

1. Analysis of Banking/Finance

Banks are changing their system to use Data for more effective decisions and personalized solutions. Unstructured data (3V, Volume, Variety and Velocity) are being transformed to meaningful insights, understanding customer behavior and intelligence to be able to monetize. The data is a fuel for market industry. As with data comes a greater risk. Data presents a number of challenges relating to its complexity such as understanding the data, security, privacy, etc

It is a huge risk especially when the data is too big to differentiate the valuable and useless data. The businesses need to cope with it by regularly managing the data and come up with effective solutions to analyze the whole data. Automated systems could be used to continuously maintain the data. With the growing data, banking industry is finding it difficult to come up with effective solutions quickly to maintain the pace in competitive market. They need to upgrade their infrastructure for better stability and processing performances. There is a risk of continuously maintaining and securing the accumulated data to make sure customer data is not compromised. Many reports suggest that 38% banks in banking industry fail to do so resulting with the risk of data breaching. The data security regulations have imposed certain restrictions to businesses that want to collect and analyze user data. Data science fraud detection technique is used to enhance cyber security threats. Data quality is huge concerned while considering data coming from different sources migrated for mapping may lose some information. The businesses need to create the acquisition records so that the data is organized, stored and maintained in data warehouses. This records document will contain all the attributes, measures, business rules, routines, etc.

Tracking customer spending patterns, segmenting customers based on their profiles, implementing risk management processes, personalizing product offerings, incorporating retention strategies and collecting, analyzing, and responding to customer feedback are the approaches currently used in data science for better productivity.

Forecasting the conversion rates could be used so that the customers could convert their amount according to their preference so that they get most of the money or avoid losing a small amount while converting their money into different unit currency. Root cause analysis could be used to visualize the financial strength of banks as well as compare them with others. Recommending different schemes to customers to help them with investment decisions. Tracking the spending records to encourage better savings habit using alerts

2. Analysis of Healthcare

With the innovation of new technologies, healthcare systems are evolving from handwritten reports to storing hospitals, patients, professionals (Doctor and Nurses) records electronically. Thus, this enables faster access to records and improving public health surveillance reporting disease outbreaks facilitating across different hospitals. Using data science shows promise for improving health outcomes and controlling costs. With the advantages and applications comes with the challenges that are to be overcome bringing in new technologies/equipments or solutions.

Health care data comes from different sources such as payers, patients, employers, hospitals, etc. Extraction and integrating this data is a real challenge. There could be duplication of data and missing information resulting in inaccurate profiles of patients and health care members. Data science could be used to clean and organize the meaningful data to derive any insights for business decisions. Patients like everyone else change their names and professions, move, retire and die. Also, the introduction to new drugs, treatments and drugs changes the service delivery and data captured making it a challenge to keep up with the new information. This results in a delay of adopting new treatments, inadequate response to health care programs and poor engagement. This could be managed by regularly updating the data which is done by using automated integration and deployment. Docket and KNIME are the platforms used for integrating and deployment. Managing Privacy and Security is another problem which could be solved by using AI systems for detecting potential data breaching and using automated systems to replicate the data in case of occurrence of potential data theft.

Computers can learn to interpret X-rays; MRI's and other types of images, identifies patterns and detects tumors, organ anomalies, etc. It also helps in working out with the best possible treatment or prescriptions for the patients. This also helps in predicting the chances of patients readmitted in the upcoming days. It can help keep track of patients billing to identify financial difficulties or co-ordinate with financial facilities and insurance departments. Predictive analysis helps in effectively scheduling the hospital operations for e.g. which patients needs the most care, how many beds to be utilize to meet patient demand.

Data science could be used to alert any person with early detection of any fever/disease to avoid prevent future health problems. This could be done using AI powered medical systems. Using analysis of different symptoms, mortality rate, etc could help further prevention of viruses like covid or classify whether a person could be susceptible to covid. In fact, AI could be used in countries where there is a shortage of doctors as a new doctor-patient relationship.

3. Comparison of Banking and Healthcare

Since it's about data which is different in each domain and for different organizations as well. HealthCare includes different programs for patients like health insurance, medicare with different health care providers for e.g. age home care in order to improve the patients' health. Likewise, banking includes different loan and investment schemes to help customers with effective decisions and to improve their financial health. The banks help their customers keeping track of their spending and bank statements, while healthcare provide electronic billing and the past history of hospital visits for checkups. Data science in banking would help prevent frauds and scams whereas data science in healthcare would help doctors to detect diseases i.e. patient based outcomes.

Patients insurance, billing payments, regular upgrading of health care services and equipments could be managed using banking. This will help health care providers to focus more on improving patients' health while managing the banking would help bring better revenue for their department. Banking can use an outcomes-based banking approach to improve financial health. This could be done by considering, if spending is less than income, bill payments on time or not and how the loan payments are made.

References

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