



Artificial Intelligence in Managing the Electronic Customer Relationship and Enhancing the Level of Satisfaction with Electronic Services

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ABSTRACT

The customer is the backbone of the process of using the applications in the government institution. In a way that ensures the creation of its information about the change of his desires and opinions about the products and applications that are developed by electronic governments, and even his reactions and complaints within a marketing strategy that artificial intelligence sought with its embodied tools for information technology to provide it, and the result was to manage the relationship with the customer using the technological developments that help to do so. Throughout this article, we try to find out the following questions: What The role of artificial intelligence in managing a government institution's customer relationship? For this, we proposed three objectives, how expert systems embody the mechanisms of artificial intelligence within the government institution, while the mechanism of customer relationship management within the government institution is represented, how artificial intelligence has contributed to the success of customer relationship management to the e-government.

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INTRODUCTION

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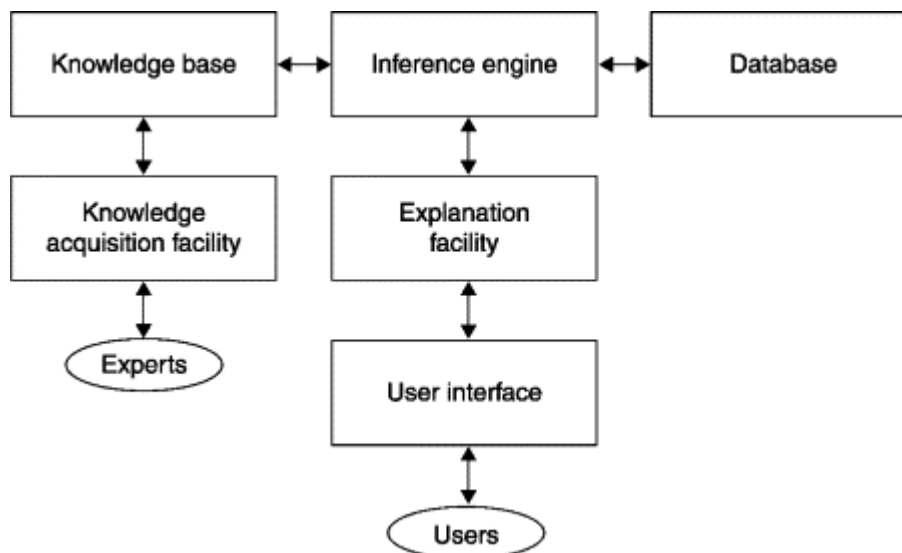
Artificial Intelligence is artificial intelligence one of the methods adopted in the field of information management of all kinds According to specific mechanisms as follows:

the concept of artificial intelligence The roots of artificial intelligence can be traced back to the 1940s with the spread of Computers Although there is no comprehensive definition of intelligence Artificial is the response of machines or computers after being programmed By humans in a way that some belief is intelligent(Kaya, 2019; Siskos et al., 2014).

More so, it's kind of a discipline of science Computers, which is interested in studying and creating computer systems some forms of intelligence appear, and these systems have the ability to Very useful conclusions about the problem laid out as you can. (Hou et al., 2019) .These systems understand natural languages or an understanding of living perception And other possibilities that need intelligence when implemented from Before man (Murmu & Biswas, 2015)Artificial Intelligence is one of the most successful areas of the time The present where it went out of the research phase to commercial use It has proven its efficiency in several fields and has been applied in many areas Fields (including medicine), commercial and industrial organizations, and Educational(Bejarbaneh et al., 2018) (and in various forms) Neural Networks Networks, Developmental Algorithms, and Genetic Algorithms Intelligent systems clients and expert systems latter, which was very popular in terms of use, perhaps due to its suitability for purposes Administrative, which greatly contributed in facilitating information management as an intelligent system in information management we will see how the Expert systems embody the mechanisms of artificial intelligence within the government institution after definition expert system in AI(Davenport & Ronanki, 2018; Kaya, 2019; Silva Araújo et al., 2019)

Related of work:-

Expert Systems and Information Management Expert systems:- are one of the artificial intelligence applications used In the field of management, it relies on artificial intelligence tools in preserving and simulating scarce human expertise, with speed, accuracy, and high ability to store vast amounts of information, knowledge, and experiences that it uses efficiently in identifying and diagnosing problems, and making decisions regarding them within the organization (Allahverdi, 2014), The content of expert systems is considered an advanced form of decision support system, by proposing solutions and decisions to problems by choosing appropriate alternatives, and it is also a kind of knowledge-based system Systems (and an advanced form of Artificial Intelligence), which was based on building systems on a principle similar to the logic of human thinking(Kramer, 2017). It consists of a package of subsystems that work in combination with each other to work on storing various experiences, knowledge, and skills that are available to experts to return to it when any problem occurs to solve it without referring to experts and specialists, and the mechanism of action of these smart systems appears as shown in Figure 1.



Source by (Wong et al., 2013).

By according (Allahverdi, 2014; Ryman-Tubb et al., 2018; Wirtz et al., 2019) Expert systems are used as a comparative method for the human method in solving complex problems, as they deal with hypotheses simultaneously, with high accuracy and speed, especially as they work at a stable scientific and advisory level that does not fluctuate, as the expert system absorbs and stores the accumulated experience and knowledge of the human expert (Wong et al., 2013).

Decision Supporting Systems (DSS) begin with recalling the data necessary for the work that was previously recorded in the database, and the necessary software is called from the models base for processing.

On inferential and directed databases, and through which they undergo logical tests through the formation of their scenarios to represent the hypothetical reality of the issue and to verify the reliability of the decision and its conformity with the actual reality, and then emerge the results that can be accepted or rejected according to the processing logic of smart systems(Hossain et al., 2015). If the results are acceptable and the result of the logical treatment is true (True 1), then the decision is approved and directed to the outputs of the system, and in the violation cases in which the results are rejected (False 0), The results are returned to the model base to search for a new alternative that is more logical and appropriate to the proposals of expert systems. This work continues through feeding and feedback at a tremendous speed until the ideal alternative to the treatment logic is chosen, and then the decision is sent in the form of outputs and executive decisions to the individuals and devices that work(Kramer, 2017). Under the control of the organization, to implement it as required. As for expert systems, they have many applications and in various fields, some of which are specialized in managing and controlling production(Egrioglu et al., 2013). And its management in the workshops, through a production plan to correct the errors of the manufacturing process, and there are expert systems used in the distribution network, and other financial systems used by financial institutions to evaluate the financial return, identify risks, and suggest solutions, in addition to the existence of systems for processing accounting information in banks and others In the field of insurance, financial statement analysis, tax advice, inventory management, and others(Lee & Choeh, 2014).

The importance of expert systems .this is evidenced by their substantial influence in the following main areas and activities:-

- i. Participation in the formulation of the strategic vision of the institution.
- ii. Supporting the process of formulating the mission and mission of the Organization Mission by identifying the types of core activities and providing information on the target markets.
- iii. Formulating the institution's strategic objectives by analyzing its strengths and weaknesses and comparing them with current and expected opportunities and threats in the external environment.
- iv. Assist in choosing the overall business strategy from among the available strategic alternatives
- v. The importance of these systems appears at every stage of the product's life cycle, beginning with its introduction to its exit to the market, through the information it provides on the main competitive forces in the external environment and information on value chain activities, through:

Providing information about the products to be presented in the market in all its details, as well as the market in which they are offered, as well as providing information on consumer purchasing patterns and the willingness of distribution outlets to deal with this product and the extent of the need to present it at this time (determining the marketing opportunity).

- i. -Providing information about competing organizations and the characteristics and ingredients of the product offered, in addition to the commodity composition of the organization's products.
- ii. -Providing the necessary information about the nature and constituents of the new competing products, as well as information on the opportunities available for developing the product and improving its quality, in addition to the new advantages of the product or searching for new markets.
- iii. Providing information on possibilities of canceling the old product and opportunities to introduce the new product.
- iv. Provide the necessary information on the number and diversity of product lines, the extent of the link between the various products, the available opportunities, the organization's ability to maintain leadership in the market, and its ability to change its current products in response to changes in market conditions.
- v. Providing information on the prices of raw materials adopted in the manufacturing process and the determinants of demand and costs. It also provides information on consumers' purchasing power.
- vi. Provide information on the behavioral and demographic characteristics of consumers and on the behavior of competing institutions and the legal and legislative frameworks that govern the scope of promotional efforts, information on advertising design offices, and available times for advertising, information on the budget allocated to spend on the campaign
- vii. smart product information system can reduce the time required to complete various tasks, such as engineering design and manufacturing processes, and the time spent on rework by providing information to its users and providing support to them, enabling this to achieve important effects on profitability and market share, through a strong relationship between the organization's profitability and the growth of its share The marketability and the speed with which its products reach the market.
- viii. The smart product information system provides the appropriate mechanisms to increase the productivity of the engineers and thus the design process is reduced, in addition to reducing the number of overall changes required to design the product During its development cycle
- ix. The smart product information system can guarantee international quality standards by relying on several mechanisms during the product life cycle and formulating procedures to identify access, control,

and test the parts involved in product installation, especially since it can diagnose deficiencies in quality procedures which does not rise to the level of international standards, as well as the possibility of continuous follow-up of the history of product development, explaining the reasons and periods of modifications and the authorities that implemented them.

Customer relationship management with the government sector: the concept of customer relationship management can be addressed by providing some definitions that we consider more comprehensive, and then we present the most important elements included in those definitions, which express and explain well the concept of customer relationship management (Küpper et al., 2014).

The concept of managing the customer relationship: Customer relationship management is a strategy and organizational process that seeks to increase the number of businesses and profitability in the organization by developing a permanent and harmonious relationship with the customers identified through their activities Potential and their cost-effectiveness for the organization. Customer relationship management is also about collecting detailed and individual information about customers while carefully managing all moments of contact with them to maximize their loyalty to the organization (Papadomichelaki & Mentzas, 2009). Customer relationship management is a combination of marketing strategy, information, and communication technology, aimed at building a profitable and long-term relationship between the organization and its customers. Customer relationship management is all the processes of interaction with the customer where the focus is based on managing and maximizing the entire customer cycle, it is concerned with expanding the customer base by attracting new customers, and serving and meeting the needs of the existing customers effectively (Al-Ma'aitah, 2019; AL-MA'AITAH & AL-HASHEM, 2019). Through the various definitions that dealt with the concept of customer relationship management, we can summarize the most important elements and points that I dealt with, and those definitions tried to focus on them.

Customer relationship management is considered as a strategic view through which clear and measurable goals are defined, with specific targets and a relationship contract between the organization and the brand to achieve real benefits for the customer through constant contact and exchange of information (Sigwejo & Pather, 2016). Customer relationship management is an organizational project, as it requires the participation of managers and synergy between several internal interests of the organization, especially the marketing ones, with knowledge of the possibility of resistance and how to overcome it by using the necessary means for that. That a permanent and cohesive relationship using different means of communication. Diagnosing customers by identifying the activities and cost-effectiveness of each customer, in terms of business number, is considered to be the return, to allow adaptation (Baharon et al., 2017)

Marketing policies and budgets for different clients according to their capabilities. Moments of contact are represented by all the opportunities through which the customer enters into real contact with the brand or product (note) The suddenness of the product, consumption, and review through communication means and the institution follows up every moment of communication to develop its customers' portfolio (Alawneh et al., 2013).

Individual marketing, in the sense that the organization works on preparing products, services, and marketing processes individually through the data it possesses about each customer, which increases the value it obtains. The customer is from the institution and on him. It considers developing a customer portfolio, which is reached through

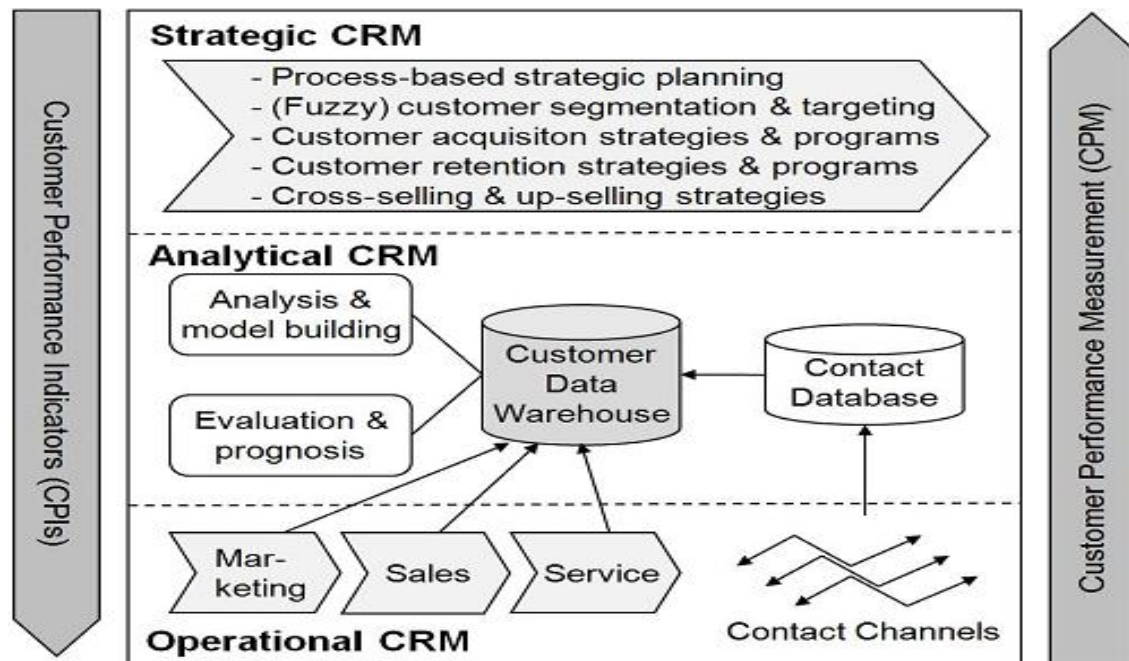
Adopting several strategies (reducing the customer turnout rate, developing the life of the relationship with them, thinking about the customer's share and growing that share, attracting less profitable

customers and increasing their profitability, how much efforts are focused on customers with a large business number for the organization through gifts and summons for specific events. “Building lasting customer relationships is about creating value for the customer through excellent customer satisfaction and persuasion. Customer relationship management focuses on the idea of increasing or improving the perceived value of the customer. Customer relationship management sheds light, but rather focuses on the concept of loyalty through a lasting relationship with the customer and extending its life cycle (Kumar, 2010).

Customer Relationship Management focuses on the idea of customer service through the facilities provided to customers before, during, and after the sale process, and excellence in their service. Customer Relationship Management deals with the idea of customer orientation in a setting and implementation of marketing strategies and operations. Customer relationship management focuses on managing customer services Customers services management (Badwan et al., 2017; Magoutas et al., 2010)

It can be said that customer relationship management consists of two types of operations:

- Front-end operations: which are considered as customer contact points using various possible means (the shop, phone calls, receiving orders, complaints ...), which allows obtaining various data related to customers that are of interest to the organization.
- Support Operations: It works on the front-end operations service and information feeding, as it includes financial and administrative information systems and uses technological techniques to process previously collected data.



It should be noted that every customer interaction with the organization is recorded in the form of data in the central database, to be fed by the Customer Relationship Department, as this database provides support operations with the necessary data, to be processed, so that information is sent to front-end operations via a database. The data is recorded to be used.

The importance of customer relationship management: There is great importance to managing the

customer relationship. Institutions strive to work with them, and perhaps the most important of these bets are summarized in the following elements (Dewnarain et al., 2019; Sigala, 2018).

1- Providing better service to customers: The customer's evaluation of the value of any offer by the institutions at present has become dependent on a set of common services based on information about the product, advice, facilitation of purchase, the mechanism, the interest of customers according to the situation each customer through the establishment of a relationship with customers through the information that the institution possesses and direct contact with them.

2- Sales development: In return for considering the relationship with customers leads to additional costs to raise the quality of the service provided on the one hand, on the other hand, it is considered an excellent way to increase sales in light of the fierce competition by achieving customer loyalty. The customer's share and its proportionality with the increase in loyalty, including the increase in sales, because the enterprise's business number is a result of each of the number of polarized customers, the duration of the relationship with the institution's products, the share of these customers' expenditures on the products. If we know that attracting customers is through relying heavily on traditional marketing, then growing the customer's share and increasing his loyalty over time requires an effective policy.

3- Integration between multiple communication channels: The organization has many options regarding communication and distribution methods towards its customers (delegates, points of sale, catalogs, mail, call centers, the Internet). In the corporation to avoid incurring additional costs in exploiting these channels by taking advantage of synergy, harmony, and a comprehensive view of exploiting the various channels, which ensures that it is in constant contact with its customers, which requires a good diagnosis of customers, with the exchange with them for various knowledge through these channels in a harmonious manner. Communication from The institution and to the institution with its customers.

4 - Better competitiveness: It is difficult in light of the fierce competition to obtain new customers who currently deal with competitors, including improving their competitiveness, because this is related to their lack of loyalty to brands belonging to other institutions, so most of the institutions work to gain the loyalty of their customers through effective relational programs depending on Distributors and the various communication channels that the institution has harnessed for this to ensure continuous communication with customers to maintain them.

5. Increase productivity: the organization can increase its cost-effectiveness through good use of marketing expenditures, which can be achieved through customer relationship management, through a complete or partial (automatic) automation, whether it is related to communication or trading activities, such as the automation of the information interest for customers, the service interest. After sales, salesforce, orders ... which allows reducing costs, including increasing the profitability you are looking for the institution with a differential treatment between the various categories of large, medium and small customers, where, of course, more means and expenditures are allocated to the large or important customers of the institution, while working to reduce the costs of the customers that contribute less to the business number (Al-Weshah et al., 2019).

Objectives of Customer Relationship Management:-

The enterprise aims through its application to manage customer relationship to achieve A set of goals, which can be summarized in the following points

1. Maximizing customer lifetime value through value creation.

2. Improving and increasing customer satisfaction and loyalty to the organization.
3. Targeting the most profitable customers out of the overall customer portfolio.
4. Defining the market segments with optimum utilization of customer segments.
5. Increase the effectiveness and efficiency of interactive relationships with customers.
6. Increase a business number by achieving customer satisfaction It is considered one of the main determinants of profitability.
7. Reducing costs for customer support by offering Information available in the database related to its customers and their relationships with and from him directing them effectively and quickly.
8. Reducing sales and distribution costs by targeting customers Perspective It can be said that the organization behind its adoption of the philosophy of relationship management Customers support their loyalty by acting as an investment

The relationship between the customer and the institution, especially the clients with a stake A large number of enterprise businesses, focus on database Support for making the right marketing decision

The stages of customer relationship management Enterprise customer relationship management can be implemented in five steps are:

- 1- The first stage: data collection: the process of identifying customers requires collecting information about each customer or at least the customers who have been targeted in the business plan, which must be officially entered into the database for the organization to benefit from a periodic and automatic customer knowledge model, depending on Questionnaires, salesforce, accounting information, loyalty cards, after-sales interest, calls, the Internet It should be noted that the formation of a customer database goes through the following stages:
 - i. Review current sources of information about customers,
 - ii. Evaluating potential sources of information in terms of their importance, comparing cost and achievement by attracting customers and communicating with them.
 - iii. Defining a policy that allows for periodic information collection goals, methods, rewards.
 - iv. Assess the possibility of achievement to entering the existing database.
- 2- The second stage: Segmentation based on the database: It is related to grouping customers in terms of common characteristics that are capable of influencing their behavior, such as the importance of each customer's purchases, the type of goods purchased .., and this allows the organization to lead an effective policy.
- 3- The third stage: Service and Communication Adaptation: After the supervisors of the Customer Relationship Management program have identified the customers accurately and individually, it is necessary to reach the setting of an adapted service and communication towards these customers, which is based on offers, communication channels, or about the content Where we find, for example, that the Internet is the appropriate channel for privacy in communication because the website "can adapt its content according to the customer's description.
- 4- The fourth stage: exchange or interaction with customers: The exchange or interaction with customers may take place, either through campaigns organized by the organization or in response to customers' request, as follows: Campaigns organized by the institution shall be according to a scheme

adapted to the diagnosed departments and has specific objectives. It is allowed to present an offer or make a relationship with the customer, by sending mail, phone call, e-mail, short messages, as well as responding to customer requests, by calls to a number Model for the institution, sending mail, e-mail, resorting to a point of sale ..., which allows the database to be fed with new information about customers, which allows for special offers.

5- The fifth stage: evaluation of the device: the relationship with customers is formed with time and develops in each contact, and therefore it is necessary to define quantitative goals that can be evaluated by the institution to judge the extent of the positive or negative development of this relationship, and the evaluation may take the form of various indicators, it can be mentioned Some of them are as Satisfaction indicators, participation rate, turnover per customer, return per customer, customer share.

Principles of Effective Customer Relationship Management

There are many thinkers in the field of marketing in general knowing customer behavior and extending the satisfaction of those who use electronic applications To relationships in particular, through the analyzed experiences of how to implement customer relationship management, and the problems encountered in applying this concept successfully, they suggested some principles that can increase the effectiveness of customer relationship management, summarized in the following elements (Aljawarneh & Al-Omari, 2018; Soltani et al., 2018)

- 1- Long-term guidance where the organization must express to the customer that it is a catalyst for maintenance to exchange against time.
- 2- Reciprocity there must be a balance in the benefits achieved between the institution and its customers, in the framework of the win-win relationship.
- 3- Credibility is based on the periodic good fulfillment of agreed pledges.
- 4- The exchange of useful information: is based on collecting data about customers from different sources upon contact and making them later centralized in a “central database” of the institution, and in return for that, the institution sends information about its services to the customers.
- 5 – Flexibility must be present in managing the customer relationship, to take into account the special needs that have not been mentioned for each customer to carry out ongoing maintenance services without appointments in a short time.
- 6- Solidarity relates to proposing assistance to the customer in case he encounters difficulties.

How Artificial Intelligence to the Success of Customer Relationship Management

Some view customer relationship management as an automated or technological media project, and reality shows that it is a management and marketing project that relies heavily on technological means to consolidate relationships with customers through the various stages of communication with them. These tools make it easier for organizations to process to communicate and provide services to customers in the best possible way with the least effort and cost, depending on (Delanoy & Kasztelnik, 2020; Zerbino et al., 2018)

On the analytical, practical, and other means, which is what we will explain it as follows:

1. Analytical and practical tools for managing customer relationship:

It can be said that these two methods are essential in managing the customer relationship, as each of them has a role and means to contribute to the consolidation and permanence of the relationship

between the institution and its customers.

- A. Analytical tools: It is mainly concerned with collecting, analyzing, and converting customer-related data, depending on the data warehouse, and data processing, as well as statistical and mathematical tools
- B. Practical tools: The role of these tools is to direct the stages of communication or interaction with the target customers, and from this, they contribute to improving the productivity of the means of trade and communication, which include:
 - i. Relationship management tools (personalized messages, facilitating communication with the customer through various channels, enriching the customer database ...).
 - ii. Automation tools for selling power, maximizing customer exploration, helping to form a trade offer (Configuration), order-taking mechanism.
 - iii. Marketing mechanism tools (monitoring the movement of marketing work, conducting marketing campaigns).

2- Data warehouse: It is a large database that collects information coming from partial databases within the organization. Production system (deals, accounting, supply ...) customer contact points (call centers, internet, points of sale), Or external sources. As this data will be filtered and filtered, be converted and merged into the central database. Business intelligence is based on the so-called "Data Warehouse" and on a set of analysis and presentation tools, which together form an integrated system that works to maximize Information value, by transforming data Information that helps in making a decision. Figure 02 shows the structure of the data warehouse(Garcelon et al., 2018; Salinas & Lemus, 2017).

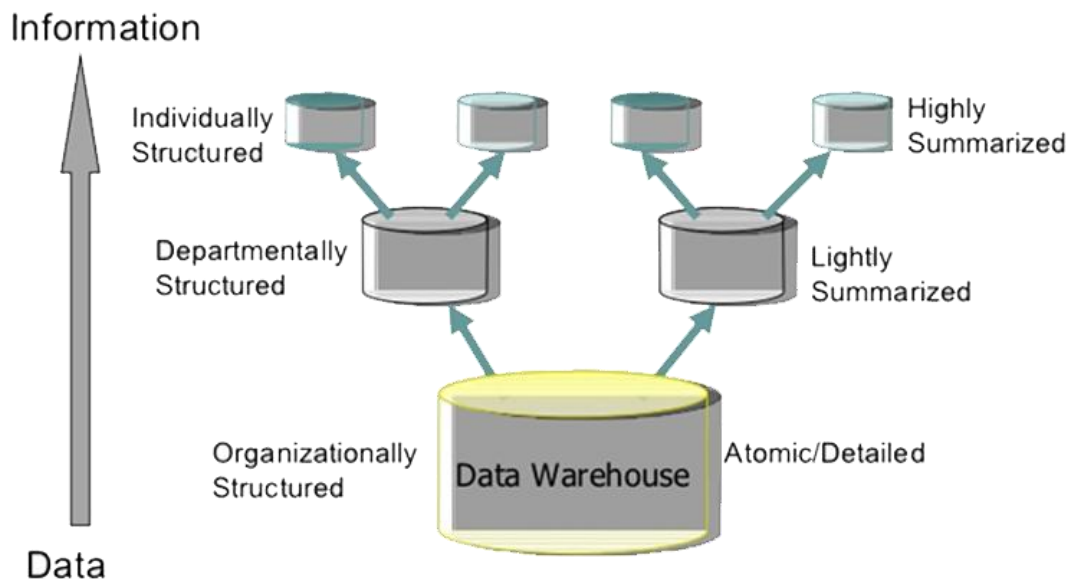


Figure 2 the structure of the data warehouse

Defined a data warehouse as "a decision-making database that stores the data set that is used in the decision-making and decision-analysis process this repository fills automatically from the business database of the business organization and all external information By relying on special tools called "Extraction Tools" Transformation loading (or ETL for short), which allows for data collection and preparation (Garcelon et al., 2018).

3- Smart data system and data processing system The smart data system is considered as partial sets of the data warehouse, which includes only some information necessary for some functions in the organization (direct marketing application, analysis of commercial results, call centers, ...), and therefore it is easy to process And analyze the target database compared to processing if the data is entirely about customers.

- i. Sorting data: Its role is to discover the correlations, relationships, and tendencies that are reached by processing a large amount of data using mathematical and statistical methods.
- ii. Score: After performing the treatment process and finding the correlations, work will be done on preparing a score It is expected for each customer, allowing him to be given the possibility of a specific behavior or behavior, and from it to meet him with a certain commercial or risk behavior, as we find that the score calculation allows selecting customers who are characterized by high positive behavior to increase the cost-effectiveness of the process.
- iii. Return tools: it works to make the huge specialized database that the organization has come up with easy to enter and use, to benefit from it, otherwise everything that the institution has done before does not mean anything and is useless. For example, we find in the call centers the tools used are represented In screens that summarize the most important points about customers, where it shows the customer's data, the number of businesses that he achieves for the institution,

Although consumers' dependence on artificial intelligence applications is still relatively limited, most consumers must have inadvertently used some form of artificial intelligence applications such as a fingerprint system or voice system and other applications. In this context, the application of artificial intelligence effectively plays the role of a filter between the consumer and the service provided, providing unique recommendations to the consumer based on consumer decisions.

The future of artificial intelligence in shaping the customer experience

There are a lot of exciting things happening in the field of artificial intelligence, and we are not very far from the future with completely seamless interactions between customers and government electronic applications. Dominate the seamless and frictionless customer interaction space. Many government apps now allow customers to use them to schedule bills, book appointments, renew some subscriptions, issue official papers, etc., all with their voice. This improves the customer experience because it requires much less effort from the customer, thus making the process much smoother and less chore (Drexler & Lapré, 2019).

Clients will be able to communicate with companies according to their contact details, and the message will always reach the right team. and be used by AI to gain deep insights about customers and their experience. These ideas will then be used to create actionable goals to improve the customer experience (Grewal & Roggeveen, 2020).

Artificial intelligence and automation lead us to this point. It used to be that a lot of customer data was split across different teams and different programs, resulting in a situation where there was not a complete view of the customer. Some companies still operate this way, which ultimately means that they are not operating at the level they should be. There is a lot of potential for CX growth that can be unleashed by automation and artificial intelligence (Khrais, 2020).

Providing an enhanced customer service experience has made much of the buzz around AI-powered customer service in recent years and with good reason. Finally, AI-powered customer service solutions are becoming viable in a way that didn't exist a decade ago. We now have a powerful AI that can

intelligently process data and make the best decision within seconds. Salesforce 2019 research found that the use of "AI by customer service teams will increase 143% by 2020". We are too early in 2020 to see if this prediction has been met, but AI is clearly on the rise and showing no signs of slowing down. Here are some of how AI is being used (Hoyer et al., 2020; Reis et al., 2019).

- i. Predictive intelligence. Artificial intelligence can be used to identify customers who are at risk of transferring their money to another company. Amnesty International will then suggest special retention offers or other next steps to encourage the customer to stay.
- ii. Targeting potential clients. If you know who your potential customers are, you can convert them into customers through personalized marketing and targeted communications. This is what Harley Davidson is now doing with her AI program called Albert. Artificial intelligence uses algorithms to find high-value, ready-to-buy leads. It then sends this information to the sales force so that they can individually target those customers.
- iii. Proactive problem-solving. We now have an AI that can monitor multiple data sources, such as Twitter feeds, customer service tickets, and call logs, to look for patterns. There may be a common problem arising from customers that the company as a whole is not yet aware of. The AI will capture this so the company can respond quickly and quickly to start working on a solution.
- iv. Smart call routing in customer service calls. Customers hate being suspended and hate having to repeat their information multiple times. This creates friction in the customer service process and leaves customers frustrated and more likely to report a bad customer experience. With today's technology, there is no reason for a customer to repeat the same information multiple times. You must track customer information through the customer service process. Clients should also be sent to the most appropriate agent immediately. Chatbots are great at doing this. They can ask a customer some basic questions to find out what category their problem falls into. Sometimes the problem can be resolved by a Chatbot if it's simple, but if not, a Chatbot can direct the customer to the appropriate team or agent.
- v. Customer service surveys can be sent automatically. This is a simple use of automation, but still very valuable. You can't figure out how to improve your connections with clients if you don't know how they're feeling. A survey is a great way to find out how your customers feel about your customer service team. When it comes to surveys, it is important to ask the right questions and allow the client to expand on certain points as and when required. It may be easier to approach a multiple-choice survey from a data perspective, but there are times when it can provide significantly less value.
- vi. Self-service, help yourself. As we touched on briefly, there are times when there is no need for a customer to speak to an agent at all. They might have a slight problem with their bill, a mistake with their information, or need to update their address, or something similar. These activities have a quick solution that can be easily automated. It's not a good use of a customer's time or an agent's time to contact them. Instead, a Chatbot is more suitable; as long as it does its job well means that customers can obtain instant responses to simple questions and that agents are free to deal with the most complex issues.
- vii. Support around the clock. Artificial intelligence and automation have greatly made it easier for companies to provide 24/7 support to their customers. Customers want businesses to be available whenever they are available, and this means that serving customers for limited hours is no longer viable in the modern world. However, 24/7 customer support doesn't mean you have to work the

same around the clock. You can use chatbots to take some of the stress off the discount customer service agent process during peak hours. You can also use the AI to schedule calls to customers who have tried to contact the company when agents are not available. AI customer service agents also have distinct benefits over human agents in some areas. They never tire, they never feel unhappy, they don't need to take breaks, they never leave the company, and they never feel dissatisfied with their career progression. Customer service remains a high turnover area due to the stressful nature of the job, among other factors. By using AI-powered customer service agents, you can solve a lot of these problems.

Artificial intelligence is one of the mechanisms that help the use of technological development in the conduct of administrative and employment relations as it is used in government services and investing this mechanism in the field of creating a space for permanent contact with the customer, which is the focus of the marketing process of the economic institution, and through this these institutions include many results that accrue to them. The benefits are perhaps the most important of them: creating a space for constant communication with customers, effective management of the relationship with customers, exploiting the benefits of information technology in the management of information within this institution

Findings and recommendations

Finding

The adoption of the artificial intelligence mechanism within the government institution is an investment of the benefits of information technology in terms of managing administrative functions and managing relationships.

- i. Expert systems are the embodiment of artificial intelligence and serve the quality and effectiveness of administrative management within the organization
- ii. Managing the customer relationship is a marketing strategy that ensures an increase in the profitability of the organization, as well as a number that blinds it because it is concerned with the nerve of the marketing process.
- iii. Artificial intelligence provides ease and effectiveness in communicating with the customer, ensuring that the organization makes the right marketing decisions.

Recommendations

- i. The need to pay attention to adopting artificial intelligence in its various forms, including expert systems, software, systems, and algorithms to facilitate administrative processes within institutions.
- ii. The need to keep pace with the technological development provided by artificial intelligence mechanisms in the field of information management within the organization.
- iii. Commitment to adopting customer relationship management, which has become a strategic choice in the field of corporate competitive position management

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