

The role of technology-based CRM and knowledge management In increasing the opportunities of commercial banks to achieving a profits

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ABSTRACT : *Objective of this research: To study the technology-based effect of CRM and improve opportunities for profit for commercial banks. And to determine the effect on the increase of commercial banks ' profitability of marketing knowledge management. This work would enhance empirical research into technology-based CRM and marketing information management in commercial banking, in particular in Iraq..Research results can help commercial banking develop effective marketing strategies, particularly commercial banking marketers. This investigation is a quantitative study. The work is conceived as a formal study (by the degree to which the research problem was crystallized) and as a causal study (by research purposes) using purposeful sampling and multiple regression analysis The data was analyzed using the SPSS research. Results show that the impact of technology-based CRM and information management are important in improving business banks ' opportunities to make a profit.*

Keywords: *technology-based CRM, knowledge management, commercial banks, achieving a profits, opportunities*

I INTRODUCTION

(Kebede & et al., 2018) reported that banks face a major challenge in delivering the high level of service they are now supposed to provide whilst continuing to improve their competitiveness and market share. We stress that the market today is based not on a differentiated commodity but on a differentiated service. The implementation of Customer Relationship Management (CRM) is widely viewed as a method of business making businesses to pursue sustainable strategies. Organizations adopting CRM will create better customer partnerships, boost customer loyalty, increase revenue and reduce costs.

Knowledge management (Marketing Knowledge Management) is an important part of selecting the right knowledge from a number of relevant tools at the right time (Plakoyiannaki and Saren, 2006) thus transforming it into useful insight. Active information management will help the company develop key expertise, create business intelligence, and acquire competitive skills. Technology-based CRM seeks to optimize customer relationship improvements to improve profitability and maximize returns (Campbell, 2006). Different researchers have highlighted the potential of technology-based CRM as an opportunity for companies to gain a competitive advantage by offering customers moving value (Cavusgil et al. 2003). To order to promote exchange contributing to competitive advantage, KM and technology-based CRM have been the focus of attention to companies and academic environments, as both seek to achieve the relentless advantages of competitiveness by

maximizing the corporate capital (Gebert et al. 2002). Customer-focused businesses need to learn the customers demand, manage the information that customers pass on to the business and process customer awareness (Campbell, 2006). Focusing on consumer processes requires substantial awareness (Campbell, 2006). Technologies-based CRM focuses on incorporating customer information, identifying and retaining client knowledge in order to increase the value of customer existence. The company also needs full convergence of KM and CRM based on technology in order to be successful in a competitive market. (Lee , 2014)

Today, technology-based CRM is becoming increasingly important to businesses as they seek to improve their profitability through long-term customer relationships. Many have invested heavily in IT services in recent years to better manage their customer interactions before, during and after purchasing. CRM is one of the banking sector's major sources of competitive advantage. In fact, CRM is a widely accepted method that facilitates the actions of customer-oriented companies .(Kasim &Minai, 2009)

It is a prime example of a strong bank system, with Iraq being one of the world's well-developed economies. The country has 7 state banks, 12 Islamic banks, 12 international banks and 14 private banks. The central bank is accountable for the whole of Iraq's banking sector. The Trade Bank and North Bank are two of Iraq's main banks. This banking sector and Iraq's large infrastructure offer good investment opportunities to people (MarcoPolis, 2012, ((Omran,2015).

Objective of this study: To examine the effect of CRM focused on technologies to improve commercial banks' likelihood of making a profit. Determine the effect of Advertising Information Development Growing commercial banks' likelihood of earning a profit.

Statement of the problem ,Most of the time, the bank simply puts more emphasis to attracting new clients, rather than retaining existing customers thinking that the bank is the better bank than others, so no consumers switch to other banks. But there is a clear chance in reality of losing existing customers, and inturn can have an impact on the performance of the business. It is anticipated that the bank should pay attention to technology-based CRM and management of marketing expertise.

This research deepens empirical research in commercial banking on technology-based CRM and marketing information management, particularly in Iraq. Research results will help commercial banking to establish effective marketing campaigns, particularly commercial banking marketers. High customer loyalty can also be obtained by knowing the trait of the market. And provide visibility into factors that affect business banks ' chances of making a profit. Technological to technical expertise can be a powerful basis for pursuing new business opportunities for business banks. literature review

The description of CRM described in the introduction describes the creation of customer-related expertise as the means of achieving CRM objectives. Expertise was recognized as one of the organizations ' main assets (Drucker, 1993). In specific, KM was described as the process of catching and using collective knowledge and experience within an organization to promote innovation through ongoing organizational learning (Nonaka, 1991). Since a large part of that experience and knowledge relates to clients, it is assumed that CRM has a strong relationship with KM and particularly with KM customers. (Stefanou& et al .,2003)

II TECHNOLOGY - BASED CRM

CRM is a holistic plan and mechanism to attract, maintain and collaborate with selected customers in order to generate better value for the company and the consumer, CRM is a systematic business and marketing method that incorporates technologies, systems and all business activities around the customer. "The main strategic tactic that you need to deliver on your consumers' expectations and incorporate a customer-facing philosophy through the company." CRM is a methodology that focuses on automating and optimizing business processes relevant to distribution, marketing, and customer service relationship management., and provision. Shahin, A. and Nikneshan, P. (2008)

Several definitions have been provided in literature to define CRM. Technical and interaction dimensions of CRM are the main difference between these concepts. Many marketing history writers stress CRM's technical dimension while others take CRM's IT viewpoint into account. CRM is described as the "Marketing Point of View" by (Couldwell, 1998) as a blend from a company's point of view of business processes and technology that pursue the awareness of an organization's clients from the point of view of who they are, what they are doing, and how they are. (Peppers and Rogers, 1995). There must therefore be close cooperation between IT and marketing departments to incorporate CRM successfully.

The implementation of CRM in the banking sector has meanwhile been noticed (Mihelis et al., 2001). We focused on measuring crucial aspects for satisfaction and defining customer segments of the private banking industry with distinctive tastes and aspirations. The approach phase focusses on the simulation of various parameters and modeling options for the study and interpretation of data. (YliRenko et al., 2001) centered on the management of business relationships and their implications for the performance and development of technological firms and their customers. In order to improve its profits via long-term client relations, CRM is becoming increasingly important to companies. Over the last few years, many have made heavy improvements in IT systems to better manage customer interactions before, during and after sales. In fact, measurable gains from IT-cost initiatives are not often due solely to the reliance on IT, with the most effective development transformation schemes for man-made organisations and know-how (Piccoli and Ives, 2005). Yim & al. (2013) also reported that most CRM systems take advantage of technological advances in the processing and analysis of market trend data, build predictive models, respond to prompt, accurate custom correspondence and effectively provide individual product value offers.

Report by Laketa & et al (2015) found that CRM application provides better visibility into consumer productivity as part of information technology, but also understands the preferences and desires of consumers. CRM technology allows bank to: (Have knowledge on consumer specific needs, Make personalized solution to each client, recognise the most productive customers).

Better customer satisfaction, better customer retention and more efficient long-term customer relationships are among the major results achieved by the introduction of CRM-based technology (Butler 2000), (Sin, et al., 2005)

Knowledge Management

What is the role of knowledge management in banks? This is one of the fundamental research and practical issues that has inspired and advanced the rich scientific debate on knowledge resource management. There have

been many different, complementary and integrated responses to this problem, particularly in the management literature. Nonetheless, it is still very important to remember the reasons that management is involved in information management. This special issue of the Journal of Knowledge Management shifts from the recognition that re-addressing the above problem and focusing on some of the key ideas arising from today's wide-ranging theory-based and practical-oriented contributions is significant. The fundamental premise of this particular issue is that banks only spend their scarce resources if they are capable of increasing the capacity to create business value. Managers are therefore interested in managing information not for the sake of knowledge management, but because corporate efficiency enhancements can be achieved by organizing, developing, reviewing and revising internal expertise tools and processes.

Every particular issue pays attention to two key views in the context of these reflections. Second, understanding that expertise, like any other resource of banks, needs management involves promoting its distribution and creation, concentrating on the mechanisms and strategies aimed at defining, managing and assessing the vital growth information capital. Second, realizing that information conversion into market results involves management frameworks, instead consideration is given to the knowledge processes that underpin success enhancement. Schiuma, G. And that of Schiuma, G. (2012)

Over the last thirty years, bulk information collection and dissemination has generated an increasing need for organisations to control their sources in knowledge. Knowledge Management (KM) meets this need by "remembering" and leveraging its experience to help a company maximize its information capital and knowledge properties. KM involves acquiring, storing, recovering, applying, generating and reviewing an organization's knowledge assets in a controlled manner.(Rasoulinezhad , 2011)

Plessis du's, M. (2007) Indicates that knowledge management is a prepared, systematic method for managing the development, exchange, processing and use of information as an operational commodity to improve the capacity, efficiency and efficiency of a company to provide its consumers with products or services in line with its business strategy. The knowledge processing is done at three stages: the person's level, the team level and the organizational level. It is a systemic approach that integrates a variety of perspectives, including insights on individuals, systems, society, and technologies, both having equal weight in information management (Du Plessis and Boon, 2004). Management of expertise is not focused solely on innovation, but offers an atmosphere that is creative.

Knowledge is often referred to as the intellectual capital of a company and is highly critical as well. A company gains knowledge from years of experience beyond brand name and physical assets in things like manufacturing, engineering and sales. This accumulated knowledge is one of the company's key resources, along with information collected from external sources..(Civi,2000) .

The good CRM is strongly linked to knowledge management which seeks to successfully turn customer information into customer intelligence (Elmubasher, 2017). Customer information should be obtained by connections or contact points across all of the company's operations or territories in order to improve the efficiency of customers. (Elmubasher, 2017), To construct, maintain and constantly upgrade a customer view of 360 degrees (Fox and Stead: 2001). To satisfy existing and future consumer demands, the relevant consumer information needs to be shared and disseminated throughout the business (Peppard: 2000; Ryals and Knox,

2001). are then trained to strategically customize marketing deals to the individual needs of each client with a wealth of valuable customer experience (Armstrong and Kotler: 2003, 514).

Bhatt, G. (2001) Argues that the information management process can be split into knowledge development practices, knowledge assessment, knowledge distribution, knowledge sharing and the application of knowledge. An agency needs to be quick to organize its awareness-building activities and handle knowledge. In addition, such a balancing act involves changes in the company's environment, infrastructure, and policies. A number of organizations assume that they can handle information by focusing solely on people, systems, or strategies. However, it is not possible for a business to maintain its competitive advantages by focusing solely on goods, technologies or tactics. In fact, it is the relationship between technologies, strategies, and individuals that enables a business to manage its expertise effectively. Through cultivating an environment of care and "learning-by-doing," an organization will retain its competitive advantages.

opportunities of commercial banks to achieving a profits

Report by Ampoful (2012) found a positive relationship between the management of customer relationships and the profitability of banks. Bank staff made it clear that consumer support was a secret to the bank's growth. The research by Elmubasher (2017) found that there is a significant statistical association between CRM based on technology and customer satisfaction

III HYPOTHESES

H1: Technology - based CRM has a positive effect on opportunities of commercial banks to achieving a profits.

H2: Knowledge Management has a positive effect on opportunities of commercial banks to achieving a profits.

H3: Technology - based CRM and Knowledge Management has a positive effect on opportunities of commercial banks to achieving a profits.

IV THE RESEARCH MODEL

The research model which depicts all the hypothesized relationships is as Figure 1.

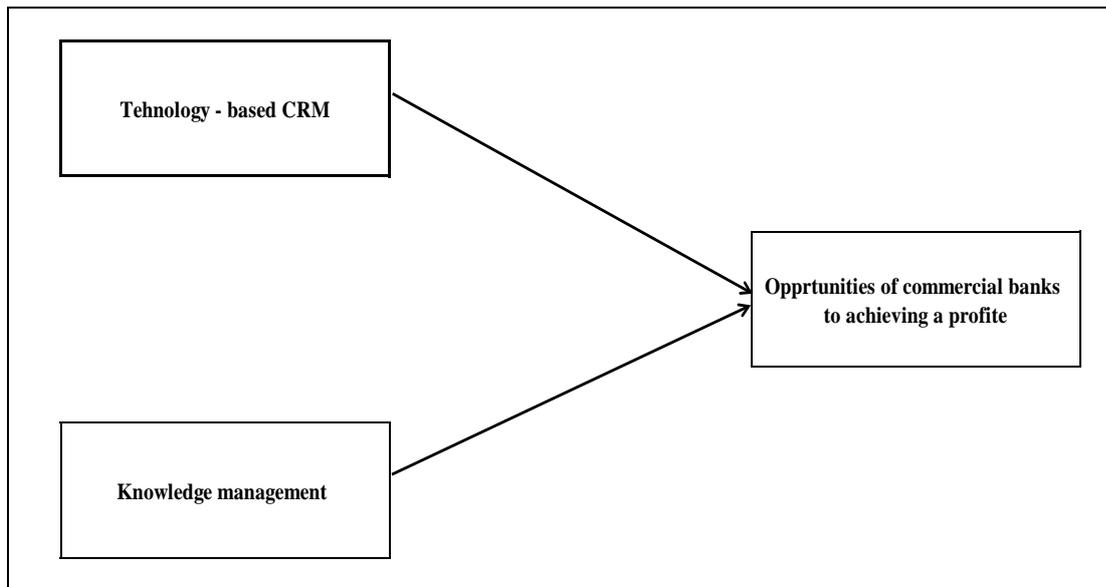


Figure 1: hypothesized relationships

V METHODOLOGY

Type of Research and Data Collection

This prosecution is a systematic inquiry. The experiment is conceived as a formal study (by the degree of crystallization of the research question) and as a causal review (by research purposes) and (Cooper and Schindler 2009). We use the purposeful calculation and study of multi-regression. The findings will be evaluated using the SPSS process. Validity and accuracy checks were conducted before the theory became correct.

The relevance of the questionnaire's substance was checked with 5 respondents who met the survey criteria through a study by a specialist and pilot research at the university. Based on recommendations and comments, several changes have been made to explain the directions and queries. The legitimacy of the initiative was assessed by a cumulative relationship. If the total-item connection > 0.2 (Garret 1960) has been fixed, the Design factor is true. We used Cronbach's alpha for internal consistency to maintain reliability. A meaning of 0.6 or less usually indicates unsatisfactory internal performance stability (Malhotra, 2007). Tests of the principles of regression (multicollinearity, homoscedasticity and residual normality) were carried out before the multiple regression study was carried out. A multiple regression analysis was undertaken to determine the relative effect of the independent variables (technology-based CRM and information management) on the dependent variable (commercial banks ' opportunities to make profits). The regression equation of the relationships is as follows:

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3$$

where:

a= constant

X1= Tehnology - based CRM

X2= Knowledge Management

Y= opportunities of commercial banks to achieving a profits

Data were obtained via personal interviews with Iraqi bank employees, aged between 24 and 40 years. There was a collection of data for 10 days (September 1-25, 2010). Selected multiitem scales measured the constructs because they were previously used and showed good psychometric properties.

VI INDEPENDENT VARIABLES

Proven instruments were used (Sin & et al., 2005). Respondents were asked to rate their answers on a Likert scale of five points (1=strongly disagree with 5=strongly agreed) Technology-based CRM (3 items), Knowledge Management (3 items).

Two items were not valid among the 5 items for technology-based CRM. "Three things were kept to test the theory. Those items included: ' Bank has the best technical staff to provide technical support in developing customer relationships for the use of computer technology," Bank manages our customers ' comprehensive database," Bank has the right hardware to service our customers.'

Three items have been removed for Knowledge Management, because they were not true. Therefore, for the hypothesis testing, 3 items were retained: "Bank employees are willing to provide responsive assistance to customers. ," "Bank fully understands the knowledge-based needs of our main customers. Customers may expect prompt service from my bank's employees. Single object cumulative correlations ranged from 0.612 to 0.697 for the six items. The alpha coefficient was 0.616.

VII DEPENDENT VARIABLE

The profit-making prospects of commercial banks were estimated using 3items, which were revised for this report. Respondents were asked to score their answers on a five-point Likert scale (1= strongly disagree with 5= strongly agreed) Such elements included: ' How competitive the bank is through technology-based CRM," How productive the bank was through knowledge management,' bank employees recognize the importance of technology-based CRM and knowledge management for p. The value of alpha was 0.587.

Table 1: Results of instrument validity and reliability tests

	Technology - based CRM 0.623	Knowledge Management 0.616	opportunities of commercial banks to achieving a profits 0.616
Bank has the right technical staff to provide technical support and create customer relationships with the use of computer technology.	0.613		
Bank retains our customers ' comprehensive database.	0.636		

Write down anything you want. For paraphrase it, press the Quill It button on the right.	0.622		
Bank employees are willing to provide responsive support to customers.		0.636	
By relying on experience, bank fully understands the needs of our main customers.		0.624	
Customers should demand prompt service from my bank's employees.		0.590	
How profitable the bank is through Technology - based CRM			0.628
To what point the bank has made a profit by applying information management			0.560
Bank employees recognize the importance for competitiveness of technology-based CRM and information management			0.575

VIII RESULTS AND IMPLICATION

Profile of Respondents

Of the 280 answers, 210 were used in data analysis because they fulfilled survey requirements (24-40 years old) from 20 banks in Baghdad (Iraq), male and female.

Table 2: Demographic Profile of the Respondents

Variable	N	%
Gender		
Men	96	45.7
women	114	54.3
Age		
24-30	46	21.2
30-35	91	43.3
35-40	73	34.8
Marital status		
Single	18	8.6
Married	192	91.4
Residence		
Baghdad	155	73.8
Outside Baghdad	55	26.2
Education		

High school	38	18.1
Diploma	24	11.4
Bachelor	120	57.1
Master	28	13.3

IX RESULTS

Tolerance and VIF were used to evaluate independent variables' co-linearity. The maximum was more than 0.1 for each independent variable and less than 10 for each independent variable, the cut-off value beyond which multi-co linearity would be indicated; this does not mean any apparent multi-co linearity.

The expectation of normality of the residuals was fulfilled based on a residual histogram showing that their distributions were regular, normal likelihood p-p plot showing that the residuals fall in a straight line, and residual normality of Kormogorov-Smirnov showing $p=0.980 > 0.05$.

The standards of homoscedasticity were fulfilled. The residual scatter plot showed a series of randomness. A Glejser test still occurred, and the results showed that all the importance likelihood was above 5 percent. At the same time, in the regression equation, all independent variables were entered. The analysis showed that the independent variables clarified 50 percent of the volatility in commercial banks ' opportunities to make a profit, with a large F value of 24,346 ($p < 0.001$).

Results show that the impact of technology-based CRM and information management are important in growing commercial banks ' opportunities to make a profit.

Hypothesis 1 was backed up. The effect of CRM-based technology has been favorable on the prospects for commercial banks to make a profit. Hypothesis 2 was also endorsed. Knowledge control has an effect on the profit-making prospects for commercial banks. Hypothesis 3, the impact of CRM and knowledge management based on technology on the opportunities for commercial banks to make a profit, was strongly supported.

X DISCUSSION

The study findings, with a sample size of 90 respondents, established two variables that had positive effects for improved commercial banks on the income potential. This conclusion illustrates Liao and Chuang's theory (2004) that information management has an important and direct impact on both customer satisfaction and retention. Consumer loyalty and sales growth, however, is indirectly affected by customer satisfaction.

XI CONCLUSION AND IMPLICATIONS

CRM concept or concept of customer relationship management, originated initially as a theory and is introduced today in the form of various software and hardware solutions for application in the bank and other institutions ' process activities. CRM will bring a lot of advantages to the company today. Model is not completely risk-free, but an effective CRM can be applied by each bank, but a good basic strategy and plans are needed.

Changes in financial market and customer preferences and behavior, as well as increased use of modern technologies, require the application of CRM in the banking sector. CRM allows customer segmentation according to various criteria, allowing the customization of banking products and services and continuous product portfolio innovation. CRM provides the opportunity to develop a successful, "good" relationship with customers, which definitely leads to their loyalty to banks and delivering long-term, stable revenue. Today, when customers' needs and expectations are changing rapidly and becoming more sophisticated, real business success can only be achieved if banks manage to establish and maintain adequate customer relationships. In a contemporary context, therefore, CRM is the crucial factor in achieving the overall business performance and survival in the market when it comes to traditional banking, but especially when it comes to Internet and mobile banking.

In order to achieve high profitability and customer retention, the results conclusions can be used by marketers or bank owners. Business students, educators, marketers, and banks can generally use the results of research to understand how to achieve profitability. Therefore, in order to have effective marketing campaigns, readers can have better information on identifying a target market. Here are some tips on how to achieve productivity for advertisers or commercial bank owners:

Gosney and Bohem (2001) argued that there are many aspects to a CRM strategy, but the fundamental theme is to make the company more technology-based CRM-centered. They also commented that when CRM is properly implemented, it will result in positive customer feedback and higher revenues

Richard (2016) The emergence of new platforms and technology is dramatically changing the way companies / banks communicate with their customers, leading to a greater degree of convergence in organizations between marketing, distribution and customer service functions.

Zikmund, McLeod and Gilbert (2003) noted that despite fears of problems with CRM systems, the key to any organization's future success may well be its ability to manage people in an electronic market space that complements or replaces traditional business approaches.

Githinji (2017) said that, in conjunction with people's skills, technology-based CRM would further improve the efficiency of service delivery organizations. This is because technological innovations provide workers with the necessary tools to improve their sensitivity to customer requests, increase their efficiency and reduce the time needed to deal with a large pool of consumers.

Agrawal(2002) noted that any company trying to incorporate CRM may now want to focus on creating profitability and a continuous stream of revenues. He also commented that more planning will be powered by CRM, and based on what customers expect from the partnership.

The purpose of knowledge management is to add value to information already held by the organization, resulting in knowledge that the organization will use strategically. While the details varies, information management is concerned with skills or human capital; strategic and financial management; clients, marketing and sales operations; intellectual property, technological processes and products. What business organizations spent on KM will grow over the next few years to more than 6% of revenue (Jayasundara , 2008).

Liao and Chuang (2004) Information Management has an important and direct impact on customer satisfaction and retention. Consumer success and development in revenue are often indirectly affected by customer satisfaction.

Chonko et al. (2003) stress the need for a continuous organizational learning environment to obtain and use consumer information to build long-term relationships, while effectively fostering business progress. In a sales context, a continuous learning mode is particularly critical to facilitating obsolescence in the understanding of customers and counter-sales force.

In addition, knowledge management is not only about managing information assets such as market knowledge, technology, goods, and organisations that enable business processes to make money, add value, etc.; it is also about controlling the systems that operate on the assets. Information development; the use of information and knowledge sharing; the maintenance of knowledge are some examples of these mechanisms. According to these statements, Macintosh (1999).

In its article "Knowledge Management in and Conventional Banks in the United Arab Emirates," Cader et al(2013) claimed that "the latest global financial crisis has raised new challenges for banks: some banks will prosper, while others will barely survive. The winning banks will be those with complete and correct knowledge of the background of their client.

Even contributing to some future research goals is the current research. To order to increase the income of commercial banks, future research will incorporate other independent variables. To obtain more representative findings on a defined locus or population of research subjects, research methods and probabilistic sampling methodology may be needed.

XII LIMITATION

Every application and information management system based on CRM has drawbacks that could include a product's complexity, the cost of implementing it, or whether it suits a specific business model. Before choosing a new technology and knowledge management system based on CRM, a company needs to consider how long it will take to install and set up the technology and knowledge management based on CRM and how challenging it is for end users.

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