

The usage of social media technology and customer relationship management in increasing innovation performance within the firm

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Abstract, This study discus the use of social media technology and it is contributes on improving the innovation performance for employees through the firm using social customer relationship management (CRM). Based on the literature in the strategic of management, marketing management, and information systems, the first main goal of this study is investigating and summarizing the capabilities of social media technology and customer relationship management. The second main goal is studying how the capabilities of CRM are affected by using social media technologies. This research chose the using of social media technology because of its effects on increasing and improving the capabilities and performance for employees in the case of the positive relation between developing the firm performance and the usage of customer relationship management performance. This study has been collected information and data from 15 organizations in Jordan by using the structural equation modelling approach.

Keywords: Social Media, CRM, CRM Performance, Knowledge, Innovation, Firm Performance

1 Introduction

The digital revolution has been changed our method of doing work and living life (Giedd, 2012). Greenberg (2010), managers have been started in using a specific technology called, social media technology which contains applications, tools, and systems to establish new ways for improving relationships with customers.

Furthermore, the digital revolution pushed firms and companies to focus more on customer's demands and feedback because of the appearance of innovation based industries, and the intense competition in the local and global market (Martini at el., 2013). The role of technology systems and applications made the firms started to improve their staff to be more innovative and to increase their capabilities and performance in generating profitable ideas (Yates & Paquette, 2011). Social media technology and customer relationship management are considered motivated tools for improving the relationship between employees and customers; this relationship gave companies the ability to produce what customers want specifically (Trainor et al., 2013).

The investment in the field of social media and customer relationship management has been increased in the last three years; the usage of CRM as an effective technology increased in 2010 around 40%, and firms and organizations invested more than one billion in 2013 (Sarner et al., 2011). khodakarami (2013), the role of CRM can help customers in improving their capabilities and in increasing their knowledge; also, the using of social media technology and customer relationship management (CRM) is still need more researches and exploring because there are a lot of an ambiguous questions without answers till now for example: the relation between CRM and customer trust and loyalty, and the effects of CRM on the firm's end-products (Sarner et al., 2011).

Chaiy (2010) explored and summarized the importance of CRM technology in creating valuable value to firms, especially when it used with other's firm resources (Chaiy, 2010). Another aim for this research is to continue giving more information about the relationship between social media and CRM technologies especially that till now a little research studied how social media and CRM technologies can interact to improve the innovation performance within the organization.

Chang et al. (2010) the efficiency of CRM as technology approved that it can give additional and important value for any firm or organization during the engage with other's assets and processes. This research aims to cover and achieve the following points: 1) Define the role and the capability of social media technology when it supported by CRM technology. 2) The role of CRM social media in improving the customer relationship performance by focusing on a set of an important firm's variables. 3) The role of social media technology and CRM technology in increasing the employee's innovation performance. And 4) Defining the relationship between the efficiency of customer feedback on developing employees capabilities and ways of doing work. In the end, the research is trying to explain the linkage between three main concepts: social media technology, CRM technology, and innovation performance in addition to examine and define how the firm will be influenced and affected.

2 Theoretical Background

This paper studies the effects of using social media, and customer relationship management on improving the innovation performance within the firm; this research started from studying many main questions: what is the meaning of firm innovation performance?, how using social media and CRM technology have positive effects on customers and employees?, what is the relation between improving employee's knowledge and capabilities and innovation performance inside the firm?.

Based on the following previous researches, which studied the following points:

1. The effects of social media and CRM technologies on the firm's performance.
2. The importance and benefits of improving firm's innovation, and its effects on firm's performance.
3. The role of improving employee's knowledge and capabilities on increasing and developing the innovation performance.

A lot of researchers studied the relation between resources, capabilities, and performance; Wickens C. (2008) managing, controlling, and connecting multiple resources through using a model capable to enhance capabilities and improve the firms' performance. Day (1994), the performance for any firm is measured by the ability of the firm in transforming resources to capabilities. Resources are defined as a set of materials, information and knowledge, and operations which used to achieve firms strategies in order to convert resources to capabilities (Rapp, Trainor, & Agnihotri, 2010). Nevo & Wade (2010) the relation between resources, capabilities, and performance is a positive relationship; resources are not enough for any firm to have a strong capabilities, but producing an efficient performance occurs when the firms applies the technological resources with its capabilities in order to have a strong performance.

In today's, innovation is considered as one of the most important resources for sustain the performance ratio, and increase efficiency and effectiveness in any firm; furthermore, most of firms and organizations started to give more trainings for their staffs in order to develop their knowledge, their skills in using technology, and their ability in producing new ideas, services, and products (Atalay M. Et al., 2013). Heidi k. Gardner et al. (2011) studied the role of knowledge in affecting on increasing the performance efficiency through dividing business process on group work and teams; each team consists of a set of employees who are ready to integrate their knowledge in order to achieve goals and missions. The efficiency of using social media as an effective tool for predicting outcomes studied by

Asur & Huberman in (2010), but also this paper summarized how social media could affect positively on the employees knowledge and capabilities.

Social media and CRM technologies are changed the relationship between firms and customers; also, those technologies played an important role for the firms in knowing what customers want and need in order to produce products and services customers need to use (Heller & Parasnis, 2011). The difference that was accomplished by using social media and CRM technologies had been noticed by firms through comparing job performance before and after using online communication networks like CRM technology (Zhang X. & Venkatesh V., 2013).

As shown in the Figure below, using social media technology and Customer Relationship Management has a positive impact on developing the relationship between customers and firm; also, this impact will affect on the knowledge and innovation capabilities of the firm’s employees, which could a play an effective role in improving the overall performance.

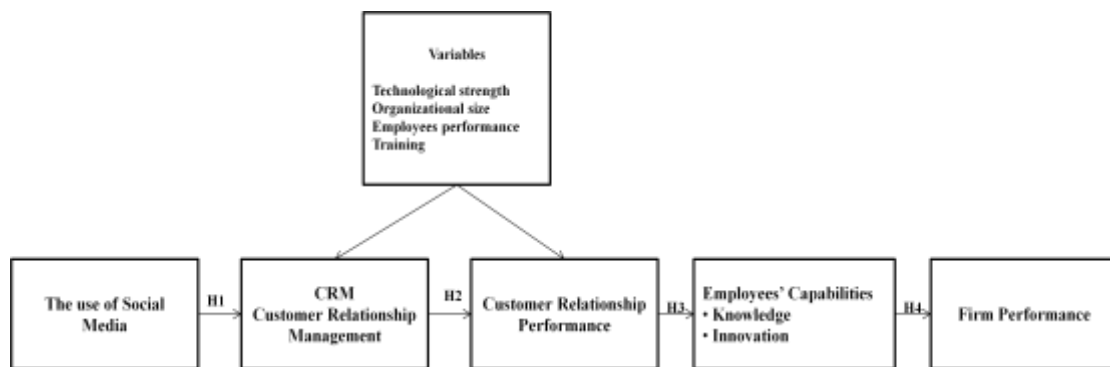


Figure (1): Theoretical Framework

2.1 Social Media technology

Tremendous development in all sectors of our life and global forces such as globalization forces companies to use new technological systems to deal with customers and reduce manufacturing costs. Firms and clients started to use social media technology to communicate and share ideas and experience with others, but they met a problem in applying this technology and this problem goes back to the complexity of social media program with the current situations of firms and customers (Baird C. & Parasnis G., 2011; Smith, 2011).

Even through a little bit of researches had been focused on explaining the relationship between social media as effective technology and the firm’s performance, those researches had been focused on the integration process between the marketing and technology fields and their effects on improving performance and capabilities (Mithas et al., 2011). Developing the relationships with customers depends in direct way on the mixture between CRM technology and the organizational resources (Rapp et al., 2010). Coltman (2007) proved also that the integration between technologies like social media and CRM with human resources could affect in positive way on the whole organization performance.

Based on previous researches and studies, this study represents social media and CRM as important technological tools which used for satisfying customers and improving employee’s capabilities, in order to increase their innovation capabilities that could lead to improve organization performance (Trainor J. et al., 2013).

H1. Use social media has positive effects when it associates with CRM technology.

2.2 CRM technologies

Digital revolution became one of the most important forces on economics, for its role in making information technology as one of the main components which firms have to focus on it (Giedd, M.D., 2012). Using CRM technology is an important tool for communicating with customers stills in the developing stage (Baird C. & Parasins G., 2011). CRM played an important role in organizing, monitoring the internal communications and transactions within the firm, and the external relations with firm's customers; for that, this type of technology had been considered as a tool for marketing and sales (Schillewaert, 2007). CRM had been considered an effective tool for entering social networking life and sharing contents (Asur S. & Huberman B., 2010). The role of CRM technology was introduced only inside the firm; even if the definition of CRM becomes more prevalent, CRM defined as the method and the tool that the firm started to use to organize and manage their relationship with customers (Chang et al., 2010; Sarner et al., 2011).

Social networks are defined as a tool for interact with customers; furthermore, social networks changed the role of customers from recipients to participants in the process (Kietzmann et al., 2011). Firms recognized that using social applications like mails, Facebook, and twitter in our present time is not an additional methods but it is emergent to add customers to the firm's network members (Trainor, 2012). The capabilities and the high performance of social applications that made them effective tools for interacting with customers, arrival to all the information which explains what customers need, and how company can serve them and save that information inside the firm's database (Agnihotri et al., 2012). This research suggested studying some of the social media and CRM technologies' functions: relationships, and communications.

Communications are known as technologies firms use to communicate with customers through using for example blogs, and status on other social applications, to get more information and new ideas. Relationships are tools customers use to build networks and channels with other users (Trainor et al., 2013).

The main subject of this paper is studying the effects of using social media, and CRM technology but in reverse way; most of papers studied the efficiency and effectiveness of using those technologies on improving the relationship between firms and customers, and their effects on producing everything customers want. This paper studies the impact of this technology on developing employees' performance and capabilities, and measuring their ability on producing new ideas applicable, which gives firms the ability to have new opportunities for entering in new markets, increasing the innovation performance ratio inside the firm, and understand very well customers' prospects and expectations.

2.3 CRM capabilities and customers performance

Rapp et al. (2010) the capability of social CRM is playing positive role on improving customers' performance, especially when the changes on the internal and external environment are increasing in rapid way. Furthermore, the capabilities of social CRM proved their efficiency for firms in encouraging their customers to collaborate with them more in order to enhance their relationship (Rapp et al., 2010). Studying the role of technology in developing the relationship between firms and customers gave organizations ability to be more flexible in communicating with customers; and it made organizations capable to give customers what they want based on their opinions and feedback (Ahearne et al., 2007; Jayachandran et al., 2005). Marketing technologies have also been shown to positively influence customer satisfaction and relationship development via improved internal communications and information sharing (Wu, Mahajan, & Balasubramanian, 2003).

H2. Applying CRM technology has positive relationship on customers' relationship performance.

2.4 Customer relationship performance and employees' capabilities

Customer relationship is considered one of the most important market resources, which gives firms and organizations ability to determine exactly their way in produces products and services (Hooley, et al., 2005). The capabilities of customers considered as a potent force affects on the whole organization performance and on employees' knowledge and innovation performance particularly (Camison C. & Lopez A., 2014; Yesil S. & Dereli S., 2013; Rapp A. et al., 2010). The role of customers relationship performance plays a main role on knowing what customers wants and it gives employees' more area to use their own knowledge in order to innovate new products and services which will affect mainly the performance of the entire organization (Hooley et al., 2005). Despite, few researches explained the role of customer relationship on the organization performance, but the capabilities of customer relationship shown clearly on the end output quality, and it contributed also on increasing the satisfaction and loyalty of customers (Hooley et al., 2005).

H3. Customer relationship performance has a positive relationship on employees' capabilities

2.5 Knowledge capabilities, innovation capabilities, and firm performance

Knowledge management is considered an important key for organizations to survive, based on the complexity and ambiguity of the relationship between firms and people (Yang & Wu, 2008). A lot of researchers studied and explain the role of knowledge capabilities on improving the organizational innovative capabilities and performance capabilities (Lin, 2007; Yang and Wu, 2008; Yesil S. & Dereli S., 2013); furthermore, those studies identified the role of knowledge capabilities on transforming organizations to become competitive in the current business world. The advantages of knowledge capabilities are not limited to the outputs of organizations only, but it extends to include: Increased confidence between customers and organizations, fulfil obligations, increase the effectiveness and efficiency of the business, and reduce disputes (Yesil S. & Dereli S., 2013).

Before moving to speak about the innovation capabilities, we should firstly declare the meaning of the organizational innovation; OECD (2005) is new methods which the firm uses to manage business inside it and between the firm and the external factors. Innovative capabilities are defined in the form of four major types: Product innovation, Market innovation, technological innovation, and process innovation; the relationship between those four main types and performance had been disused through a lot of researchers (OECD, 2005; Edquist, Hommen & Mckelvey, 2001; Camison C., Lopez A., 2014) who admitted the importance and the positive relationship of the innovation capability on the firm performance capability.

H4. Improving knowledge and innovation capabilities could affect positively on the firm performance capability.

3 Research Methods

3.1 Sample

The research data were collected by distributing 100 copies of research questionnaire on the employees of the main three telecommunication firms in Jordan: Zain, Orange, and Umniah. The research questionnaire answers and respondents gave the research an overall research summary and the expected results. The respondents have been chosen from all managerial levels within the customer care department inside in the previous three firms. The research questionnaire assured all respondents that

all their answers will remain confidential and that only combined results would be analyzed and reported. In order to get accurate answers, the researcher chose that any respondent he didn't fill full answers will be eliminated which his answer left the research sample that consist of 100 research questionnaire.

3.2 Measures

The research used all multi-item scales used based on previous surveys and research studies. The coefficient, the p-value, multiple linear regression, and cronbach's alpha were used to determine the reliability of study, and discuss the research hypotheses, and all the individual scale loadings are provided in [Appendix A](#).

This research used the SPSS application to analyze all collected data after 100 respondents answers of the research questionnaire, to define and determine their opinions about the use of social media technology and customer relationship management and their contributes on improving the employees' innovation ration, and the overall firms' performance.

The research questionnaire contained a twenty two questions, starting from the demographic factor questions and ending with eighteen questions which used a five point Likert item: strongly agree, agree, neutral, disagree, strongly disagree.

The research used Cronbach's Alpha to measure the internal consistency, which defined how a closely set of items are as group. A Cronbach's alpha was run on a sample size of 100 respondents, the alpha coefficient for the eighteen Questions is: 0.973 as shown in the table below. This means that the items have relatively very high internal consistency.

The results of analysis were as follows:

Reliability Analysis	Cronbach's Alpha	0.973
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3.3 Results of Hypothesis Tests

The social media technologies that the organization is capable of doing were as follows: 18% of the respondents answer that the organization they work at are capable of doing Photo Sharing/Storage (e.g. Flickr. Twitpic), 19% Answer Video Hosting/Sharing/Storage (e.g. Twitvid, Upstream, YouTube), 29% answer Presentation Sharing/Storage (e.g. Slide Share), and News/Live Feeds (e.g. RSS) 34% of the respondents. The social media technologies that the organization uses as a conversation support were as follows: 14% of the respondents answer that the organization they work at uses Instant Messaging (e.g. Google Instant Messenger, MSN, Yahoo) as a conversation support, 19% answer Micro-Blogging (e.g. Twitter), 65% answer Online Conferencing/webinar (e.g. Go-to-Meeting), and none of the organizations are using Blogging (e.g. Blogger, Word-press, Type-Pad) as a conversation support.

The researcher found that 12% of the respondents answer that their organization is using Social and Professional Network Presence (e.g. Facebook, LinkedIn), 83% answer that their organization is using Customer Care Services, 5% answer that their organization is using News/Live Feeds and no one of the respondents answer that their organization is using Social collaboration (e.g. Chatter). The social media technologies that the organization uses for the groups/community support were as follows: 11% of the

respondents answer that the organization they work at uses Moderated Web Community for the groups/community support, 2% answer Un-Moderated Web Community, 44% answer Social Support Community, and 43% answer that the organizations are using Services, Products Training Community for the groups/community support.

In order to test the four hypotheses the researcher applies a multiple linear regression for each one, and the results were as follows:

H01	Using Social media has no positive effects when it associates with CRM technology.	R2 0.939	P-value 0.000
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The value of determination coefficient ($R^2=0.939$), and that means the use of social media can explain 93.9% of the change in customer relationship Management technology. The p-value was equal to 0.000 which less than 5% (the significant level), so we reject the null hypothesis that using social media has no positive effects when it associates with CRM technology, and that means using social media technologies has a significant positive effects when it associates with customer relationship Management technology.

H02	Applying CRM technology has no positive relationship on customers' relationship performance.	R2 0.895	P-value 0.000
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Applying CRM technology can explain 89.5% of the change in customers' relationship performance, where the value of determination coefficient ($R^2=0.895$). The researcher found that Applying CRM technology has a significant positive relationship with customers' relationship performance, as the p-value was equal to 0.000 which less than 5% (the significant level), so we reject the null hypothesis that Applying CRM technology has no positive relationship on customers' relationship performance.

H03	Customer relationship performance has no positive relationship on employees' capabilities.	R2 0.924	P-value 0.000
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The value of determination coefficient ($R^2=0.924$), so customer relationship performance can explain 92.4% of the change in employees' capabilities. The p-value was equal to 0.000 which less than 5%, so we reject the null hypothesis that Customer relationship performance has no positive relationship on employees' capabilities, and that means Customer relationship performance has significant positive relationship on employees' capabilities.

H04	Improving knowledge and innovation capabilities couldn't affect positively on the firm performance capability.	R2 0.919	P-value 0.000
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The value of determination coefficient ($R^2=0.919$), and that means the use of social media can explain 91.9% of the change in customer relationship Management technology. The p-value was equal to 0.000 which less than 5% (the significant level), so we reject the null hypothesis that improving knowledge and innovation capabilities couldn't affect positively on the firm performance capability, which means that with improving knowledge and innovation capabilities with new ideas and information, the firm will be able to produce new services and products, and the overall of firms' business performance will be affected positively.

4 Conclusions and implications

This study provides an empirical study of measuring the effect of using social media technology and customer relationship management in increasing innovation performance within the firm. The main results of the p-value and multiple linear regression provided the supporting of the research main hypotheses. Based on H1, using the social media technology has a positive effects especially when it associates with CRM technology. Furthermore with H2, applying CRM technology has a positive relationship on customers' relationship performance. As well as, with H3, customer relationship performance has a positive relationship on employees' capabilities. And H4, improving knowledge and innovation capabilities could affect positively on the firm performance capability.

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