

## **Improving online Customer relationships by adoption of new e-CRM practices powered by Cloud based Services**

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### **Abstract**

This paper attempts to establish the significance and association of CRM Consumer Relationship Management and Cloud Computing, examine some reasons that make the organizations paying attention to adopt certain philosophy. It also underlines some problems that Organizations may face to implement from the business strategy standpoint. The paper is a conceptual paper and calls an emerging area of interest. Customer Relationship Management, CRM is an indispensable part of modern business management. As part of CRM strategy, a business might use a database of customer information to help construct a customer satisfaction survey, or decide which new product their customers might be interested in. Customer relationship management symbolize a companywide business strategy taking up all client-facing departments and even beyond that. When an implementation is effective, people, processes, and technology work in sync to increase productivity, and reduce operational expenses. Cloud Computing refers to both the applications distributed as services over the Internet and the hardware and systems software in the datacenters that provide those services referred to as Software as a Service (SaaS). Enterprise spending on SaaS applications is approaching 30% of all application spending, and is currently growing at a 17.6% CAGR and the cloud computing market is growing at a compound annual growth rate (CAGR) of 22.8%. Once the customer relationship management software is in the cloud, it shall free up the organizations from cumbersome admin, data entry, and security updates and allow them to focus on lead generation, closing deals and gaining expertise, streamline and automate the business processes, thereby providing deep analysis and insight into important sales and client data, ensuring greater client satisfaction.

### **Introduction**

Customer relationship management helps companies retain customers and boost the effectiveness of their marketing strategies. The basic guideline for marketing is knowing that it's almost always cheaper to keep a customer than to win a new one. To the marketers who understand this, their job becomes a lot like of a nurturing gardener who's just sewn a fresh crop of seeds. For the marketers, the seeds are the customers they've won. They do the work to make sure each seed or customer has everything they need to flourish. Marketers create a personalized relationship with customers, providing customized service, anticipating and satisfying needs, and going above and beyond whenever possible to delight customers. In the marketer's case, growth is measured by the strength of the relationship between brand or product and customer rather than inches up the lattice. One tool marketers use to achieve this balance is customer relationship management, or CRM. With customer relationship management, marketers nurture

relationships with existing customers through personalized service and identify the most valuable customer relationships to target more direct marketing strategies..CRM ensures that all customers feel like they're receiving quality customer service while identifying the best customers on which to concentrate marketing efforts. The overall goal of customer relationship management is to increase customer retention and maximize the effectiveness of marketing strategies. Since it's crucial to strike a balance between delighting customers and the costs that might come along with that task, marketers often use technology to pinpoint the best customers to apply more elaborate marketing techniques on.

Small-business owners work hard to get new customers, and once they walk in the door, they should do everything you can to make sure they return. Relationship marketing and customer relationship management are two phrases the marketers usually come across to manage and increase the sales. These two can really help to grow the business. Though they're different, implementing both of these concepts can boost to establish mutually beneficial relationships with customers, which in turn leads to long-term repeat business. Some of the techniques businesses use in relationship marketing include providing consistently excellent customer service, understanding the individual, anticipating their future needs, offering discounts and special perks through loyalty programs for repeat customers. The rise of the internet has given small businesses ample opportunity to build relationships and engage with customers by inviting them to visit their websites and comment on blogs, as well as interact on social media sites such as Facebook, Twitter, YouTube and LinkedIn. Whereas customer relationship management through web-based computer systems or software can help businesses organize and provide marketing, sales and customer service assistance.

### **Existing CRM Process**

Every successful marketing enterprise devotes considerable effort to customer relationship management (CRM). Core activities in the CRM process include Customer attainment, Customer retention, Cross selling and up selling, Winning customers lost to competitors, Customer support, Maximizing lifetime value in term of repeat purchase, subscription services etc. Successful CRM is built on two foundations i.e. relevant, timely data and powerful analytical tools. To date, CRM vendors have focused almost exclusively on gathering data to obtain a 360-degree view of a customer. The full value of such rich data stores is realized using modern data mining tools. The data mining tools are capable of discovering patterns in data that expert human quantitative analysts might not find in years of work. These tools can automate many phases of data analysis, radically increasing both the productivity and the accuracy of human researchers. Data mining uses well-established statistical and machine learning techniques to build models that predict customer behavior. Today, technology automates the mining process, integrates it with commercial data warehouses, and presents it in a relevant way for business users. The leading data mining products are now more than just modeling engines employing powerful algorithms. Instead, they address the broader business and technical issues, such as their integration into today's complex information technology environments. Rather than randomly contacting a prospect or customer through a call center or sending mail, a company concentrated its efforts on prospects that were predicted to have a high likelihood of responding to an offer. More sophisticated methods were used to optimize resources across campaigns so

that one may predict which channel and which offer an individual is most likely to respond to — across all potential offers. Data clustering was also used to automatically discover the segments or groups within a customer data set. Businesses employing data mining could see a return on investment, but also they recognized that the number of predictive models could quickly become very large. Rather than one model to predict how many customers would churn, a business could build a separate model for each region and customer type. Then instead of sending an offer to all people, who were likely to appear on the search, it might only want to send offers to customers. And finally, it could also want to determine which customers were going to be profitable over a window of time and only send the offers to those that were likely to be profitable. In order to maintain this quantity of models, they needed to manage model versions and move to automated data mining. The automated, future-oriented analyses made possible by data mining move beyond the analyses of past events typically provided by history-oriented tools such as decision support systems. Data mining tools answer business questions that in the past were too time-consuming to pursue. Current CRM solutions focused primarily on analyzing consumer information for economic benefits, and very little touched on ensuring privacy. As privacy issues become major concerns for consumers, surely an integrated solution that streamlines and enhances the entire process of managing customer relationships will become even more necessary.

### **Introduction of Cloud Computing**

Cloud computing is a type of computing that relies on sharing a pool of physical and/or virtual resources, rather than deploying local or personal hardware and software. It is somewhat with the term 'utility computing' as users are able to tap into a supply of computing resource rather than manage the equipment needed to generate it themselves. Cloud technology allows for the automatic provision and de-provision of resource as and when it is necessary, thus ensuring that the level of resource available is as closely matched to current demand as possible. This is a defining characteristic that differentiates it from other computing models where resource is delivered in blocks (e.g., individual servers, downloaded software applications), usually with fixed capacities and upfront costs. With cloud computing, the end user usually pays only for the resource they use and so avoids the inefficiencies and expense of any unused capacity. The advantages of cloud computing are not limited to flexibility. Enterprise can also benefit from the economies of scale created by setting up services en masse with the same computing environments, and the reliability of physically hosting services across multiple servers where individual system failures do not affect the continuity of the service.

Cloud computing encompasses a number of different services. One set of services, sometimes called software as a service (SaaS), involves the supply of a discrete application to outside users. The application can be geared either to business users (such as an accounting application) or to consumers (such as an application for storing and sharing personal photographs). Another set of services, variously called utility computing, grid computing, and hardware as a service (HaaS), involves the provision of computer processing and data storage to outside users, who are able to run their own applications and store their own data on the remote system. A third set of services,

sometimes called platform as a service (PaaS), involves the supply of remote computing capacity along with a set of software-development tools for use by outside software programmers.

Cloud-computing companies either charge users for their services, through subscriptions and usage fees, or provide free access to the services and charge companies for placing advertisements in the services. Because the profitability of cloud services tends to be much lower than the profitability of selling or licensing hardware components and software programs, it is viewed as a potential threat to the businesses of many traditional computing companies.

Construction of the large data centres that run cloud-computing services often requires investments of hundreds of millions of dollars. The centres typically contain thousands of server computers networked together into parallel-processing or grid-computing systems. The centres also often employ sophisticated virtualization technologies, which allow computer systems to be divided into many virtual machines that can be rented temporarily to customers. Because of their intensive use of electricity, the centres are often located near hydroelectric dams or other sources of cheap and plentiful electric power.

Because cloud computing involves the storage of often sensitive personal or commercial information in central database systems run by third parties, it raises concerns about data privacy and security as well as the transmission of data across national boundaries.

### **Cloud Computing & CRM**

The future of customer relationships depends more on context than transactions. This trend is really speeding up, driven by the integration of social media into customer relationship management (CRM), swift returns in usability of CRM and integration applications, and the global growth of the API economy. Growing a clear, context-based view of customers isn't easy. Fine-tuning system integration to understand the traces of customers, gain greater insights and infusing customer intelligence through a company requires more than APIs and cloud platform integration. It requires a strict strategy of integration to line up customer data to ongoing strategies. The bottom line is that customer-driven integration is reshaping CRM and will speed up as cloud platforms, combined with APIs, reorganize the customer relationship landscape. There are a many new cloud services and platforms to choose between an established, proven vendor or taking a chance as an early adopter of something new.

When we look at the enterprise software space and how it is still very challenging to integrate the data across these applications. There are so many new technology stacks and platforms out there and the old ones aren't going away either. APIs are a logical framework for people to access, share, and integrate data regardless of where it lives or how it's stored. This is very important for CRM. There is a lot of talk about the 360 degree view of the customer but the reality for most businesses is that actually getting all that data is still difficult and not standardized. If you've got a lightweight API to access any number of customer data points in and outside the business, CRM would be more a framework and platform to select and mash up those data feeds in a

tailored presentation for particular roles in your business – sales, support, marketing, etc.

### **How does cloud computing serve CRM needs?**

As the most comprehensive and the most advanced model of Cloud Computing is considered the SaaS model. This model provides complete functionality to address specific needs of companies. Although the most typical applications using a model of Cloud Computing include e-mail or other communication tools such as web, video or office suite, this SaaS model is currently the best approach to automation for Customer Relationships Management through CRM systems. Given that CRM is tied directly to servers or personal computers and is available on the Internet users need only a web browser to be able to utilize the full functionality. This means that users of CRM can achieve full productivity even when they are travelling at business way and business processes become more mobile. Cloud computing means we can bypass the expense and complication of implementing and maintaining our CRM solution. We simply log on to Cloud Based CRM Solution with our web browser, much like social media sites or internet based email accounts. It allows us to effectively cut costs in terms of our IT overheads and increase revenue by being able to use a CRM solution that will empower us to boost sales, increase marketing return on investment and provide our customers with pre-eminent service.

### **Benefits of using a cloud based CRM Solution**

- a. Low initial investment  
Cloud Based CRM Solution offers cloud computing with a low initial investment, in contrast to traditional CRM software which needs to be bought with the additional hardware and employee resource required to run it.
- b. Cost efficient  
Using a cloud provider for our CRM means we don't need to pay for a large amount of software features that we don't need. Cloud Based CRM Solution has various payment plans, allowing us to start with a basic package and roll out more services as our business grows and needs a more functionality in its CRM solution.
- c. Reduced IT Expenditure  
Cloud Software's cloud computing services can be hosted by one of our trusted partners, so there's less need for us to have our own servers, software and dedicated IT support staff, which can reduce our overheads.
- d. Flexible working  
Cloud Based CRM Solutions are accessed securely through a web browser giving us and our staff access to vital business information anywhere, anytime, from any computer (MAC, PC or mobile device). This makes implementing a flexible, mobile working system much more simple.
- e. End data back-up concerns  
All the data you enter into cloud based system will be looked after, so we don't need to worry about having to back-up the data on our computer in case it is lost, damaged or stolen as our data will be stored in specialist data centres.

f. Time Saving

By operating in the cloud we free up our IT resources to concentrate on more important tasks than running our CRM system. The solution also unburdens our system with weighty data storage, lengthening its life and saving on overheads by avoiding idle system costs.

g. Experience an effortless service

Using cloud computing to access our CRM system means hassle free upgrades as the Software installs them without interruption to the service.

### Important Concerns about Cloud Based CRM Solutions

Security of data is the number one concern of potential hosted CRM solution consumers. Not being able to physically possess the storage of their own data means they must rely on the provider to keep their data safe. Cloud Software hosts highly confidential and vital data for some of the top financial, medical and industrial organisations in the world because reliability and security form the basis for all the CRM software.

Another concern with cloud based CRM solutions is the possible loss of data which can occur if a cloud provider goes out of business. If your CRM system is being hosted by a provider which goes bust, then your data can be at risk. This depends on a number of factors, the most important of which is whether the cloud provider offers an escrow agreement or an arrangement to that effect. This means that the data can be accessed directly in the event of the provider going out of business.

The migration of data to the cloud, from the cloud or between cloud services can be problematic in some instances. This is due to compatibility issues between differing operating systems and applications. Cloud based CRM solutions are usually compatible with Microsoft Excel® and have various advanced import and export features making the problem of having your data stuck in one place a thing of the past. Cloud based CRM allows the user to customize various aspects of their system. This gives users various possibilities to adapt and mould their CRM system to uniquely fit them and their needs. For example, differing security levels can be put in place, so private and confidential information entered by the users can be made only viewable by certain parties. In addition, portals can be made available for external parties to the organisation to view, edit and download certain information on the CRM system.

### Is the cloud right for your CRM system needs?

The cloud could be a great solution for the CRM solution if You are a small-medium sized company When the number of CRM system users reaches over 100, it could make more financial sense to have an on-premise CRM solution. However, if you have a smaller number of users you could cut costs substantially by choosing Live CRM solution, as it won't be requiring running servers and paying in house IT staff. By moving the CRM solution to the cloud we have the ability to access it from anywhere at any time via the internet. Cloud based solutions are highly versatile, having been especially designed to operate in a reliable and user friendly way on smart phones, computer tablets and other mobile devices, making our CRM truly accessible. We can

ensure the return on investment of our CRM. Cloud based CRM may offer a low monthly subscription which we can increase to include more functionality, as and when we need it. This means we aren't paying for any features we don't use and we can expand the features and number of users at any time. CRM's cloud options offer us the functionality of an expensive on-premise solution without the headaches and price. The software partners handle any technical issues, leaving us to simply use the CRM solution to grow our business.

### Conclusion

For companies that are using computer support for Customer Relationship Management (CRM) Cloud Computing is a way how to use it as their advantage. With the SaaS model are offered a suite of software that the user selects according to the needs of company's business strategy. Cloud Computing allows to combine software applications and storing data with much bigger computing capabilities than many companies can afford. This form of CRM allows companies to pay a monthly fee and therefore it is cost effective. Cost reduction, flexibility and convenience are often the main factors that lead the companies to CRM and other software applications transposed into the Cloud Computing. Once this solution occurs often it is found that Cloud Computing offers a competitive benefits and new strategic opportunities for greater innovation. From the study of selected companies it showed that the current trend is for small and medium-sized companies to go for Cloud based solutions rather to purchase CRM at once and as ready software solutions. Large companies are already using CRM one of parts of services being provided through Cloud Computing technology. Whether and how much the small and medium-sized companies save on their costs if they transferred the existing IT structure, including CRM software, to Cloud Computing will be the subject of further research.

### References

- [1] W. A. Sherden, Market ownership: the art & science of becoming# 1, New York: American Management Association, 1994.
- [2] P. Kotler and G. Armstrong, Principles of Marketing, 9th edition. Englewood Cliffs, Prentice-Hall Inc, NJ, 2008.
- [3] K. C. Laudon and J. P. Laudon, Essentials of management information systems, Upper Saddle River: Pearson, 2011.
- [4] M. Cusumano, Technology strategy and management cloud computing and SaaS as new computing platforms, Communications of the ACM 53, 27-29 (2010).
- [5] A. DeFelice and J. C. Leon, Cloud computing what accountants need to know, Journal of Accountancy 210, 50 (2010).
- [6] J. M. Kaplan, Saas: Friend or for, Business Communications Review 37, 48-53 (2007).
- [7] G. Armstrong and P. Kotler, Principles of Marketing, Pearson College Div, 2011.
- [8] F. Buttle, Customer relationship management concepts and technologies, Routledge, 2009.
- [9] R. K. Rainer and C. G. Cegielski, Introduction to information systems: Enabling and transforming business, John Wiley & Sons, 2010
- [10] S. Marston, L. Zhi, S. Bandyopadhyay, J. Zhang, A. Ghalsasi, "Cloud Computing: The Business Perspective," Decision Support Systems 51 (2011), pp. 176–189.
- [11] V. Kumar, W. J. Reinartz, "Customer Relationship Management-A Database Approach," John Willey and Sons Inc., USA, 2006.
- [12] A. Brink, A. Berndt, "Relationship Marketing and Customer Relationship Management," Juta and Co

- Ltd., Pinetown Printers, South Africa, 2008.
- [13] M. Armbrust, A. Fox, R. Griffith, A. Joseph, R. Katz, A. Konwinski, G. Lee, D. Patterson, A. Rabkin, and I. Stoica, "Above the clouds: A Berkeley view of cloud computing," EECS Department, University of California, Berkeley, Tech. Rep. UCB/EECS-2009-28, 2009.
  - [14] M. N. Huhns and M. P. Singh, "Service-Oriented Computing: Key Concepts and Principles," IEEE Internet Computing, vol. 09, pp. 75 - 81, 2005.
  - [15] I. Foster and C. Kesselman, The Grid: Blueprint for a New Computing Infrastructure: Morgan Kaufmann, 1998.
  - [16] Y. Chen, V. Paxson, and R. Katz, "What's New About Cloud Computing Security?," 2010.
  - [17] A. Leinwand, "The Hidden Cost of the Cloud: Bandwidth Charges," <http://gigaom.com/2009/07/17/the-hidden-cost-of-the-cloud-bandwidthcharges/>, 2009.
  - [18] J. Gray, "Distributed computing economics," ACM Queue, vol. 6, pp. 63-68, 2008.
  - [19] M. May, "Forecast calls for clouds over biological computing," Nature Medicine, vol. 16, p. 6, 2010.
  - [20] M. Nelson, "Building an Open Cloud," Science, vol. 324, p. 1656, 2009.
  - [21] B. Sotomayor, R. Montero, I. Llorente, and I. Foster, "Virtual Infrastructure Management in Private and Hybrid Clouds," IEEE Internet Computing, vol. 13, pp. 14-22, 2009.
  - [22] T. Harmer, P. Wright, C. Cunningham, and R. Perrott, "Provider Independent Use of the Cloud," in The 15th International European Conference on Parallel and Distributed Computing, 2009, p. 465.
  - [23] "Unified Cloud Interface Project," <http://code.google.com/p/unifiedcloud/>.