



## Evaluating Customer Relationship Management (CRM) as a Business Knowledge and Intelligence Management Tool

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### ABSTRACT

Tense competitions have always been the case in the banking industry. Its very customer-oriented nature explains the need to recognize the importance of customers with respect to growth and success, and so the battle to recruit new and retain existing customers are inevitable. Related competitiveness in such area has been highly linked to effective Customer Relationship Management (CRM) systems implementation that can provide the necessary business knowledge and intelligence. This paper seeks to evaluate the preparedness and the extent Omani retail banks are incorporating CRM as a business knowledge and intelligence management tool to assist in their customer recruitment and retention activities. This study uses a quantifiable methodology with MS Excel data analytic tool to analyse primary data to determine the extent to which CRM systems are being incorporated as a business knowledge and intelligence management tool in the banking industry. Data were collected across departments from 5 of the 7 Omani retail banks with average ratings used for each question. The findings show that CRM as business intelligence management tool is already well incorporated in banks of Oman and the banks are also well equipped to further embrace such tools to strengthen their customer recruitment and retention capabilities. The findings also show that the banks have the necessary Information Technology capabilities, Customer Service capabilities and marketing capabilities which have assisted them to deliver higher quality customer services, run more effective marketing and promoting campaigns, and enhance their management decision making. The findings should assist decision-makers in realizing the importance of CRM with appropriate kind of functionalities as a business intelligence tool to optimize customer recruitment and retention activities.



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## 1. Introduction

In Oman, the retail banking industry is fairly small with a number of banks relatively new. So, over the recent years, there has been a growing competition within that industry to recruit and retain customers and therefore, every single bank has been exploring innovative initiatives and approaches to have the competitive edge. CRM systems have been touted as innovative tools that can provide such competitive edge but the implemented functionalities vary from bank to bank. This research seeks to evaluate the preparedness and the extent Omani retail banks are incorporating CRM as a business

knowledge and intelligence management tool to assist in their customer recruitment and retention activities.

Banking industry is a customer-oriented industry and so banks recognize that customers should be the key focus for their growth and success. With increasingly tense competitions within the banking sector, recruitment of new and retention of existing customers are becoming more of a battle, impairing growth and success (Heinonen, 2014). A common response to such challenges is the implementation of effective customer relationship management (CRM). CRM is becoming the norm for banks in enhancing their understanding of customer needs, the way for nurturing customer relationships and the importance for managing those relationships (J. Cvijović, M. Kostić-Stanković, & M. Reljić, 2017). CRM allows banks to efficiently resolve customer complaints, enhance the quality of customer services and experience, and ensure the right staff attitude towards customers which are the key to customer loyalty (Pal, 2018).

CRM systems are very customer-centric and they assist organizations in effectively and efficiently deliver quality customer experience, be it marketing, sales, support or service related. CRM combined with Customer Knowledge Management (CKM) provide a glimpse of current and future market trends, identify potential profitable markets, and illustrate performances of existing and new services (Das, 2012). They provide insights for running targeted and better cost-benefit marketing campaigns, for supporting sales management, for planning and devising profitable actions, for integrating the different IT sub systems to provide a consistent view of customers across organizations, and for facilitating communications in between teams and between teams and customers (Josiah et al., 2015). The ability for an organization to view a customer as individual rather than part of a group is crucial in developing loyalty and trust that are the foundation for building and maintaining healthy customer relationships (Lambert, 2010). Furthermore, advantageous decision-making for continuous enhancement and sustainable quality of customer services and experiences are always guaranteed, but it is to be noted that the lack of CRM understanding often causes reluctance of its implementations.

CRM Implementations are becoming a must as they assist banks in avoiding the commonly made mistakes of viewing customer satisfactions from their perspectives rather than from customer perspectives. As a result, banks can strengthen their relationships with their existing customers to develop further customer loyalty and trust that can at least protect their existing market share (Peppers & Rogers, 2004) (Pal, 2018). Additionally, banks can demonstrate good understanding of and efficiently responding to customer needs thus differentiating themselves through the quality of customer experiences offered. Customers would then feel more treasured and hence, cherish those relationships even more (Bihari & Murdia, 2017).

Furthermore, CRM can be used as a strategic approach for evaluating individual customer value to an organization and then developing appropriate relationships with them through the multiple contact points of the organization to ensure gainful and lasting relationships. This is particularly important as customers are increasingly seeking to be treated as an individual where they define the kind of relationships they want to have rather than be part of a group (Knox, Maklan, Payne, Peppard, & Ryals, 2002) (Gujrati, 2016). Therefore, it is crucial for organizations to have in place sub systems that will allow customer interactions with the organizations be it customer complaint systems, performance-based appraisal systems and/or social media forum, which can all be integral parts of CRM systems. Successfully implementing CRM systems would mean having the ability to leverage the potential of Information Technology and relationship marketing to achieve loyalty of profitable customers (Hitendra & Ashish, 2008) (J Cvijović, M Kostić-Stanković, & M Reljić, 2017). To achieve and sustain such relationships, it is essential for banks to seek effective approaches to managing customer knowledge and relationships, and as presented above, effective CRM systems can do just that.

The continuous changes in financial market trends, customer preferences and rapid advancements in technology developments have made CRM a preferred choice for managing customer knowledge and relationships within the banking sector. CRM provides banks with the necessary customer knowledge so to be able to offer innovative and personalized products and services, thus developing unique relationships with their

customers, compared to the traditional approaches. CRM plays a major role in competing for customers which is the key focus for banks and so it is an inevitable step that banks have to take (J. Cvijović et al., 2017).

Despite all the strong arguments in favor of CRM effects on banking performances, the banking sector is yet to optimize its uses and reap the benefits that it offers. CRM implementations within the banking sector vary from one economy to another, and more interestingly, in between banks within the same economy which is not ideal for economic progress (Onut, Erdem, & Hosver, 2008). So it is important to drill down into the banking sector at country level to unveil the potentials of CRM use, ensuring its appreciation by banks with respect to performance enhancement. For instance, limited research has been done with respect to implementation and use of CRM systems within the banking industry of Oman (Sulthana, 2015). Researches done focus mainly on general CRM adoption as a marketing tool in a specific bank but not across the sector. Still, the need for further CRM integration in the various functional tasks of the bank was highlighted (Revenio, 2016). The others concentrated on hurdles for embracing CRM in Omani banking industry, citing lack of organizational commitment, strategic planning, clear business strategy, customer relationship strategy, change management, and communication as the main cause (Al-Mamasi & Nunes, 2016).

Therefore, this research seeks to evaluate the preparedness and the extent Omani retail banks are incorporating CRM as a business knowledge and intelligence management tool to assist in their customer recruitment and retention activities. Quantifiable methodology with MS Excel data analytic tool is employed to analyse primary data to determine the extent to which CRM systems are incorporated as a business intelligence management tool in the banking industry. Data were collected across departments from 5 of the 7 Omani retail banks with average ratings used for each question. The paper starts with a focus on banks' Information Technology (IT) capabilities for supporting CRM systems that can integrate banking sub systems for better marketing capabilities and provision of innovative and personalized services, and then, key success factors for CRM systems implementation which are crucial for innovative customer services.

## **2. Literature Review and Underpinning Theory**

### **2.1. Customer Knowledge Management**

Customer knowledge management is the process of gathering customer transactions, turn them into customer knowledge, and leverage them for optimal customer-related decision-making. CRM functionalities may be viewed as a form of customer knowledge management since it gathers all the customer bank-related transactions, organize and report on them in whatever ways the banks may need them. The volume, variety and velocity of data generated by modern banks keeps increasing exponentially causing significant anxiety to decision-makers who cannot fully exploit them. But they do recognize that these are crucial organizational data assets and appropriate interpretation of them will ensure better customer knowledge, enhanced market pro-activeness and responsiveness, greater innovative processes and services/products, and sustainable competitive benefit (Leat, 2007). The ranging characteristics of the generated organizational data assets have made business intelligence tools an inevitable resource for handling their transformations to organizational and customer knowledge. Business intelligence tools allow for the analysis of organizational data assets and their transformations into comprehensive business operational status for decision-makers to use (Zakir, Seymour, & Berg, 2015). They allow for modernized systematic approach rather than the traditional intuitive approach to decision-making, affording beneficial business action plans to be devised (Guldager-Løve & Nord-Varhaug, 2016).

This flood of organizational data assets being generated and the need to appropriately exploit them using business intelligence tools for advantageous business action planning thus improved organizational performance are practically part of industrial standards. The business intelligence tools allow organizations to respond much faster to the increasing complexity in customers' preferences and market volatility, to segment customers into whatever dimensions required be it profitable or risky, to devise necessary support or mitigation plans, to enhance operational efficiency and to offer greater

customized services/products(Lim, Chen, & Chen, 2012). Furthermore, besides providing current comprehensive presentations of business operational status, they can also give a fairly accurate view of future trends through predictive analysis capabilities paving the way to becoming highly competitive, earning customers' trust and loyalty, and effectively plan for the efficient use of resources (Radmehr & Bazmara, 2017). Changes can happen quite frequently and rapidly meaning knowledge extraction has to be as dynamic as possible while using the latest information generated.

This is supported by the dynamic capabilities perspective theory (Teece, Pisano, & Shuen, 1997) that focuses on effective strategies to generate competitive advantages with regards to crafting unique and practically inimitable services gains to maintain lead over competitors while strengthening customer relationship (Wójcik, 2015). It emphasizes on capability exploitation where organizations develop the skill for effectively using both their in-house and external competencies to enhance their responsiveness to customer and market changes, and capability exploration where organizations pursue the development of new capabilities for continuous enhanced services (Ahenkora & Adjei, 2012).

## **2.2. The Banking Industry**

As is the case in other countries, the banking industry in Oman is regulated and supervised by the Central Bank of Oman (CBO) to ensure monetary and financial strength and stability of the Oman economy. 7 local commercial banks and 9 foreign banks have been in operation as of 2016. Innovative initiatives such as internet banking were only adopted from 2005(Sha, Thattil, & Mohammed, 2020). Rapid changes have been occurring within the banking industry in Oman. Over recent years, new players have been joining the industry thus intensifying the competition, and the consistent advancement and availability of banking technologies are reducing products uniqueness that use to provide competitive advantages so driving customer-centric services as key differentiators (Zineldin, 2005). Technologies have facilitated product replication eliminating product uniqueness, easy access to competitors' promotional pricing for imitating or undercutting, and diminishing influence of pioneering organizations due to the low barrier of entry afforded by the internet. As a result, the traditional practice of customer loyalty is under significant threat. Organizations are now opting for meaningful sales and customer service for differentiation and retention of their existing customers. While the differentiation effort targets both existing and potential customers, the retention effort targeting existing customers is as important. It has been argued that keeping current clients can be more cost effective than to obtain new clients, for banks at least (Adapa & Cooksey, 2013).

The account servicing legacy systems in banks which is the core banking infrastructure consisting of Automated Teller Machine (ATM), Point of Sales (POS), and Internet Banking only enable the servicing of customer's transactions. It allows mainly account transactions such as opening, maintaining balance, and generating statements but it does not allow for all that captured information to be used for building intelligent Customer Knowledge Systems. Such knowledge systems allow for identifying customers together with their backgrounds (demographic, lifestyle), communication content purchasing behavior and power, credit worthiness and history with the bank. These knowledge are crucial to CRM systems that enable CRM Strategy for achieving targeted sales and customer retention (Ndubisi, Wah, & Ndubisi, 2007).

The banking industry has recognized that successful implementation of Customer Relationship Management (CRM) leads to effective medium for promoting customers' loyalty and satisfaction, for creating long-term relationship with current customers, for reducing operational cost, and for increasing profitability. Organizations use it to handle and examine client exchanges and information throughout a client lifespan(Pal, 2018). Its goals are to enhance client service relations, to support with client retaining, and to promote sales progress(Lin, 2003). CRM supported by CRM systems including ACRM (Analytical CRM), is a major part of business strategy as it affords organizations customer knowledge and effective customer knowledge management such as customer preferences and needs, purchasing behaviors and powers, and personalities (complaints and attitudes) that are essential to improving and customized customer service quality(Pink, 2012). CRM and ACRM facilitate the capturing and extracting of business intelligence required by the customer service team. A three-phased approach has been suggested for effective CRM

systems implementations. It starts with a well-defined strategy, followed by the right technological infrastructure for effectively and efficiently supporting strategic objectives such as products and sales target and customers' needs, and finally, continuous analysis of collected data to provide the necessary business intelligence for advantageous customers support and communication (Bihari & Murdia, 2017). A well implemented CRM system means effective customer knowledge management, intimate customer relationships, exceptionally responsive to customer changes, differentiated quality services, high customer retention rate, well satisfied customers and very attractive to potential customers.

### **2.3. Definition And the Significance Of CRM**

A number of descriptions of CRM have been put forward as suitable definitions. Some of the definitions are as follows. As new business approach incorporating in-house and external processes with external connections for value creation and quality services to entice potential customers while pushing for optimizing profitability (F. A. Buttle, 2004), as a relationship building for superior customer value creation through process management to promote customer relationships and strengthen customer retention (Ryals & Knox, 2001), as a business strategy with a focus on increasing customer satisfaction and retention by providing more customized services and being more responsive (Croteau & Li, 2003), as a facilitating technology for organizational use to nurture good customer relations (Hsieh, 2009), and finally, simply just as a business philosophy (Rababah, Mohd, & Ibrahim, 2011). Therefore, CRM may be viewed simply as a strategic approach for organizations to effectively and efficiently use their resources (people technology and processes) to develop and implement quality customer service management that can be translated into organizational competitive advantages and superior performance.

The gradual decline of product uniqueness as differentiators and competitive advantage providers highlights the needs for new differentiators. This includes customer loyalty and trust, and meaningful sales and customer service. They are both directly linked to CRM and so the increasing significance of CRM in banking industry. As argued, the most successful business strategies results from deep understanding of customer behavioral patterns and attitudes (Bihari & Murdia, 2017).

### **2.4. CRM Technology in Banking**

CRM is defined in multiple ways but the key essence of CRM is a combination of tools and techniques that allows organizations to strategically manage customer relationships. This includes managing all interaction points of customers with organizations and turning them into a single picture. In doing so, it provides organizations with the kind of customer knowledge to facilitate customer retention and recruitment, to enhance service quality, and grow sales (F.A. Buttle & Maklan, 2019).

CRM technology consists of data repository for data storage, IT systems to support the processes, analytical tools to extract business intelligence, and front office and back-office applications to support customer interactions and transactions. It forms a common channel for the different customer contact points with organizations aiming to capture and manage client information for better preparedness with respect to customer and market changes (Geib, Reichold, Kolbe, & W. Brenner, 2005). Furthermore, the CRM technology allows for the relevant customer knowledge to be propagated across organizations to provide a single representation of the client profile. As a result, greater client insight can be achieved and appropriate business actions may be rolled out to improve the quality of customer experience (Plakoyiannaki & Saren, 2006). It is clear that CRM integrated with technology positive impact customer needs, demands, and satisfaction.

The CRM systems facilitate key banking customer service processes. The CRM delivery process allows for direct interaction with customers to generate sales lead (campaign management), to offer appropriate customized products and/or services to current or prospective customers (sales management), to renew services, recruit new customers and provide after sales services (service management), and to allow for and directly handle complaints for service improvement (complaints management). Additionally, market research and customer loyalty program management can also be easily supported.

The resulting customer knowledge gathered can be further analysed to provide customer scoring in terms of value brought to organizations, lead management to qualify customers and prioritize activities based on campaign results or sales process, customer profiling to determine whether to cross-sell or upsell products/services to them, segmenting customer based on pre-defined criteria such as account size, age group or geographical location, understanding feedback for appropriate responses and knowledge management (Geib et al., 2005).

### **3. Research methodology**

For this research, questionnaires were sent to 5 of the 7 local retail banks covering the IT department, Marketing department and the Branch Managers. To measure the demographic of respondents, questions were used with regards to age, gender, education level, experience, specialization and their management position. Likert scale of 1 to 7 was used in the questionnaire representing 'Strongly Disagree', 'Somehow Disagree', 'Disagree', 'Neutral', 'Somehow Agree', 'Agree', and 'Strongly Agree' respectively, with average rating used for the analysis. Bennett (2003) explained that survey method is more suitable and important for studies using quantitative research design. As this research was more of a survey and experimental mode of investigation, then quantitative method was used for the study plan with survey method used for data collection. The research study was also about developing and exploring an idea with the aim of finding justifications for the analysis results with specific accomplishment. Based on past literature and the nature of the current study, it further justified the appropriateness and suitability of the survey method (Bennett, 2003).

It is explained that sample size should be based on the population size and it has to be established before moving on to data collection (Krejcie & Morgan, 1970). The same argument was used in this study when determining the sample size of retail banks to be used. Given that the population of retail banks in Oman is only 7, it was decided that the population should be taken as the sample size or have the sample size as close to that of the population size. So 5 most common and accessible banks were targeted.

It also suggested that heterogeneity is important when it comes to effective sampling, identifying research variables and tools for statistical data analysis of the target population (Johnson, 2001) (Sekeran & Bougie, 2011). This suggestion formed the basis of the decision to use structured questionnaire as the research tool with analytical software such as spreadsheet for analysing the collected data and providing appropriate presentations. The questionnaire was based on already established questionnaire that was adapted and modified for the current research study. The questionnaire attempted to capture the level of uptake of CRM tools and techniques within retail banks in Oman, their beneficial factors with regards to customer relationship management, and possible measures for enhancing the overall CRM quality that can further elevate customer service offerings in the banking industry of Oman.

The questionnaire was sent to all the banks targeting marketing managers, IT managers and branch managers as they are directly linked to customer service and customer relationship management. Furthermore, these managers were related to the banks' IT capabilities and CRM applications which were of interest for this research.

## **4. Data Analysis**

### **4.1. Demographic of respondents**

To measure the demographic of respondents, questions were used with regards to age, gender, education level, experience, specialization and their management position.

For good understanding of CRM systems in the banks in Oman, three key components were explored separately, namely Information Technology Capabilities, Customer Service capabilities and marketing capabilities. The averages of respondents by bank are used with the interest of establishing the overall levels of CRM technology implementation and practices in the retail banking sector.

<b>Variable</b>	
Age	30-40
Gender	Male (67%), Female (33%)
Qualification level	59% postgraduates
Experience	>5 years (92%)
Position	Managers (100%)

## 4.2. Information Technology Capabilities

Information Technology Capabilities were measured using 12 descriptions covering Information Technology (IT) systems and the way they are integrated, data storage, investigative tools, and front & back office applications that permits collating of client stored information with further data collected from the diverse client interaction points across the banks. They also cover whether or not an inclusive IT policy exist and if so, whether or not it is aligned accordingly to the overall business strategy. Additionally, they look at how the in-house and external systems are integrated using IT, the fitness of the IT systems for allowing interaction to clients using diverse tools, impact of IT to simplify decision-making, and the ability to collect data from both in-house and exterior sources for analysis and decision making. Table 1 below shows the averages taken for the main component and its sub components.

**Table 1**  
**Averages for the main and its sub components**

<b>Variables</b>		<b>Mean</b>	<b>SD</b>
Main component	Information Technology Capabilities	<b>5.570</b>	<b>1.308</b>
Sub components	Information Technology (IT) systems features and Integration	5.575	1.274
	Information Technology (IT) systems alignment to Business Strategy	5.571	1.448
	Information Technology (IT) systems for client information and communications	5.563	1.258

Information Technology capabilities average 5.57 on the Likert scale showing that retail banks in Oman doing good with 75% of the banks are averaging 5.92 and above showing that the necessary IT infrastructure capabilities and integration needed to support CRM systems are in place. 25% are averaging 3.36 showing less than basic required IT infrastructure capabilities and integration status for supporting CRM system. However, the overall average being 5.57 which is well onto the positive side of the Likert scale illustrating fairly good IT infrastructure capabilities which are integrated to provide for CRM systems. It may be noted that banks across Oman tend to be doing well individually in that respect but not that well as a sector.

To further evaluate the Information Technology capabilities and integrations within banks in Oman, the related questions were grouped to focus on specific sub components of Information Technology capabilities with respect to CRM systems, namely, Information Technology (IT) systems features and Integration, Information Technology (IT) systems alignment to Business Strategy, & Information Technology (IT) systems for client information and communications.

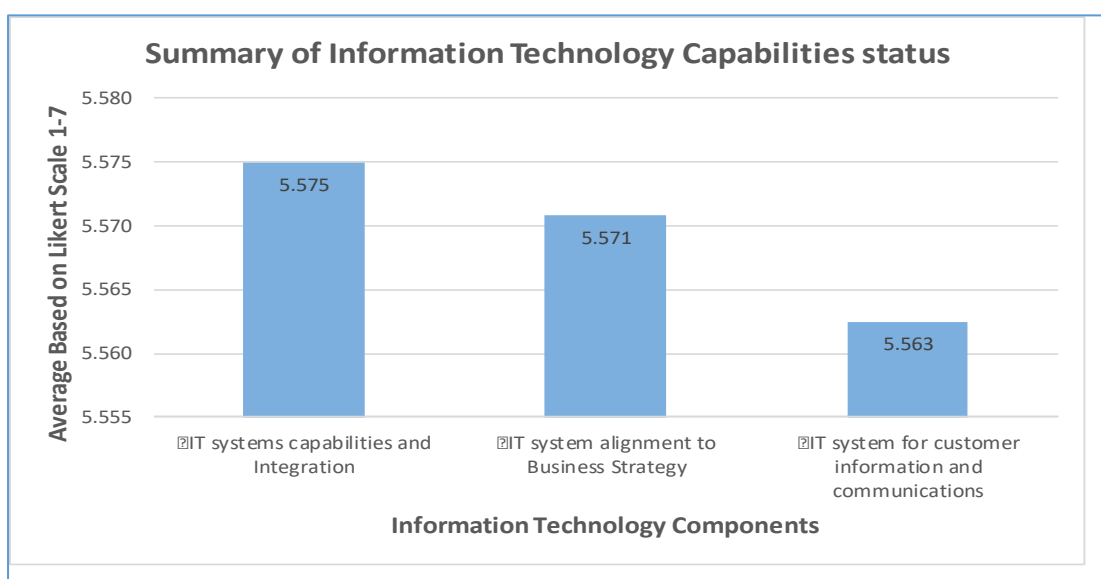
Information Technology (IT) systems features and Integration - 75% of the banks are averaging at least 6 demonstrating use of IT applications, Executive systems and proprietary software that allow for the CRM systems to work with other banking applications, whether in-house processes or exterior dealings. 25% are averaging 3.4 indicating existing IT systems features are inadequate and are not well integrated for banks to leverage the potentials of CRM. However, the general average being 5.58 illustrates that banks in Oman are having fairly good IT systems capabilities and integration reaping benefits from CRM applications.

Information Technology (IT) systems alignment to Business Strategy - 75% of the banks are averaging at least 6 showing that their IT systems and business strategy are aligned with a dedicated person responsible for promoting innovation while 50% are averaging at least 6 for unified decision support systems which support with strategic

decisions by management for improving banking services. 25% are averaging 3.12 indicating minimal IT systems alignment to business strategy. However, the overall average being 5.57 illustrating banks in Oman are having fairly good IT systems alignment to their business strategy with integrated decision support systems.

IT system for customer information and communications - 75% of the banks are averaging 5.75 and above showing that they have integrated facility that collect information from various sources be it internal or external for analysis and communications to customers especially through email and mobile. 25% are averaging 3.5 indicating minimal integrated facility to collect the necessary information from the various sources for analysis and communications. However, the overall average being 5.56 illustrates that banks are having fairly good integrated facility that allows banks to effectively make use of customer data for CRM purposes.

The graph below summarizes the status of the Information Technology Capabilities to support CRM systems across the banks in Oman based on their IT systems capabilities and Integration, their alignment to business strategy, and their capability to manage customer information and communications.



**Figure 1: Summary of IT Capabilities status**

### 4.3. Customer Service Capabilities

Customer servicing capabilities were measured using 15 descriptions covering implementation of CRM system for customer service at branch level, banking systems integration for customer information consolidation and easy access to previous customer information, service access by customers from different devices, business operational efficiency, information management decision making, and active involvement in CRM processes.

**Table 2**  
**Averages for the main component and its sub components**

Variables	Mean	SD	
Main component	CRM system for Customer Servicing	<b>5.535</b>	<b>1.280</b>
Sub components	CRM system for customer service	5.622	1.166
	CRM system for customer support	5.486	1.304
	CRM system for business improvement	5.500	1.297
	CRM system implementation at branch	5.531	1.354

75% of the banks are averaging at least 6 for having a complete CRM system implementation while 25% are averaging 3.42 indicating CRM features and use are limited with respect to customer service. However, the general average being 5.55 which is well onto the positive side of the Likert scale illustrates that customer service is well supported by CRM systems. Furthermore, some questions were grouped to relate to specific Customer



Service components with respect to CRM systems. These were *CRM for Customer service*, *CRM for Customer support*, *CRM for Business improvement*, and *CRM for branch support*.

CRM for Customer service - 75% of the banks are averaging 6 and above for having a CRM systems showing banks are having CRM systems that integrate the diverse banking applications, with services accessible from multiple platforms, including customer information captured from the various customer interaction points. 25% are averaging 3.65 indicating limited CRM systems for customer service. However, the overall average being 5.62 illustrates that banks are having CRM systems with functionalities for customer services. Therefore, it can be concluded that CRM systems for that particular purpose is fairly well implemented in Omani retail banks.

CRM for Customer support - 75% of the banks are averaging at least 6 for using CRM to provide good customer support by making customer data captured through their previous interactions accessible to customer support personnel, providing them with a common customer profile, facilitating cross-selling or up-selling to customers. 25% are averaging 3.28 indicating limited CRM systems for customer support. However, the overall average being 5.49 illustrates that CRM systems for that particular purpose is also fairly well implemented in Omani retail banks.

CRM for Business improvement - 75% of the banks are averaging 5.56 and above for having a CRM system that improve business operational efficiency, and provide information for management decision making to improve customer service, while 50% of the banks have CRM systems that enable branch managers to access service quality information. 25% are averaging 3.44 indicating low use of CRM for business improvement. However, the overall average being 5.5 illustrates that CRM systems for that particular purpose is also fairly well implemented in Omani retail banks.

CRM systems implementation at the branches - 75% of the banks are averaging 6 and above for having a successful CRM systems implementation at their branches. The successful implementation is linked to monitoring committee for CRM deployment, active participation of end-users within the committee, and well-trained workforce in using the systems. 25% are averaging 3.21 indicating low success in CRM systems implementation and/or success at branches. However, the overall average being 5.53 illustrates that banks are doing fairly well in terms of successful implementation of CRM systems at their branches.

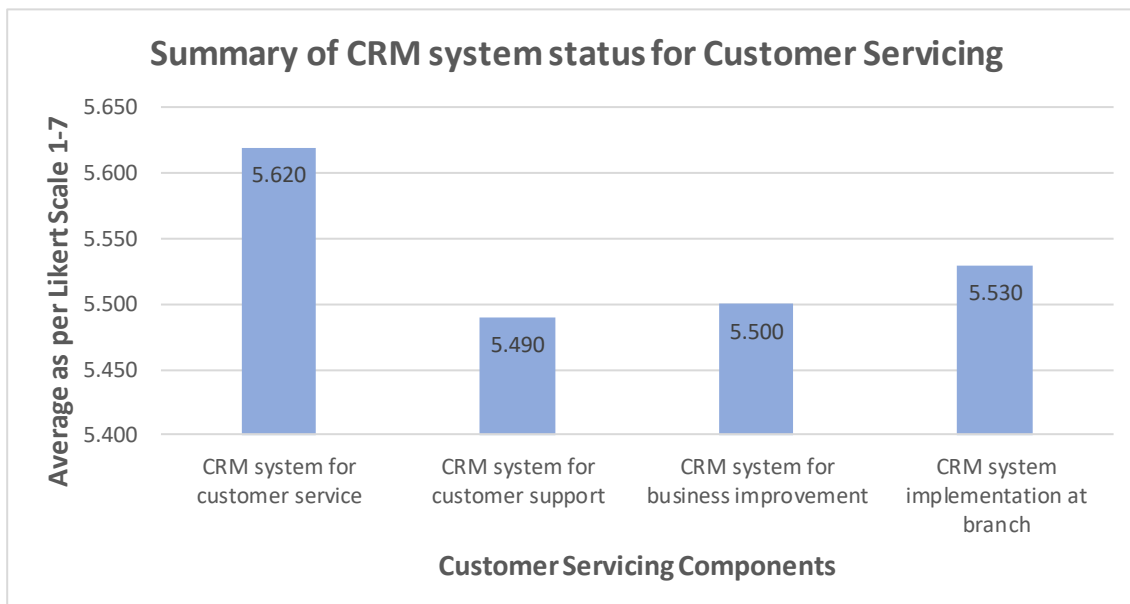
The graph below summarizes the status of the CRM systems for customer service across the banks in Oman based on their CRM systems for Customer service, for Customer support, for Business improvement, and their successful implementation of the CRM system at bank branches.

#### 4.4. Customer Relationship Management System for Marketing

Customer relationship management systems for marketing capabilities were measured using 13 descriptions covering selling and promoting of products, customer segmentations for customize servicing, effective reporting of customers and their products, targeted campaigning and loyalty programs through various means, management of sales leads, and online community information integration with the aim retaining existing and attracting new customers.

**Table 3**  
***Averages for the main component and its sub components***

Variables		Mean	SD
Main component	CRM system for Marketing	5.697	1.292
Sub components	CRM functions in Marketing	5.458	1.120
	CRM for sales and promoting to customer	5.810	1.366
	CRM Function for customer retention program	5.823	1.389



**Figure 2: Summary of CRM system status for customer servicing**

75% of the banks are averaging at least 6.38 for using CRM with features that support sales and marketing while 25% are averaging 3.5 indicating otherwise for their department of marketing. However, the general average being 5.76 which is well onto the positive side of the Likert scale illustrates that CRM systems for that particular purpose is quite well implemented in Omani retail banks.

Furthermore, some questions were grouped to relate to specific sales and marketing components. These related to *CRM functions for marketing*, *CRM features for customer sales and promotion*, and *CRM functions for retaining customer programs*.

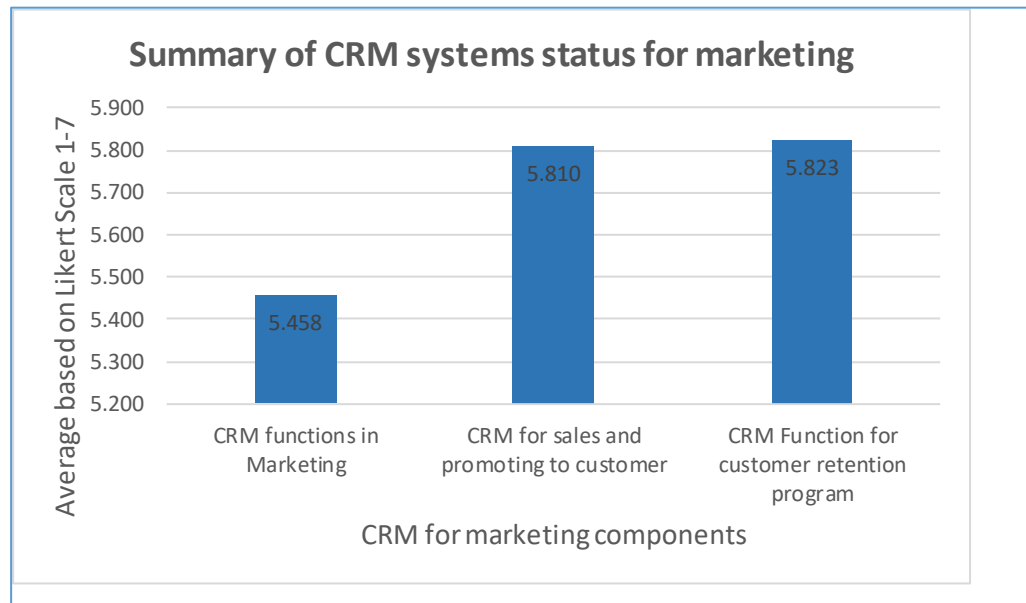
CRM functions for marketing - 75% of the banks are averaging 5.5 and above for having a CRM function for marketing out of which 33% are having full CRM functionality for marketing. 25% are averaging 3.83 indicating limited CRM functionality for their marketing department. However, the overall average being 5.46 which is well onto the positive side of the Likert scale illustrates that CRM systems for that particular purpose is quite well implemented in Omani retail banks

CRM features for customer sales and promotion - 75% of the banks are averaging 6.5 and above and it is a very high score for having CRM systems in marketing that allow banks for selling and promoting their products to existing customers, providing banks with information to segment their customers, enabling banks to generate customer reports including their current products while promoting products to existing customers who don't have those products, running targeted campaign to their customers on mobile, allowing better management of sales leads, and integrating of online community captured information. 25% are averaging 3.45 indicating limited CRM functionality for those points highlighted above. However, the overall average being 5.81 which is well onto the positive side of the Likert scale illustrates that CRM systems for that particular purpose is well implemented in Omani retail banks.

CRM functions for retaining customer programs - 75% of the banks are averaging 6.63 and above which is a very high score shows that CRM systems for supporting automated customer loyalty program have been implemented while 25% are averaging 3.83 indicating limited implementation. However, the overall average being 5.82 which is well onto the positive side of the Likert scale illustrates that good implementation of CRM systems are in place in the banks in Oman allowing them to do customer surveys, run automated loyalty programs, and assess the channel performance of the banks, thus ensuring customer retention.

The graph below summarizes the status of the CRM systems for customer sales and marketing across the banks in Oman based on their CRM functions for marketing, CRM

features for customer sales and promotion, and CRM functions for retaining customer programs.



**Figure 3: Summary of CRM systems status for marketing**

## 5. Discussion of Findings

In terms of Information Technology capabilities for CRM implementation, most banks in Oman (75%) have the required technological infrastructure to support CRM implementation with an approximate score of 6 out of 7 (Agree level). This includes their IT systems capabilities and integration, their IT systems alignment to their business strategy, and their IT systems for customer information and communications. Though most banks are doing well in that respect, some attention should be given to their IT systems for customer information and communications as it is falling in between somewhat agree and agree (5.75 out of 7). Still, there is a small group (25%) of banks in Oman that are lagging behind in that respect with approximate score as low as 3.4 out of 7 (Disagree level).

In terms of CRM systems for customer servicing implementation, also most banks in Oman (75%) have the required technologies for customer servicing with a score of at least 6 out of 7 (Agree level). This includes CRM for customer service & support, for business improvement, and for branch support. Though most banks are doing well in that respect, some attention should be given to their CRM for business improvement as it is falling in between somewhat agree and agree (5.56 out of 7). As above, a small group (25%) of banks in Oman that are lagging behind in that respect with an approximate score as low as 3.4 out of 7 (Disagree level).

In terms of CRM systems for marketing implementation, again most banks in Oman (75%) have the required technologies for marketing a score of at least 6 out of 7 (Agree level). This includes CRM functions for marketing, features for customer sales and promotion, and functions for retaining customer programs. Though most banks are doing well in that respect, some attention should be given to CRM in marketing as it is falling in between somewhat agree and agree (5.5 out of 7). As above, a small group (25%) of banks in Oman that are lagging behind in that respect with an approximate score as low as 3.6 out of 7 (between Somewhat Disagree and Neutral).

Therefore, it can be concluded that most banks in Oman have good levels of CRM technology implementations, with the necessary Information Technology infrastructure, technologies and features for both customer servicing and marketing. Their Information Technology (IT) infrastructure integrates both the in-house and exterior processes well, with capability of providing the necessary functionalities to the different departments to ensure excellent customer services. The Oman retail banks are fairly well prepared and are incorporating CRM as a business knowledge and intelligence management tool to assist in

their customer recruitment and retention activities. Those that have undertaken CRM implementations have followed the right approach during the implementation processes. It needs to be noted though that as a sector which is essential to driving economic trends, more sectorial efforts are needed to ensure high quality and efficient services through CRM systems as a few banks are lagging well behind.

### **5.1. Limitation of the Study**

Given that the population of retail banks in Oman is quite small, the whole population was the target of the research but unfortunately the data collected covers only 5 out of 7 retail banks in Oman and in some cases, not all 3 departments responded from a particular bank. It was difficult to go back to banks to ensure completion of questionnaires from all targeted departments. Therefore, the findings are based on a sample rather than the population of retail banks in Oman and so they should be treated as so.

### **5.2. Recommendations and Conclusion**

CRM technology can be very beneficial to banks when it comes to existing customer retention, new customer recruitment, high quality customer services, marketing and promoting to existing and new customers, and provision of key customer information for effective management decision making.

It allows banks to well serve their customer by better understanding of their preferences and needs, buying behavior and power, and personalities. With the increasing competitions across banks in Oman, it is becoming more difficult to continue competing on easily replicated items such as prices, place and products. Therefore, banks need to continue to strive for successful CRM systems implementation so to be different, able to achieve the competitive edge, and thus be able to better serve and target their customers. CRM systems are now becoming the norm for banks to be able to differentiate themselves by providing meaningful sales and customer service to their existing customers for retention while being attractive to potential customers. Below is a list of recommendations resulting from the research for consideration by Omani banks to achieve the above.

1. Banks should be investing in CRM systems for integration of their different banking systems and processes so to allow for capture and consolidation of customer information for better customer response
2. Banks should have a CRM strategy supported by their IT systems and having a lead person for that project.
3. Banks should have committees (monitoring, implementing and training) consisting of the different affected stakeholders (front office, marketing, IT and management) to see the implementation through.
4. Banks should ensure that their CRM systems integrates all customer service related functionalities for good reporting, decision making and responding
5. Bank systems should be able to capture customer data from various interaction points plus social media for mining & targeting potential customers.
6. Banks should ensure customer service staff can access key customer information (past interaction and complaints) to better serve them.

The research covered some of the banks in Oman and CRM functions relating to the IT department, Customer service department and marketing department. Including all banks in Oman together with all interested departments within the banks may give a more representation of CRM systems implementations and capabilities within the banking sector of Oman.

### **Biography**

Robin Zarine is a Senior Lecturer in Computer Science and ICT Management at the Middle East College in Oman. He is actively involved in the planning and the quality management of the institution. His research interest includes technological impact on pedagogy, adoption of technology within HEIs, organizational trust and knowledge management & sharing within organizations, and business intelligence. He has published in both IEEE conferences and reputable journals.

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## References

- A Study on Customer Relationship Management Practices In Banking Sector Pal,S 2018 . (2018). *Multidisciplinary International Journal*.
- Adapa, S., & Cooksey, R. (2013). Factors affecting consumers' continued use of internet banking empirical evidence from Australia. *Australasian Journal of Information System*.
- Ahenkora, K., & Adjei, E. (2012). A Dynamic Capabilities Perspective on the Strategic Management of an Industry Organisation . *Journal of Management and Strategy*.
- Al-Mamasi, S., & Nunes, M. (2016). Perception of barriers to the adoption of CRM in the banking sector in Oman .
- Bennett, J. (2003). Evaluation methods in research . *Bloomsbury Publishing*.
- Bihari, C., & Murdia, M. (2017). CRM in Banking Sector with special reference to New Age Banks. *Journal of internal banking and e-commerce*.
- Buttle, F. A. (2004). The S.C.O.P.E. of customer relationship management. . *Customer Relationship Management*.
- Buttle, F., & Maklan, S. (2019). Introduction to CRM . *ResearchGate*.
- CBO. (2018). Annual Report of Oman. Muscat: Cental Bank of Oman. *Central Bank of Oman*.
- Croteau, A., & Li, P. (2003). "Critical success factors of CRM technological initiatives,," *Canadian Journal of Administrative Sciences*.
- Cvijović, J., Kostić-Stanković, M., & Reljić, M. (2017). Customer relationship management in banking industry: Modern approach . *Industrija*.
- Cvijović, J., Kostić-Stanković, M., & Reljić, M. (2017). Customer relationship management in banking industry: Modern approach . *Industrija*, 45(3).
- Das, S. K. (2012). Customer Relationship Management In Banking Sector: A Comparative Study Of SBI And Other Nationalised Commercial Banks In India. *Arth Prabandh: A Journal of Economics and Management*.
- Geib, M., Reichold, A., Kolbe, L., & W. Brenner, W. (2005). Architecture for Customer Relationship Management Approaches in Financial Services. *38th Annual Hawaii International Conference on System Sciences*.
- Gujrati, R. (2016). CRM for retailers: Business intelligence in retail CRM. *International Journal of Applied Research* , 2(1), 24-29.
- Guldager-Løve, J., & Nord-Varhaug, L. (2016). Business Intelligence & Analytics. *KPMG P/S*.
- Heinonen, K. (2014). Multiple perspectives on customer relationships. . *International Journal of Bank Marketing*.
- Hitendra, B., & Ashish, S. (2008). Role of Service Marketing in Banking Sector. *The IUP Journal of Services Marketing*.
- Hsieh, M. (2009). A case of managing customer relationship management systems: Empirical insights and lessons learned. *International Journal of Information Management*.
- Johnson, B. (2001). Toward a new classification of nonexperimental quantitative research. *Educational Researcher*.
- Josiah, A., Ikenna, O., Jennifer, A., Chinaedum, I., Justina, R., & Nnamonso, A. (2015). The Relevance of Analytical CRM and Knowledge Management in an Organisation: A Data Mining Structure. *International Journal of Computer Science and Mobile Computing*, 4(2), 208-215.
- Knox, S., Maklan, S., Payne, A., Peppard, J., & Ryals, L. (2002). Customer Relationship Management: Perspectives from the Marketplace. *Butterworth-Heinemann, Burlington*.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. . *Educationl Psychological Measurement*.
- Lambert, D. M. (2010). Customer relationship management as a business process. *The Journal of Business & Industrial Marketing*.

- Leat, V. (2007). Introduction to Business Intelligence. *IBM Software Group*.
- Lim, E.-P., Chen, H., & Chen, G. (2012). Business intelligence and analytics: Research directions. *ACM Transactions on Management Information Systems*.
- Lin, S. (2003). Methodology for customer relationship management. *Journal of systems and software*.
- Mudie, U., & Cuttam, G. (1999). The impact of technological and organizational implementation of CRM on customer acquisition, maintenance, and retention. . *International Journal of Research in Marketing*.
- Ndubisi, N., Wah, K., & Ndubisi, G. (2007). Supplier-customer relationship management and customer loyalty. *Journal of Enterprise Information Management*.
- Onut, S., Erdem, I., & Hosver, B. (2008). Customer Relationship Management in Banking Sector and A Model Design for Banking Performance Enhancement . DOI:10.1007/978-3-540-73849-7\_41.
- Pal, S. (2018). A Study on Customer Relationship Management Practices In Banking Sector. *Multidisciplinary International Journal*.
- Peppers, D., & Rogers, M. (2004). Managing Customer Relationships: A Strategic Framework . *Canada: John Wiley & Sons*.
- Pink, D. H. (2012). To sell is human. *NY Riverhead Books*.
- Plakoyiannaki, E., & Saren, M. (2006). Time and the customer relationship management process: conceptual and methodological insights. *Journal of Business and Industrial Marketing*.
- Rababah, K., Mohd, H., & Ibrahim, H. (2011). Customer Relationship Management (CRM) Processes from Theory to Practice: The Pre-implementation Plan of CRM System. *International Journal of e-Education, e-Business, e-Management and e-Learning*.
- Radmehr, E., & Bazmara, M. (2017). A Survey on Business Intelligence Solutions in Banking Industry and Big Data Applications. *International Journal of Mechatronics, Electrical and Computer Technology (IJMEC)*.
- Revenio, C. J. (2016). EVALUATING THE EXTENT OF CUSTOMER RELATIONSHIP MANAGEMENT (CRM) OF BANK MUSCAT: A CASE STUDY IN SULTANATE OF OMAN. *International Journal of Social Science and Economic Research*.
- Ryals, L., & Knox, S. (2001). Cross-Functional Issues in the Implementation of Relationship Marketing Through Customer Relationship Management. *European Management Journal*.
- Sekaran, U., & Bougie, R. (2011). Research Methods of Business: A Skill-Building Approach. *John Wiley & Sons*.
- Sekaran, U., & Bougie, R. (2016). Research Methods of Business-A Skill-Building Approach. *John Wiley & Sons*.
- Sha, N., Thattil, G., & Mohammed, S. (2020). Banking: e-Route Challenges in Oman . *SCMS Journal of Indian Management*.
- Srivastava, R. K., Shervani, T. A., & Fahey, L. (1999). Marketing, Business Processes, and Shareholder Value: An Organizationally Embedded View of Marketing Activities and the Discipline of Marketing. *Journal of Marketing*.
- Sulthana, N. (2015). A study on customer relationship management at Bank Nizwa. *INTERCONTINENTAL JOURNAL OF MARKETING RESEARCH REVIEW*, 3(5).
- Teece, D., Pisano, G., & Shuen, A. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal*.
- Teece, D., Pisano, G., & Shuen, A. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal*.
- Wójcik, P. (2015). Exploring Links Between Dynamic Capabilities Perspective and Resource-Based View: A Literature Overview. *International Journal of Management and Economics*.
- Yao, H., & Khong, K. W. (2011). Effectiveness of Customer Relationship Management on Customer Satisfaction in the Commercial Banks of Taiwan. *Contemporary Management Research*.
- Zakir, J., Seymour, T., & Berg, K. (2015). Big Data Analytics. *Issues in Information Systems*.
- Zikmund, G. W., Babin, J. B., Carr, J., & Griffin, M. (2013). Business research methods. *Cengage Learning*.
- Zikmund, W., Babin, B., Carr, J., & Griffin, M. (2013). Business research methods: Cengage Learning. *Journal of Small Business Management*.
- Zineldin, M. (2005). Quality and customer relationship management (CRM) as competitive strategy in the Swedish banking industry. . *The TQM Magazine*.