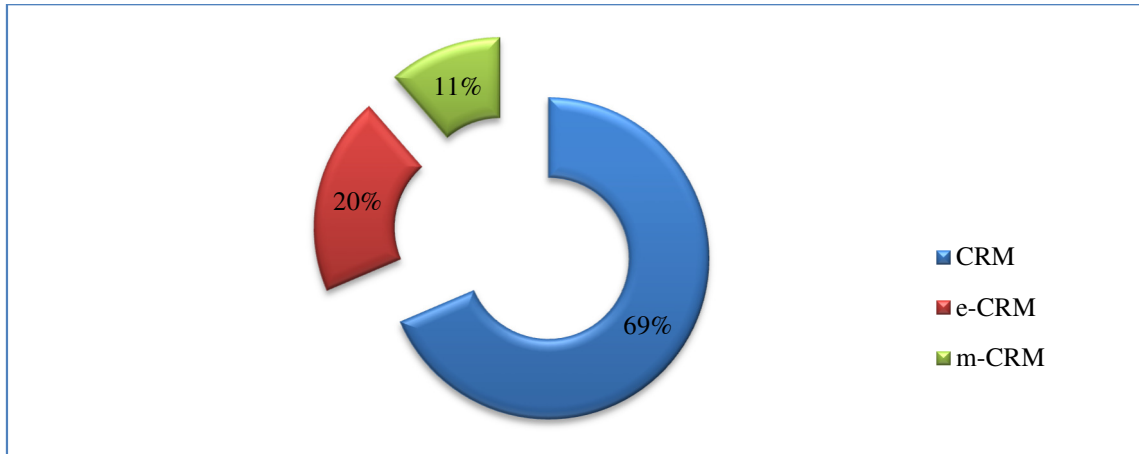


Fig. 2. Distribution of articles by CRM classification

Majority of the articles (24 out of 35 studies which forms 69% of the total) are related to traditional CRM; see for example [13, 17]. Only four (11%) and seven (20%) studies are related to m-CRM; see for example [41, 42] and e-CRM; see for example [33, 48] respectively.

3.4. Distribution of articles by industry

The industry wise analysis of research papers shows that the articles were spread over 10 industries as depicted in Fig. 3. There are three primary industries which were studied most, namely, banking (13 studies), telecom (7 studies), and business (5 studies). Others focused on automobile (2 studies), education (1 study), financial and credit institution (1 study), hotel (2 studies), internet retailer (2 studies), rent-a-car (1 study), and health care (1 study). This pattern reveals that the researchers' interest on the topic is growing across industries year by year.

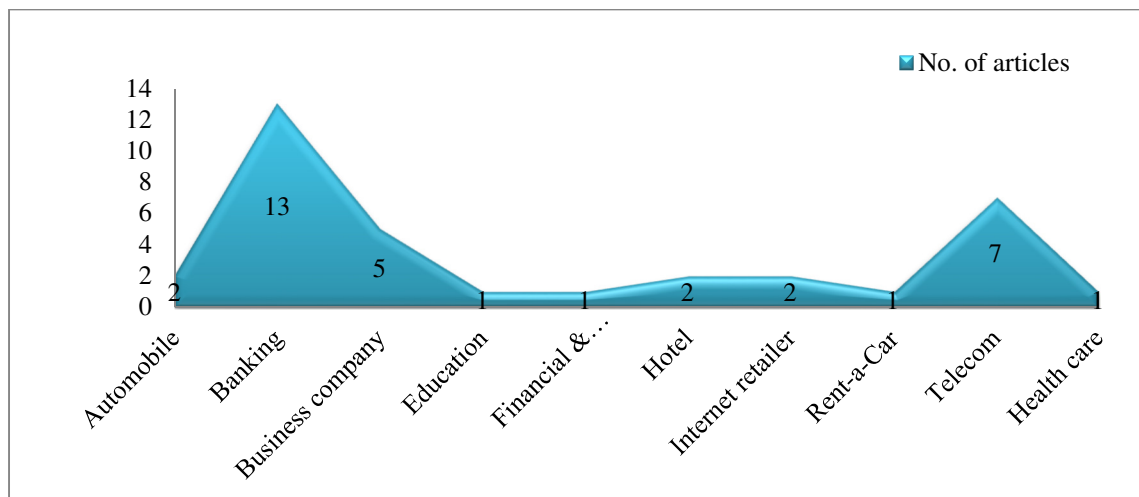


Fig. 3. Distribution of articles by industry

3.5. Distribution of articles by research design

As shown in Fig. 4, most of the studies used quantitative than qualitative research design. Specifically, 29 studies (83%) used quantitative approach, two studies (7%) used a qualitative

approach, and four studies (11%) used a combination of the quantitative and qualitative approach (mixed method).

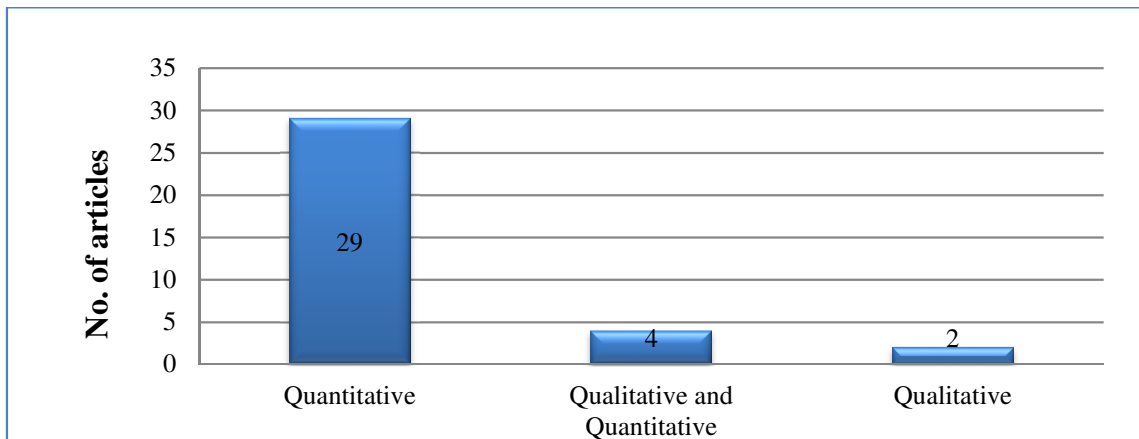


Fig. 4. Distribution of articles by research design

3.6. Distribution of Articles by Data Collection Method

The empirical research papers are also analyzed in terms of the methods used in gathering data. Majority of the studies used customer as the key informant.

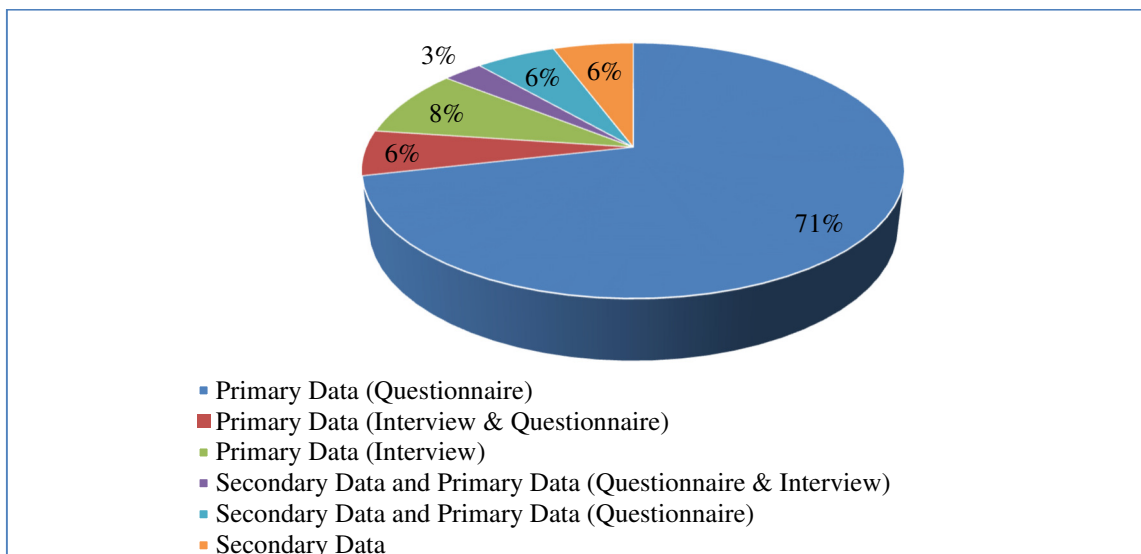


Fig. 5. Distribution of articles by data collection method

The majority of the articles (25 studies or 71% of the total) used primary data (questionnaire) as their data collection instrument (Fig. 5). Only three studies (8%) used primary data by way of interview. Two studies used a combination of primary (involving either both the questionnaire and interview, or the questionnaire only) and secondary data. Two studies (6%) used each of the following: secondary data and primary data (questionnaire), primary data (interview and questionnaire), and secondary data. Only one study (3%) used both secondary and primary (with questionnaire and interview) data.

3.7. Distribution of articles by theoretical framework

As depicted in Fig. 6, most of the studies (57%) did not indicate the theoretical framework used in their studies. Others have used various theories, including the commitment-trust theory (2 studies), stimulus-organism-response (S-O-R) model (1 study), relationship marketing theory (3 studies), resource-based view (RBV) (1 study), consistent theory (1 study), stakeholder theory (1 study), technology acceptance model (TAM) (2 studies), theory of reasoned action (TRA) (1 study), temporal model (2 studies), and adaptation-level theory (1 study) (Fig. 6).

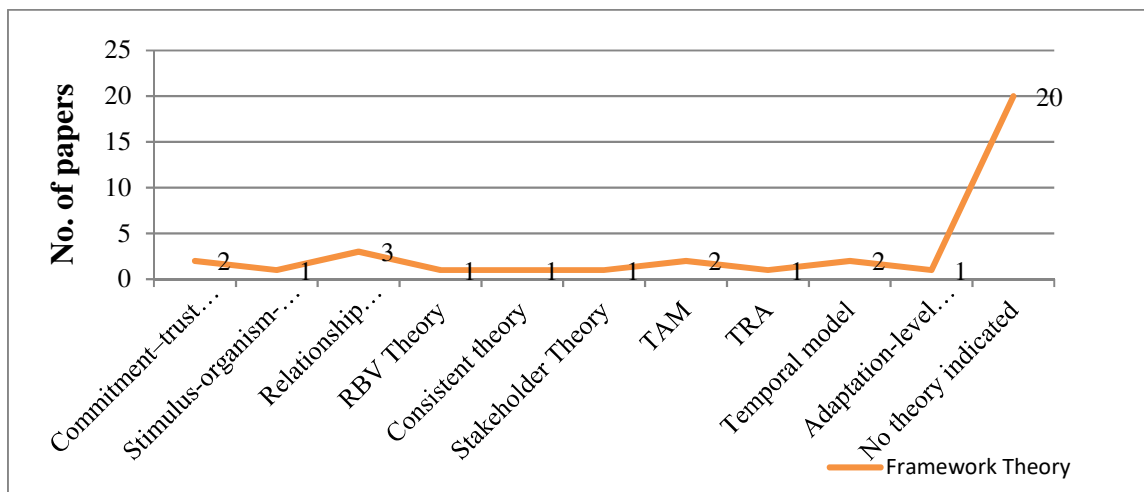


Fig. 6. Distribution of articles by framework theory

Commitment–trust theory is where trust and relationship commitment are the key mediators in the exchange between participants, which essentially lead to building a relational co-operation [50]. S-O-R model refers to “those factors that affect internal states of the individual and can be conceptualized as an influence that stimulates the individual” [51]. Relationship marketing theory is defined as the process of identifying, developing, maintaining, and terminating relational exchanges with the objective of enhancing performance [52]. In the RBV theory, the company’s competitive advantage lies mainly in the tangible or intangible resources that have values to the organizations [53].

Consistent theory is grounded on “the idea that people possess a willingness to maintain consistency in their lives” [54]. Stakeholder theory refers to the “theory of organizational management and business ethics that addresses morality and values in managing an organization” [55]. TAM, as proposed by Davis [56], refers to users’ behavior to accept and use a technology. The Fishbein and Ajzen’s [57] TRA defines the links between beliefs, attitudes, norms, intentions, and behaviors of individuals. Temporal model allows data to be referenced in time, making it possible to query the state of an entity at a given time [58]. According to Helson [59], adaptation-level theory refers to “a person’s behavioral response to stimuli which represents adaptation modes to environmental and organismal forces”.

4. Findings and discussion

The assessment of the 35 articles considered for the review brings together the various measures of CRM, customer satisfaction, and customer loyalty used in the studies (Table 4). Ngai [60] argued that CRM has become an attractive area for research because of its relative novelty and exploding

growth. The literature on the impact of CRM on customer satisfaction and customer loyalty is growing rapidly due to increased interest of researchers in this area (Fig. 1). Studies in this area have been conducted mainly in banking and telecom (Fig. 3). In terms of the CRM classification, most of these studies focused on the traditional CRM rather than e-CRM and m-CRM (Fig. 2).

Due to the multi-disciplinary nature of the area of study, the 35 articles considered in our review is spread over 32 different journals and 3 conferences. In addition, the majority of studies in this field used quantitative research approach.

Based on the literature review, we found that CRM has been conceptualized in different ways (Table 4). The majority of the studies conceptualized CRM into three main dimensions, namely, SQ; see for example [11, 18], SA see for example [13, 14], and HC, see for example [11, 39].

SQ refers to customer's opinion or attitude on the excellence amount of service presented by service provider [13]. The core of SQ is the ability to deliver customers' needs and expects. If customer's experience exceeds his expectations, he would return and do more business with the vendor. Conversely, low service quality leads customers to be more inclined to defect to other vendors, as they are not getting what they expect [46].

Table 4
 Measures of CRM, customer satisfaction, and customer loyalty

Variable	Conceptualization	Studies
CRM	SQ	[6, 11-13, 17, 18, 28, 39, 40, 46]
	SA	[12-14, 39, 40]
	HC	[11, 13, 27, 39]
Customer satisfaction	CE, CSS, SQ	[6, 11-13, 16-18, 25, 26, 29, 30, 32-35, 38- 42, 45-48]
Customer loyalty	RL, CT, Comt	[4, 6, 10, 14-18, 27, 28, 31, 32, 34, 36, 43-45]

Note: Details of the studies are presented in Table 1 (in the No. column).

SA is defined as the access of the services to the customer on time. Enhancing the customer access to the services lead to increase in customer satisfaction [39]. We found that SA has been conceptualized by the development of service, geographical location of the service provider, and the use of remote systems for providing services (see, for example [12-14]). Most of the existing studies that used SA as their independent variable reported a significant relationship between SA and customer satisfaction and customer loyalty (see, for example [12-14, 39]). However, there is no effect of SA on customer satisfaction in a study by Sarlak and Fard [40].

In the context of HC, the business must deal with the customer's dissatisfaction and should enhance the process and procedures of solving customer complaints and problems, which can then nurture customer satisfaction and customer loyalty [11]. HC has been conceptualized by dealing effectively with customer problems, reviewing complaints periodically, and officers' response directly to problems (see, for instance [39, 27, 13, 11]). The findings indicate that HC has a significant effect on both customer satisfaction and customer loyalty, with an exception of a study by Krishnamoorthy and Srinivasan [27].

For customer satisfaction, most of the studies conceptualized this variable by three dimensions, namely, customer expectations (CE), created a sense of satisfaction (CSS), and SQ (see, for example, [11-13]). CE refers to the total perceived benefits a customer expects from the products or services [17]. CSS is about how to make customers feel happy or pleasure toward the organization's product or service when it met their needs and expectations [46].

Customer loyalty, on the other hand, has been conceptualized into three dimensions: relationship length (RL), customer trust (CT), and commitment (Comt) (see, for example [4, 14, 15, 28]). RL is the amount of time that customers had been associated with the organizations [18]. CT is defined as a

willingness to rely on an exchange partner in whom one has confidence [4]. Comt refers to a commitment toward enduring desires for customers to maintain a valued relationship with them [44].

Different variables used to locate the impact of CRM on customer satisfaction and customer loyalty are summarized in Table 5. Three factors have been frequently used in the existing studies undertaken for this review: SQ (10 studies), SA (5 studies), and HC (4 studies).

Several studies that have used SQ as an independent variable have conceptualized this variable by SA level, HC, and service uniqueness (see, for example [17, 18, 13]). SQ was found to have a significant relationship with customer satisfaction and customer loyalty in several studies (see, for example [11, 12, 18, 13]). Conversely, insignificant association between SQ and customer satisfaction and customer loyalty was found in Long et al. [6]. Mixed findings were, however, found in Liu et al. [46]'s study; in particular, SQ was significant to customer satisfaction, but not found significant to responsiveness (Res).

Based on the review, we found that this area of study is still immature and requires further investigation in the future. The prevalent measures of CRM are SQ, SA, and HC. Most of these dimensions are found to have a significant impact on the customer satisfaction and on the customer loyalty (Table 5 for details).

5. Conclusion

The objective of this study is to carry out a systematic review on the impact of CRM on customer satisfaction and customer loyalty. The review is based on 35 articles published in a wide variety of journals and conferences between 2005 to 2015.

CRM is a multi-faceted and complex phenomenon that is ridden by various factors. Due to this complexity, a number of different variables have been used to measure CRM. The current review has verified the complexity of CRM by identifying its main measures that affect the relationship between CRM and customer satisfaction and customer loyalty. Therefore, as stated by Faiz [61], that the continuous improvement to achieve a high level of customer satisfaction has been widely confirmed as a critical determinant of an enhanced organizational performance and competitive advantage.

Based on the review, we find that CRM has generally been conceptualized by three main dimensions, namely, SQ, SA, and HC. In the majority of studies, these three dimensions are found to have a significant effect to customer satisfaction and customer loyalty.

This study aims to provide a useful contribution to industries or practitioners to understand the importance of CRM on customer satisfaction and customer loyalty. The review also provides them with insights on what drives CRM which later assists them in formulating their CRM processes. Businesses need to look at the measures of the CRM that have a significant impact on customer satisfaction and customer loyalty, specifically SQ, SA, HC. Overall, they need to consider these strategic areas in order to define their goals. Theoretically, the review enhances the existing literature on CRM.

Table 5
 Frequency of Variables Used and the Results

IV	4	6	10	11	12	13	14	15	16	17	18	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Freq.	
APC														x																						1	
AR				x																																	1
At-P e-CRM																																		v		1	
BI																														m		v				2	
CC																											x									1	
CCM																	v																			1	
CD				v																																1	
Cdi																												v								1	
CE																			m																	1	
CF													v																							1	
CFr																											v									1	
CH	v																														v					2	
CI											v																									1	
CIPS															x																					1	
CK																																			v		1
CL																				v																1	
Com	v													v																			m			3	
Comp		x																																x		1	
Comt	m																		m														v			3	
CR																												x								1	
CRMA																		v																		1	
CRMApp																																			v		1
CRME																				v																1	
CRMO													m				x				m															3	
CRMT														v																						1	
CSC								v																												1	
Csell																															m		v			2	
CT	m																											v					m			3	
Cust																																		v		2	
EB		v		v																																2	
e-CRM																								v	v	v										3	
e-CRMB																					v															1	
e-CRMCA																					v															1	
e-CRMCK																						m														1	
e-CRMEn																						m														1	
ED																										v										1	
Ef																																			v	1	
ES									m																											1	
FH							x																													1	
FIP															x																					1	
FISC															x																					1	
FOTC								v																												2	
HC				v		v									x													v								4	
IM		x																																		1	

InfQ										m	1
IQ				v							1
KM				v							1
L		x									1
LCM				x							1
LP									m	v	2
MA									v	v	2
MC									m	v	2
m-CRM									v		1
OAOHTI				v							1
OCR						v					1
PDA								m			1
PE	v			v							2
PIHRW		x									1
Post-P e-CRM										m	1
Pr				v		v					2
Pre-P e-CRM										v	1
PRM		x									1
Prom						m					1
PSP			v	v						v	3
RD	m										1
Rel					v		v				2
Res										m	1
RQ										m	1
SA		v	v	v					v	x	5
SE						v					1
SNI			v								1
SQ	m	v	v	v	v	v		v	v	m	10
SyQ										v	1
TO								m			1
UPU										m	1
UPUE										x	1

Note: *IV-independent variable*. Details of the independent variables are presented in Table 1.

- v: Significant relationship
- x: Insignificant relationship
- m: Mixed results

As with other researches, the present study also has some limitations that provide avenues for further inquiry. Firstly, the main limitation of this work is that it considers only peer-reviewed journals along with additional inclusion criteria described earlier in this paper (Section 3.1). Nonetheless, since we use a well-proven methodology for shortlisting the studies for this review, the impact of filtering the articles is expected to be less. Like many other literature review studies, we also tried to be more systematic during the selection of studies [62]. Secondly, the majority of the studies are conducted in developing countries, hence, the outcome of these studies cannot be generalized to developed countries. As a result, the findings cannot be applied to developed countries without further validation. Hence, there is a scope for conducting empirical studies that require future investigation in this area in developed countries. Finally, the selection of articles in this study is confined to accessibility of full text in selected database only. The selected articles are available in English language, which leads to bias toward the exclusion of articles written in other languages. Hence, future review may include the articles with a language other than English.

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