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Three condensed importance of interfunctional communication for the acceptance of CRM system

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Abstract: Customer relationship management (CRM) is an IT-based system that manage customer long-term relationship, and also inter-functional relationship within the organization with the ultimate purpose of creating customer value by sharing concise, sufficient, accurate, timely, and reliable information. The purpose of this paper is to analyze how different kinds of communication: inter-personal interaction (IPI), written interaction (WI), and collaboration (CB) affect (i) the perceived ease of use (PEU), (ii) the perceived usefulness (PU) and ultimately (iii) the acceptance of CRM? And proposes a research model representing the relationships among WI, IPI, CB, PEU, PU, and involvement. Data collected through online survey from 210 large companies in Pakistan are analyzed. Result shows that IPI instead of collaboration has significant positive effect on PEU and PU and play important role in the acceptance of CRM system. But, WI should be viewed with more caution, because it showed negative relationship. Moreover, PEU and PU of CRM system have

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PUBLIC INTEREST STATEMENT

Communication play a significant role and it is one of the important organizational function that's an organization to stay productive and efficient. One of the most significant organizational communication is inter-functional communication, the institute of customer relationship management (CRM). The significance of communication between departments in an organization comes to be best evident when that communication breaks down in the departments. The implementation of different policies to build up inter-departmental communication help to emphasize its significance and retain an effective flow of information. Customer Relationship Management (CRM) is an IT based system that manage customer long term relationship, and also inter-functional relationship within the organization with the ultimate purpose of creating customer value by sharing concise, sufficient, accurate, timely, and reliable information. Inter-functional communication using CRM system is critical for the organization to stay productive and efficient, because it reduces inter-functional conflicts. Effective planning, implementation and usage of CRM system depends on three inter-functional communication perspective; interpersonal interaction, written interaction, and collaboration which ultimately play important role in developing higher perceived ease of use and perceived usefulness of the CRM system among employees for accepting the CRM system.

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direct significant positive influence on involvement of marketing in the planning, implementation, and usage of CRM system that result in CRM system acceptance. The study provides theoretical and practical contributions, and also future research areas are highlighted for potential researchers.

Subjects: Information & Communication Technology; Interpersonal Communication; Information Technology

Keywords: CRM System; inter-personal interaction; written interaction; collaboration; ease of use; usefulness; involvement

1. Introduction

The customer relationship management (CRM) approach has received much attention in marketing thought during the last three decades (Ck, 2015). At the core of this approach is the use of IT-based systems (CRM systems) to manage customer relationships, and also relationships within an organization with the ultimate purpose of creating customer value (Payne, 2002). A CRM system may be defined to be *Technologies that support the planning, execution and monitoring of coordinated customer interactions through all channels and emphasis on the integrating of organizational processes and functions* (Payne & Frow, 2006). Customer relationship management is a strategic use of information and technology to manage relationship between customers and organizational departments (e.g. sales, marketing, service and support) throughout the whole life cycle of the customer (Rahimi and Yazdanfar, 2015).

It is observed that the implementation of CRM systems often turn out to be failures. Butler group reports that up to 70% of all CRM initiatives did not deliver expected results (Maklan & Knox, 2009). Past studies has identified different reasons for such failures of CRM implementation, including a lack of top management support and commitment (Almotairi, 2010; Chalmeta, 2006; Kale, 2004; Nguyen, Sherif, & Newby, 2007; Reid & Catterall, 2015), poor integration of IT system with old systems (Goodhue, Wixom, & Watson, 2002; Kale, 2004), rivalry amongst inter-functional departments (Ryals & Knox, 2001), lack of measures to follow-up implementation (Almotairi, 2009) lack of skills to actually use the CRM system (Almotairi, 2010), lack of customer involvement (Almotairi, 2009; Chalmeta, 2006), and ineffective inter-functional communication (Abdurrahaman & Osman, 2017; Isaksson, 2005; Meyer, 2005; Payne, 2006; Ryals & Knox, 2001; Sherif & Newby, 2007).

Effective inter-functional communication is a means to reduce the inter-functional conflicts that are normal parts of all organizational life. Organizations internally create specialized functional units (Souder, 1977) for instance, IT and Marketing; in order to survive in the industry. These different specialized functional units have unique capabilities, resources, and skills in order to accomplish their own functional tasks and consequently to achieve organizational goals. Therefore, these functional units become interdependent (El-Ghalayini, 2016; Ruekert & Walker, 1987). But most of the time, there exist inherent rivalry, conflicts and differences between marketing and other functions like IT (Berthon, Pitt, & Katsikeas, 1999; Moenaert, Souder, De Meyer, & Deschoolmeester, 1994). These inter-functional tensions and rivalry arise from incompatibility of desired responses, functional orientation, and differences in culture, information flow, distinct goals, and the complexity of interrelationship (Jaworski & Kohli, 1993; Liu & Dong, 2016; Raven & Kruglanski, 1970). According to prior studies, 60–75% projects failed due to highly distinct objectives and existing disharmony between marketing and other departments of the organization, e.g. marketing and R&D (Maltz, 2000; Moenaert et al., 1994; Souder & Moenaert, 1992); marketing and manufacturing (Maltz, 2000); marketing and finance (Maltz, 2000); marketing and IT (Ashraf, Hamyon, Khan, Jaafar, & Sulaiman, 2015; Isaksson, 2005; Meyer, 2005; Payne, 2006; Rijal, 2016). Shaw, Shaw, and Enke (2003) identified critical sources of disharmony between engineers and marketers such as differences in education and training, and different priorities and goals. Payne (2006) also identified a gap between marketing and IT function. These inter-functional conflicts affect the organizational performance (Ashraf et al., 2015). Therefore, there is a great need for an effective inter-functional integration to achieve the common organizational goals.

Further, a strong inter-functional relationship between the IT marketing departments is central to the eventual acceptance of such a system. The emphasis on IT points to the effective communication between the IT department and the marketing department is crucial to CRM success. When the members of the marketing and IT departments interact, they can reach mutual agreements on both how the system can be used and how it can be developed to match the needs of marketing department. This is of importance to the eventual success of a CRM system initiative, since it affects the perceived ease of use (PEU), the perceived usefulness (PU) and, subsequently, involvement (IN) of marketing in the planning, implementation, and usage of CRM system (Ozturk, 2016).

Several past studies reported that PEU and PU are two instrumental factors of TAM, which are consistent critical predictors over the adoption and post-adoption of a system (e.g. Bhattacherjee, 2001; Brown, Venkatesh, & Hoehle, 2015; Lee, 2010; Thong, Hong, & Tam, 2006). In addition, TAM also allows to add more variables as the antecedents of these instrumental beliefs. Over the years, a few past studies (Agarwal & Prasad, 1999; Lee, Kozar, & Larsen, 2003; Silva, 2015; Venkatesh, 2000; Venkatesh & Bala, 2008; Venkatesh & Davis, 2000) extended the original TAM by incorporating variables as antecedents of users' instrumental beliefs, and moderators of relationship between the TAM variables; these additional variables are drawn from other theoretical frameworks. However, the current study aims to investigate the impact of inter-functional communication as antecedents of user's instrumental beliefs, which subsequently leads them to actively participate in the planning, implementation, and usage of CRM system.

Prior studies also have pointed out the importance of inter-functional communication in general for the successful implementation of IT in organizations (e.g. Ashraf et al., 2015; Gonzalez-Zapatero, Gonzalez-Benito, & Lannelongue, 2015; Griffin & Hauser, 1992; Moenaert et al., 1994). A distinction is made in literature between different ways of conducting such inter-functional communication. There is a lack of studies addressing how different ways of inter-functional communication affect the outcome of IT implementation, including the outcome of CRM projects. Fundamental to any inter-functional relationship is that it is based upon a communication between the different departments involved. This communication can be conducted in three different ways:

(i) written interaction (WI) or exchange of written information, like fax/email messages, exchange of memoranda, exchange of written reports, exchange of forms (Isaksson, 2005; Kahn, 1996; Kahn & Mentzer, 1998; Ruekert & Walker, 1987),

(ii) inter-personal interaction (IPI), like attending meetings together, phone conversations, serving on the same committees, teleconferencing (Isaksson, 2005; Kahn, 1996; Kahn & Mentzer, 1998; Ruekert & Walker, 1987), and

(iii) collaboration (CB), like working together as a team, sharing the same vision for the company, sharing ideas, information, and/or resources, informal cooperation, developing a mutual understanding, achieving goals collectively (Clark & Fujimoto, 1991; Isaksson, 2005; Kahn, 1996; Kahn & Mentzer, 1998; Gupta, Raj, & Wilemon, 1986; Lawrence, Lorsch, & Garrison, 1967; Na Ayutthaya, Tuntivivat, & Prasertsin, 2016; Souder, 1977).

In this study, the focus is on the role of communication between the IT and the marketing departments in the implementation of CRM systems. Moreover, the purpose of this paper is to analyze how different kinds of inter-functional communication (WI, IPI, and CB) affect (i) the PEU, (ii) the PU and ultimately (iii) the acceptance of CRM?

The remaining part of this study is arranged as follows: first, a brief and concise literature review relevant to the purpose of the study is presented; second, research methodology and empirical findings are explained and discussed; and finally, conclusions and limitations of this study followed by their implications for management and future research are presented.

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2. Literature review and theoretical foundation

2.1. Inter-functional integration (IFI)

Several studies (Griffin & Hauser,1996; Gupta, Raj, & Wilemon, 1985; Isaksson, 2005; John St. & Hall, 1991) argue that there has been tensions between marketing and technical departments, and provide evidence that effective integration between marketing and technical departments can increase the effectiveness of marketing programmes. Rigby, Reichheld, and Schefter (2002) and Sawhney and Parikh (2001) discussed integration aspect with across the organization focus. In addition, different researches (Ashraf et al., 2015; Isaksson, 2005; Lee, Kozlenkova, & Palmatier, 2015; Maltz, 2000; Olson, Walker, & Ruekert, 1995) have investigated the importance of marketing integration with other functions such as R&D and provide evidence for the improvement of new product development process.

IFI is a multifaceted organizational task (Meyer, 2005). The term integration has different meanings in different disciplines. According to Kahn and Mentzer (1998), business integration is "an interactive and collaborative process along with information sharing" but Paashuis (1998) defines integration as "interfunctional and cross-functional cooperation as well as process overlap". Integration can also be defined as "a unite effort of various functions in the accomplishment of organizational goals". Braganza (2002) discusses three different perspectives of integration such as characteristics, scope, and elements. First, characteristics consist of communication and cooperation among internal functions, and coordination of cross-functional activities which achieve the stakeholders' goals. Second, scope means that integration of one department with one or more than one departments. Integration elements comprise organization's intangible and scares resources. Third is a composite view consisting upon interaction and collaboration presented by Paashuis (1998). Therefore, there are three aspects of inter-functional integration: communicative or interactive processes (Griffin & Hauser, 1992; Isaksson, 2005; Meyer, 2005), collaborative activities based on a shared vision and resources, and mutual understanding (Darawong, 2015; Isaksson, 2005; Meyer, 2005; Sounder, 1987), and composite view comprising both interactive and collaborative processes (Gupta et al., 1986; Isaksson, 2005; Meyer, 2005). In order to investigate the effect of different perspectives of inter-functional integration for the acceptance of CRM system, the different elements of IPI, WI, and CB from Kahn (1996), Kahn and Mentzer (1998), and Isaksson (2005); and PEU and PU from Davis' TAM model are used.

2.1.1. Interpersonal interaction

IPI is the base of effective and efficient IFI (Ashraf et al., 2015; Darawong, 2015; Griffin & Hauser, 1992; Isaksson, 2005; Meyer, 2005; Souder & Moenaert, 1992). Interactive activities are divided into inter-personal interaction (IPI) and WI. IPI means that exchange of information between different functions consisting of different day-to-day activities, for instance, face-to-face committee meetings, phone conversation, and teleconference meetings (Ashraf et al., 2015; Isaksson, 2005; Meyer, 2005).

2.1.2. Written interaction

WI refers to the exchange of written information between different function via forms, reports, memoranda, and materials by fax (Ashraf et al., 2015; Meyer, 2005; Oliveira, Pimenta, Hilletofth, & Eriksson, 2016). Greater information flow between marketing and IT department enhance the understanding of CRM system, therefore, interactive view affects the PEU and usefulness of CRM system and it is assumed to causes successful implementation of CRM system. Along with interactive view, collaborative view is also a critical factor for the acceptance of CRM system.

2.1.3. Ollaboration

Developments in the global businesses are emphasizing the importance of higher degree of collaboration between marketing and technical functions for achieving higher customers' satisfaction via fulfilling their demands quickly (Kim & Lee, 2010; Luekveerawattana, 2016). CB is different from interaction that focuses on inter-functional relationship (Isaksson, 2005; Kahn, 1996; Kim & Lee, 2010; Meyer, 2005; Navarro, Llinares, & Garzon, 2015). Guenzi and Troilo (2007) argue that CB and interaction are two important and critical success factors in effective integration. From CB aspect; integration consists of collaborative behavior, mutual understanding and collective goals, working together

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Figure 1. The proposed research model.
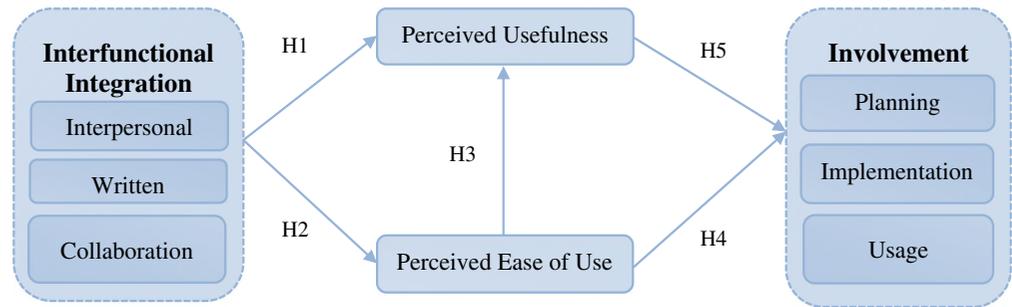
and shared values (Ashraf et al., 2015; Darawong, 2015; Isaksson, 2005; Kim & Lee, 2010; Meyer, 2005; Ramly & Omar, 2016). According to Kahn (1996), departments become interdependent due to inter-functional collaboration that consequently benefits both the functional units. Therefore, collaboration and interaction have distinct and significant effect on IFI.

Inter-functional communication can be assumed to make marketing managers inclined to use the CRM system after designing the CRM system in a way that is in align with the marketing managers' wishes and expectations. This can eventually be assumed to have effect on PEU and usefulness of CRM system and its effective implementation.

2.2. Conceptual model and hypotheses development

A conceptual model of the relationship among factors of IFI; IPI, WI, CB, PEU, PU, and IN in CRM initiative (see Figure 1) is proposed. According to the conceptual model, IFI factors; IPI, WI, and CB can increase the IN in the CRM initiative indirectly by mediated effect on PEU and PU of CRM system. The IN of marketing department with IT department can be done in three different phases of CRM initiative: (i) planning, (ii) implementation, and (iii) usage of the system. When the members of the marketing and IT departments interact during a meeting, phone conversation, or to serve on a same committee or exchange of written information and have collaboration, they can discuss the specifications and requirements of the desired CRM system that is easy to use and useful to the marketing department, and then both reach mutual agreements on how it can be developed and implemented to match the marketing departments' needs and how the system can be used. Thus, the authors uses PEU and PU as mediators to investigate the relationship of PI, WI and CB with IN. Because, the "IFI" concerns to the ability of a company to integrate different functional departments in order to share necessary and valuable information that can increase PEU and PU of the CRM system. Consequently, it motivates both the departments to participate in the planning, implementation, and system usage, because PEU and PU have effects on attitude toward using or involving in the system usage (Davis, 1989).

Therefore, IFI based on IPI, WI, and CB may have indirect effect on IN of different stakeholders in the system initiative by directly influencing users' instrumental beliefs. Integration within the marketing and IT departments refers their ability to integrate exchange related activities in order to facilitate planning, implementation, and usage of CRM system.

A number of past studies (Avlonitis & Panagopoulos, 2005; Davis, Bagozzi, & Warshaw, 1989; Isaksson, 2005; Lederer, Maupin, Sena, & Zhuang, 2000; Venkatesh, 2000) have identified external factors affecting the PEU and PU of information systems. Isaksson (2005) reported that Avlonitis and Panagopoulos (2005) identified three factors such as individual, social and organizational factors, and Venkatesh (2000) categorized three constructs such as emotion, control, motivation—as casual factors of PEU and PU of information system. *PEU is defined as the degree to which a person believes using a system will be free of effort, and PU can be defined as the extent to which a person believe that the system can enhance her or his performance* (Ozturk, 2016). As concerned to the authors' knowledge, there is only one research conducted by Isaksson (2005) that has investigated and partially support the influence of interdepartmental relations in Swedish companies on PEU and PU. Therefore,

it is quite useful to test it in another setting like in the companies of growing economy of Pakistan. Lack of literature on inter-functional relation requires further investigation of the impact of IFI on PEU and PU. Frequently interaction of marketing manager with IT manager can enhance the capabilities of staff regarding information needs, technical skills, and usage of information systems. Therefore, effective IPI, WI, and CB between marketing and IT functions may help to design and implement an information system that is easy to use and more useful for marketing department. Consequently, following hypotheses are proposed:

> H1: IPI, WI and CB of marketing department with IT department will have positive direct impact upon PEU of CRM system.

> H2: IPI, WI and CB of marketing department with IT department will have also positive direct impact upon PU of CRM system.

This study is also interested to investigate the role of ease of use and usefulness of a system in determining how well CRM technology initiative has been accomplished in different organization (Isaksson, 2005), and these two factors can be taken as independent (Isaksson, 2005; Kukafka, Johnson, Linfante, & Allegrante, 2003). Davis (1989) proposed that PEU may be determinant of PU. If a system easy to use, then it can be more useful (Venkatesh, 2000). Moreover, PU is strongly correlated and significant determinant of actual system use (Davis, 1989; Isaksson, 2005; Thanyasunthornsakun, Sornsakda, & Boonmee, 2016). Legris, Ingham, and Collerette (2003) found four measurements related to PEU that a system is easy to operate, easy to do, what want to do, inflexible to interact with the system, and overall easy to use. Legris et al. (2003) also reported four measurements related to PU of a system such as system increases productivity, increases job performance, enhance job effectiveness, overall useful for job. Several prior studies (Davis, 1989; Isaksson, 2005; Legris et al., 2003) have reported a strong relationship between PEU and PU. Hence, without further arguing, a following hypothesis is proposed.

> H3: PEU will positively influence PU of CRM system.

PEU and PU determine the actual system usage that evaluate the degree at which user currently uses the system (Davis, 1989). Actual system usage is also affected by IN of managers and staff in different phases of CRM initiative: planning, implementation, and usage. Prior studies (Ashraf et al., 2015; Isaksson, 2005) have also investigated the different perspectives of user involvement as determinants of successful implementation, and effective usage of a technology. According to Davis (1989), PEU and PU of a system effect behavioral and actual intension of user involvement in the planning, implementation, and usage of an information management system. The authors can also infer that an extent to which a person believes that CRM technology is easy to use and useful, are significant in predicting the IN of users in the planning, implementation, and usage of CRM system. Therefore, following hypothesis are stated:

> H4: PEU of CRM system will positively influence the IN of marketing department in the planning, implementation, and usage of CRM system.

> H5: PU of CRM system will positively affect the IN of marketing department in the planning, implementation, and usage of CRM system.

3. Research methodology

3.1. Sampling and data collection

3.1.1. Sampling/choice of companies
Large companies listed in stock exchange having separate departments, can be assumed to be interested in CRM systems. Since it was recognized to be difficult to collect data from all parts of these companies, given Pakistan's geographic size, it was decided to confine the study to organization

branches located in four large cities; Karachi, Lahore, Faisalabad, and Rawalpindi/Islamabad. These cities have received a lot of economic reform and development, are the most representative of developed areas in Pakistan. In order to achieve higher accuracy regarding data collection from right person, large companies from different industries rather focusing on one industry were selected. The reason for selecting large companies is that they have different functions like marketing and IT departments, which points to the need for functional integration and may also have implemented or planning to implement CRM system. It was not sure regarding which company had CRM system and which had not, therefore, companies were selected based on size of the companies with the expectations that they may have both IT and marketing department.

3.1.2. Selecting informants
In this study, the authors focus on marketing perceptive only and in order to select right and concerned informants. First, the authors contacted the higher ranking officer in targeted companies by telephone calls (telephone numbers were taken from the companies' websites), after that the managers responsible for the company's marketing activities contacted, to let them know about the importance, usefulness and nature of the survey. The authors emphasized on the opinions of the marketing managers only. Therefore, all the respondents were marketing managers and it was rational to expect that they had deep insights into the marketing activities and the most involved in the cross-functional activities in order to achieve collective strategic objectives and were knowledgeable enough regarding the content of the survey or inquiry. Respondents were encouraged to provide reliable data according to their knowledge and experience in order to meet the validity and reliability criteria (Miller, McDonald, & Pinsker, 1997). It was promised about the confidentiality of their data provided and they would receive a report of the results of the study in the end.

3.1.3. Data collection method
Data were collected via an online survey sent to 225 large companies in Pakistan. During discussion with managers on telephone, the authors asked their email addresses for sending online survey. The survey questionnaire was designed on the web link provided by the Mid-Sweden University, Sweden and it was the easiest and fastest way to collect the required data when respondents are geographically dispersed. During this process, the authors called each manager to inform him/her about the purpose of the study before sending online survey questionnaire. After every two weeks, follow-up emails and phone calls were done to remind regarding answering the survey questionnaire. At last, the authors received 216 responses, whereas usable questionnaires were 210 and remaining six responses had significant missing values. These responses were from those companies that have implemented CRM system.

3.2. Construct measurement
The authors followed the steps recommended by Churchill (1979) in scale development. Each factor is clearly defined and the literature review was done to find any relevant scales. Each measure is adopted from previous literature, where it is considered to be appropriate. The questionnaire comprised of two sections. The first section dealing with inter-functional relations, and second section regarding CRM opened with a definition of CRM and CRM system. All questions were close ended and the survey was modest in length. Two types of scale such as five ordinal scale ranging from "never" to "quite frequently" and seven Likert scale ranging from extremely disagree to extremely agree, and including the additional descriptive of small extent to large extent in order to measure involvement of marketing in planning, implementation, and usage of CRM system were used in the survey questionnaire. Measurements of inter-functional activities of marketing department with IT department; IPI, WI, and CB of inter-functional integration, were adopted from Ashraf et al. (2015) and Isaksson (2005). Measurements of instrumental beliefs; Perceived Ease Use and PU, were adopted from Davis (1989) and Isaksson (2005). Involvement in the CRM system was measured by three items such as involvement in planning, implementation, usage of CRM system adopted from Ashraf et al. (2015). Measurements of the constructs are shown in Table 1.

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Table 1. Construct measurements		
Constructs	**Measurements**	**Source**
Interpersonal interaction (IPI)	During the past six months, regarding following activities to what extant/degree did your marketing department interact with the IT Department?	Isaksson (2005) and Ashraf et al. (2015)
	IPI1. Attended meetings together	
	IPI2. Electronic mail	
	IPI3. Phone conversations	
	IPI4. Served on the same committees	
Written interaction (WI)	During the past six months, regarding following activities to what extant/degree did your marketing department interact with the IT Department?	Isaksson (2005) and Ashraf et al. (2015)
	WI1. Exchange of materials by fax	
	WI2. Exchange of memoranda	
	WI3. Exchange of reports	
	WI4. Exchange of forms	
	WI5. Phone meetings	
Collaboration (CB)	During the past six months, to what degree/extant did your department pursue the following activities with the IT Department?	Isaksson (2005) and Ashraf et al. (2015)
	CB1. Worked together as a team	
	CB2. Share the same vision for the company	
	CB3. Shared ideas, information, and/or resources	
	CB4. Informally worked together	
	CB5. Mutual understanding	
	CB6. Achieved goals collectively	
Perceived ease of use (PEOU)	PEOU1. Learning to operate our CRM system has been easy for the marketing staff	Isaksson (2005) and Davis (1989)
	PEOU2. Marketing staff have found it easy to get our CRM system to do what they want it to do	
	PEOU3. It has been easy for the marketing staff to become skillful at using our CRM system	
	PEOU4. Marketing staff have found our CRM system easy to use	
Perceived usefulness (PU)	PU1. Using our CRM system has improved marketing's performance in this firm	Isaksson (2005) and Davis (1989)
	PU2. Using our CRM system in this firm has increased our marketing productivity (doing things right)	
	PU3. Using our CRM system has enhanced marketing's effectiveness in this firm (doing the right things)	
	PU4. Marketing has found our CRM system useful in this firm	
	PU5. Overall, the CRM system in this firm has proved to be very useful to marketing	
Involvement	IN1. Extent you have been involved in the development of the CRM system	Ashraf et al. (2015)
	IN2. Extent you have been involved in the implementation of the CRM system	
	IN3. Extent/degree/frequency to which you currently are using a CRM System	

4. Data analysis

The data were processed using Statistical Package of the Social Sciences (SPSS) and AMOS. Descriptive statistics, correlation, and regression analysis were employed for investigating the relationship among IFI, PEU, PU, and IN of marketing departments in the planning, implementation, and usage of CRM system. Descriptive statistics measure patterns and general trends in a data-set. The measures which used to describe the data-set were the measures of central tendency and measures of variability or dispersion. Simple and multiple regression techniques were used to investigate hypotheses. Regression is a valid statistical technique to analyze the causal relationships between single dependent and one or more independent variables in order to measure to what extent an independent variable causes variance in the dependent variable (Hair, Anderson, Tatham, & Black, 1998).

4.1. Multicollinearity

As collinearity sometime poses problem, therefore variance inflation factors (VIFs), eigen value and tolerance as collinearity statistics were used to measure collinearity among data. If VIFs are greater than five, multi-collinearity can unduly influence the results of regression analysis. All VIFs' values were less than 2.00, eradicate this possibility. A tolerance of less than 0.20 indicates multi-collinearity exists among data, but all tolerance values in this study are greater than 0.40, rolling out this possibility. Collinearity statistics are depicted in Table 2.

4.2. Common method bias

Common methods bias (CMB) is *variance that is attributable to the measurement method rather than to the constructs the measures represent* (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003, p. 879). It is a major contributor to systematic measurement error (Bagozzi, Yi, & Phillips, 1991). Like other forms of measurement error, if CMB is sufficiently high, then wrong conclusions may be drawn about hypothesized relationships between constructs. Since both the dependent and independent variables were measured using the same instrument, there CMB might causes systematic measurement errors. In this study, both preventive procedures and statistical techniques are used to address the common method bias. This study applied Harman's one-factor test (Podsakoff et al., 2003) and correlation Matrix (Bagozzi et al., 1991; Pavlou, Liang, & Xue, 2006) to examine the common method bias.

Harman's one-factor test was performed using SPSS. In this test, all items were entered into an un-rotated factor analysis and constrained the number of factors extracted to be one in order to determine to what extant a single factor accounts for the majority of the variance. The results showed that single factor accounted for 28% of the variance that is less than 50% rules of thumb, indicating that CMB was unlikely to be a significant concern for the current study.

The current study also performed a test suggested by Pavlou et al. (2006) and Bagozzi et al. (1991). In their test, the construct correlation matrix as calculated and it is examined to determine whether the constructs have extremely high correlation (more than 0.90) or not. Any highly correlated variables are evidence of common method bias; usually results in extremely high correlations (Bagozzi et al., 1991). As shown in Table 4, none of the constructs were so highly correlated. Thus, the results indicate that CMB is not a problem in this study.

4.3. Validity analysis

Validity is an important technique to measure the trust worthiness of the study. Validity refers to what extent a study accurately replicates or asses the specific concept that an investigator is intending to investigate. Validity can be measured in three different ways; measurement validity, convergent validity, and discriminant validity. In order to increase measurement validity, we reviewed the previous research literature regarding the conceptualization of factors. Most of the measurements of this study were found in prior studies. Two factors interactions and collaboration of inter-functional integration were adopted from the previous work by Kahn and Mentzer (1998) and Isaksson (2005). Moreover, this study has been discussed and evaluated with managers at different companies.

Table 2. Collinearity statistics			
Variables	**Tolerance**	**VIF**	**Eigen values**
Interpersonal interaction	0.776	1.28	0.04
Written interaction	0.504	1.98	0.03
Collaboration	0.606	1.65	0.01
Perceived ease of use	1.000	1.00	0.03
Perceived usefulness	1.000	1.00	0.03
Involvement	1.000	1.00	0.02

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Convergent validity is the extent to which indicators converge in their representation of the underlying construct they are supposed to measure (Chin, 2010). Convergent validity is considered satisfactory when the average variances extracted (AVE) for the construct is 0.50 or more. As shown in Table 3, the AVEs were 0.672 or greater, exceeding the rule of thumb of 0.50, indicating that at least 67.2% of the variances observed in the items were accounted for by their hypothesized variables reliability (Chin, 2010). Also, the factor loadings of measurements for each construct are in narrow range, which advocates that the items converge in estimating the underlying construct (Chin, 2010).

Discriminant validity measures the extent to which a concept and its indicators differ from another concept and their indicators (Bagozzi et al., 1991). For determining the discriminant validity, this study compared the square root of AVE with the correlations among constructs (Hair et al., 2013). As shown in Table 4, the square root of each construct's AVE is greater than its highest correlation with

Table 3. Factor loadings, reliability and convergent validity analysis				
Constructs	**Factor loadings**	**Cronbach's α**	**CR**	**AVE**
Interpersonal interaction		0.724	0.843	0.672
IPI1	0.824			
IPI2	0.816			
IPI3	0.837			
IPI4	0.795			
Written interaction		0.745	0.858	0.684
WI1	0.921			
WI2	0.915			
WI3	0.884			
WI4	0.891			
WI5	0.847			
Collaboration		0.945	0.958	0.818
CB1	0.895			
CB2	0.924			
CB3	0.930			
CB4	0.896			
CB5	0.878			
CB6	0.913			
Perceived ease of use		0.946	0.961	0.861
PEOU1	0.875			
PEOU2	0.942			
PEOU3	0.952			
PEOU4	0.940			
Perceived usefulness		0.968	0.975	0.887
PU1	0.940			
PU2	0.958			
PU3	0.962			
PU4	0.923			
PU5	0.927			
Involvement		0.971	0.985	0.873
IN1	0.974			
IN2	0.971			
IN3	0.984			

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Table 4. Descriptive statistics, correlation and discriminant validity									
Variables	N	Mean	SD	IPI	WI	CB	PEU	PU	IN
Interpersonal interaction (IPI)	210	3.57	0.61	**0.81**					
Written interaction (WI)	210	3.26	0.86	0.53	**0.82**				
Collaboration (CB)	210	5.08	1.37	0.31	0.61	**0.91**			
Perceived ease of use (PEU)	210	5.21	1.27	0.40	−0.23	0.25	**0.90**		
Perceived usefulness (PU)	210	5.29	1.36	0.32	−0.18	0.24	0.71	**0.92**	
Involvement (IN)	210	429	1.41	0.20	−0.21	−0.15	0.67	0.70	**0.93**

Notes: Diagonal elements in boldface are the square root of average variance extracted (AVE). These values should exceed inter-construct correlations (off-diagonal elements) for adequate discriminant validity.

any other construct, suggesting that all constructs share more variance with their associated items than with any other construct, hence satisfying the criteria for discriminant validity.

4.4. Reliability analysis

Black (1999) pointed out that the reliability concept has three perspectives: consistency over time, internal consistency, and consistency between observers. Internal consistency refers the uniformity of the respondents on different items of the same construct and estimated by Cronbach's alpha test (Hull & Nie, 1981). Cronbach's alpha and composite reliability (CR) values ranges from 0 (no internal reliability) to 1 (perfect internal reliability), and a minimum acceptable and critical alpha value of 0.7 is considered (Hair, Babin, Money, & Samouel, 2003). As shown in Table 3, all alpha and CR values of the factors are higher than critical alpha value of 0.7 and it suggests that these theoretical factors have good internal reliability.

4.5. Correlation and descriptive statistics

Pearson correlation is used for findings the degree of relationship among IPI, WI, CB, PEU, PU, and IN. Generally, two variables tend to move or vary in the same or opposite direction. If both variables tend to vary—increase or decrease—together, the correlation between them is considered positive or direct. If both variable tend to vary—increase or decrease—in different direction or if one variable increases and other variable decreases, then it is said to be inverse or negative correlation. Statistically, correlation value ranges from −1 means perfect negative correlation, zero means no correlation, to +1 means perfect positive correlation. Descriptive statistics consisting mean, standard deviation (SD) and correlation among IPI, WI, CB, PEU, PU, and IN, are shown in Table 4.

There is positive correlation of 0.40 between IPI and PEU, of 0.32 between IPI and PU; the mean of IPI is 3.57 and standard deviation of IPI is 0.61 indicating that the most of the marketing managers are agreed with the positive effect of IPI on PEU and PU of CRM system in different companies of Pakistan. These correlations support that a rigorous and effective IPI between marketing and IT managers during planning, implementation, and usage of CRM system can enhance the understanding regarding PEU and PU of the CRM system. In other words, IPI between marketing and IT department improve the perceptions of easy to use and usefulness of the system that untimely leads to its acceptance. But there is negative correlation of −0.23 between WI and PEU, PU; the mean and SD of WI are 3.26 and 0.86, respectively indicate that the most of the marketing managers are not agree that there is positive relationship of WI with PEU and PU. In other words, WI has negative effect on PEU and PU. Thus, there should be a greater care done, while exchanging written information with other departments.

The correlation of CB with PEU and PU are positive (as shown in Table 4) indicate that collaboration has positive effect on PEU and PU of CRM system. Therefore, factors of inter-functional integration: IPI, WI, and CB; only IPI has positive relationship with PEU and PU, moreover WI has negative relationship with them and CB has negative relationship with IN.

Table 5. Assessment of model fit		
Fit Indices	**Recommended value**	**Measurement model**
CMIN	≤5.00	2.612
GFI	≥0.90	0.910
AGFI	≥0.80	0.885
CFI	≥0.90	0.976
NFI	≥0.90	0.962
PCFI	≥0.80	0.820
RMSEA	≤0.08	0.051
χ^2		890.809

There is higher positive correlation of 0.71 between PEU and PU; the mean of PEU is 5.21 and SD is 1.27 reflect that PEU has stronger positive relationship with PU which means that the more a system perceived ease to use, the more it is perceived useful.

The correlation of PEU and PU is 0.70 approximately with IN indicates that the more CRM system perceived ease to use and perceived useful, the more marketing department take interest or participate in the planning, implementation, and usage of the system. Thus, IPI has positive relationship with IN mediated by positive effect on PEU and PU.

4.6. Measurement model fitness

To determine the fitness of the measurement model, a confirmatory factor analysis is conducted using AMOS 21. As shown in Table 5, various indices were used to evaluate the model fit. The goodness of fit (GFI) and adjusted goodness of fit (AGFI) are 0.91 and 0.885, respectively. The values of the comparative fit index (CFI) and normalized fit index (NFI) are 0.976 and 0.962 also indicating good model fit. The observed value for root-mean-square error of approximation (RMSEA) is 0.051, which is within the recommended cut-off values of 0.08 for RMSEA. Generally, fit statistics greater than or equal to 0.9 for GFI, NFI, and CFI, but the values of AGFI and PCFI should be greater than or equal to 0.8 indicate a good model fit (Anderson & Gerbing, 1988). Hence, the results of fit indices met the rules of thumb, indicating good model fit.

4.7. Hypotheses testing

For testing hypotheses, both simple and multiple linear regression models were used in order to find the contribution of independent variable toward dependent variable. This study proposed five hypotheses regarding conceptual model. Hypothesis 1 claimed that IPI, WI, and CB of marketing with IT department has positive direct effect on PEU of CRM system. To evaluate this hypothesis, multiple linear regression model is conducted to analyze this relationship and results illustrated in Table 6 shows that IPI has significant positive effect at 0.01 level on PEU of CRM system with coefficient value of b = 0.512 indicating that increasing one unit of IPI will increase PEU by 0.512, and moreover, WI has negative and significant impact on PEU, while CB has non-significant positive effect on PEU. Therefore, this hypothesis is partially supported.

Table 6. Influence of IPI, WI, and CB on PEU			
Independent variable	**b**	**T**	**Sig.**
Interpersonal interaction (IPI)	0.512	2.640	0.01
Written interaction (WI)	−0.461	−1.961	0.05
Collaboration (CB)	0.261	1.187.	0.25

Notes: R^2 = 0.327, F = 2.696 (p < 0.061).

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Table 7. Effect of IPI, WI, and CB on PU			
Independent variable	*B*	*T*	**Sig.**
Interpersonal interaction	0.470	2.336	0.02
Written interaction	−0.353	−1.413	0.17
Collaboration	0.077	0.336	0.74

Notes: R^2 = 0.180, F = 1.907 (p < 0.153).

Hypothesis 2 argued that IPI, WI, and CB of marketing with IT department will have positive direct influence on PU of CRM system. Results of multiple regression analysis of this hypothesis are shown in Table 7 that IPI has significant effect at 0.02 level on PU of CRM system with coefficient value of b = 0.47 indicating that increasing one unit of IPI will increase PU by 0.47, and moreover, WI has negative, while CB has positive, but both have no significant positive effect PU. Therefore, the hypothesis 2 is also partially supported.

As shown in Tables 6 and 7, only IPI has significant positive relationship with dependent variables PEU and PU of CRM system. It is noticeable that attended meetings together, served on the same committee, phone conversation, and phone meetings between marketing and IT departments have significant positive effect on PEU and PU of CRM system. Whereas, collaboration has no significant influence upon how CRM system was perceived easy to use and useful for marketing staff. Additionally, WI has negative and significant effect on PEU indicating that there should be more caution taken regarding written information exchange between marketing and IT departments.

Hypothesis 3 claimed that PEU has positive impact upon PU of CRM system. Simple linear regression analysis of this Hypothesis is illustrated in Table 8. This relationship is also empirically supported (b = 0.85, p < 0.00). Further, ease of use explained 72.2% variability in dependent variable PU of CRM system. This means that a CRM system is more perceived easy to use, the more useful it is perceived for the marketing staff.

The support for hypothesis 3 is not surprising, because it was expected that PEU explains significant amount of variability in PU of CRM system. This result explains that procedure of selection between different CRM systems and providers are not only determined by different applications and abilities of CRM system, but also how each CRM system is easy to use.

Hypothesis 4 predicted that PEU of CRM system has positive influence on IN of marketing in planning, implementation, and usage of CRM system. As shown in Table 9, PEU explained 38.5% variability in dependent variable IN with the coefficient value of 0.621 indicating that increasing one unit of PEU will increase IN by 0.621. This means that a CRM system is more perceived easy to use; the more marketing staff will willingly involve or participate in planning, implementation, and usage of CRM system. Thus, this hypothesis is also empirically supported.

Table 8. Impact of PEU on PU			
Independent variable	*B*	*T*	**Sig.**
Perceived ease of use	0.850	8.735	0.00

Notes: R^2 = 0.722, F = 72.879 (p < 0.00).

Table 9. Influence of PEU upon IN			
Independent variable	*B*	*T*	**Sig.**
Perceived ease of use	0.621	4.190	0.00

Notes: R^2 = 0.385, F = 17.554 (p < 0.00).

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Table 10. Impact of PU upon IN			
Independent variable	*B*	*T*	**Sig.**
Perceived usefulness	0.733	5.696	0.00

Notes: $R^2 = 0.537$, $F = 32.448$ ($p < 0.00$).

Hypothesis 5 claimed that PU of CRM system has positive effect upon IN of marketing staff in planning, implementation, and usage of CRM system. As illustrated in Table 10, this relationship is supported ($B = 0.733$, $p < 0.00$). Moreover, PU explained 53.7% variability in dependent variable IN.

It means that a CRM system is more perceived useful; the marketing department will be more motivated to participate in the planning, implementation, and usage of CRM system. Thus, PEU and PU of CRM system increase employees' motivation to involve in the CRM initiative that ultimately results in CRM acceptance.

The study points to the importance of designing the way inter-functional communication is managed in the organization. The communication is a means to reduce inter-functional conflicts and also to make marketing managers inclined to accept and use CRM systems. The study also shows that the way the communication is organized is crucial to this positive relationship regarding CRM implementations. In short: the inter-personal communication appears to be the most efficient, while written communication must be seen as of supportive importance, not the primary means of communication.

5. Discussion

The purpose of this study was to analyze how different kinds of communication (IPI, WI, and CB) affect user's instrumental beliefs and involvement in planning, implementation, and usage of CRM? The study results advocate that inter-functional relationship of marketing with IT department have positive influence on user's PEOU and PU that subsequently influence their involvement in planning, implementation, and usage of CRM. Additionally, the companies using CRM system have better interaction and collaboration, and they also have higher level of information exchange between marketing and IT departments. The companies with CRM system have strong inter-function relations than have no CRM system.

Moreover, IPI has role within companies. IPI instead of WI has significant positive relation with IFI, PEU, and PU and ultimately play important role in the acceptance of the CRM system. But WI should be viewed with more caution, because it showed negative relationship with integration. CB had no significant but a positive effect on PEU and PU of CRM system. It can be implied that if managers interact personally, have mutual understanding, and discuss different features and benefits of CRM system, then PEUO and PU of CRM system will be enhanced among them that consequently increase the acceptance of the system.

Additionally, ease of CRM use significantly influences user's perception of CRM usefulness which is consistent with the findings of past studies (Davis, 1989; Isaksson, 2005; Legris et al., 2003). It explains that process of selection between different CRM systems and providers are not only determined by different applications and abilities of CRM system, but also how each CRM system is easy to use and usefulness. The effects of PEU and PU of CRM system on involvement of marketing in planning, implementation, and usage of CRM system, indirectly influence the organizational performance, as CRM implementation procedure and user's involvement have direct influence on performance (Ashraf et al., 2015). Our results revealed that users' perception of easy to use and usefulness of CRM play significant role in predicting their involvement in planning, implementation, and usage of CRM. It explains that a CRM system is more easy to use and useful; the marketing staff will take more interest to participate in the planning, implementation, and usage of CRM system.

6. Managerial implication

This study is useful for the mangers thinking to implement CRM system or in the process of implementation. Different specialized functional units have unique capabilities, resources, and skills in order to accomplish their own functional tasks and consequently to achieve organizational goals, therefore, these functional units become interdependent. But most of the time, there exist inherent rivalry, conflicts and differences among functions. These inter-functional tensions and rivalry arise from incompatibility of desired responses, functional orientation, and differences in culture, information flow, distinct goals, and the complexity of interrelationship. The findings showed that a certain level of IPIs plays significant positive role in the inter-functional integration and subsequently it facilitates effective CRM implementation. Therefore, whenever possible managers should try to promote IPI among inter-departments rather than just WI or CB. Interpersonal activities that analyzed included; attended meeting together, served on the same committee, phone meetings, and phone conversation. Moreover, the study also showed that WI has negatively associated with PEU and PU of CRM system. Therefore, managers should take more caution in written information exchange with other departments.

The results also suggest that PEU and PU of CRM system have direct significant positive influence on involvement of marketing in the planning, implementation, and usage of CRM system. Therefore, managers can be motivated to participate in different phases of planning, implementation, and usage of CRM system by providing awareness about how the CRM system is easy to use and usefulness for their own productivity.

7. Limitations and future research

7.1. Limitations

As every study has limitations; this study also has two limitations such as measurement and generalizability that are must be taken under-consideration when explaining or interpreting results. First, generalization of the findings of this study to other setting, especially regarding company size, culture, and country must be considered an issue. Because, the data were collected from organizations located different four economically developed cities in Pakistan and moreover, these organizations belong to different industries. Organizations from other area or underdeveloped part of the country or one particular industry or others countries in the world may have different research findings due to different culture, different business principles and conditions, different management styles, and so on; might have influence on IFI. Thus, further studies are needed in order to verify that the findings of this study reported here are correspond to other areas as well as conditions. Second, there are also numerous limitations in the perspective of survey conducted. In this study, the data gathered from single informant (i.e. marketing manager) from each of 210 companies. The research findings are based on the responses of marketing mangers only, but data collected from both marketing and IT manager can provide more effective results and explanations that could improve the validity of the research findings. Additionally, a number of researches can be undertaken to validate the proposed model.

7.2. Future research

First, the study is done in Pakistan and there is an evident possibility that the results would be different if the same study is conducted in another cultural and economic context. A suggestion for further studies is therefore to make the same study in another context and to make a cross country comparison of the results. Second, there may be other factors that affect the IFI, PEU, PU and IN are remained unanswered and needs further investigation. Future study should explore and consider such other factors to assist management in order to find effective ways to improve IFI and increase stakeholders' involvement. Third, PEU and PU of CRM system are employed to investigate their direct effects on IN of marketing in planning, implementation, and usage of CRM are also used. It is suggested that other factors of CRM system and user aspects should be investigated. Fourth, the study focus was on marketing relation with IT only, but it may be advantageous to consider relationship of other department like "sales/distribution", "management", "production", "supply chain management", "operation", or "R & D" with IT department. Moreover, cross-sectional study may be

conducted on the perspectives of both departments to investigate causal relationship between two departments and other research methodologies can be considered like a longitudinal study or case study may be employed to investigate the variability in inter-functional relations before and after CRM system implementation in the company. Future studies may enhance the understanding of the role of IFI in CRM acceptance.

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