Check for updates

Development and architecture of Customer Relationship Management on Predictive Analytics in Smart Utilities Based

Jyoti Prakash Rath [1] , Dr. J. Halder [2]

1. PhD Student, Sunrise University, Alwar, Rajasthan, India ,
2. Professor, Deptt.of MGT. PhD Guide, Sunrise University, Alwar, Rajasthan, India

Abstract: The study's scope is restricted with regard to the topics that are covered, the locations thatare covered, and the analyses that are covered. Given that the researcher's focus was on customerrelationship management, which is just one aspect of the marketing process, the topical scope of thestudy was therefore constrained. Again, concentrating on a few of the numerous units that make uporganisations in an area couldn't disclose any more details about the research. The research is focusedon the Smart Utilities based on Predictive Analytics, and because the consumers of the business aredispersed in the various areas, the geographical scope of the study is restricted because of this. Anotherconstraint of the study is its geographical or regional scope. There is also an analytical restriction to theresearch, which is that the proposed customer engagement methods are only supplied when theemphasis is focused on the predefined goals. It was also observed that customer relationshipmanagement is the most neglected activity in many organizations, which should be given prime attentionto meet the contemporary challenges in Smart Utilities based on Predictive Analytics. Therefore the needis to make in-depth study of how the relationship aspect will affect the growth profitability for the firms to what extent this requires an in-depth study of the subject entitled with intention to make acomprehensive study of customer relationship management in Smart Utilities based on PredictiveAnalytics.

Keywords: CRM, Smart utilities, Predictive analysis

- X -

INTRODUCTION

The global economy has been profoundly reshaped as a result of the combined effects of a number of factors, including the influence of information technology, constant connectivity made possible by the internet, as well as the liberalisation, privatisation, and globalisation policies implemented by various governments. The digital revolution has conferred a whole new set of powers not just on businesses, but also on their individual consumers.

The convenience with which clients may acquire information about different items, their characteristics, the price ranges given by rivals, etc. is the primary advantage that the company provides for its customers. They are able to get this information simply utilising the internet, which eliminates the need for them to physically go to the shops. The second aspect has to do with the availability of a wider choice of products and services as well as the simplicity with which they may be ordered. Customers may place orders for these products on the websites of the respective firms from any location in the globe, and they will have the items sent to the address of their choice. Customers are becoming more aware of the advantages of making purchases of products and services via electronic channels, and this phenomenon is being seen in both developed and developing nations alike, such as India. Customers in today's market have the opportunity to

obtain a vast quantity of information that is relevant to any topic that may be of interest to them. Customers also have the ability to compare goods and services by utilising the information that is accessible on the internet. this capability is open to them. As a consequence, the consumer is now in a position of more agency [1].

On the other hand, businesses have also been forced to go through significant change as a consequence of the issues outlined above. When it comes to informing consumers about their companies and the goods they provide, businesses now have access to highly effective new information and sales channels that have expanded geographic reach. Because of the Internet, businesses are now able to communicate unlimited amount of information to their channel partners as well as their consumers. It is possible for customers to make purchases directly from the company's website. It is possible for businesses to get a wealth of information on customers, prospects, and markets. Even market research may be carried out via the use of the internet. The personnel of the company might utilise the internet to acquire new knowledge, seek guidance, and other purposes. Through the use of the internet as a communication channel, modern businesses are able to engage in direct dialogue with their clientele. Businesses have the ability to tailor their product and service offerings to the specific requirements of particular clients. They also have the capability of developing extensive client database systems by using the information that is gathered over the internet. When it comes to transmitting and receiving information, orders, and payments between businesses, business partners, and consumers, the internet offers a method that is both more affordable and more expedient [2].

Companies that had previously functioned in an environment that was almost monopolistic are now facing intense levels of competition as a direct consequence of government policies that include opening the economy, privatisation, and other such practises. As new competitors entered different markets, those already established in those markets began to experience a sense of insecurity as a result of the new competitors' aggressive marketing of their goods and services. As a consequence of this, a dynamic scenario has emerged in which businesses are forced to compete with one another in an aggressive manner for the purpose of ensuring their continued existence and expanding their operations. The end outcome of this situation is that the client now has more options to choose from. The consumer does not have to rely on a single business or organisation to fulfil his requirements. In point of fact, due to the fact that dynamic competition has resulted in the customer being able to switch over to any organisation of his choice, the moment he feels dissatisfied with the products or services of his current organisation [3, the customer now has the ability to switch over to any organisation of his choice.

In this particular case, the expectations of customers have also begun to shift. Even if the quality of the items and other factors that affect customer happiness stay stable in the future [4], a customer's contentment in the present cannot be assumed to carry over into the future with that customer. This phenomenon arises as a direct result of the steadily rising expectations of consumers over the course of a certain length of time. Consequently, one of the most important aspects of operating a successful corporate organisation is effectively managing the expectations of one's customers [5]. This change would assist them with accomplishing primary concern business benefits by holding the most productive customers. There are dynamic endeavors to build up a relationship-arranged model of activities zeroing in on customer-driven administrations. Building a strong relationship with our customers is now the most difficult challenge that

our organisations must overcome since, without it, all remaining efforts to achieve operational excellence are pointless. Through the services they provide, the organisations need to ensure that their consumers will continue to do business with them. This is due to the fact that a substantial chunk of pay for a large section of the associations comes from current customers, rather than from new consumers [6]. In other words, existing customers pay more than new customers do.

When properly carried out and integrated, customer relationship management (CRM) solutions have the potential to contribute significantly to an increase in overall customer satisfaction levels. Customers may have better interactions with multiple trade channels thanks to the use of information warehousing, which can assist improve such interactions. This is due to the fact that information warehousing brings together under one roof all of the transactions that come from different channels. Information mining provides associations with assistance in examining and measuring the designs and behaviours of consumer interactions. This may be of tremendous aid in increasing the quality of support provided and finding new opportunities for company [7].

Private organisations have always held the perception that they are very "Customer Centric," providing high-net-worth customers with what they consider to be highly individualised services. On the contrary public sector organizations have snapped out to their traditional Smart Utilities based on Predictive Analytics system & are finally spending huge amounts on computerization & IT infrastructure discovering their private competitors using technologies to gain large clients, public sector organizations are determined to strengthen their eroding customer base [8].

The wealthier the consumers, the more demanding they are, and customers expect ever-increasing levels of service from their companies, including an understanding of what their wants and needs are so that the company may be structured to meet those requirements [9]. An organised approach to customer relationship management (CRM) provides the organisation with a number of benefits, including a personalised and dependable experience for the customer, a distinct identification of the authoritative, mechanical, and measurement-related abilities, and a prioritisation of these capabilities. Which were item and exchange arranged, zeroed in on discrete instead of consistent exercises. Today, monetary organizations can presently don't depend on these serious relationships or set up showcasing strategies to pull in and hold customers. As business sectors separate into heterogeneous fragments, an all the more decisively focused on advertising method is required; this makes a discourse with more modest gatherings of customers and recognizes singular necessities [10].

Additionally, before the Internet insurgency, purchasers to a great extent chose their associations dependent on how advantageous the area of associations branches was to their homes or workplaces. As a direct result of this, the client base of associations has grown, and as a consequence, so have the options available to consumers for selecting organisations. The current situation, in addition to the compelling considerations posed by competitive and dynamic business sectors, has contributed to the growth of CRM in the financial services industry. There aren't very many reasons behind why you should hang on to the customers [11].

· Customer stays faithful for longer time

· Buys more as the associations presents new administrations and updates existing administrations

· Talks well about the associations and its administrations

· Pays less thoughtfulness regarding contending brands and promoting and are less delicate to cost.

· Acquiring new customers can cost multiple times more than the expense associated with fulfilling and holding existing customers due to reutilized exchanges [12].

In the new context of globalization every organization is aggressively trying to tap new customers thereby serving existing customers in the best possible way. Brand image & word –of- mouth proves to be powerful tool to establish the first contact with organization. Customers spread positive word of mouth only when they establish trust, trust in turn is built up through a strong & well recognized brand. Thus, the vicious circle of referrals being the function of brand image & brand image being the referrals continues [13].

The corrective actions are already being developed, and more and more Indian businesses are coming to terms with the reality that the cost of obtaining a new client is far more than the cost of keeping the customers they already have. An business may not only attract and keep consumers by establishing and executing strategies for managing customer relationships, but it can also win back clients that it has already lost. Therefore, identifying potential customers, treating them according to the service level that they deserve, tracking and recording the details of transactions for further reference through the supply chain and other modes of intermediaries, an enterprise has to introspect customer relationship management and set business policies and procedures that are designed to create and grow long term –relationships, which is the foundation of competitive advantage, growth, and profitability. As a result, the researcher has decided to focus their attention on the study with the title "A Comprehensive Framework for Customer Relationship Management in Smart Utilities based on Predictive Analytics" [14].

As managements work harder to live up to the expectations of stakeholders, there will be an increase in the number of mergers and acquisitions. The establishment of four to five Indian organisations of world-class calibre may result from this. As corporations look for ways to differentiate themselves from competitors, we may witness the rise of some national organisations operating on a global scale as well as a number of regional players. On this background it is necessary for someone to do & identify in depth study to identify & focus on functioning on CRM in Smart Utilities based on Predictive Analytics. With this view the present study entitled has been undertaken for further research work [15]. This study is arranged as follows: in part 2, the literature review is detailed; in section 3, the research technique is explained; in section 4, the results and discussion are analysed; and in section 5, the final conclusion and future work are discussed.

LITERATURE REVIEW

The review of literature provided the road map to identify that how organizations formulate their strategies for evaluating the customer relationship effectiveness & how their strategies varies with nature & age .extant literature is reviewed from several sectors as follows.

In [11] relationships are about the connections individual parties share and the influence of the connection on the individual. As we have entered 21st century, we see that there is a paradigm shift in the approach

and strategies of modern service firms towards their customers. Retaining and sustaining customer loyalty in today's hi-tech competitive market is really an essential challenge for the service firms. Moreover a business makes money only if it satisfies its customers by catering to their needs. This insight has motivated business firms to adopt a customer culture. From research it is found that attracting new customers is difficult and costly as compared to keep a current or already existed customer satisfied. So, companies realized this fact and hence focused on retaining the existing customers.

In [12], a relationship between two parties cannot be maintained if either party is unable to get benefits from it. Value sharing among participants is equally important for relationship longevity. In addition to above, customer value is considered as a key driver of customer satisfaction and loyalty. And the capability of an organization to offer better-quality services to the customers is considered as most successful competitive strategies. Hence, the focus of business strategy for organizations is shifting from profit maximization and shareholder value, to creating customer value [13].

In [14] defines customer perceived value as a transaction between the quality they perceive and the sacrifice they perceive through payment. Moreover it is the ratio between perceived benefits and perceived sacrifice.

In [15] In view of that, CPV is the assessment of pre-purchase expectation and post-purchase perception. In the present highly competitive market and times of changing customer value, it is exceptionally intricate to retain customers on a long– term basis. Therefore, a special bond through regular communication has to be developed to capture the heart and mind of the customer. And this is only feasible through relationship marketing also commonly referred as „customer-focused management‟. Therefore the worth of customer relationship marketing in an organization, highly dependent on the usefulness of customer value creation through firm bonding. Furthermore, though loyalty and relationships are not interchangeable; relationship marketing keeps the link between the company and customers intact and this at least gives a chance to the firm to convert a customer to a loyal one. Thus, the main challenge for an effective relationship marketing programme is to convert a transaction oriented relation to an emotionally connected loyalty.

In [16] "The goal of every firm should be to first gratify a client and then work to keep that customer happy." Despite the fact that the only mission of a commercial entity is to maximise profits Drucker maintained that "money is merely a necessary; not an aim" in his writings and speeches. The provision of services is inherently relational in nature. Over the course of the last three decades, service companies have transitioned away from the mass market mentality and toward the culture of personalization. For this reason, it is very necessary for service companies to abandon the faceless "in and out" transaction attitude of the past and instead adopt a contemporary interface that is centred on the consumer. In the case of transaction-oriented marketing, the emphasis was placed only on sales and presales activities; however, true marketing begins with the "after sales" process, and this is the stage at which genuine connections are created. In this approach, the emphasis of marketing has shifted from a singular, one-time transaction orientation to continuous interactions with customers.

In [17] real customer relationships develop when a customer feels a genuine sense of loyalty to the organization which resulted from a series of gratifying experience. However relationships do not happen overnight. When a customer realizes some specialty and worth in interaction with the organization at that

point only relationship develops. Furthermore when satisfying encounter reoccurs frequently; it becomes a relationship. So, relationships develop out of consecutive experience of customer satisfaction.

In [18] author depict the articulation, Customer Relationship Management (CRM), has been being used since the mid 1990s. From that point forward, there have been numerous endeavours to characterize the area of CRM, various which show up in Table 1.1. As a control fervently challenged by different data advances (IT) sellers, specialists & scholastics, an unmistakable agreement has not yet arisen. Indeed, even the significance of the three-letter abbreviation CRM is challenged. For instance, albeit the vast majority would comprehend that CRM implies Customer Relationship Management, others have utilized the abbreviation to mean Customer Relationship Marketing.

In [19] author portray Companies have demonstrated their premium to be customer situated as opposed to item arranged. They like to be more customer situated combined with having more customer information availability which is both conceivable through Customer Lifetime Value (CLV). The primary objective of CLV is to determine the significant level of every customer for an organization. It shows that the number of customers is worth to the organization throughout the time span that they consider the organization's customer.

In [20] author portray Knowledge Management & Analytical CRM are helpful devices & innovation in dynamic cycle & comprehension in an association. This paper intends to give a total investigation of the ideas of Data Mining, information management & scientific CRM to set up a structure for coordinating every one of the three together. The goal is to show how Knowledge Management & scientific CRM can be incorporated into a construction that backings dynamic utilizing proficient Data Mining Techniques & to investigate how chipping away at a logical CRM framework can empower associations convey total arrangements.

In [21] author depicted without a doubt, it tends to be said that customers are the main resource in the most associations. Since customers have an immediate relationship to the activities of an association, consequently they are important wellspring of chances & dangers operational inquiries identified with the business. Today's, to develop & make due in aggressive economy, organizations & associations should focus on customer direction & increment their relationship with the purchasers of merchandise like never before.

In [22], the author portrayed It is not tough to fathom any cause why Customer Relationship Management (CRM) has become the most cutting-edge management development equipment of the most recent decade. [C]onsumer Relationship Management [CRM] In the Management Tools 2001 Survey conducted by Bain & Company, which included 451 senior executives, it was revealed that 72 percent of respondents planned to have CRM systems set up by the end of that year. This was more than double the percentage from the previous year. This is due to the fact that very few pioneers have had the opportunity to fight an invention that promises to instantly identify your most productive consumers and target them with missions to increase both their purchases and their loyalty while doing it at an ever-decreasing cost.

In [23] author portrayed Consumers have consistently had relationships with brands, however modern apparatuses for breaking down customer information are at last permitting promoting associations to

customize & deal with those relationships. With this new force comes another test: People presently anticipate that companies should comprehend what kind of relationships they need & to react fittingly— they need firms to hold up their finish of the deal. Shockingly, numerous brands don't meet those assumptions.

In [24] author portrayed Examining the business-to-business relationships writing shows two fundamental ways to deal with considering the clouded side of business relationships. The primary methodology centres on understanding the rise of the clouded side all through the different phases of business relationship improvement which can have genuine ramifications for the developing relationship. The subsequent methodology is worried about understanding the parts of key social develops, including trust, responsibility, pressure, vulnerability, struggle & advantage, which can either be impacted by, or add to, the clouded side.

In [25] author referenced that essential focal point of relationship showcasing is towards building nearer relationships with the customers as procedure to beat issues like gaining worldwide upper hand, adapting to quickly changing advancements & decreasing "time - to-advertise "New items. Notwithstanding of the reality little exploration has zeroed in on execution of relationship advertising Ideas.

RESEARCH METHODOLOGY

Analytical Customer Relationship Management

Spending a significant amount of money on customer relationship management (CRM) has contributed to the success of CRM software manufacturers like Seibel, Oracle, and Epiphany. Nevertheless, in the beginning phases of the CRM implementation, not adequate attention was devoted to analysing client data in order to focus CRM efforts. Simple heuristics and "gut-feel" techniques led to lucrative consumers being flooded with offers (which frequently turned them off), while there was little effort to grow today's "less value" clients into tomorrow's valuable ones. This led to profitable customers being turned off. The failure of businesses across a broad range of sectors to pay enough attention to their customers' requirements is the root cause of falling levels of customer satisfaction.
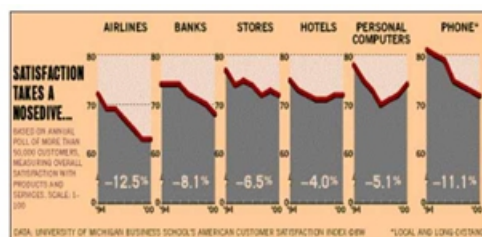

Figure 1: Declining trend in customer satisfaction index

The significant progress that has been made in data management and analysis technology, on the other hand, is enabling the possibility to establish a fine-grained consumer knowledge on a mass scale, and to utilise this understanding to better manage the connection with each individual customer. We refer to this strategy as "analytical customer relationship management" (ACRM), which means building a better knowledge of customers via the use of data analysis with the end goal of performing relationship

management in a more efficient manner. ACRM has the potential to significantly boost the efficiency of a company's customer engagement operations beyond what they are now capable of.

Customer Segmentation

The total customer base is broken up into smaller groupings that are referred to as customer segments via the process of customer segmentation. The basic principle is that each subgroup is relatively homogenous when seen from a certain angle, however this may not always be the case when viewed from other angles. Therefore, the client base is segregated first according to the value that each customer represents to a company, and then according to the requirements that each customer may have for certain goods and services.

The goal of customer segmentation is to identify groups of consumers that have similar needs and patterns of behaviour in order to provide those customers with goods, services, and communications that are more closely tailored to meet their specific requirements. It is important for segments to be able to be identified, quantified, addressed, and have a large enough population to warrant such attention. For instance, a corporation that sells vision goods may divide its clientele into two groups: those whose vision is unimpaired and those whose vision is impaired. Everyone who does not have excellent vision belongs to the same group, which the corporation views as prospective clients; as a result, the company views these people as being equivalent to one another. When seen from the point of view of a clothes manufacturer, this market is not at all homogenous. The manufacturer may choose to segment the market based on characteristics such as gender and age.
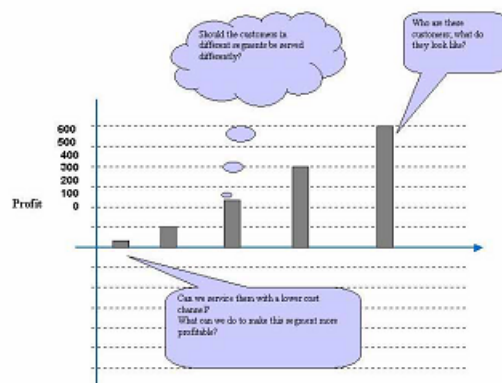

Figure 2: Segmentation of customers by profitability

Customer Retention

The process by which a business works to keep its existing clientele from defecting to the goods and services offered by other businesses in the market is known as customer retention. The conventional opinion, which was garnered via a significant amount of experience, is that it is anywhere from five to seven times more costly to gain a new client than it is to keep an existing one. In light of this, it is of the utmost significance to maintain relationships with existing clients, particularly those who provide a high level of revenue. A solid client base that remains loyal over an extended period of time is one of the finest forms of advertising that a company can have since it helps create an image of high quality. This assists in

the process of gaining more clients that place a high value on long-term relationships as well as goods and services of a high quality.
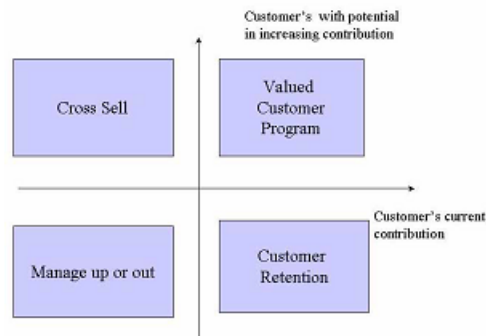

Figure 3: Treatment of various customer segments

The following diagram illustrates how a business thinks about its numerous consumer groups from the point of view of present and future profitability. It is quite clear that the quadrants on the right side, both bottom and top, should be the focus of retention efforts. In addition, the correct top customer quadrant has to be targeted in order to improve the connection since there is a substantial amount of potential that has not yet been achieved.

Problem definition

Within the broad framework of marketing, Customer Relationship Management is the most important & the upcoming interesting area & one concerned with understanding how relationships acts in retaining customer loyalty. During the informal discussions with concerned authorities of organizations in western Maharashtra, it was brought to the notice of researcher by them that there is keen need of studying customer relationship management. Many of them rightly noted their experience with regard to difficulties being faced by them while tackling the customers & holding them for long term in the competitive environment. It was also observed that customer relationship management is the most neglected activity in many organizations, which should be given prime attention to meet the contemporary challenges in Smart Utilities based on Predictive Analytics. Therefore the need is to make in-depth study of how the relationship aspect will affect the growth & profitability for the firms & to what extent this requires an in-depth study of the subject entitled with intention to make a comprehensive study of customer relationship management in Smart Utilities based on Predictive Analytics.

RESULTS & DISCUSSION

Customer retention curves are vital to any company that want to understand its customers and will go a long way toward explaining other things such as sales numbers or the influence that marketing activities have had. They provide a straightforward approach to visualising an important aspect of the relationship between clients and the company, namely, the question of whether or not clients return for subsequent visits, as well as the frequency with which they do so.

In the following example, I will use a month, and I will suppose that we are analysing the retention of

consumers who made a purchase or visited the location in January 2018 throughout the course of the subsequent year. In the event if we had 1,000 different consumers in the month of January, we may anticipate that our results would look something like this:

Table 1: Customer retention months wise

Year(transaction date)	Month(transaction date)	Number
2018	1	1000
2018	2	934
2018	3	237
2018	4	765
2018	5	876
2018	6	457
2018	7	345
2018	8	546
2018	9	654
2018	10	634
2018	11	546
2018	12	123

Figure 4: Customer retention in months

What has been discussed up to this point is clearly only the first phase, and we would also want to determine whether or not there are any patterns in the amount of customers that we have managed to keep as clients; in other words, are we becoming any better at what we do? The question "how many of those who arrived in January came back in February" is one that we may consider asking as an option. How many of those who visited in February did you have come back in March?

Table 2: Customer retention over time

Cust_id	Visit_month
000001	1
000001	3
000001	7
000001	8
000001	11
000002	2
000002	3
000002	5
000002	7

Table 3: identify the time lapse between visits

cust_id	visit_month	lead
000001	1	3
000001	3	7
000001	7	8
000001	8	null
000002	2	3
000002	3	5
000002	5	7
000002	7	null

Table 4: calculate the gaps between visits

cust_id	visit_month	lead	time_diff
000001	1	3	2
000001	3	7	4
000001	7	8	1
000001	8	null	null
000002	2	3	1
000002	3	5	2
000002	5	7	2
000002	7	null	null

A quick refresher on what exactly is measured by customer retention analysis is the percentage of previous customers who come back after a certain amount of time has passed. Therefore, one of the things that we want to do is do a comparison between the number of consumers that visited during a certain month and the number of those customers who returned during the subsequent month. A second objective of ours is to classify people according to whether or not they come back after an extended absence or never do. In order to do this, we will need to classify the clients according to the frequency with which they make purchases from us.

Figure 5: Month to month customer retention

There are naturally a variety of additional approaches to approach the topic of client retention analysis. Particularly, we may want to have a look at how to handle returning customers. For example, if there are 100 consumers in the first population, and 80 of them return in the second population, then in the third population, do we want to maintain the original 100, or only look at the 80?

In the previous illustration, I simply discussed retention from one period to the next; however, I did make a distinction between those who were "laggers" and those who returned after a delay of more than one month. It's possible for a company to reward consumers who maintain a monthly visit pattern via the use of focused marketing strategies. Alternatively, the company may aim to encourage customers who visit less than once a month to return more often.
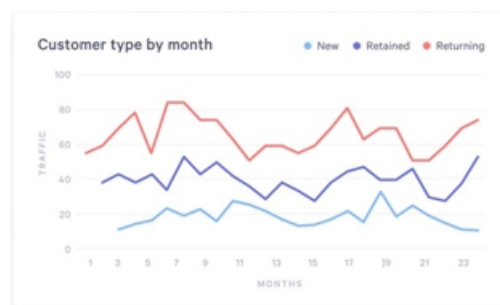

Figure 6: Customer type by month

The customer relationship management architecture is shown down below in the figure (system level). In all CRM processes, performance management refers to the management of both the customers and the actions that take place within the scope of the process. The CRM procedures are made possible as a result. After the definition of CRM processes, we now move to the essential information systems to support outlined by Shaw and Reed. This includes integrated management and monitoring of, as well as resource allocation to the CRM processes. Activity-based costing, often known as performance management, is a method for calculating a company's contribution to its profit.
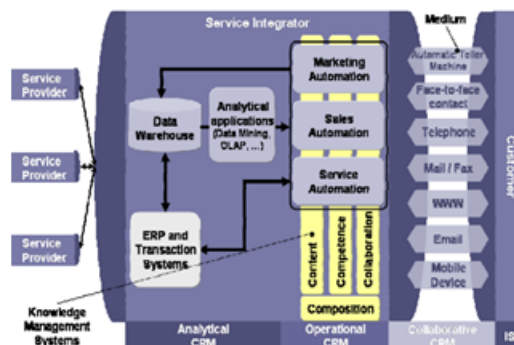

Figure 7: Architecture Diagram

CONCLUSION & FUTURE WORK

Being the popular & modern management concept the researcher has a wide scope to study the concept of customer relationship management in detail this study covers all the factors right from the basic level of evolution of customer relationship management implementation practice to implement services for long run. As it has been seen earlier that all these goals can be achieved through systematic study of markets & appraisals of customer centric processes the organizations need to establish effective customer relationship management (Customer relationship management strategies) a business cant control the pace of technology, economy, its competitors but it can surely control the way it manages interactions with its customers. Though the concept of customer relationship management has penetrated deeply in other parts of organizations yet it has to gain momentum in the organizations of Smart Utilities based on Predictive Analytics in particular as the researcher belongs to the same area, steps can be taken to initiate & popularize this concept by using the in depth knowledge acquired in the process & the exposure to this concept. This study provides the needed information about the customer relationship management the organizations currently practicing the CRM concepts. This study will be the source of information for future researchers to collect the data & information on customer relationship management in Smart Utilities based on Predictive Analytics & also about the methodology required to collect & analyze the data.

References

1. Abdul-Muhmin, A. (2012). CRM technology use & implementation benefits in an emerging market. Journal of Database Marketing; Customer Strategy Management, 19(7), 82-97.

2. Agariya, A., & Singh, D. (2013). CRM index: An effective weapon for relationship enhancement. International Journal of Financial Services Management, 6(3), 179-199.

3. Baran, R., & Galka, R. (2013). CRM: The foundation of contemporary marketing strategy. New York, NY: Routledge.

4. Crnkovic, J. (2013). Invited Article: The Future of CRM is UX. Business Systems Research, 4(1), 4-13.

5. Heyn, J. (2012). CRM – How it can help medium size companies & are there any downsides to its implementation. München: GRIN Verlag GmbH.

6. Jamieson, C. (2014). Small Business' Guide to Social CRM. Packt Publishing.

7. Josiassen, A., Assaf, A., & Cvelbar, L. (2014). CRM & the bottom line: Do all CRM dimensions affect firm performance? International Journal of Hospitality Management, 36(7), 130-136.

8. Kaufmann, H. (2013). Customer-centric marketing strategies tools for building organizational performance. Hershey, Pa.: IGI Global.

9. Kim, H. (2012). How CRM strategy impacts organizational performance: Perspective of customer equity drivers. Journal of Database Marketing & Customer Strategy Management, 19(6), 233-244.

10. Metz, A. (2012). The social customer: How brands can use social CRM to acquire, monetize, & retain fans, friends, & followers. New York: McGraw-Hill.

11. Jamieson, C. (2014). Small Business' Guide to Social CRM. Packt Publishing.

12. Josiassen, A., Assaf, A., & Cvelbar, L. (2014). CRM & the bottom line: Do all CRM dimensions affect firm performance? International Journal of Hospitality Management, 36(7), 130-136.

13. Kaufmann, H. (2013). Customer-centric marketing strategies tools for building organizational performance. Hershey, Pa.: IGI Global.

14. Kim, H. (2012). How CRM strategy impacts organizational performance: Perspective of customer equity drivers. Journal of Database Marketing & Customer Strategy Management, 19(6), 233-244.

15. Metz, A. (2012). The social customer: How brands can use social CRM to acquire, monetize, & retain fans, friends, & followers. New York: McGraw-Hill.

16. Mullins, J., & Walker, O. (2013). Marketing management: A strategic decision-making approach (8th Ed.). New York: McGraw-Hill.

17. O'Reilly, K., & Paper, D. (2014). Customer Relationship Management (CRM): An Approach for Transforming the 'Myth' of CRM Success into Dual-Creation of Value. Journal of Information Technology Case & Application Research, 11(3), 1-8.

18. Nahshon Wingard, "CRM History: The Evolution Of Better Customer Service". www.streetdirectory.com. Retrieved 24 May 2020.

19. Chris Vitek, "How Context Sits at Intersection of CRM, ACD". Retrieved 8 June 2017. Unified Communications & Collaboration

20. Arthur Zuckerman, "History of CRM Software". comparecamp.com. Retrieved 8 February 2017.

21. Lakshman Jha (2017). Customer Relationship Management: A Strategic Approach. ISBN 9788190721127. Retrieved 8 June 2017.

22. Kate Leggett, Stephen Powers, Mark Grannan, Sara Sjoblom, Chad Rafferty, Peter Harrison ,The Forrester Wave: CRM Suites For Enterprise Organizations, Q4 2016, Forrester, 21 November 2016, retrieved 13 September 2017

23. Buttle, Francis; Maklan, Stan (11 February 2015). Customer Relationship Management: Concepts & Technologies. ISBN 9781317654766.

24. Feiz, Setareh & Ramezani Ghotbabadi, Ali & Khalifah, Zainab. (2016). Customer Lifetime Value in Organizations. Asian Journal of Research in Social Sciences & Humanities. 6. 53. 10.5958/2249-7315.2016.00103.9.

25. Josiah, Ahaiwe; Ikenna, Oluigbo (February 2015). "Role of Technology in Accounting & E-accounting". International Journal of Computer Science & Mobile Computing. 4 (2): 208–215. Retrieved 27 October 2018.