

User-acceptance of Cloud-based Customer Relationship Management

Masterarbeit

Zur Erlangung des akademischen Grades „Master of Science (M.Sc.)“ im Studiengang Wirtschaftswissenschaft der Wirtschaftswissenschaftlichen Fakultät der Leibniz Universität Hannover

vorgelegt von

Name: Knoblich



Vorname: Patrick



Prüfer: Prof. Dr. M. H. Breitner

Hannover, den 30.09.2019



in cooperation with:

VOLKSWAGEN FINANCIAL SERVICES

THE KEY TO MOBILITY

**User-acceptance of
Cloud-based Customer Relationship Management**

by Patrick Knoblich

Contents

Abstract	I
Contents	II
List of Abbreviations	IV
List of Figures	VI
1 Introduction	1
1.1 <i>Relevance and Motivation</i>	1
1.2 <i>Structure and Methodology</i>	3
2 Theoretical Background	6
2.1 <i>Customer Relationship Management</i>	6
2.1.1 The Term of Customer Relationship Management	7
2.1.2 CRM Systems	8
2.2 <i>Cloud</i>	10
2.2.1 Electronic Business	10
2.2.2 Cloud Computing	12
2.2.2.1 The Term of Cloud Computing	13
2.2.2.2 Characteristics of Cloud Computing	13
2.2.2.3 Trends and Development of Cloud Computing	15
2.2.3 Cloud-Service Models	20
2.2.3.1 Infrastructure as a Service	20
2.2.3.2 Platform as a Service	22
2.2.3.3 Software as a Service	24
2.2.4 Deployment Models of Cloud Computing	29
2.2.4.1 Public Cloud	29
2.2.4.2 Private Cloud	31
2.2.4.3 Hybrid Cloud	32
2.2.4.4 Community Cloud	33

3	Cloud-based Customer Relationship Management.....	34
3.1	<i>On-premise Customer Relationship Management.....</i>	34
3.2	<i>Comparison of Deployment Models.....</i>	35
3.3	<i>Cloud Challenges.....</i>	36
3.4	<i>Cloud Compliance.....</i>	38
3.5	<i>Quality of Experience Management for Cloud Applications.....</i>	41
3.6	<i>Benefits of cloud-based CRM systems.....</i>	45
3.7	<i>Case Study Volkswagen Financial Services AG.....</i>	50
3.7.1	<i>Department Digital Customer Relationship Management.....</i>	50
3.7.2	<i>Department Cloud Architecture and Security.....</i>	54
3.7.3	<i>Conclusion Case Study.....</i>	61
4	Valuation of cloud-based CRM.....	64
5	Critical Appraisal.....	66
5.1	<i>Recommendations.....</i>	68
5.2	<i>Limitations.....</i>	70
6	Conclusion and Outlook.....	72
	Bibliography.....	VII
	Appendix.....	XV
	Acknowledgement.....	XX
	Declaration of Authorship.....	XXI

1 Introduction

A short overview about the relevance and motivation of the topic is serving as an introduction to this master thesis.

In addition, the objectives of the present elaboration are presented as well as the structure of the work.

1.1 Relevance and Motivation

“If someone asks me what Cloud Computing is, I try not to get bogged down with definitions. I tell them that, simply put, Cloud Computing is a better way to run your Business.”

- Marc Benioff

The trend of digitalization and automation affects nearly every sector in industry today. Every sector is confronted with this topic and needs to reassess its goals and strategies. Especially all service sectors are forced to adapt its business models. The communication with smartphones and the focus on Industry 4.0 are yet elementary in today's society and business life. Businesses are in demand and need to expand their expertise in this sector. A main reason for this action is the development of ever more complex customer requests. Therefore, a core objective of companies has to be the satisfaction of customer demands. On this basis, factors like costs or time which are closely connected with digitalization, outsourcing or artificial intelligence (AI) should be saved or minimized.

The interaction with customers generates a massive amount of information and data for companies and their employees. Any interaction with a customer is considered as potentially pioneering and should be captured so as not to lose it as a valuable information. In order to gain useful and realizable insights from contact points, a holistic integration of the data from all departments of a company ideally

takes place. CRM is a company-wide business strategy aiming at increasing profitability, the reduction of costs and the reinforcement of the customer loyalty. Nowadays CRM is recognized as a critical success factor (cf. Kirchler et. al., 2009, p. 353).

In order to underline the relevance of CRM in the current business environment, the analysis of changes at societal levels become more important. In the context of this thesis, it is figured out why there is a CRM in almost every company. It is dealt with reasons why there are projects in cross-industries concerning the implementation of CRM systems with costs over multi-million. Additionally, it needs to be clarified whether the promised efficiency in terms of added value by using CRM is then automatically achieved. Furthermore, factors that could possibly prevent this efficiency of use are highlighted.

In today's business and ages of information society, CC is gaining more and more attention and importance for companies. Nearly each company is trying to adapt this technology for its activities. On this occasion it does not matter if the company is big, mid-sized or small. CC basically describes the approach of making IT infrastructure available via a computer network instead of installing them on local servers and computers. Generally, it is an IT infrastructure that can be made available via the internet. As a rule, the cloud includes storage space, computing power or application (app) software as a service.

The cloud technology is becoming popular amongst business. The essential question is which cloud model a company should consider for its activities. It can be chosen between different types of cloud models. The ones that are available in today's market are the public cloud, the private cloud, the hybrid and the community cloud. Advantages and benefits of each model will be discussed in this thesis to support the decision making for companies of which model should be adopted.

In this context an interesting research is the interaction between the two topics of CRM and CC. Regarding this interaction, the user acceptance of cloud-based CRM

systems will be investigated. Companies have to deal with several requirements and restrictions when aiming at the adaption of cloud-based services. Amongst other restrictions, the “Europäische Datenschutz Grundverordnung” (EU-DSGVO) has fundamentally changed the subject of data and data storage for companies. It is important to examine whether cloud-based CRM systems are compatible with the principles of restrictions like the mentioned EU-DSGVO.

Companies in today’s business are working with gigantic amounts of data. In addition, opportunities and risks are to be highlighted and ultimately assessed as to whether a cloud-based CRM has future potential and can also be implemented promptly in enterprises such as the VW FS AG. The questions regarding what added value a cloud-based CRM generates for a company and if it is sensible and secure for an enterprise should also be investigated.

Digitalization is progressing and is currently also a daily topic in the corporate performance at the VW FS AG. In the long term, there is a tendency to store customer data in the cloud, by using cloud-based software and services, rather than on local networks. On the other hand, an adaption and use of cloud-based services are always a matter of acceptance. Various stakeholders need to be considered in this context. Not only customers and internal employee have a significant role, but also supplies and cooperating service providers are important when it comes to acceptance.

1.2 Structure and Methodology

After an introduction to the relevant topic of this master thesis, there will be a closer look on the structure and methodology in the following.

The second chapter is dealing with the theoretical background of the present work and builds the basis for giving an answer to the research question. In this context the focus will be on the two essential topic areas of Customer Relationship Management on the one hand and Cloud on the other hand.

In the context of CRM, the term and definition of CRM will be thematized and furthermore, there will be a detailed look on CRM system and their functions.

In the following, the topic of cloud will be presented. Concerning this, an overview of current developments in today's information society like Electronic Business (E-Business) will be given. Afterwards it is concentrated on CC. With regard to this, the term and characteristics of CC will be illustrated. Furthermore, trends and developments of CC are thematized.

Subsequently the focus will be on the different existing cloud-service models such as Infrastructure as a service (IaaS), Platform as service (PaaS) and Software as a service (SaaS). Connected to the part of cloud-service models it follows a detailed look on the deployment models of CC which are the public cloud, the private cloud, the hybrid cloud and also the community cloud.

When finishing the presentation of the theoretical background, it comes to the main part of this thesis where the topics of CRM and cloud are connected with each other to present the term of cloud-based CRM.

First there will be a close look at on-premise CRM. Afterwards, the different deployment models will be compared with each other and furthermore, challenges of the cloud and the term of cloud compliance will be thematized. Closely connected to challenges of the cloud, the focus in the following will be on the Quality of Experience Management (QoE) for Cloud Applications.

Finally, the benefits of cloud-based CRM systems are presented. The main part of the thesis ends up with a Case Study for the VW FS AG which should serve as a practical example. In this case study there is an examination on whether a cloud-based CRM can get acceptance in an enterprise. Therefore, expert interviews with the significant departments are presented.

In the following fourth part there will be a valuation of cloud-based CRM where all the gained results and findings of the main part will be combined with each other to give an answer to the research question

The fifth chapter is about the critical appraisal of the present work. In this part possible recommendations for action in future and further limitations regarding both this topic and the work with this master thesis will be given.

The content part of the present work ends up in a conclusion and outlook in the sixth section. In this chapter other possible research approaches will be given and there also will be a view on the future regarding to the topic of cloud-based CRM and the connected user acceptance.

The supervision of this work is done in cooperation with the Volkswagen Financial Services Aktiengesellschaft (VW FS AG) in Braunschweig, Germany. The VW FS AG operates and coordinates the financial services activities of the Volkswagen Aktiengesellschaft (VW AG) Group as its wholly owned subsidiary. As a partner of the VW AG Group brands, the central task of the VW FS AG is the promotion of sales and the binding of customers to the products of the VW AG Group.

In a five-month internship, the author of this thesis got to know the processes of CRM and CC in the company of the VW FS AG and gives a recommendation or rating on whether a cloud-based CRM system is accepted. The internship was done in the department “innovation and sales projects” which serves the opportunity to work on innovative topics and projects like cloud-based CRM.

The aim of the present master thesis is to illustrate the importance of CRM and CC in today’s business and finally being able to evaluate, on the basis of the findings and results gained, whether cloud-based CRM systems have future potential for companies such as the VW FS AG. In this context, it will be assessed whether cloud-based CRM systems are useful and feasible for large companies or whether this is more appropriate for smaller companies in the near future.

This thesis examines the user-acceptance of cloud-based CRM and therefore, the following research question is investigated:

Which challenges and risks regarding an effectively use of cloud-based Customer Relationship Management enterprises have to face in order to benefit from Cloud Computing technologies and to generate corporate added values?

2 Theoretical Background

The theoretical background section will build the basis for the main part. Therefore, the issues of CRM and the Cloud will be presented in a detailed way. Firstly, there will be a closer look on the term of CRM and the connected CRM systems.

2.1 Customer Relationship Management

The following section has its focus on the basics of CRM. In order to justify the emergence as well as the necessity of CRM, the environment of companies in times of digitalization needs to be thematized. Furthermore, strategic advantages of using CRM are a central point of the analysis. Adjacent it is shown that CRM is not only a system of hard- and software (cf. Homburg and Sieben, 2000, p. 25). Often CRM is based on the fact that entrepreneurial activities of a company are always connected to its customer. Those customers expect a tangible benefit from the purchase or use of goods and services. Therefore, it is elementary for companies to know its customers.

Companies today are generating huge amounts of data and information when they are interacting with their customers. Every single contact with customers represents a potential to gain new and valuable insights about them. Ideally, the data from all departments of the company can be integrated as a whole. CRM is a

Another limitation during the processing of the present master thesis was that hardly any qualitative textbooks or ranked papers regarding the interaction of cloud and CRM exist. A large part of the literature consists of internet sources. When researching literature, recommendation papers, blogs, statistics and articles from consulting companies or software providers are often found. This underlines the existing research gap regarding cloud-based CRM. Cloud-based CRM is still a new trend in times of digitalization of business. Presumably only in the next years, renowned papers will be developed. It remains questionable whether textbooks will ever exist at all with regard to this dynamic subject area. The business world and corporate activities in times of ICT are changing too fast for this to happen.

Internal company papers from the VW FS AG are not helpful for an objective and scientific analysis of the topic. However, these sources are particularly helpful for the Case Study in Chapter 3, in which the VW FS AG is discussed as a practical example.

The challenge with the existing quality of the literature is to preserve the scientific character of a paper in order to obtain well-founded results.

6 Conclusion and Outlook

In the final part of this thesis, there will be a conclusion and and outlook into the future.

The terms of CC and customer orientation are representing a significant competitive factor for each company. Due to current developments, technologies and trends the market of CRM is changing fast. Companies are animated by emotional marketing activities of SAP or Salesforce to not just handing over CRM systems to the respective IT departments of the company. CRM is way more than just a system which only consists of software with a background hardware. Rather, CRM is a centralized business and corporate approach which has to be pursued strategically

and implemented in all daily operations throughout all levels and hierarchies of the company. If the critical success factors are taken into account, companies are allowing to develop promising strategies in times of data and information floods.

The user acceptance is still a major challenge in many companies. This affects not only the topic of cloud, but especially the term of CRM systems. Employees usually have their own individual methods for collecting and documenting customer data. Often employees are questioning why they should abandon their familiar methods for new ways of working, e.g. new CRM systems. In this context, it is crucial to understand the background behind this resistance. These can include poor data quality and missing management guidelines because a new system without training or guidelines leads to different or even incorrect data entries. If there is no uniformity through clear guidelines, no helpful database can be built in the long run that leads to company progress. Further problems arise for example, because work processes in the CRM system and in the company do not conform or because users are inadequately trained and receive no support from management. The solution of these resistance is essential for a successful and effective use of CRM. If fundamental resistance against CRM is not eliminated within a company, a cloud-based CRM is not even conceivable. In order to be able to use a cloud-based CRM at all, the CRM itself must first function barrier-free in a company, that is the prerequisite.

The successfully performance of companies in future will still depend on the amount, the handling and the durability of its relationship with its customers. Particularly in the current era of digitalization, it is essential for the future success of a company to think innovatively and to adapt useful digital developments like the cloud. Nevertheless, cloud solutions need to be tailor-made for companies against the background of their corporate activities and principles.

Using cloud services in combination with CRM system can provide several benefits. Running CRM software in the cloud is especially rewarding if a company does not have an own IT infrastructure yet or if the enterprise is already operating software through external service providers. Especially for Start-ups and small enterprises

the functionality of the cloud is useful and interesting. The factor of cost transparency is one of the decisive benefits of the cloud. Particularly, Start-ups mostly have a lack of technical know-how and skilled staff which makes it interesting to use cloud-based services and benefit from the advantages. Most cloud licenses are cheaply available which makes it often easier and more transparent to calculate. By using cloud services for CRM activities, revenues and profitability can be optimized.

However, using cloud-based services, e.g. for CRM, can also be attractive for enterprises with the size of the VW FS AG. Significant for the decision of using cloud-based systems is an analysis of costs. If the cloud variant is fitting to the company's requirements, it is possible to calculate costs for introduction, operation or maintenance. Finally, the cloud variant can be compared to on-premise software. If it is cheaper, activities will be outsourced to the cloud. By outsourcing operations, the company benefits from cost savings for maintenance and updates.

In summary, the decision to use a cloud-based CRM system depends inter alia on factors like costs, data security and reliability, and the extent to which the software can be adapted to a company's own processes. In addition, a company has to check whether itself has sufficient know-how to guarantee data security and reliability. In case a company has not, it makes sense to trust a certified cloud provider that is working according country specific guidelines for data security and is yet familiar with the software. Another significant decision feature is the adaptability of the system or software. When it is possible to map a company's process in the cloud as well as on-premise, it is meaningful to use cloud-based systems in times of digitalization.

According to several experts, cloud-based CRM solutions will be definitely more widespread in future. The increasing adoption results from fundamental opportunities of the cloud such as immediate availability, flexible scaling and decisive costs and time savings. The presentation of these advantages illustrates the promising potential of cloud-based CRM. On the other hand, some challenges in connection

with cloud-based CRM are highlighted. One of the main challenges associated with a cloud-based CRM system is the data protection and privacy issue.

Furthermore, the strong dependence to cloud-service provider should also be considered in this context. The business interest in cloud-based CRM services has grown and therefore the number of cloud-based CRM providers has increased over the years, so that customers are benefiting from a broad product range which is providing suitable solutions for nearly every business scenario.

In case enterprises are able to face and solve all of the upcoming challenges and use cloud services effectively in combination with CRM, tailored to a company's needs, there is a huge potential in future to run business in a better way.