Evaluating the use of a customer resource management system in selected South African business schools

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ABSTRACT

The management and implementation of unique resources contribute to the creation of a sustainable competitive advantage that has a positive impact on the owner of the resource's profits. Customer relationship management becomes very important because customers with their own personal devices and options such as cloud computing, social media and mobility have converged into a renewed driving force expecting organisations to remember their experiences. These experiences should not been stored in separate channels or silos. With a customer resource management system organisations could have the opportunity to get better insights of customers and derive better business value.

Customer data should be managed by organisations just like any other corporate asset. Because of the importance of customer data and the critical advantage it creates, organisations see an effective customer data management strategy as an important cornerstone of a customer relationship management strategy. A system should have the ability to provide accurate, timely, and reliable data and information that can tailor customer capabilities that could influence an organisation's performance.

Big data is an extension of customer relationship management and big data customer relationship management initiatives will require integration and analysis of both structured and unstructured data to identify the most relevant insights of a customer and determine the most appropriate customer action.

Knowledge management should be applied to solve business problems to support current work styles and make better use of social software. The biggest reason for organisations to address knowledge management is the impact of fast retrieval of the right information to ensure customer satisfaction.

The role of information technology is to enable information management and transform the organisation to business excellence. Information technology is a powerful tool for defining, organising, and building knowledge assets within an organisation. Information technology is developing fast and organisations can

apply technology to enhance their competence which showed a positive correlation in a customer focused approach.

Together with customer resource management, market resource management could be used to support more customer centric strategies with fewer resources. Management of customer resources using information technology could develop significant customer relationships and improve an organisation's competitive advantage in the market.

Exploratory research found that in selected South African business schools the use of a customer resource management system to analyse the growing volume and variety of customer information can create better customer insights. The customer resource management system supports marketing efforts and can create new business by gaining new customers.

Keywords:
big data, customer insights, customer relationship management, customer resource management, dark data, marketing resource management, unutilised data, underutilised data.

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Soli Deo Gloria!

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LIST OF ABBREVIATIONS

AA	American Airlines
AHSC	American Hospital Supply Corporation
BSC	Balanced Scorecard
CEO	Company Executive Officer
CFO	Company Financial Officer
CIM	Customer Information Management
CIO	Chief Information Officer
CMO	Company Marketing Officer
CRM	Customer Relationship Management
CRM2	Customer Resource Management
EIM	Enterprise Information Management
HR	Human Resource
IMC	Information Management Capability
IRM	Information Resource Management
IT	Information Technology
KM	Knowledge Management
KPI	Key Performance Indicators
KSI	Key Success Indicators
MBA	Master of Business Administration
MDM	Master Data Management
MK	Marketing Knowledge
MRM	Marketing Resource Management
MSA	Measure of Sample Adequacy
POPI	Protection of Personal Information
PPMC	Pearson Product Moment Correlation
ROI	Return on Investment
ROMI	Return on Marketing Investments

CHAPTER 1
ORIENTATION AND PROBLEM STATEMENT

1.1 Problem statement

The success of an organisation depends on the quality of customer interaction. During these interactions customers form an opinion of the organisation and determine the level and type of relationship they will have with the organisation. It is during this interaction either via telephone, direct mail, web site, or any other channel, that an organisation should gain loyal customers and distinguish the organisation from its competitors. When this interaction is not properly managed, it can be a disappointing experience and loyal customers could be lost. Customer relationship management (CRM) strives to effectively manage the interaction between the customer and the organisation (Baran *et al*., 2008:160).

In the digital era customers expect more from their interactions with organisations and often these expectations are not met. The reason for this is that the organisation's customer information is not complete and up-to-date (Baran *et al*., 2008:160). The capturing of customer data within organisations takes place over a number of years and is stored in different databases which are process specific (billing, customer service) and grouped by product type (Baran *et al*., 2008:161-162).

In 2013 and 2014, organisations found that a strong customer demand to share information developed. Organisations should work together with their partners to get ready to support mobile devices, the web, and self-service or peer-to-peer support on social networks. Customers expect organisations to remember their experiences and it should not been stored in separate channels or silos. Social media, the ubiquity of access to information on mobile devices and advanced search functions continue to shift power to individual and business customers. New technology investments will be required to analyse data in all these different channels and business applications should be developed to service a new level of customer service in line with the objectives of the organisation (Maoz, 2013:7).

Information resource management (IRM) capability links to organisational capabilities (customer, process, and performance management capabilities) that facilitate the link between information management capability (IMC) and an organisation's performance (Mithas *et al*., 2011:253).

IMC has a positive association with organisational capabilities. In turn, these capabilities are positively associated with customer, financial and human resources. These resources give an indication of organisational effectiveness that measures organisation performance. Combined, these findings highlight the role and importance of IT-enabled IMC systems to enable business excellence as well as to create and sustain a competitive advantage (Mithas *et al*., 2011:253).

1.2 Context

Today CRM will never just be the traditional system with traditional functions. The communication and information revolution of the past decade has changed how and what customers expect of organisations. Customer engagement is at the order of the day and according to Greenberg (2014) CRM can be defined as a business science with a defined philosophy and a set of strategies and programs supported by systems and technologies. The purpose and value of CRM is that customers should have a positive experience of the organisation in order for both parties to gain an advantage over time.

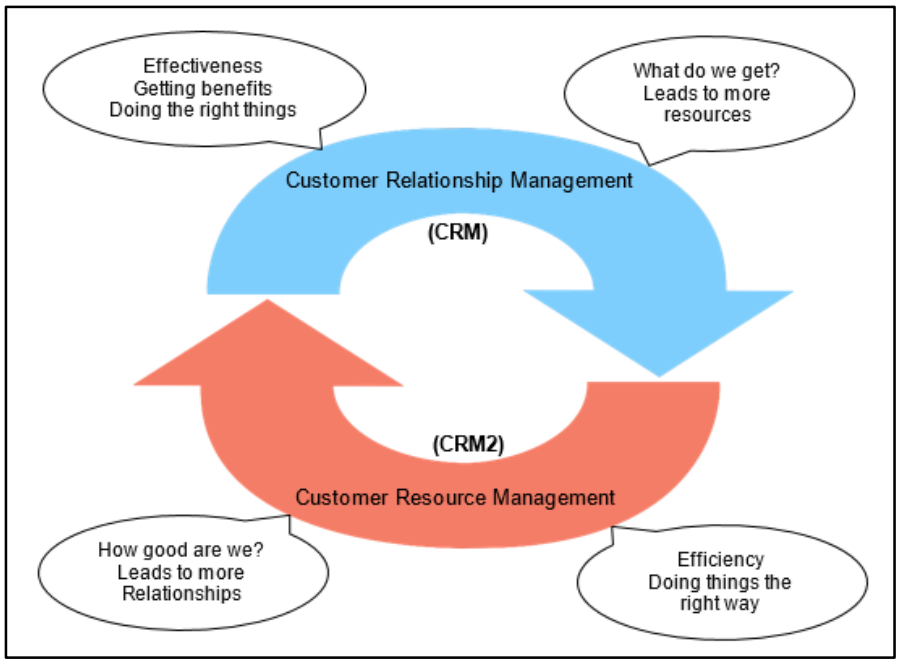
In the current century, IT is an essential component of current and future strategy operations. Applegate *et al*. (2007:41) puts forward the idea that after the automation phase, IT could also be used to inform and transform. IT can be used to create value, including improved coordination and control; personalised products and services; enhanced strategic positioning and differentiation of existing products and services and thus create a competitive advantage in the market in order to generate new revenue streams.

According to Stair and Reynolds (2012:537) customer resource management (CRM2) is where customer relationship information is turned into a resource. When these resources are developed and properly managed, they can lead to growth of customers and in turn, growth of the organisation. Thus, with new customer

information, the organisation gains additional resources resulting in sustainable growth.

Figure 1 depicts the concept where customer relationship information is used, developed and managed and turned into a resource.

Figure 1: Customer relationship management (CRM) versus customer resource management (CRM2)



Source: Adapted from Oeschger (2013:85).

Gartner stated that in general most CRM systems (sales, service and e-commerce) are not sufficient to support customer planning. Organisations do not get the best average costs for marketing, sales and services because CRM systems do not have the ability to manage customer segments and programs to gain satisfaction, loyalty and a greater income. Very few organisations understand and use the value of marketing resource management (MRM) outside marketing activities to support their CRM business strategy (Collins, 2013a:1).

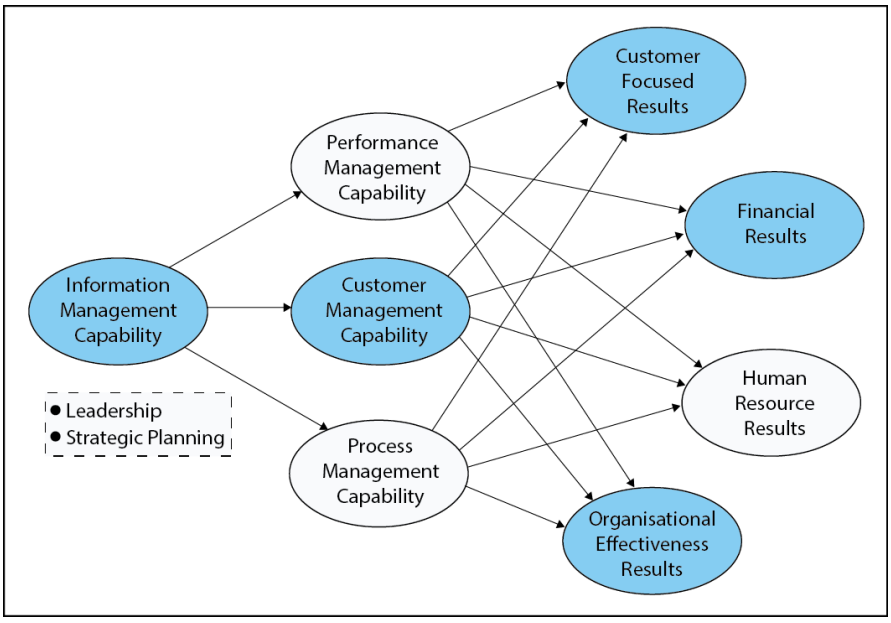
The resource approach suggests that an organisation could obtain a competitive advantage by focusing on resources which are not common knowledge and unique. These resources are valuable and rare and must be well managed. In doing so, these resources could generate a sustainable benefit should they be costly to

imitate and lack in substitutes. When these resources are well managed, exploited and deployed it could be applied as a threat against the organisation's competitors (Sirmon *et al*., 2008:919).

1.3 Causal factors

The causal factors for this study are as follows (see Figure 2):

Figure 2: Causal factors



Source: Adapted from Mithas *et al*. (2011:240).

- Few research has been done on the IMC of CRM data. Current databases of customers are valuable and need to be managed correctly to obtain competitive advantage in a highly competitive market;

- According to MBA.CO.ZA (2014c) there are currently 17 business schools in South Africa. South African business schools could work together to address the issue of support on mobile devices, the web, and self-service or peer-to-peer support on social networks. This should be supported by a CRM2 system so that organisations will remember customer's experiences as is, and not in separate channels or silos (Maoz, 2013:7);

- The need for sustainability and competitive advantage is a strategic vision.

1.4 Importance of this study

Resource management actions are critical to achieve and sustain competitive advantage in a market (Sirmon *et al*., 2008:919). Despite the importance of resource management, sufficient research is lacking.

1.5 Research objectives

1.5.1 Primary objective

The primary objective to this study is to evaluate the use of a CRM2 system to achieve and sustain competitive advantage in the market by selected South African business schools. The study will investigate how well CRM information is converted by a CRM2 system to create new information resources and how well these resources are developed, used and managed to create new customer relationships to achieve and sustain competitive advantage in the market. According to Koob (2014) managing customer relationships and effectively interacting with your customers are critical to an organisation's success.

1.5.2 Secondary objectives

To achieve the primary objective of this study, the secondary objectives are:

(1) To investigate whether or not selected South African business schools effectively utilise a CRM system;

(2) To investigate if any resource capacity planning is done by selected South African business schools and if they acknowledge the importance of an IT system to manage customer relationship information in order to create business excellence as well as to gain a sustainable competitive advantage;

(3) To investigate whether selected South African business schools acknowledge the new approach of marketing namely MRM, as the new way forward to gain competitive advantage in the market;

(4) To investigate if selected South African business schools could work together to solve the issue of support on mobile devices, the web, and self-service or peer-to-peer support on social networks;

(5) To determine what the selected South African business schools expect from a CRM2 system in terms of creating a quality professional environment to sustain a continuous relationship with customers.

1.6 Research methodology

1.6.1 Literature and theoretical review

A literature and theoretical survey on the areas of the effective use of CRM systems, the importance of a CRM2 system as a strategy to gain customer based focus results, an increase in profitable organisational benefits to ensure a sustainable place in the selected South African business school market, was conducted. The focus was mainly on the demands of the customer and the benefits a business school could gain from a CRM2 system.

1.6.2 Empirical research

To accomplish the research objectives of this study, empirical research was done among the selected South African business schools. 17 Business schools were identified from MBA.CO.ZA (2014c) and were invited to take part in the research study. The management of the selected South African business schools were targeted and consisted of directors, program leaders/managers and staff members who are responsible for the marketing efforts of the various business schools.

The primary data was collected via quantitative questionnaires placed online. Independent responses were received via anonymous questionnaires.

The primary objective of the research is to determine if selected South African business schools could benefit from a CRM2 system and gain competitive advantage in a highly demanding market. In this context the data should be analysed and the research should determine whether there is a positive correlation

between a CRM2 system and new satisfied customers in order that selected South African business schools can become sustainable organisations with a competitive advantage in the market. The results of the study will be available to selected South African business schools.

1.6.3 Limitations

1.6.3.1 Sources

- There is a vast amount of information relating to CRM but a Google Scholar search delivered little or irrelevant information on the theme of CRM2.
- Limited information is available pertaining to the impact of the management of resources and the impact on sustainability and competitive advantage in a market. Google Scholar articles also shows various interpretations regarding the impact of customer information management (CIM).

1.6.3.2 Research

CRM2 is a relatively new concept and therefore research will be done at selected South African business schools.

1.7 Layout of the study

The mini-dissertation is divided into four chapters:

1.7.1 Chapter 1 - Orientation and problem statement

This chapter discusses the background, context of and causal factors to the study as well as the problem statement. It also presents an overview of the research design and layout of the next chapters.

1.7.2 Chapter 2 - Literature review

Chapter 2 investigates, through a literature review, the concept of CRM2 and highlights the existing link between the traditional CRM system and the use of the new CRM2 technology to support customer relationships. The literature review will

also include new market strategies as a result of CRM2 and will determine whether CRM2 has a positive impact on profits of an organisation in order to gain competitive sustainable advantage in the market.

1.7.3 Chapter 3 - Empirical study

The research methodology will be discussed in this chapter. This will include the discussion of sampling methods as well as the composition of the survey instrument (questionnaire), the sample target and the data collection. The results of the investigation will also be portrayed and discussed.

1.7.4 Chapter 4 - Conclusions and recommendations

The conclusions of the study based on the literature review and empirical investigation as well as recommendations for further study will be presented in this final chapter.

1.8 Conclusion and chapter summary

According to Costa *et al*. (2013:458) the management and implementation of unique resources contribute to the creation of a sustainable competitive advantage that has a positive impact on the owner of the resource's profits.

CRM becomes very important because customers with their own personal devices and options such as cloud computing, social media and mobility have converged into a renewed driving force expecting organisations to remember their experiences. These experiences should not been stored in separate channels or silos.

With a CRM2 system organisations could have the opportunity to get better insights of customers and derive better business value.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

This chapter addresses the difference between CRM and CRM2. With the focus on the customer, the study of literature determines the existing link between the traditional CRM and the use of a CRM2 system to support customer relationships. Building relationships through the use of technology with “technology-savvy” customers enables an organisation to retain loyal customers, gain a greater share of new customers, and increase customer lifetime relationships and business value.

This chapter describes the impact of technology to transform every aspect of the way to do business with today’s customers who can conduct business anytime, anyplace. It also explains the use of technology to support the strategy of an organisation to develop better customer service and support processes, and foster new collaborative partnerships between the customer and the organisation.

The study of literature contained in this chapter firstly, provides an overview of CRM and CRM2 and whether CRM2 has a positive impact on profits of an organisation to gain competitive sustainable advantage in the market. Secondly, it looks at the typical customer of South African business schools and why CRM2 is needed. Thirdly, it describes CRM as a business strategy because of the critical advantage information and data provides to compete in the market.

Fourth, the literature study provides an overview of big data and the opportunity to get more reliable customer insights that derive business value. Fifth, it describes how the management of knowledge fits into the customer’s framework and how a customer focused organisation should measure enterprise performance. Sixth, it also gives an overview of how organisations could gain competitive advantage in a market and whether IT could change the basis of competition.

Lastly, this chapter provides an overview of market resource management (MRM), the current rapidly changing context in which marketing takes place that can support CRM with fewer resources.

2.2 Overview of CRM and CRM2

CRM as a software package or a system is defined by Baran *et al*. (2008:4) as a flexible software package that is intended to integrate and manage all aspects of customer interactions within the organisation. CRM technology supports the ability of an organisation to considerably improve customer services, sales, marketing, online transactions, and orders.

CRM uses customer information to increase the understanding of how to manage an organisation's relationships with its customers. It is a business strategy that uses IT to provide an enterprise with a comprehensive, reliable and integrated view of its customer base. The processes and customer interactions support the organisation in its target to help maintain and expand mutual beneficial relationships. The gathering of data and the provisioning of information through processes is a technique that helps the organisation evaluate and review strategic options (Baran *et al*., 2008:4).

CRM involves managing all aspects of a customer's relationship with an organisation to increase customer loyalty and retention and an organisation's profitability. Understanding a customer allows the organisation to communicate effectively with each customer. It gives the organisation a detailed understanding of each customer's products and services record regardless of the customers preferred communication channel (Baltzan, 2013:29-30).

The organisation collects information through customer transactions and analysis the information to determine the best way to apply marketing to each individual customer. Fundamentally CRM is not just a technology but an organisation strategy. It is a business goal which is enhanced by technology. With the use of a CRM system an organisation identifies customers and designs specific individual customer marketing campaigns. With this approach organisations could treat customers as individuals, gaining important insights into their buying preferences and behaviours which lead to increased sales, greater profitability, and higher rates of customer loyalty (Baltzan, 2013:30-31).

The value of IT capability is to manage information and to provide data and information to users with the appropriate levels of accuracy, timeliness, reliability,

security, confidentiality, connectivity, and access. An IT system should also have the ability to tailor customer insights to create customer management capabilities to develop significant customer relationships for the organisation to use customers both as consumers and as innovation partners in new product development. The development of IT infrastructure and IMC play an important role to improve an organisation's strategy to business excellence (Mithas *et al*., 2011:237-238).

To manage customer information which can be described as one of the organisation's resources can be defined as CRM2 which is a comprehensive process of structuring an organisation's resource portfolio, bundling the resources and build capabilities to reach competitive advantage. Owning or having access to a valuable and rare resource is imperative for competitive advantage. Ownership or access to information alone is not sufficient. Resources must be effectively bundled and deployed to exploit opportunities and/or lessen threats in specific competitive engagements for an organisation to gain a competitive advantage (Sirmon *et al*., 2008:919).

Customer data should be managed by organisations similar to any other corporate asset, building the value of the data into their return on investment (ROI) calculations for the investment in a CRM system. Customer information is a set of intangible assets which is available from technology. Organisation and IT executives regularly claim that information is one of their organisation's greatest assets, but they fail to measure or fully leverage its value. The fact that some people in an organisation do not admire the value and critical importance of customer data when it comes to the health of a business, only serves to perpetuate low standards and low quality (Laney & Huang, 2014a:3).

Although organisations now manage and deploy customer information more effectively than ever, it is still not managed with the well-honed asset management discipline that is applied to their traditional material (financial or other intangible assets). Organisations do not value or account for customer (or other) information at all as an actual asset and, because of that, organisations pay the price. Reasons for the latter could be (Laney & Huang, 2014a:3):

- Most of an organisation's CIM projects cannot be financially justified or sufficiently funded, because of an inability to measure the value of the information;

- The financial value organisations place on customer data does not reflect the revenue-generating potential as a source of business or its direct revenue-generating potential as a saleable product itself;

- Customer information is collected, processed and stored during regular business activities but generally organisations fail to use it for analytics or business relationships. This is defined by Gartner as "dark data" (that is, unutilised or underutilised data);

- Organisations overspend on access to external customer information sources that may not provide sufficient value;

- Customer information is either over secured or under secured relative to its value and risk;

- Organisations have relatively low market valuations;

- An organisation may not be not transparent and does not have the credibility with investors, partners and employees when it comes to reporting the overall health of the organisation (Laney & Huang, 2014a:3-4).

Failing to treat customer information as an asset has a material impact on business performance, business continuity, governance, risk, competitiveness, customer/partner/supplier/employee relationships, innovation and leverage. As the role of customer data in organisations continues to accelerate, the disadvantage of not valuing customer data will become more pronounced; particularly in the era of big data when the governance problems facing chief information officers (CIOs), and those tasked with managing and deploying customer data, are multiplied (Laney & Huang, 2014a:4).

When calculating the ROI of an organisation, all tangible and intangible benefits are related to revenue increase, productivity and brand reputation based on good

customer data management, but the value of customer data is not included (Laney & Huang, 2014a:4).

There has been ample discussion by Laney and Huang (2014a:4) that most ROI calculations are oriented toward fixed, known products or solutions and that it also makes sense to consider another kind of ROI which is: "return on information." The return on information (or return on information assets) has been discussed casually for years, but it is time for a more serious approach to this concept.

Thinking about customer information as an asset with maximised value encourages broader thinking about the possibilities of these assets. It is essential to maximise the critical value of customer information and this can enforce customer solution strategists to plan innovative bottom-up ideas. Customer data management teams could also be enforced by an improved realised value of customer information to enhance its potential value through improved data quality, data governance, master data management and customer data integration. This positive drive towards customer data includes both infrastructural and architectural components, to make improved customer data more accessible (Laney & Huang, 2014a:4).

Practitioners recognise the critical role of information management. The CIO of Wal-Mart noted that the driver of change has transitioned from technology to information. Technology at this point is simply a means to an end. It is really strategic to use the information and to exploit and maximise it. Organisations competes at the speed of information, and information should be presented in such a way that it is used to drive execution and improvements in business. The ability to provide accurate, timely, and reliable data and information to relevant entities and stakeholders can enable organisations to configure and tailor other organisational capabilities that might influence an organisation’s performance (Mithas *et al*., 2011:240).

2.3 Who is the customer?

The rules of how to do business has dramatically changed over the past few years, because there have been major changes in many aspects of the world of work. Globalisation as well as e-commerce are playing a role in these changes. As

organisations are well nested into the 21st century, merging physical distribution, IT and financial services into one streamlined enterprise, is becoming increasingly challenging (MBA.CO.ZA, 2014a).

The new business arena is dependent on individuals who are interested in developing their entrepreneurial potential, focusing on innovative value-based solutions and developing their creative problem-solving skills. These individuals are perceiving change as an opportunity to contribute successful to new and interactive organisational structures - less as employees, but more as future employers of ordinary people or operating as consultants to individuals creating new ventures (MBA.CO.ZA, 2014a).

Careers are affected by changes in the business environment and the economy. Thus imply that people are compelled to diversify their skills by:

- exploring flexible career paths;
- developing complementary skills by investing in innovative training opportunities to ensure personal growth and continuous improvement;
- meeting relevant challenges that contribute to and add value to the organisations that employed them (MBA.CO.ZA, 2014a).

The customers of selected South African business schools are prospective and current Master of Business Administration (MBA) students and Alumni. According to MBA.CO.ZA (2014b) a typical MBA student has several years of full-time, post-undergraduate work experience. The strongest candidates are dedicated, disciplined and focused on their career paths; they know what is required of them to achieve success and are clear about the particular area of interest they plan to pursue after obtaining an MBA degree. A respectable MBA student demonstrates evidence of leadership potential and consistent academic achievement.

As current and prospective MBA students are seen as customers of the selected South African business schools the value of the customers form part of their resource value. An organisation's internal (resource base, managers' characteristics) and external (the organisation's market position, customers,

access to information) factors are seen as the organisation's resource value. An organisation may have access to privileged information about resources and how resources may create value in a product market as a result of an organisation's unique position in inter-organisational networks.

Baltzan (2013:29) puts forward the idea that CRM systems allows an organisation to gain insight into customers' behaviour. A manager's cognitive characteristics play a key role to access information on the one hand and the ability to interpret information on the other hand in order to assess the resource value as the basis for resource management decisions (Schmidt & Keil, 2013:207).

Managing and understanding a resource and using it as a value creation opportunity on the demand-side allow organisations to establish positions of superior performance (Schmidt & Keil, 2013:220).

2.4 Why we need CRM2?

Organisations gathered more and more customer data from emerging sources, such as mobile, social, advanced web and client specific information. This contributes to a big data problem that also creates a major opportunity. Through the use of analytics, customer data can be transformed into something organisations can leverage as a business currency which can be used to do business with (Sussin & Collins, 2014:1).

Customer service, marketing and sales departments of an organisation are provided with a growing volume and variety of customer information whereby organisations can learn more about their customers, including their wants and needs. In the past, most organisations had to rely on demographic or transactional information to understand their customers. This information was often anonymous or semi-anonymous. Social media and listening provide opportunities for an organisation to learn more about customers' likes, dislikes, plans and opinions (Sussin & Collins, 2014:1).

An overview of the customers provides a psychographic view of the customer that could lead to better predictions about economic, macro and micro behaviour.

Opportunities arise from mobile solutions to expand beyond psychographic information into contextual and location-based information (Sussin & Collins, 2014:1).

Contextual and location-based information give people in CRM positions the opportunity to engage more effectively with customers to improve satisfaction and loyalty, increase retention rates and drive revenue, both traditionally and using customer data as a currency. The ways in which this information is used and presented to customers or partners can determine whether business value is recognised or whether the action deteriorates customer relationships (Sussin & Collins, 2014:1).

In the area of customer analytics IT leaders should focus on the following:

- Identifying appropriate sources of information and properly managing the master data associated with the acquired information;
- Determining the appropriate customer analytics to apply in order to gain customer insights;
- Developing effective plans for the use of insight data which is gathered from the customer so that the customer will see the value and relevance of this, rather than being seen as a violation of privacy;
- Calculating and converting the economic value of customer data and analytics based on their current and potential value to the organisation (Sussin & Collins, 2014:1).

2.5 CRM as a business strategy

Customer data is a key component of CRM and therefore many organisations see an effective customer data management strategy as an important cornerstone of their CRM strategy. Most of the traditional organisations are using customer insights as an important means to achieve the goal of a successful CRM. Customer data is used to enhance customer experiences, improve service quality, target marketing efforts, capture customer sentiment, increase upsell

opportunities, and trigger product and service innovation (Laney & Huang, 2014b:2).

Existing data will become more important and will actually drive a lot of the decision making as well as the way organisations will interact with customers (Edelman, 2014:4). Edelman (2014:4) emphasises that the question is not just: "What is our product strategy, what is our customer-experience strategy?" The question is also: "What is our data strategy? How are we getting more information about our customers? How are we going to use that information to drive value? Is that going to lead our customers to do more business with us so that we can then gather more information back?"

Critical sources of advantage for an organisation will be information and data, how organisations are going to get the best data to drive a lot of insights and to compete in the market. Management needs to take this different perspective to drive business on a day-to-day basis (Edelman, 2014:4).

Barton and Court (2013:1) found that fully exploiting data and analytics requires three mutually supportive capabilities:

(1) Organisations must be able to identify, combine, and manage multiple sources of data;

(2) Organisations need the capability to build advanced-analytics models for predicting and optimising outcomes;

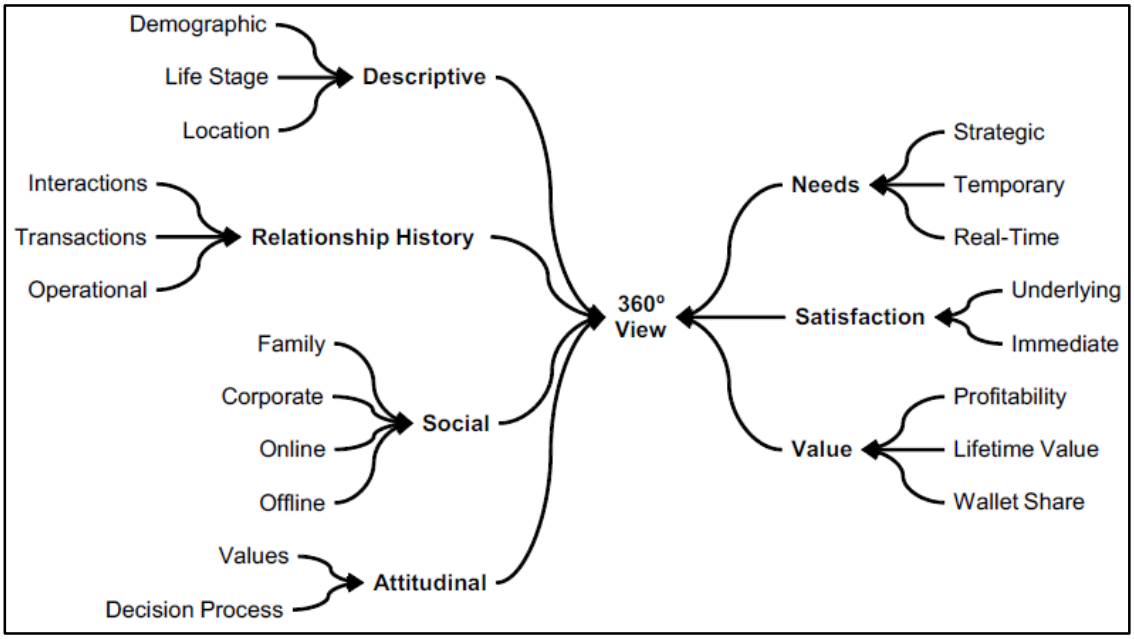
(3) The most critical of the three supportive capabilities is that management should provide the platform so that data and models can lead to better decision making (Barton & Court, 2013:1).

A clear strategy for how to use data and analytics to compete as well as the deployment of the right technology architecture and capabilities are an important foundation to support these capabilities (Barton & Court, 2013:1).

Gartner divides customer data into seven high-level categories (see Figure 3). The categories on the left (descriptive, relationship history, social and attitudinal) are characteristics of the customer and relationships that can be gathered from

different sources; the categories on the right (needs, satisfaction and value) represent the insights that can be created about the customer (Laney & Huang, 2014b:2).

Figure 3: The 360-degree customer profile



Source: Adapted from Laney and Huang (2014b:3).

According to Gartner (2014b) the nexus of forces describes the coincidence and joint reinforcement of four interdependent trends: social interaction, mobility, cloud, and information. The forces combine to empower individuals as they interact with each other and their information through well-designed ubiquitous technology. The nexus of forces assume opportunities and threats to how organisations do business.

The impact that the nexus of forces have on customer data is significant, and while customer information is very important for an organisation's CRM strategy, CIM is a rapidly emerging factor. The volume of social, mobile and cloud information are increasing in volume, velocity and variety and therefore the management of customer information becomes more important. Big data is the next disrupter in the nexus of forces for marketing, sales and customer service (Laney & Huang, 2014b:3).

2.6 Big data

New information technologies and the internet changed conducting business and sector competitiveness over the past 20 years. Big data is ready to bring about the next wave of innovation, productivity, and growth (Lund *et al*., 2013:66).

Big data is defined by Gartner as high-volume, high-speed and high-variety information assets that demand cost-effective, innovative forms of information processing for enhanced insight and decision making. A big data strategy for customer data is an extension of customer master data management (Laney & Huang, 2014b:3).

Because of irrelevant and inaccurate data most organisations will struggle to see the CRM business value from big data strategies. To identify relevant customer processes across marketing, sales, customer service and e-commerce will be the first step to benefit from actionable, big data customer insights (Collins, 2013b:4).

Having the best data and insights of your customer could drive the customer opportunity. Organisations have vast amounts of customer information and big data, including from CRM applications (including contact centre, sales, campaign management and social media) and the unused "dark" data from blogs, texts and clickstreams, speech and location-based context (Collins, 2013b:5).

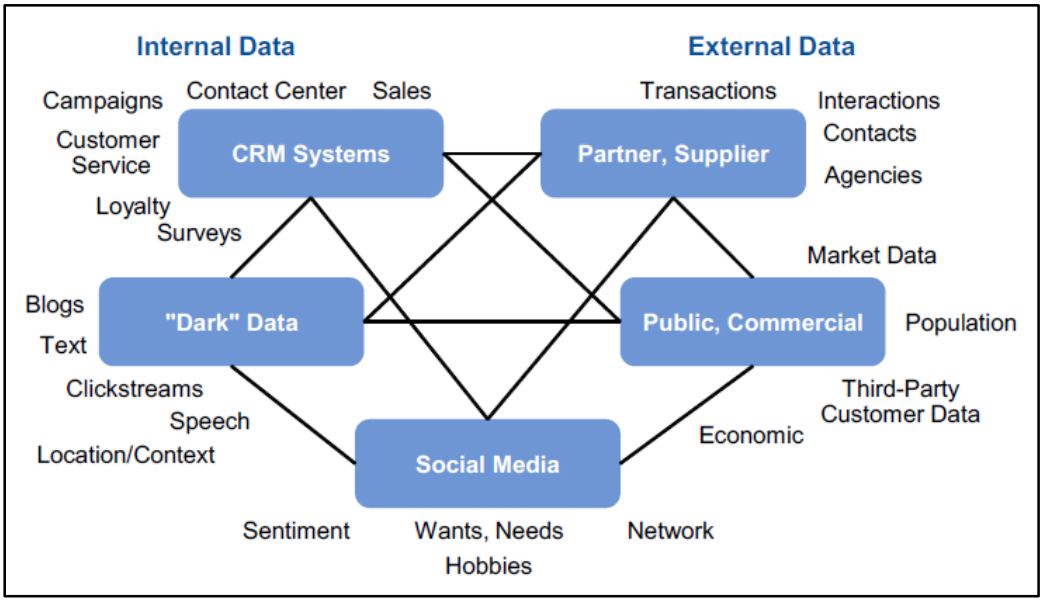
Organisations could significantly raise their efficiency and cost effectiveness by exploiting big data and advanced analytics to improve decision making and get valuable insights in order to gain market share. Big data also enables organisations to create new products and services or to enhance existing ones (Lund *et al*., 2013:66).

In South Africa, any information relating to an identifiable, living natural person or juristic person (companies, CC's etc.) is protected by the Protection of Personal Information (POPI) Act (4 of 2013). This act constitutes the primary legal framework to process personal information including the collection, usage, storage, dissemination, modification or destruction (whether such processing is automated or not).

Information technology (IT) infrastructure should comply with the provisions of the POPI Act (4 of 2013) and has a material impact on policies, procedures, employees, third party service providers, and systems within an organisation (Lovells & Pillay, 2014).

Although the POPI Act (4 of 2013) regulates the processing of personal information in South Africa, the challenge to analyse unused, unstructured "dark" data is one of the biggest untapped opportunities for most organisations. See Figure 4.

Figure 4: Acquiring customer information from multiple data sources



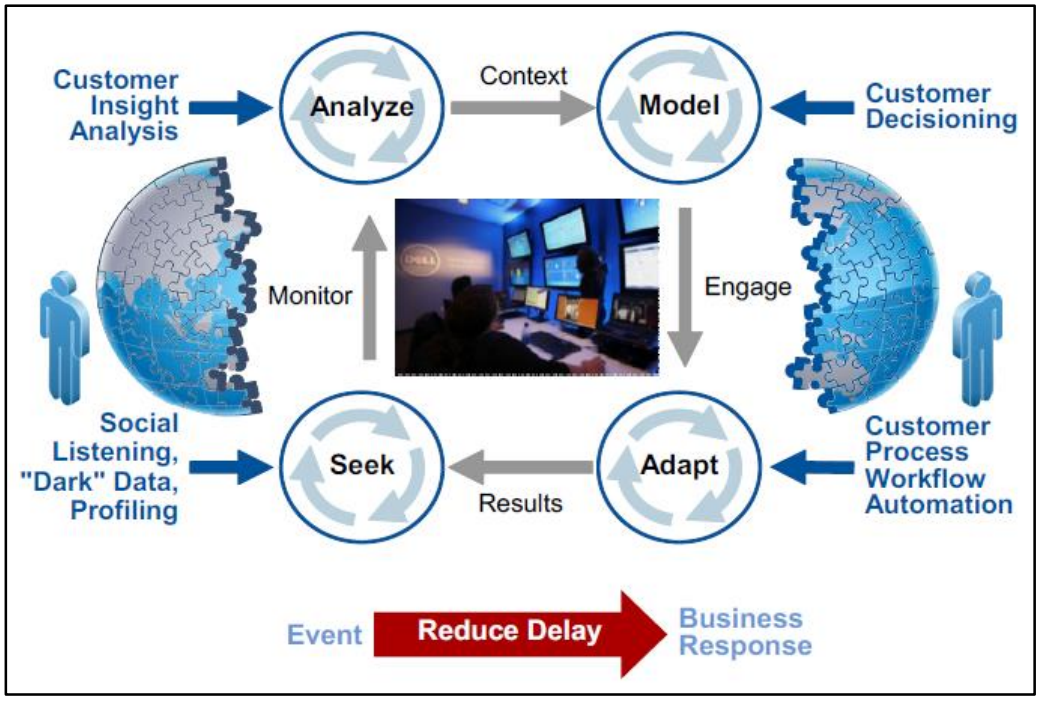
Source: Adapted from Collins (2013b:6).

The next step is to determine the value of information to effectively manage it through technologies that support big data, as well as via data quality tools, master data management (MDM) solutions and the implementation of an overall enterprise information management (EIM) discipline (Collins, 2013b:7).

Most probably big data CRM initiatives will require integration and analysis of both structured and unstructured data to identify the most relevant insights and determine the most appropriate customer action. This will require a strategic approach and according to Collins (2013b:7) the creation of a MDM system is the most strategic method for creating a single view of the customer and lying a firm architectural foundation for future applications.

Customer insights created from big data must be effectively used to derive business value. For example, social media analysis benefit from a process feedback loop approach that many organisations have already begun to adopt. The feedback is used to seek for new or known patterns, such as product or brand complaints. Decisions about how to react, requires an intimate understanding of the customer's journey. To properly understand and automate decisions, the construction of multiple context scenarios is probably the most difficult part for organisations (Collins, 2013b:11).

Figure 5: The seek, analyse, model and adapt framework



Source: Adapted from Collins (2013b:11).

The loop continues as the impact of market automation processes generates a response. This changes the traditional ways of doing business and through automation linking the seek, model and adaptation phases, the process reduces delay in business response and scale to volume (see Figure 5). Together CRM leaders and CIOs should automate customer decision making using the seek, analyse, model and adapt framework as displayed in Figure 5. Knowledge gained form the feedback loop is important, because it can be used to improve the overall

process across each of the four steps. Big data CRM initiatives should model these four phases around their customer processes (Collins, 2013b:11).

Organisations that transform big data sources into insight on customer requirements, are in fact on the path of maximising the value of customer data. Big data capabilities enables organisations to expand the definition of what is knowable about their customers. This means they can move beyond information such as demographic data into the appropriate use of psychographic data. Management of big data helps organisation to move from what is currently known to what else is knowable (Laney & Huang, 2014b:3).

Organisations start to invest a great deal in big data technologies in relation to their customers, aiming for direct or indirect capitalising. The value of the customer data shows a high money value when there is a merger or acquisition. The best examples are the initial public offering of internet organisations such as Facebook and Twitter, and similar organisations that have large customer bases and make use of big data technologies to gain customer insights. Other examples of direct capitalising of customer data include marketing and selling data and information-enabled products by data providers (Laney & Huang, 2014b:4).

2.7 Management of current knowledge

Many of the early knowledge management (KM) projects in the late 1990s and early 2000s did not turn out as planned. A traditional KM project was characterised by a centralised effort to organise resources and content via taxonomies, inconvenient e-forms and repositories, and complex review processes. Knowledge resided with people and, especially in complex situations, was difficult to access and use without collaboration and context which traditional KM initiatives could not manage or use (Rozwell, 2012:1-2).

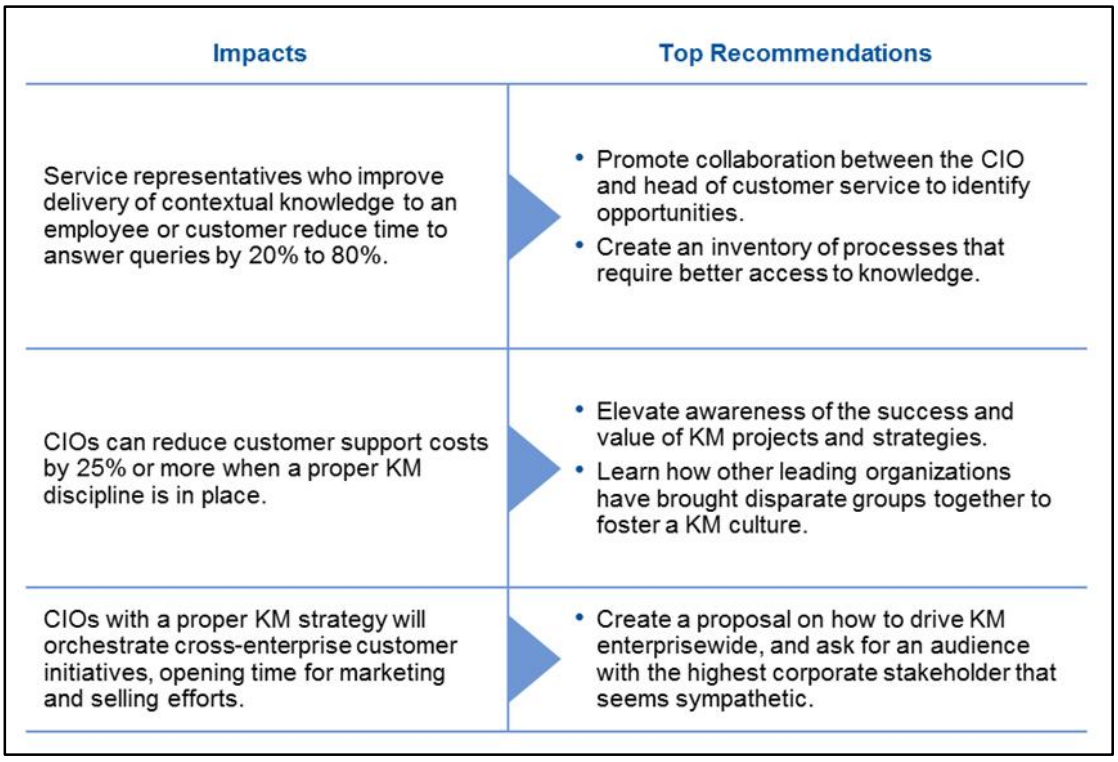
KM impacts efficiency, customer satisfaction and revenue growth, but is not a priority for organisations. Poor KM results in poor customer satisfaction and lower productivity. To build a KM strategy for customer service, organisation should focus on people and processes (Maoz, 2014:1).

Gartner defines KM as a discipline that emphasises an integrated approach to managing an organisations' knowledge assets: (1) the information available to an enterprise about its best practices; (2) the critical business processes and (3) the operating environment. This is a combination of people, processes and technology brought together to acquire and make the information available to all involved in the organisation (Maoz, 2014:2).

It is useful to examine the circumstances in which knowledge will be applied to solve organisation problems. KM efforts should be more supportive of current work practices and should make better use of social software (Rozwell, 2012:3).

KM is not a technology solution. Although KM requires advanced technologies, technology and applications are simple enablers of a knowledge culture. The emphasis on people and processes to support KM will differentiate successful KM strategies from unsuccessful KM strategies (Maoz, 2014:3).

Figure 6: Impact appraisal for knowledge management



Source: Adapted from Maoz (2014:3).

The biggest reason for organisations to address KM is the impact of fast retrieval of the right information for customer satisfaction (see Figure 6). Gartner has seen

an average 12% increase in customer satisfaction on post engagement surveys. Feedback gathered from more than 1,000 customer calls during the past four years showed that a customer service representative spent, on average, 20% of his or her time understanding questions, searching for correct information and responding to the customer. On the other side of the KM issue is the customer experience. While employees struggle to target answers to questions, customers face the same challenge (Maoz, 2014:4).

With the strong growth in internet applications and the explosion of mobile applications, Gartner estimates that there will be 70 billion mobile application downloads by the end of 2014, and less than 5% of them will be supported by contextual knowledge. According to Maoz's (2014:2) perspective, by 2018 the lack of in-line contextual knowledge or support in mobile applications will lower customer satisfaction by 5%, undermining the enterprise's mobile strategy. A key attribute of leading organisations with the rapid creation of information, is relevant content retrieval (Maoz, 2014:4).

Maoz (2014:4) argues that organisations are failing to internalise potentially contextual knowledge. Customers are aware of this and it leads to consumer frustration and a negative customer experience. The management of knowledge needs to shift the focus to a demand-centric model that acknowledges the wealth of information that exists in people and networks (Rozwell, 2012:5).

Organisations could reduce customer support costs by 25% or more when a proper KM discipline is in place. KM initiatives, when properly planned, show tremendous measurable, tactical value that outweigh the cost of the initiative. There can be many different systems where information is created, stored and retrieved. The distribution of information between different applications leads to silos of corporate knowledge. The estimate is that reducing the number of only a few common systems can lower KM application maintenance costs by 15% to 40%. Lowering the cost will depend on having a backbone KM infrastructure in place that is scalable, able to be shared but which is divided by role/user type, and searchable globally across all device types, such as machines, mobile devices, kiosks, websites and social media (Maoz, 2014:5).

Customer service organisations that use KM to support marketing and sales efforts build customer satisfaction and trust, as well as create a time window to deliver a message about a new product or service. An IT leader or organisation owner should take on a KM initiative because KM cuts across all parts of the organisation, and involves people, processes and technology (Maoz, 2014:6).

2.8 Enterprise performance management

Enterprise performance management is a range of key processes to ensure continuous improvement and business relevance. A vision and strategy are the driving forces behind an organisation's success and are used for the input and context for all performance initiatives (Hough *et al*., 2011:218). To measure an organisation's success leaders are using the balanced scorecard (BSC) from four different viewpoints:

(1) Financial perspective – financial performance;

(2) Customer perspective – customer satisfaction, attitudes, and market share goals;

(3) Internal perspective – internal operational goals needed to meet customer objectives;

(4) People/innovation perspective - human capital, organisational capital, training, informational systems (Hough *et al*., 2011:222).

For each of the four main perspectives in the BSC, an organisation defines its goals. To measure the progress toward those defined goals key performance indicators (KPIs) or key success indicators (KSIs) are defined. These KPIs allow the organisation to measure and monitor its performance (Reh, 2014).

The BSC approach suggests that each organisation has its unique set of processes for creating value for customers. By creating value that the customers would be looking for, the organisation could acquire and gain customers and satisfy their needs. Both IT and human resource (HR) services play an important role in the performance process (Islam *et al*., 2012:138). Applying HR, IT, and marketing

knowledge (MK) services by the use of a CRM2 system will help organisations to adapt marketing needs (Islam *et al*., 2012:149).

Islam *et al*. (2012:139) puts forward the idea that some non-financial factors contribute very significantly to customer interactions in marketing. These factors have become a part of customer-related performance in the sales, service, and marketing industry. Customer-related performance in respect to the BSC perspective, which includes customer loyalty, internal process efficiency, channel management, and innovation was studied and it was clear that an organisation is required to make use of resources from HR, IT and MK capabilities. HR capability refers to well-trained, well-rewarded, and skilled employees with professional expertise. IT capability comprises both technological systems and the managerial expertise required to provide reliable services. MK capability refers to the importance of better communication, faster delivery, and more personalised products and services (Islam *et al*., 2012:139).

The interactive effects of these capabilities is a favourable relationship and could help to achieve a higher level of customer-related performance in after-sales marketing (Islam *et al*., 2012:149).

2.9 IT and competitive advantage

An organisation's competitive strategy is to compete successfully in a market. This includes specific efforts to please customers, its offensive and defensive acts to determine the plans of rivals, its responses to whatever market conditions prevail at the moment and its initiatives to strengthen its market position to secure competitive advantage (Hough *et al*., 2011:148).

Business model was one of the great buzzwords of the internet boom (Applegate *et al.*, 2009:41) and is defined by Osterwalder and Pigneur (2010:14) as the rationale of how an organisation creates, delivers and captures value. A business model defines how an organisation interacts with its environment to define a unique strategy, attract the resources and build the capabilities required to execute the strategy, and create value for all stakeholders (Applegate *et al.*, 2009:43).

The role of IT is to transform the strategy of a business model into competitive advantage for the organisation. Both core processes to produce products, deliver services, acquire and serve customers and manage relationships with key stakeholders, should be addressed by analysing processes and infrastructure. IT's networks and systems form the foundation for sharing information and transacting business and it also forms the foundation for processes and infrastructure within organisations. Indeed streamlined, synchronised processes are one of the most powerful sources of IT-enabled proprietary advantage. IT enable organisations to coordinate activities and share information inside the organisation and across an extended network of suppliers, customers, and partners. It also provides real-time information that enables executives and employees at all levels to make decisions and take actions that create value today and position the organisation for delivering increasing returns over time (Applegate *et al.*, 2009:46).

IT is a powerful tool for defining, organising, and building knowledge assets within an organisation. According to Applegate *et al*. (2007:47) an increasing percentage of IT investments in the past were directed toward improving business intelligence. IT systems create the ability for users to use and share relevant information, closely monitor decisions, helps smaller organisations to achieve speed and flexibility while bigger organisations are able to leveraging the power, resources, and control of IT.

The impact of IT has two key dimensions of business model performance: strategy and capabilities. IT's impact on strategy defines the role that IT plays in determining product, market, business network, and boundary positioning. It explains the mechanisms through which IT drives differentiation, sustainable advantage, and the development of proprietary assets. It also identifies the impact of IT on defining the growth path of the organisation over time (Applegate *et al.*, 2009:64).

The impact of IT on capabilities is the role it plays when the strategy is executed. These capabilities include processes and infrastructure, people and partners, organisation and culture, and leadership and governance. These capabilities may be located inside an organisation or may be spread over a network of business partners. Therefore it is also important to analyse business network capabilities outside the walls of and organisation (Applegate *et al.*, 2009:64).

Mithas *et al*. (2011:253) suggests the necessity to recognise IMC to enable valuable organisational capabilities. Well-developed IT infrastructures give rise to superior information management capability and play a role in facilitating development of important customer, process, and performance management capabilities and, in turn, superior organisation performance. Senior leaders need to focus on IT strategy, IT governance, management of IT resources, IT investments, and IMC as important levers for organisational transformation and business excellence.

2.9.1 Can IT change the basis of competition?

Except for the core use of IT to automate processes inside and outside an organisation, IT can also be used to both inform and transform (Applegate *et al.*, 2009:68).

The impact of IT increased dramatically from IT applications which were used to automate routine, information intensive back-office transactions (e.g., payroll processing, accounting and productivity) to the use of IT to inform and transform especially across business boundaries. A streamlined and integrated value chain helped eliminate redundancies, reduce cycle time, and achieve even greater efficiency and productivity. Information, a by-product of automation, also enabled executives, employees, partners, and other stakeholders to better understand fast-cycled operations. Moreover, timely – even real-time – information could be used to drive new benefits, including improved coordination and control; personalised products and services; enhanced strategic positioning and differentiation of existing products and services; and, finally, the creation of IT-enabled products and services that attracted new market participants and generated new revenue streams (Applegate *et al.*, 2009:68-69).

American Hospital Supply Corporation (AHSC) and American Airlines (AA) were examples of how IT could be used to reengineer core operating processes and transform the basis of competition. Both AHSC and AA built their strategy systems upon internal systems that were originally designed to automate back-office transaction processing (Applegate *et al.*, 2009:69).

Organisations built their systems using proprietary technology and owned the platforms which it was installed on and therefore they owned the information. By harnessing the power of information, both organisations were able to differentiate existing services and to offer new information-based services to customers. These two organisations demonstrate how they used IT to fundamentally alter the basis of competition in their respective industries. The executives implemented strategies that radically changed both the cost structure for the industry and, at the same time, differentiated product/service offering and strategic positions causing massive shifts in market share and demand (Applegate *et al.*, 2009:69).

Information-enabled products and services have very interesting properties:

(1) Information is reusable and can be "sold" without transferring ownership and "used" without being consumed as long as the use complies with the POPI Act (4 of 2013) of South Africa;

(2) Information is easily customised. The same information can be presented in different forms (e.g., text, graphics, video, audio) and in varying levels of detail. It can be combined with information from other sources to communicate different messages and to create new products and services;

(3) Information-based products and services possess an inherent time value. As the speed of business accelerates, the time value of information increases (Applegate *et al.*, 2009:76).

The power of embedded IT and the creation of competitive advantage were demonstrated by Boeing's launch of its 787 Dreamliner. Networks with specialised hardware, middleware and applications connect the cockpit and cabin flight crews with all on-ground communication and data networks and systems. This "brain on the plane" manages and routes enormous quantities of real-time data input and output within the airplane and between the airplane and the outside world. Leveraging this core infrastructure, a suite of IT applications has been developed that integrates each aspects of flight operations and forms the foundation for new service offerings that generate new revenue streams and create value for Boeing and its customers, suppliers, and partners. One example of a system which was used to create advantage was business intelligence information and tools which

were available to operations personnel and executives at Boeing, its airline customers, and the large amount of suppliers and partners that make up the airline business network (Applegate *et al.*, 2009:76-77).

IT is developing fast and organisations can apply technology to enhance their competence. In the internet age, organisations should adjust the internal, external and organisational structure for effective future competition. The impact of IT, business process re-engineering, and organisational contingency on organisational performance showed a positive correlation from a CRM perspective. In order to be competitive in the market today, organisations should establish a customer-directed culture and create a customer-centred business process enhanced by IT (Chao-Hsiung *et al*., 2010:61).

2.10 The use of marketing resource management

The era of the traditional marketing campaign is ending and organisations need to master digital marketing. Most organisations think in terms of campaigns and they want to promote something on a regular basis. The reality is that organisations only offer customers something relevant at a specific point in time. Digital changes the marketing model around and something about what organisations can offer that is almost for anybody who are connected with the organisation (Edelman, 2014:1).

Digital allows organisations to be focused, use the data that they have about an individual in a particular moment - because of the search term that the customer used, or because of where the customer looked on the organisation's website, or due to the social engagement organisations had with the customer - and respond to individual preferences (Edelman, 2014:1).

Marketing resource management (MRM) is a set of processes and capabilities designed to enhance an organisation's ability to arrange and optimise internal and external marketing resources (Collins, 2014:1).

MRM applications enable organisations to:

- Do strategic and financial planning regarding marketing activities;

- Create and develop marketing programs and content;
- Collect and manage content and knowledge (digital asset, content and KM);
- Fulfil and distribute marketing assets, content and collateral;
- Measure, analyse and optimise marketing resources (Collins, 2014:1).

According to Collins (2013a:1) marketing is being asked to do more to support customer-centric strategies with fewer resources. MRM applies strategy, process automation and technology that can help marketing teams more effectively and efficiently to apply an enterprise wide CRM strategy. Most CRM solutions in sales, customer service and e-commerce do not support adequate customer planning and the ability to best align combined costs for marketing, sales and service with customer segments and programs for driving satisfaction, loyalty and revenue. Very few organisations understand the value of MRM beyond marketing operations and how it can support an enterprise CRM strategy.

Organisations need the right technology backbone, and the capabilities underneath it to be able to move the data to different channels and to be able to even prioritise the data. Many organisations will need to make some decisions about their technology, whether it is to get the data, analysing it, building data models, content management, and use it to do marketing, measure the outcome and optimise the back end (Edelman, 2014:3).

The following should be done in organisations:

- Leverage MRM solutions to drive CRM efficiency and cost savings through improved planning, better resource allocation, increased alignment of costs to serve and recycle marketing content and digital assets;
- Leverage MRM solutions to drive CRM effectiveness and revenue through better alignment of resources with the brand and the customer experience. , increased knowledge sharing of customer programs that work;
- Effective leverage of marketing content and optimisation of the best product mix for each market or customer segment;

- IT should work with marketing and CRM leaders to ensure that the full benefits of MRM can be recognised beyond marketing to support the broader enterprise CRM strategy (Collins, 2013a:1).

According to Van Bommel *et al.* (2014:1) organisations will see a radical integration of the customer experience across physical and virtual environments during the next five years or so. With customers who have endless online and off-line options for researching and buying new products and services, digital channels to do marketing are critical for executing promotions, stimulating sales, and increasing market share.

Liaising with customers through digital channels matters profoundly not only because of the immediate creation of sales through opportunities, but because two thirds of the customers make informed decisions by the quality of their experiences along with their search for products and services. To keep up with the rapid technology cycles and their multi-platform marketing efforts, organisations need a different approach to the management of the customer decision journey (Van Bommel *et al.,* 2014:1-2).

MRM applies strategy, process automation and technology. MRM helps align marketing resources to support a broader set of CRM initiatives. Without MRM marketing will be unable to effectively align the right resources (human, financial and physical assets) to guide the customer-centric enterprise, which will result in less-than-desirable CRM benefits. By 2016, organisations that leverage MRM capabilities to support customer-centric strategies will achieve 25% higher returns on their CRM programs through cost reduction and revenue enhancement (Collins, 2013a:2).

MRM helps improve the efficiency and effectiveness of CRM programs to derive greater business value from CRM and make it more successful (Collins, 2013a:3).

Efficiency

- Plan and budget around customer segments;
- Use workflow and project management to align CRM programs with corporate objectives;

- Reuse marketing content and digital assets in customer communications across the organisation;
- Understand costs to serve customer segments and establish profit and loss at the customer segment level (Collins, 2013a:3).

Effectiveness

- Improve sales effectiveness by closing the loop with marketing on content creation;
- Enhance knowledge sharing across all customer communications and interactions;
- Align the brand with the customer experience;
- Determine the best product, channel and pricing mix and align resources accordingly (Collins, 2013a:3).

Product portfolio optimisation looks at the best product mix for a certain customer, customer segment or distributor. Determining the best product mix to market and being able to perform value-based pricing will give organisations a competitive advantage. Most organisations and MRM solutions are in their infancy when it comes to these advanced analytic capabilities. However, the overall vision for marketing mix optimisation is improving and will be the next frontier to drive marketing effectiveness (Collins, 2013a:3).

Organisations that ultimately succeed in digital marketing and sales will use big data and digital touch points to drive growth and reduce costs, while producing and managing a variety of content (catalogues, web pages, mobile apps, and user-generated content) in real time across multiple platforms to create breakthrough customer experiences (Van Bommel *et al.,* 2014:8).

2.11 Conclusion

It is clear from the literature study that customer data should be managed by organisations just like any other corporate asset but. Although organisations manage and deploy customer information more effectively than ever, CRM is still lacking. Organisations gathered more and more customer data from emerging sources, such as mobile, social, advanced web and client specific information. The ability to provide accurate, timely, and reliable data and information can tailor customer capabilities that could influence an organisation's performance.

Because of the importance of customer data and the critical advantage it creates, organisations see an effective customer data management strategy as an important cornerstone of a CRM strategy.

Big data is an extension of CRM and big data CRM initiatives will require integration and analysis of both structured and unstructured data to identify the most relevant insights of a customer and determine the most appropriate customer action. The creation of a master data management system is the most strategic method for creating a single view of the customer and lying a firm architectural foundation for future applications.

It is clear from the literature study that KM, which is not a technology, should be applied to solve business problems to support current work styles and make better use of social software. The biggest reason for organisations to address KM is the impact of fast retrieval of the right information to ensure customer satisfaction.

The role of IT is to enable information management and transform the organisation to business excellence. IT is a powerful tool for defining, organising, and building knowledge assets within an organisation. IT is developing fast and organisations can apply technology to enhance their competence which showed a positive correlation in a customer focused approach.

Together with CRM2, market resource management could be used to support more customer centric strategies with fewer resources. Management of customer resources using IT could develop significant customer relationships and improve an organisation's competitive advantage in the market.

2.12 Chapter summary

In Chapter 2 various concepts relating to CRM and CRM2 were defined. An overview of a typical MBA customer was given and the reason why selected South African business schools need a CRM2 system was discussed. With the customer focus of this study and its relevance to selected South African business schools, CRM as a business strategy was argued. The literature study followed, highlighting several challenges with regards to big data, management of current knowledge, enterprise performance management, the competitive advantage of using IT as well as the use of a MRM system.

CHAPTER 3
RESEARCH METHODOLOGY AND FINDINGS

3.1 Introduction

The literature review in Chapter 2 of this study provided an overview of CRM and CRM2. With its customer focus, it determined the existing link between the traditional CRM and the use of a CRM2 system to support customer relationships. Specific attention was given to the importance of IT to transform every aspect of the way to do business with today's customers who can conduct business anytime, anyplace. Numerous sources indicated that the management of customer resources and customer information in organisations could give them a competitive advantage in the market.

The delivery of services is changing dramatically and special attention was given to the transformation of big data sources to expand the definition of what is known about customers. The use of social media and mobile devices is emerging rapidly and this changes the context in which IT support service delivery.

The focus of Chapter 3 is on the research methodology followed to assist in meeting the research objectives as laid out in Chapter 1. The investigation procedures, data analyses as well as the results are described in this chapter. All statistical analyses were done by the Statistical Consultation Services at the North-West University, Potchefstroom Campus, using SAS (2012) as the software package to do the data analysis.

3.2 Procedure and scope of the quantitative research

The empirical study focused on the use of IT to get information about customers from existing enterprise systems and social media, analysing and using these resources to get better insights of customers and to align this with marketing in order to gain competitive advantage in the market.

After determining the demographic profile of the respondents, the study attempted to establish whether there is pressure from both customers and selected business schools in South Africa for information. Secondly it determines which type of

technology is used by selected business schools in South Africa to manage customer data. Thirdly, the research attempted to establish whether IT is a current or future strategy for selected business schools in South Africa. Fourth, the value of customer resources to improve customer interactions was determined. Fifth, the value of customer data as a corporate asset was investigated. Sixth, the study attempted to establish the experience and impact of high-volume structured and unstructured data with high-velocity and high variety of information from various platforms. Seventh, the opportunities of social media and mobile solutions to gain customer insights were investigated. Eighth, the value of the management of current knowledge was determined. Ninth, the study investigated whether selected business schools in South Africa are willing to work together towards a solution to use social media and mobile solutions to gain better insights of customers. Lastly the study attempted to determine whether a marketing resource management system could support customer interactions.

3.3 Sample group and size

According to Levine *et al*. (2011:34) all off the potential participants in a research study to whom a researcher would want to draw a conclusion of an empirical study is called the population. For the purpose of this study the population was management of selected business schools in South Africa as well as staff members of the selected business schools in South Africa working with customers for example Alumni officers. A total of seventeen business schools in South Africa were selected.

The smaller the population, the higher the percentage of that population the sample needs to be and the sample should comprise a reasonably large percentage of it (De Vos *et al*., 2012:224).

For the quantitative research purposeful sampling is important. It is a strategy that is used at organisations, getting information from persons who are deliberately selected for the important information they can provide. For this study the author selected staff members form business schools who are in managerial positions or staff members working with customers, and are knowledgeable about the use of various IT systems in their business schools. There are several important uses

of purposeful sampling. The sample is much smaller and will be systematically selected to get typical and relative homogeneity information and the researcher can ensure that the conclusions properly represent the whole range of variation rather than just information the typical members of a subset of this set could provide (Bickman & Rog, 2008:235).

A non-probability self-selection sampling was chosen by the author to achieve the objectives and it was assumed that the targeted staff members, being in managerial positions or staff members working with customers, were knowledgeable about the use of various IT systems in their business schools. The sample used in this study was representative of the population due to the demographic profile of the sample. A self-selection sample occurs when an individual identifies his/her desire to take part in the research. Respondents that self-select often do so due to their opinions about the research questions. The need for respondents to participate was expressed in an email invitation (see Annexure A) sent to the study population as described above. Individuals then had to express their desire to take part in the study and the data was subsequently collected from those who responded to the invitations (Welman *et al.*, 2012:69).

Sixteen of the seventeen prior selected business schools in South Africa were asked to complete the questionnaire and the questionnaires were subsequently sent out to 49 potential respondents. A total of 32 questionnaires were returned and were used to base the analysis on. A subsequent response rate of 65% was achieved for the questionnaires.

3.4 Measuring instrument

To capture the research information a quantitative approach was followed to meet the research objectives as set out in Chapter 1. The quantitative method deals with subjective data that is produced by the minds of respondents which is an objective approach and seeks precise measurement and analysis of the target concept (Welman *et al*., 2012:8-9).

The survey instrument used was an online questionnaire because it was an inexpensive instrument and could reach participants which have internet access.

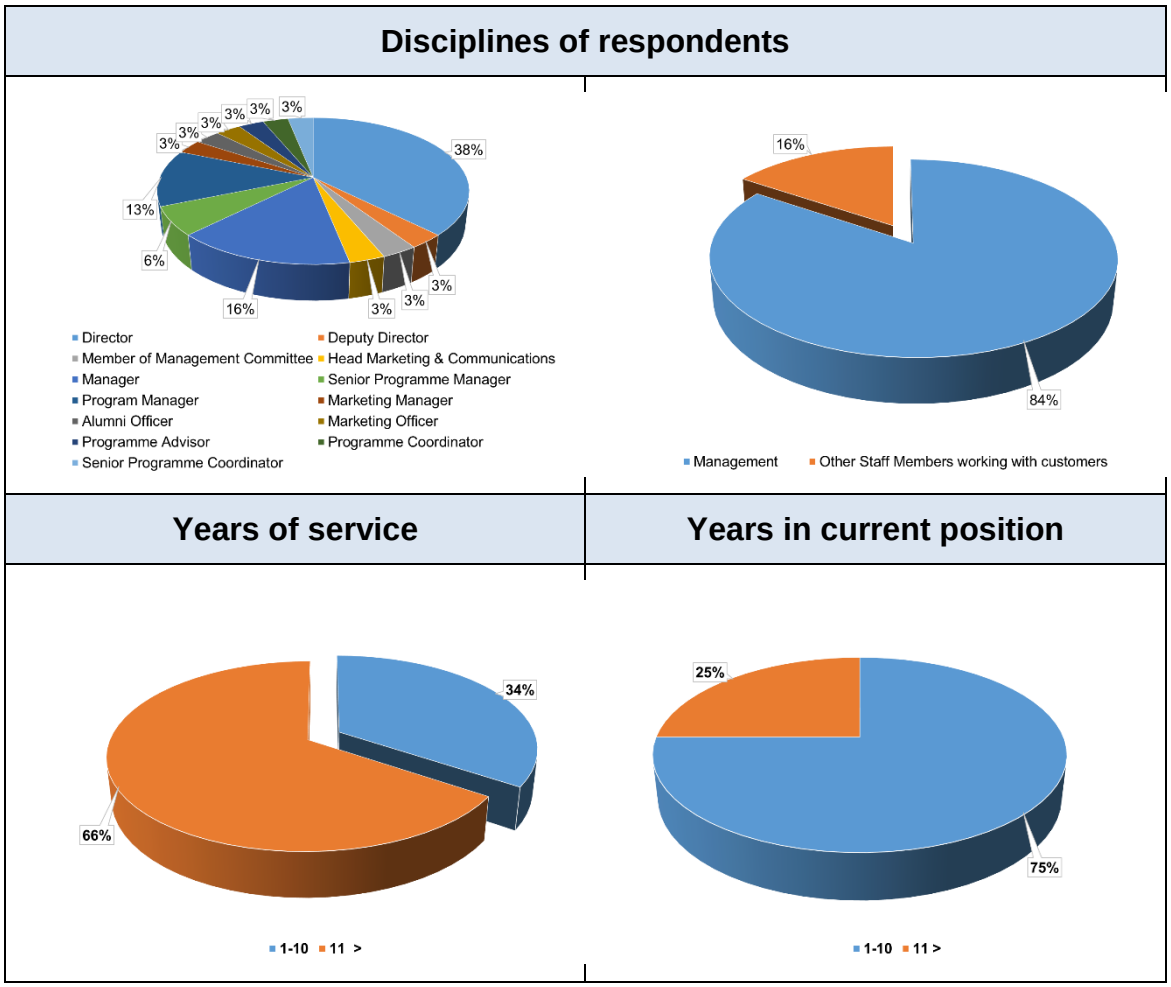
This method ensured that the respondents stayed anonymous and this resulted in questionnaires to be completed honestly. Although the researcher did not have control over the responses there was an advantage that the respondent could complete the questionnaire it his/her own time (Welman *et al*., 2012:153). Ethical clearance was obtained from the Ethics Committee of WorkWell, Research Unit for Economic and Management Sciences from the North-West University.

The questionnaire was developed using the Drupal (2014) open source web content management system. The survey was distributed by the author through electronic mail which included a link to the web address of the online survey. A letter of invitation and an explanation of the purpose of the study was also attached (see Annexure A).

The questionnaire was compiled by the author herself and was based on the literature study conducted and reported on in Chapter 2. The questions were selection type questions with the answering of the questions in the form of a 4-point Likert scale with a scale from *Strongly Agree* (1) to *Strongly Disagree* (4). Likert scaling is a bipolar scaling method, measuring either positive or negative response to a statement. With a 4-point scale, respondents were forced to make a choice since the middle option of "Neither agree nor disagree" was not available (Statistics Café, 2011). The questionnaire consisted of two parts, namely questions to determine the demographic profile of the respondents (Section A), and the Survey Questionnaire (Section B). The questionnaire is included in Annexure A.

3.5 Demographical profile of respondents

Figure 7: Demographical profile of respondents



Of the 32 respondents that completed the survey, 84% were in a managerial positions while the other 16% of the respondents were staff members working with customers. The respondents are experienced people working in selected business schools of South Africa. Due to the respondents being mainly in managerial positions with most of them having more than 10 years of experience (66%), it can be concluded that the demographic profile of the sample used in this study was representative of the population (see Figure 7).

3.6 Empirical study results

Table 1 displays all the frequency analyses, descriptive statistics, reliability and internal consistency of the constructs, with an accepted or good reliability. Table 2 displays all the frequencies and descriptive statistics of individually constructs/questions analysed because it showed a low Cronbach's alpha coefficient when grouping together. The constructs and individual constructs/questions were tested using the SAS (2012) software package and are discussed below.

3.6.1 Reliability and internal consistency

Reliability occurs when an instrument measures the same thing more than once and results in the same outcome which indicates stability or consistency (De Vos *et al*., 2011:172). The coefficient Cronbach's alpha is a measure of internal consistency - that is, how closely related a set of items are as a group. This coefficient shows how all the items in the measurement are used to test the same attribute (Welman *et al*., 2012:147). Cronbach's alpha is not a statistical test, it is a coefficient of reliability or consistency. Cronbach's alpha can be written as a function of the number of test items and the average inter-correlation among the items (IDRE, 2014).

To establish the Cronbach's alphas for the study the constructs will be analysed and this was done by using the SAS (2012) software package. This values are tabulated in Table 1.

3.6.2 Discussion of statistical results

Demand (Construct 1) displayed good reliability ($\alpha = 0.87$) and from the results from Questions 1-2, with a mean of 1.81 and a standard deviation of 0.69, it confirms that in the information era as described in the literature study, there is much pressure from both customers and selected business schools of South Africa for information. *Technology currently using* (Construct 2), with a mean of 2.53 and a standard deviation of 0.94, displayed a good reliability ($\alpha = 0.87$). Although selected business schools more likely agreed (Question 3, with a mean of 2.44 and

a standard deviation of 1.08) that an enterprise IT system was used to store customer data, the majority confirmed that social media is not used to store customer information (Question 4, with a mean of 2.63 and a standard deviation of 1.04).

The majority of the respondents confirmed from Questions 6-7, with a mean of 1.63 and a standard deviation of 0.92, that the use of IT is a current (81.25% or 26) or a future (84.38% or 27) strategy for CRM. The reliability of this construct, *Business Strategy* (Construct 3), was very good (α = 0.95).

Value of customer resources (Construct 4), has an acceptable Cronbach's alpha (α = 0.75), and from the answers to Questions 8-10, 32, with a mean of 1.43 and a standard deviation of 0.40, the use of customer resources to maintain and expand mutually beneficial relationships and to gain new customers by the management of customer resources are confirmed. This is also supported by the literature review in Chapter 2.

Corporate asset (Construct 5) displayed good reliability (α = 0.83). Questions 12-15, with a mean 2.42 and a standard deviation of 0.71, confirm that there is not a vast majority of selected business schools in South Africa that valued customer data just like any other corporate asset. From the answer to Question 13, with a mean of 2.03 and a standard deviation of 0.90, the study confirmed (72% or 23) that the value and critical importance of customer data is admired when it comes to business well-being. *Big data* (Construct 6) displayed an acceptable reliability (α = 0.70). Response to Questions 25-27, 33-34, with a mean of 1.74 and a standard deviation of 0.38, confirms that big data creates opportunities to create better customer relationships and could create business value. The response to Question 33, with a mean of 2.22 and a standard deviation of 0.66, (66% or 21) confirms that big data is a disruptor for customer service and from the response to Question 34, with a mean of 2.34 and a standard deviation of 0.65, only 56.25% (or 18) of selected business schools started to invest a great deal in big data technologies in relation to their customers.

From the answers to Questions 29-31, with a mean of 1.66 and standard deviation of 0.51, it can be derived that social media and mobile solutions create better

insights of customers and could lead to the improvement of customer satisfaction and loyalty. This construct, *Customer insights* (Construct 7) displayed an acceptable reliability (α = 0.76). *Management of current knowledge* (Construct 8) displayed an accepted reliability (α = 0.67) and it is confirmed from the answers to Questions 35-38, with a mean of 1.67 and a standard deviation of 0.43, that a knowledge management system is an advantage to customer support.

Collaboration (Construct 9), with a mean of 1.66 and a standard deviation of 0.63, displayed good reliability (α = 0.92) and from both the answers to Questions 39 and 40 (90.6 % or 29) selected business schools in South Africa are more than willing to work together towards solutions supporting mobile devices and social media. Respondents indicated in their answers to Questions 41-43, with a mean of 1.36 and a standard deviation of 0.62, that they acknowledged the new approach of marketing, MRM, as the new way forward to gain competitive advantage in the market. This Construct, *Marketing resource management* (Construct 10) displayed a good reliability (α = 0.96).

The following discussion includes the individual constructs/answers to the questions which are individually analysed. Answers to Question 11, with a mean of 1.91 and standard deviation of 1.06, and Question 20 (97%) indicated that a CRM system should have the ability to provide accurate, timely, and reliable data and information and could be applied effectively to gain a competitive advantage in the market. This is also confirmed by the literature review from Chapter 2.

Respondents indicated in their answer to Question 16, with a mean of 2.94 and a standard deviation of 0.91, that “dark” data is not analysed for business relationships. From the answer to Question 17, with a mean of 2.78 and a standard deviation of 0.75, (66% or 21) selected business schools in South Africa did not overspend for access to external customer information sources. The answer to Question 18, with a mean of 1.34 and a standard deviation of 0.48, displayed that big data will become an advantage doing business in the 21st century.

From the answers to Question 28, with a mean of 1.41 and standard deviation of 0.50, and Question 22, with a mean of 1.34 and a standard deviation of 0.55, social media provides opportunities for selected South African business schools to learn

more about customers' likes, dislikes, plans and opinions and that more and more customer data is gathered from mobile, social, advanced web and client specific information. The answer to Question 23, with a mean of 2.0 and a standard deviation of 0.84, confirmed that an overflow of information about customers causes a significant data problem.

Although from the answer to Question 19, with a mean of 2.41 and a standard deviation of 0.67, that infrastructural and architectural IT components are in place to make customer data accessible, it is clear from the answer to Question 24 (60% or 19) that IT systems are not in place to analyse unused, unstructured data. From the answer to Question 5, with a mean of 3.19 and standard deviation of 1.03, respondents confirmed that cloud technology is not used to store customer data.

Respondents strongly agreed from the answer to Question 21, with a mean of 1.34 and a standard deviation of 0.55, (100% or 32) that successfully merging physical distribution, IT and financial services into one streamlined enterprise, is becoming increasingly challenging. These findings are supported by the literature study in Chapter 2.

Table 1: Cronbach alpha values, frequencies and descriptive analysis of constructs

Q#	Question	N	SA	A	D	SD	Mean	Std
Q-Question, n-Sample size, SA-Strongly Agree; A-Agree; D-Disagree; SD-Strongly disagree; Std-Standard Deviation, α-Cronbach's alpha coefficient								
Construct 1 - Demand: Mean(1.81), Std(0.69), α(0.87)								
Q1	There is much pressure from the business school on alumni to keep their data up to date	32	10	17	5	0	1.84	0.68
Q2	There is much pressure from alumni for information of their business school	32	14	11	7	0	1.78	0.79
Construct 2 - Technology currently using: Mean(2.53), Std(0.94), α(0.74)								
Q3	An IT enterprise system is used to keep alumni data up to date	32	6	14	4	8	2.44	1.08
Q4	An enterprise social software platform is used to keep alumni data up to date	32	4	13	6	9	2.63	1.04
Construct 3 - Business strategy: Mean(1.63), Std(0.92), α(0.95)								
Q6	The use of IT for CRM is part of our current strategy	32	20	6	1	5	1.72	1.11
Q7	The use of IT for CRM is part of our future strategy	32	20	7	5	0	1.53	0.76
Construct 4 - Value of customer resources: Mean(1.43), Std(0.40), α(0.75)								
Q8	It is important to use resources form a current CMR system to recruit more students	32	20	11	1	0	1.41	0.56
Q9	IT is important to increase relationships with customers	32	23	9	0	0	1.28	0.46
Q10	Customer interactions help to maintain and expand mutually beneficial relationships	32	27	5	0	0	1.16	0.37
Q32	CRM2 versus CRM can retain new customers	32	10	17	4	1	1.88	0.75

Q#	Question	N	SA	A	D	SD	Mean	Std
Q-Question, n-Sample size, SA-Strongly Agree; A-Agree; D-Disagree; SD-Strongly disagree; Std-Standard Deviation, α-Cronbach's alpha coefficient								
Construct 5 - Corporate asset: Mean(2.42), Std(0.71), α(0.83)								
Q12	Customer data is managed just like any other corporate asset, building the value of that data into return on investment	32	8	13	9	2	2.16	0.88
Q13	The value and critical importance of customer data are admired when it comes to business well-being	32	10	13	7	2	2.03	0.90
Q14	Customer information is well managed with a well-honed asset management discipline	32	5	11	14	2	2.41	0.84
Q15	The financial value of customer data does not reflect the revenue-generating potential as a source of business	32	2	4	15	11	3.09	0.86
Construct 6 - Big data: Mean(1.74), Std(0.38), α(0.70)								
Q25	Big data CRM2 initiatives will require integration and analysis of both structured and unstructured data to identify customer insights	32	17	13	2	0	1.53	0.62
Q26	Big data creates an opportunity to transform customer data into something business schools can leverage as a business currency	32	22	10	0	**0**	**1.31**	**0.47**
Q27	Customer insights created from big data can be used to derive business value	32	22	10	0	0	1.3	0.47
Q33	Big data is a disruptor for marketing, sales and customer service	32	4	17	11	0	2.22	0.66
Q34	Business schools start to invest a great deal in big data technologies in relation to their customers	32	3	15	14	0	2.34	0.65

Q#	Question	N	SA	A	D	SD	Mean	Std
Q-Question, n-Sample size, SA-Strongly Agree; A-Agree; D-Disagree; SD-Strongly disagree; Std-Standard Deviation, α-Cronbach's alpha coefficient								
Construct 7 - Customer insights: Mean(1.66), Std(0.51), α(0.76)								
Q29	An overview of the customers provides a psycho-graphic view of them that can lead to better predictions about economic behaviour	32	9	18	4	1	1.91	0.73
Q30	Opportunities arise from mobile solutions to expand beyond psycho-graphic information into contextual and location-based information	32	11	17	4	0	1.78	0.66
Q31	Engagement with customers improves satisfaction and loyalty	32	23	9	0	0	1.28	0.46
Construct 8 - Management of current knowledge: Mean(1.67), Std(0.43), α(0.67)								
Q35	A knowledge management system reduces time to answer queries by 20% to 80%	32	6	22	3	1	2.0	0.65
Q36	A knowledge management system reduces customer support costs by at least 25%	32	6	21	4	1	2.0	0.67
Q37	A knowledge management system supports marketing and selling efforts	32	21	10	1	0	1.38	0.55
Q38	Well-trained skilled employees with professional expertise are supporting customers	32	21	11	0	0	1.34	0.48
Construct 9 - Collaboration: Mean(1.66), Std(0.92)								
Q39	Collaboration with other role-players in the market is important to work towards a solution for support on mobile devices	32	13	16	3	0	1.69	0.64
Q40	Collaboration with other role-players in the market is important to work towards a solution for support on social media	32	15	14	3	0	1.63	0.66

Q#	Question	N	SA	A	D	SD	Mean	Std
Q-Question, n-Sample size, SA-Strongly Agree; A-Agree; D-Disagree; SD-Strongly disagree; Std-Standard Deviation, α-Cronbach's alpha coefficient								
Construct 10 - Marketing resource management : Mean(1.36), Std(0.62), α(0.96)								
Q41	A marketing resource management system support more informed and insightful customer interactions	32	22	8	2	0	1.38	0.61
Q42	A marketing resource management system support planning and budgeting around customer segments	32	23	5	3	1	1.44	0.80
Q43	A marketing resource management system determine the best product, channel and pricing mix and align resources accordingly	32	24	7	1	0	1.28	0.52

Table 2: Frequencies and descriptive analysis of individual questions

Q#	Question	n	SA	A	D	SD	Mean	Std
Q-Question, n-Sample size, SA-Strongly Agree; A-Agree; D-Disagree; SD-Strongly disagree; Std-Standard Deviation								
Q5	Cloud technology is used to store customer data	32	4	2	10	16	3.19	1.03
Q11	Resources gained from a CRM system are effectively applied to gain a competitive advantage in the market	32	15	9	4	4	1.91	1.06
Q16	Unutilised or underutilised customer data collected, processed and stored during regular business activities is analysed for business relationships	32	1	11	9	11	2.94	0.91
Q17	Business schools overspend for access to external customer information sources that may not provide sufficient value	32	1	10	16	5	2.78	0.75
Q18	In the era of big data, the disadvantage of not valuing customer data will become more pronounced	32	21	11	0	0	1.34	0.48
Q19	Infrastructural and architectural IT components are in place to make customer data accessible	32	1	19	10	2	2.41	0.67
Q20	A customer management system should have the ability to provide accurate, timely, and reliable data and information	32	25	6	0	1	1.28	0.63
Q21	The challenge of successfully merging physical distribution, IT and financial services into one streamlined enterprise, is becoming increasingly challenging	32	21	11	0	0	1.34	0.48
Q22	More and more customer data are gathered from emerging sources, such as mobile, social, advanced web and client specific information	32	22	9	1	0	1.34	0.55
Q23	An overflow of information about customers causes a significant data problem	32	10	13	8	1	2.00	0.84
Q24	IT is in place to analyse unused, unstructured data	32	3	10	17	2	2.56	0.76
Q28	Social media provide opportunities for a business school to learn more about customers' likes, dislikes, plans and opinions	32	19	13	0	0	1.41	0.50

3.6.3 Validity

According to Welman *et al*. (2012:142) a test is valid if the measure instrument measures what the researcher reasons it does. The measuring instrument measured three components namely: (1) the construct intended; (2) irrelevant constructs; and (3) random measurement error. Construct validity refers to the degree to which inferences can be made from the measures to the concept of a program (Trochim, 2006).

To establish the construct validity, a factor procedure was done by using the SAS (2012) software package. To determine whether a factor analysis was appropriate, Kaiser's measure of sample adequacy (MSA), which gives an indication of the inter correlations among variables, was computed. The MSA value ranges from 0 to 1, reaching 1 when each variable is perfectly predicted by the other variables (Pallant, 2010:184).

Table 3: Factor analysis of constructs

C #	Number of factors	Variance explained	Communalities	MSA
C1	1	88.79	0.89	0.5
C2	1	79.21	0.79	0.5
C3	1	95.23	0.95	0.5
C4	1	58.12	[0.29, 0.80]	0.68
C5	1	67.89	[0.26, 0.89]	0.67
C6	1	47.34	[0.19, 0.71]	0.70
C7	1	67.44	[0.57, 0.79]	0.63
C8	2•	88.12	[0.76, 0.97]	0.52
C9	1	92.67	0.93	0.5
C10	1	91.92	[0.90, 0.94]	0.77

C-Construct, MSA-Measure of sample adequacy

- Although 2 factors were retained, indicating that C8 could have more than one facet, the decision was made to define C8 as 1 factor because the Cronbach Alpha's value was an acceptable 0.67 and the variance explained if C8 was 1 factor, was still above 50%.

3.6.4 Correlations

Pearson's correlation coefficient provides a global description of the relation between sets of data and it measures of how well the data is related. Often several quantitative variables are measured on each member of a sample. If we consider a pair of such variables, it is frequently of interest to establish if there is a relationship between the two variables or if the two variables are correlated. Variables can be positively or negatively correlated. Positive correlation indicates that when one variable has a tendency to increase, the other variable will also increases and it is vice versa for negative correlations. The most common measure of correlation in statistics is the Pearson correlation or the full name is the Pearson Product Moment Correlation or PPMC. The PPMC shows the linear relationship between two sets of data (Andale, 2012).

Table 4 shows the medium and high correlations between constructs, correlations between constructs and individual constructs/questions, and correlation between individual constructs/questions. Only the correlations with a high positive correlation (0.5 to 1), or with a high negative correlation (-0.5 to 1) and constructs with a medium positive correlation (0.3 to 0.5) or a medium negative correlation (-0.3 to 0.5) are reported (Andale, 2012). Below only the high positive correlations (0.7) are discussed:

There is a high positive correlation between *Technology currently using* (Construct 2) and Question 16. The conclusion can be drawn that with the collection of more and more unutilised or underutilised customer data, IT systems should be used more effectively to process, store and analyse the data. *Business Strategy* (Construct 3) shows a high positive correlation with Question 11 which shows that more resources gained form a CRM system and effectively applied could gain a competitive advantage in the market. It otherwise shows that when IT for CRM is a strategy, an organisation could gain a competitive advantage in the market. *Big data* (Construct 6) and *Marketing Resource Management* (Construct 10) show a high correlation. Big data could create an opportunity to generate more customer insights that could lead to improved marketing.

Table 4: Correlations - Pearson

	C1	C2	C3	C4	C5	Q5	Q11	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q28	C6	C7	C8	C9	C10
C1										0.3			0.3						0.3			
C2			0.5		0.4		0.3	0.7													-0.3	
C3		0.5			0.5		0.7	0.4				0.3				0.4	0.6	-0.3	-0.3	0.4		
C4										0.4		0.6	0.5	0.6	0.5		0.5	0.5		0.4	0.6	0.5
C5		0.4	0.5				0.6	0.6			0.5	0.3				0.4					-0.3	
Q5															-0.3							
Q11		0.3	0.7		0.6			0.5				0.3			-0.3	0.5	0.5		-0.3	0.3		
Q16		0.7	0.4		0.6		0.5														-0.6	
Q17													-0.4								-0.3	
Q18	0.3			0.4								0.3			0.4			0.6				
Q19				0.3	0.5		0.3									0.3						
Q20			0.3	0.6	0.3		0.3			0.3						0.3	0.3					
Q21	0.3			0.5					0.4						0.6			0.4	0.3		0.3	0.5
Q22				0.6								0.4					0.3	0.3		0.4	0.4	
Q23				0.5		-0.3	-0.3			0.4			0.6					0.3			0.4	
Q24			0.4		0.4		0.5				0.3	0.3					0.4		-0.5			
Q28			0.6	0.5			0.5					0.3		0.3		0.4				0.6		
C6			-0.3	0.5	-0.3					0.6			0.4	0.3	0.3				0.5	0.3	0.4	0.7
C7	0.3		-0.3				-0.3						0.3			-0.5		0.5				0.5
C8			0.4	0.4			0.3							0.4			0.6	0.3			0.4	0.4
C9		-0.3		0.6	-0.3			-0.6	-0.3			0.3	0.3	0.4	0.4		0.4			0.4		0.3
C10				0.5						0.3			0.5	0.3	0.3			0.7	0.5	0.4		

C-Construct, Q-Individual construct/question

3.6.5 Effect size between two groups

Effect size measures either the sizes of associations or the sizes of differences. A common measure of effect size is *d*, sometimes known as Cohen's *d*. This can be used when comparing two means, as when you might do a *t*-test, and is simply the difference in the two groups' means divided by the average of their standard deviations. Cohen suggested that *d*=0.2 be considered a *small* effect size, 0.5 represents a medium effect size and 0.8 a large effect size. This implies that if two groups' means do not differ by 0.2 standard deviations or more, the difference is trivial, even if it is statistically significant (Becker, 2011; Walker, 2008).

For the purpose of this study the disciplines from the demographic profile of the respondents were divided into two groups – senior management (Group 1) and middle management together with people working closely with customers (Group 2). The analysis is done on the assumption that the sample was selected randomly. A statistical significance tests, the t-tests, was done using the software package SAS (2012) to yield the *p*-value for independent groups and to show whether the difference between two means are significant. The *p*-value is a criterion of this, giving the probability that the obtained value could be obtained under the assumption that no difference between the population means is true. A small *p*-value (e.g. smaller than 0.05) is considered as sufficient evidence that the result is statistically significant (Becker, 2011; Walker, 2008).

The effect sizes with medium to large effect for differences between two groups of disciplines, senior management versus middle management together with staff members of selected business schools working closely with customers are reported in Table 5.

Table 5: Descriptive statistics and effect size on the demographic profile of the respondents for differences between two groups of disciplines

C# or Q#	Group	n	Mean	Std	*p*-value (when random sampling is assumed)	*d*-value
C1	1	17	1.65	0.63	0.16	0.5^{Δ}
	2	15	2.00	0.73		
Q5	1	17	2.94	1.14	0.15	0.5^{Δ}
	2	15	3.47	0.83		
Q17	1	17	2.59	0.71	0.13	0.6^{Δ}
	2	15	3.00	.076		
Q18	1	17	1.24	0.44	0.19	0.5^{Δ}
	2	15	1.47	0.52		
Q20	1	17	1.12	0.33	0.15	0.6^{Δ}
	2	15	1.47	0.83		
Q28	1	17	1.29	0.47	0.18	0.5^{Δ}
	2	15	1.53	0.52		
C8	1	17	1.54	0.43	0.07*	0.7^{Δ}
	2	15	1.81	0.40		

C-Construct, Q-Individual construct/Question, n-Sample size, Std-Standard Deviation

$^{\Delta}$ Medium effect in practice

* Statistical significant

Table 5 shows that there are no differences of any practical value between the two groups of disciplines, senior management versus middle management together with staff members of selected business schools working closely with customers.

Management of current knowledge (Construct 8) displayed a medium-large effect in practice (*d*-value=0.7) but, with a mean of 1.54 (Group 1) and 1.81 (Group 2), both the groups acknowledged that a knowledge management system is an advantage to customer support.

3.7 Conclusion

In this chapter the results of the empirical research study were presented and analysed. The explanation of the results started with the discussion of the demographic profiles of the respondents. After determined that the respondents from the selected business schools in South Africa were in managerial positions and most of them had more than 10 years of experience, the selection type questions of the survey were analysed and discussed.

Firstly, the results indicated that there is pressure from both the selected South African business schools and their customers for information. The literature study done in Chapter 2 supported these findings and leads to the conclusion that customer data is critical as a corporate asset. Big data is also going to play an important role and will create opportunities in the future for customer relationships.

Secondly, the study showed that enterprise IT systems is used rather than social media to store customer data. Thirdly, the research found that IT is a current and a future strategy for selected South African business schools. Fourth, the value of customer resources to improve customer interactions and expand mutually beneficial relationships as well as to gain new customers by the management of resources was confirmed by the empirical study.

Fifth, although the majority of selected business schools in South Africa valued customer data as a corporate asset, it was not a vast majority and will thus need further attention because respondents confirmed that customer data is of critical importance. Sixth, from the empirical study it is clear that big data was valued and that it creates opportunities to build better customer relationships and could create business value. At the time of the study respondents saw big data as a disruptor for customer services and they had not yet invest in big data technologies.

Seventh, the importance and value of management of current knowledge was confirmed and selected South African business schools were willing to work together towards a solution to use social media and mobile solutions to gain better insights into customers.

Eight, the empirical study confirmed that a MRM system could support customer interactions. Ninth, the importance of IT to get information about customers from existing enterprise systems and social media, analysing and using these resources to get better insights of customers and to align this with marketing to gain competitive advantage in the market, is confirmed by the empirical study.

Lastly, from the study the respondents confirmed that resources from a CRM system could be used effectively to gain competitive advantage in the market and that a CRM2 system could retain new customers.

3.8 Chapter summary

This chapter focused on the research methodology and findings of the empirical study. The procedures and scope of the quantitative research done in this study as well as the sample size and measuring instrument (a questionnaire), were discussed. The demographical profile of the respondents was then analysed and discussed.

The frequency analysis, descriptive statistics, reliability and the internal consistency as well as correlations between selected constructs and individual constructs/questions were tested and argued. Construct validity was tested and discussed. Effect size, known as Cohen's *d*, on the demographic profile of the respondents for differences between two groups of disciplines, was tested using the SAS (2012) software package and discussed.

CHAPTER 4
CONCLUSIONS AND RECOMMENDATIONS

4.1 Introduction

The primary objective to this study was to evaluate the use of a CRM2 system to achieve and sustain competitive advantage in the market by selected South African business schools. In this final chapter conclusions are drawn based on findings from the literature study and results from the empirical research. The conclusions will also include the secondary objectives determined in Chapter 1.

Limitations in the research will also be discussed as derived from the literature study and findings from the empirical research. During the literature review various aspects in support of and contributing to the primary and secondary objectives were discussed and conclusions on those aspects are reached in this chapter.

Lastly this chapter will be used to recommend further research and practical recommendations and conclusions to selected business schools in South Africa.

4.2 Conclusions reached for the primary objective

The primary objective to this study is to evaluate the use of a CRM2 system to achieve and sustain competitive advantage in the market by selected South African business schools. The study investigated how well CRM information is converted by a CRM2 system to create new information resources and how well these resources are developed, used and managed to create new customer relationships to achieve and sustain competitive advantage in the market.

The literature review in Chapter 2 covered an overview of CRM and CRM2 with the focus on the management of customer data. With the use of IT as a strategy, processes and customer interactions support the organisations target to maintain and expand mutually beneficial relationships. Organisations gathered more and more customer data from emerging sources such as mobile, advanced web and client specific information. Chapters 2 and 3 confirmed that social, mobile and cloud information are increasing in volume, velocity and variety and therefore big

data CRM initiatives will become important. The importance of big data CRM initiatives was also confirmed by the empirical study. Organisations need to transform big data sources into insight on customer requirements. From the literature and empirical study it was confirmed that a CRM2 is needed for the management of the growing volume and variety of customer information to improve customer satisfaction and loyalty.

To support the use of a CRM2 system, the importance of IT was confirmed in the literature review. IT is a powerful tool for defining, organising, and building knowledge assets within an organisation. IT systems create the ability for users to use and share relevant information, closely monitor decisions, helps smaller organisations to achieve speed and flexibility while bigger organisations are able to leveraging the power, resources, and control of IT. Although from the empirical study selected business school in South Africa confirmed that infrastructural and architectural IT components are in place to make customer data accessible, IT systems is not in place to analyse unused, unstructured data.

In addition to support the resource approach by organisations for customer services, the literature review and the empirical study confirmed that the management of current knowledge impacts efficiency, customer satisfaction and revenue growth.

4.3 Conclusions reached for the secondary objectives

The secondary objectives identified in Chapter 1 to be realised to achieve the primary objective were:

- To investigate whether or not selected South African business schools effectively utilise a CRM system.

  CRM uses customer information to increases the understanding of how to manage an organisation's relationships with its customers. Today CRM will never just be the traditional system with traditional functions. Chapter 2 confirmed that although organisations now manage and deploy customer information more effectively than ever, it is still not managed with the well-honed asset management discipline that is applied to the organisations' traditional

assets. Chapters 2 and 3 confirmed that CRM is a business strategy that uses IT to provide an integrated view of customers. Although from the empirical results there is not a vast majority of selected business schools in South Africa that valued customer data just like any other corporate asset. Chapters 2 and 3 confirmed that the value and critical importance of customer data is admired when it comes to business well-being and the conclusion can be drawn that selected business schools should do more to use CRM more effectively.

- To investigate if any resource capacity planning is done by selected South African business schools and if they acknowledge the importance of an IT system to manage customer relationship information in order to create business excellence as well as to sustain a competitive advantage.

  The empirical study confirmed that selected business schools are using enterprise IT systems rather than social media to store customer data. Chapter 2 confirmed that organisations need to measure their success from financial, customer, internal and innovation perspectives. Applying HR, IT, and MK services by the use of a CRM2 system will help organisations to do resource capacity planning. From Chapter 3 the value and critical importance of customers are admired by selected business schools of South Africa and the respondents confirmed that to successfully merging physical distribution, IT and financial services into one streamlined enterprise, is becoming increasingly challenging. The respondents also strongly agreed that IT is important to increase relationships with customers.

- To investigate whether selected South African business schools acknowledge the new approach of marketing namely MRM, as the new way forward to gain competitive advantage in the market.

  The literature confirmed that marketing should support customer-centric strategies with fewer resources. MRM applies strategy, process automation and technology that can help marketing teams more effectively and efficiently to apply an enterprise wide CRM strategy. From the empirical study the respondents acknowledged the new approach of marketing, MRM, as the new way forward to gain competitive advantage in the market. From the empirical results there was also a high correlation between big data and MRM that could

create an opportunity to generate more customer insights that could lead to improved marketing.

- To investigate if selected South African business schools could work together to solve the issue of support on mobile devices, the web, and self-service or peer-to-peer support on social networks.

  The literature study confirmed that organisations should work together with their partners on solutions to support mobile devices, the web, and self-service or peer-to-peer support on social networks. Social media, the ubiquity of access to information on mobile devices and advanced search functions continue to shift power to individual and organisation customers. Chapter 2 emphasises the fact that new technology investments will be required to analyse data in all these different channels and business applications should be developed to service a new type of customer. Chapter 3 confirmed that selected South African business schools are more than willing to work together towards solutions supporting mobile devices and social media.

- To determine what the selected South African business schools expect from a CRM2 system in terms of creating a quality professional environment to sustain a continuous relationship with customers.

  From the literature study it is confirmed that a CRM system should have the ability to provide accurate, timely, and reliable data and information and could be applied effectively to gain a competitive advantage in the market. This view of a CRM is also confirmed by the respondents from the empirical results. An important driver for this view can be that the respondents also strongly agree that successfully merging physical distribution, IT and financial services into one streamlined enterprise is becoming increasingly challenging.

4.4 Recommendations regarding the use of a CRM2 system in selected business schools of South Africa

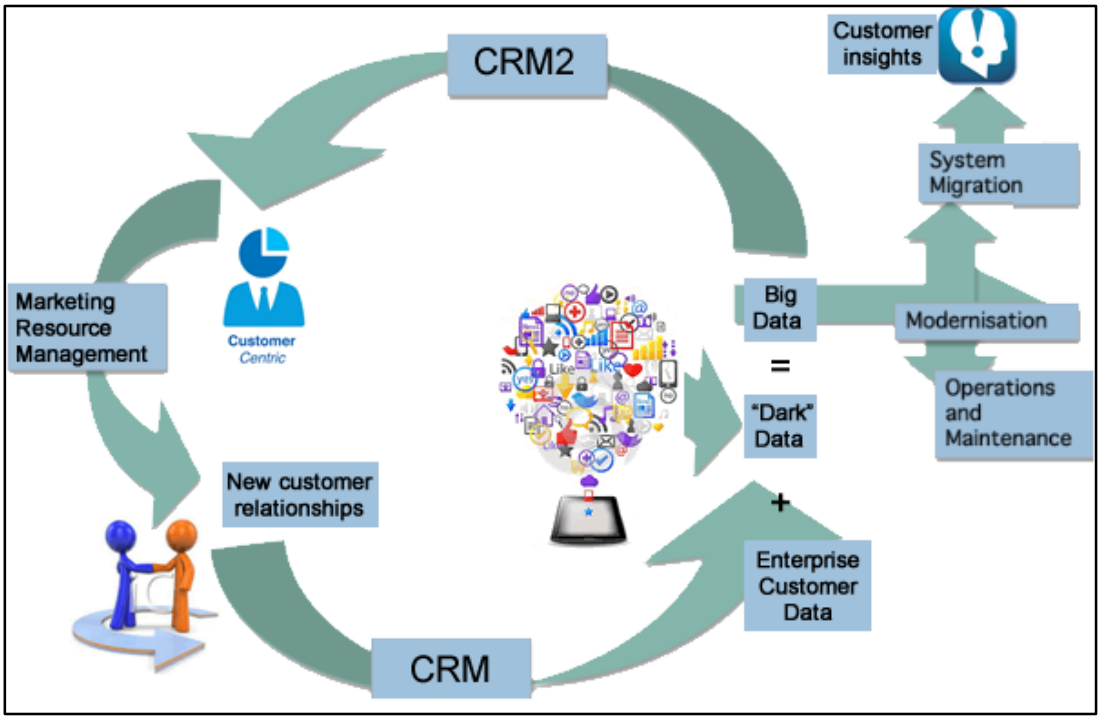
With today's customers who can conduct business anytime, anyplace, selected South African business schools should effectively use IT to support customer relationships. Because of the rapid emerging and collecting of customer data from various locations business schools' IT systems should have the ability to provide accurate, timely, and reliable data and information that can be developed in positive customer relationships that could influence an organisation's performance. The selected South African business schools should value customer information as a critical asset that can create business value.

The selected South African business schools should implement a CRM2 system to support a traditional enterprise CRM system resulting in a positive impact on the performance of the organisation. A CRM2 system can be a powerful tool for defining, organising, and building knowledge assets within an organisation. IT is developing fast and organisations can apply technology to enhance their competence which showed a positive correlation in the customer focused approach.

Together with CRM2, selected South African business schools should use MRM to support more customer centric strategies with fewer resources. CRM2 can develop significant customer relationships and improve an organisation's competitive advantage in the market.

From the research study, a new model of using customer data is depicted in Figure 8. From a CRM system, enterprise customer data is available and together with high volume "dark" data (unutilised or underutilised data) from emerging sources form a big data problem. The use of a CRM2 system to analyse this growing volume and variety of customer information can create better customer insights. The CRM2 system supports marketing efforts that create new business by gaining new customers.

Figure 8: A new model of using customer data



4.5 Limitations of the study

Limitations were found within the literature study as well as the empirical study and will be discussed below.

4.5.1 Literature review

The first key observation is that a Google Scholar search delivered little or irrelevant information on CRM2. There was a limited amount of information available pertaining to the impact of the management of resources and the impact on sustainability and competitive advantage in a market. Google Scholar articles also showed various interpretations regarding the impact of CIM.

4.5.2 Empirical study

The design, sample populations and the correlations tested presented limitations. Due to a lack of CRM2 specific literature and the limited amount of information about the impact of resource management on a competitive market, the

questionnaire was designed from the literature review as seen in Chapter 2 and was a first attempt at testing CRM2 at selected South African business schools.

The sample of the population was limited in terms of the quantity of the possible participants that were approved under the criteria of participations. A further challenge was to get the respondents to participate, because they were geographical spread over South Africa and are people in managerial positions with time constraints.

4.6 Recommended further studies

With the knowledge in hand from this mini-dissertation future research opportunities are:

- Further investigation of CRM2 in other customer related organisations;
- The use of a CRM and or CRM2 system based in the cloud;
- Successful implementation of a CRM2 system in selected South African business schools;
- To investigate the value that unutilised or underutilised data, from emerging sources like social media and mobile solutions, contributes to better customer insights that lead to better business value.
- Investigate if the selected South Africa business schools work together on solutions to support mobile devices, the web, and self-service or peer-to-peer support on social networks.

4.7 Conclusion

Selected South African business schools more likely agreed that an enterprise IT system is used rather than to store customer data on social media. The respondents of the survey agreed that the use of resources from a CRM system is important to gain more students. Unutilised or underutilised customer data from external customer information sources can provide sufficient value to customer

insights and IT is needed to successfully create value for the business schools from all these sources of data – big data. The respondents agreed that a CRM2 system can be useful to support marketing efforts to create new business by gaining new customers.

4.8 Chapter summary

This chapter summarised the findings, conclusions and recommendations of the literature review as well as the survey used in the empirical research. The primary objective was supported by the secondary objectives and within the framework of the results from the literature and empirical studies, conclusions from these preceding activities were derived in Chapter 4.

The conclusions drawn and recommendations made were also done in this chapter. The primary objective, the title of this study, was supported by the secondary objectives. This formed the outline of the literature study that resulted in a measuring instrument. The results of the survey contributed to supporting factors tested in the empirical research.

Conclusions form the literature and empirical research confirmed that the use of a CRM2 system in selected South African business schools can contribute to a competitive advantage in the business school market.

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ANNEXURE A

6.1 Invitation letter

Accredited by Association of MBAs

NWU POTCHEFSTROOM Business School

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
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Dear participant

For the intended research study, as partial completion of an MBA degree, my aim is to collect data to evaluate the use of a customer resource management system at selected business schools in South Africa.

The intended participants are staff employed in business schools of South Africa. Data will be collected by means of a web-based cross-sectional questionnaire and should not take longer than 15 minutes to complete. Click here to access the questionnaire.

Kindly note that participation in the study is entirely voluntarily and your anonymity will be maintained at all times, meaning that the researcher is not able to make a link between information provided by you as participant.

I sincerely hope that you will be able to assist in this study. Thank you for taking the time to consider my request.

Yours sincerely,

Gerda Schilling	Mr JC Coetzee
MBA student	**Study leader**

6.2 Online questionnaire

Customer Resource Management Survey

Section A: Demographic information

The information in this section will be used for statistical purposes only.

1. Please select the appropriate option

Business Unit: *

- ○ Business School
- ○ University/College
- ○ Other

If other, please specify: _____

Discipline: *

- ○ Administration Officer
- ○ Alumni Officer
- ○ Communications Officer
- ○ Dean
- ○ Deputy Director
- ○ Director
- ○ Manager
- ○ Marketing Officer
- ○ Principle
- ○ Program Manager
- ○ Programme Administrator
- ○ Programme Advisor
- ○ Programme Coordinator
- ○ Senior Programme Manager
- ○ Other

If other, please specify: _____

2. Please enter the appropriate years

Total full years of service: _____

Total full years in current position: _____

Section B: Survey questionnaire

Concept list:

Big data is used to describe a high-volume of both structured and unstructured data with high-velocity and high variety of information that is difficult to process using traditional database and software techniques.
Marketing resource management is a set of processes and capabilities designed to enhance a company's ability to arrange and optimise internal and external marketing resources

On a 4-point Likert scale, please indicate, to what extent, do you agree or disagree with the following statements:

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. There is much pressure from the business school on alumni to keep their data up to date	○	○	○	○
2. There is much pressure from alumni for information of their business school	○	○	○	○
3. An information technology enterprise system is used to keep alumni data up to date	○	○	○	○
4. An enterprise social software platform is used to keep alumni data up to date	○	○	○	○
5. Cloud technology is used to store customer data	○	○	○	○
6. The use of information technology for customer relationship management is part of our current strategy	○	○	○	○
7. The use of information technology for customer relationship management is part of our future strategy	○	○	○	○
8. It is important to use resources form a current customer relationship management system to recruit more students	○	○	○	○
9. Information Technology is important to increase relationships with customers	○	○	○	○
10. Customer interactions help to maintain and expand mutually beneficial relationships	○	○	○	○
11. Resources gained from a customer relationship management system are effectively applied to gain a competitive advantage in the market	○	○	○	○
12. Customer data is managed just like any other corporate asset, building the value of that data into return on investment	○	○	○	○
13. The value and critical importance of customer data are admired when it comes to business well-being	○	○	○	○
14. Customer information is well managed with a well-honed asset management discipline	○	○	○	○
15. The financial value of customer data does not reflect the revenue-generating potential as a source of business	○	○	○	○

16. Unutilised or underutilised customer data collected, processed and stored during regular business activities is analysed for business relationships	○	○	○	○
17. Business schools overspend for access to external customer information sources that may not provide sufficient value	○	○	○	○
18. In the era of big data, the disadvantage of not valuing customer data will become more pronounced	○	○	○	○
19. Infrastructural and architectural information technology components are in place to make customer data accessible	○	○	○	○
20. A customer management system should have the ability to provide accurate, timely, and reliable data and information	○	○	○	○
21. The challenge of successfully merging physical distribution, information technology and financial services into one streamlined enterprise, is becoming increasingly challenging	○	○	○	○
22. More and more customer data are gathered from emerging sources, such as mobile, social, advanced web and client specific information	○	○	○	○
23. An overflow of information about customers causes a significant data problem	○	○	○	○
24. Information technology is in place to analyse unused, unstructured data	○	○	○	○
25. Big data customer resource management initiatives will require integration and analysis of both structured and unstructured data to identify customer insights	○	○	○	○
26. Big data creates an opportunity to transform customer data into something business schools can leverage as a business currency	○	○	○	○
27. Customer insights created from big data can be used to derive business value	○	○	○	○
28. Social media provide opportunities for a business school to learn more about customers' likes, dislikes, plans and opinions	○	○	○	○
29. An overview of the customers provides a psycho-graphic view of them that can lead to better predictions about economic behaviour	○	○	○	○
30. Opportunities arise from mobile solutions to expand beyond psycho-graphic information into contextual and location-based information	○	○	○	○
31. Engagement with customers improves satisfaction and loyalty	○	○	○	○
32. Customer resource management versus customer relationship management can retain new customers	○	○	○	○

33. Big data is a disruptor for marketing, sales and customer service	○	○	○	○
34. Business schools start to invest a great deal in big data technologies in relation to their customers	○	○	○	○
35. A knowledge management system reduces time to answer queries by 20% to 80%	○	○	○	○
36. A knowledge management system reduces customer support costs by at least 25%	○	○	○	○
37. A knowledge management system supports marketing and selling efforts	○	○	○	○
38. Well-trained skilled employees with professional expertise are supporting customers	○	○	○	○
39. Collaboration with other role-players in the market is important to work towards a solution for support on mobile devices	○	○	○	○
40. Collaboration with other role-players in the market is important to work towards a solution for support on social media	○	○	○	○
41. A marketing resource management system support more informed and insightful customer interactions	○	○	○	○
42. A marketing resource management system support planning and budgeting around customer segments	○	○	○	○
43. A marketing resource management system determine the best product, channel and pricing mix and align resources accordingly	○	○	○	○