HEALTHCARE DATA ANALYTICS: A PROMISING APPROACH TO MANAGE BIG DATA IN HEALTHCARE AND PHARMA

STUTI THAPLIYAL, MBA (Pharma Management, Final Year Student)
School of Management & Business Studies, Jamia Hamdard, New Delhi
ORCID: 0000-0001-6051-7712

Dr. P.S. RAYCHAUDHURI, Assistant Professor,
School of Management & Business Studies, Jamia Hamdard, New Delhi
ORCID: 0000-0002-7726-0383

HIMANSHU KAUSHIK, MBA (Pharmaceutical Management)
Pharmaceutical Consultant
ORCID: 0000-0001-9361-5001

ABSTRACT

Business managers have to deal with huge amount of data in this technology age. Big data implies highly complex datasets, making them hard to deal with using conventional methods and techniques. Like different industries, things are changing exceptionally quickly in the pharmaceutical and healthcare industries. The organization gets very little time to earn on the investment with the limited time patent period of the drug. There is a significant need to accelerate business profitability with the help of innovative technological salutations. In this study, our objectives are to explore the benefits of big data analytics for healthcare and pharmaceutical business profitability; to understand the role of big data analytics in cost, time, and data management for different operations in healthcare and pharmaceutical industries and to assess the hurdles and challenges in healthcare data analytics. In this paper, the researchers have done secondary research. Big data analytics in pharmaceutical and healthcare is hugely beneficial for coordinating, investigating, and breaking down a lot of complex heterogeneous data with various natures. Healthcare data analytics can mitigate expenses of drug development, treatment, anticipate up-coming pandemics, reduce and manage communicable and preventable diseases, and improve the patient outcome and overall health. Data analytics can help the healthcare and pharmaceutical industry in different ways; therefore, it is imperative to understand its significance.

Keywords	Big data, Healthcare Business, Healthcare data analytics, Pharmaceutical Industries, Marketing Strategy
JEL Classification	I10, M40, M41, I19
Cite this Article	Stuti Thapliyal, P.S.Raychaudhuri, Himanshu Kaushik (2021, April). Healthcare Data Analytics: A Promising Approach to Manage Big Data in Healthcare and Pharma. In Perspectives on Business Management & Economics (Vol. IV, pp. 53-65). Retrieved from http://www.pbme.in/papers/110.pdf
Article History	Received: December 31, 2020; Accepted: February 18, 2021; Published: April 30, 2021

INTRODUCTION

The Healthcare business, in general, creates lot of data of various forms. The data includes organizational information, patient records, customer data, and business reports. The industry is moving towards fast digitization to deal with the plethora of data. (Raghupathi W 2019). Driven by essential requirements and the ability to improve the structure of healthcare services along with reducing the expenses, these large amounts of data, termed as 'big data, hold the potential of supporting a wide range of clinical and healthcare tasks, including public health and disease management.

To get the best medical facilities and care for patients, healthcare industries worldwide have proposed different healthcare data models. These models are dependent on utilizing electronic medical records and a massive amount of complex clinical data (Dash Sabyasachi et al., 2019).

Big data in healthcare and pharma includes these different huge and complex data, which are hard to analyze and deal with traditional and manual methods. A mix of various data, examination of data quality, showcasing, translation and approval is covered by the data analytics. Big data analytics helps in discovering and collecting a large amount of data of healthcare from data mining sources (Raghupathi W 2019)

Healthcare organizations have consistently dependent on accurate data to differentiate patterns, test results, and understand the drug efficacy. Data analytics is simply an advancement in the traditional pattern of data handling (Bates D.W.2014)

LITERATURE REVIEW

According to Bates DW and Saria (2014), big data refers to data that is so large in terms of velocity variety and volume that it cannot be handle through traditional and manual data management tools.

Vangie Beal (2021) refers; Big Data analytics as to the activity of gathering, assessing, and examining a huge amount of data (Big Data) to understand other valuable information from it. Big Data analytics can help associations comprehend information from the data and help to recognize the data that have significance for the business by using different data analytics tools.

According to Frost and Sullivan (2020), in the healthcare business, big data refers to the massive amount of complex electronic medical data sets that are not easy to deal with in a traditional way or by manual programming; and it is hard to manage it with traditional data management tools.

Bian J, Topaloglu U, Yu F(2012), describe big data in healthcare includes data related to patient's medical history, laboratory test reports, health care, insurance, reimbursement, medical imaging, pharmacy, bills, prescription, medicines, and patients personal information.

OBJECTIVES

- To understand the role of big data analytics in healthcare and pharma business organizations.
- To determine the uses and benefits of data analytics in healthcare and pharma
- To determine challenges of data analytics in healthcare

METHODOLOGY

In this paper, the researchers have done secondary research. Many databases on healthcare data analytics have been consulted. Extensive subject literature, review articles, and research papers were reviewed. Experts in the field have been contacted during paper development.

RESEARCH DESIGN

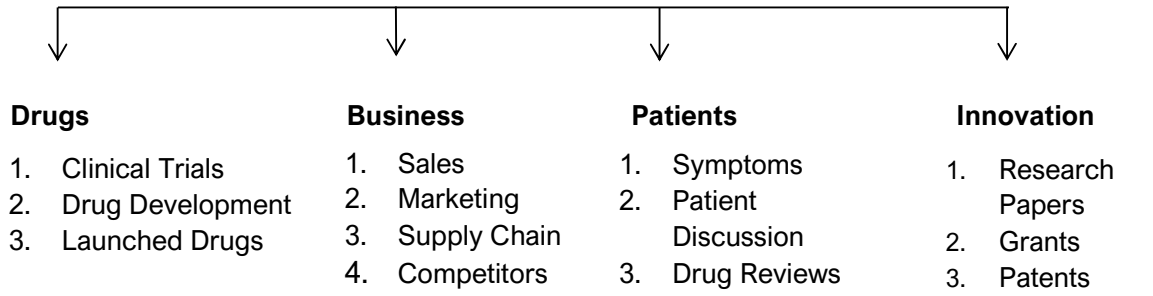
The researchers have performed research on exploratory & descriptive approaches, based on the healthcare industry and data analytics. The research has been used to identify the major factors which are involved in healthcare data analytics; the companies can start generating a profit by using data analytics tools to manage the massive amount of data. This has been exploratory and descriptive research, as it used both the secondary sources as research papers and other relevant study material. For this research, the major data has been gathered from secondary sources.

BENEFITS OF BIG DATA ANALYTICS IN HEALTHCARE

1. Helps in disease management and understanding
2. Helps in disease prevention
3. Helps in drug development
4. Improves communication
5. Improves diagnosis and treatment
6. Improves patient satisfaction
7. Improves performance of the organization
8. Increase patient safety
9. Minimize the errors
10. Prediction of disease trends and location
11. Real-world patient data

12. Reduce cost, enhance quality and efficiency

Figure 1: Uses of data analytics in Healthcare and Pharma



Source: The Economics Times Report (2019)

In the pharma and healthcare industry, things are changing rapidly like other significant industries. The process of drug development, pricing, and marketing is a lengthy process that involves a lot of complex data. Healthcare organizations are now moving towards a digitalized approach to managing the different operations (Raghupathi W 2019), as shown in Figure 1.

A. Drugs

The utilization of big data is not anymore restricted to functions that are directly related to customers like sales, advertising, and promoting. In the drug business, big data analytics is providing assistance to the organizations to manage lowering growth rates (C. Louis 2016). Big data analytics is opening the doors of opportunities for organizations in the pharma business to manage complex business conditions appearing due to the lot of data. The precise use of these datasets can help organizations in drug development. Additionally, big data analytics has empowered organizations to improve clinical trials, drug development, pharmacovigilance, and risk minimization (Chai Wesle 2021).

1. In clinical trial**s**, the undergoing patients must meet the certain requirements of trials. Data analytics helps to filter out and identify the appropriate patients for clinical trials. It also helps in patient monitoring, identifying side effects, and reviewing the trials (Dr. Smarta RB. 2019). Data analytics manages the complex data of the several stages of clinical trials and improves drug safety and efficacy. It also reduces the cost of clinical trials (Dash Sabyasachi et.al 2019).

2. In drug development, data analytics plays a significant role to speed up the whole process. From assessing and analyzing the scientific literature and results of clinical trials to manufacturing, quality control, and post-production rituals, data analytics is an important tool (Ristevski Blagoj et.al. 2018).

3. By utilizing data analytics, pharma companies can launch a product with more patient value and limit the danger of product failure during the launch. It helps in increasing the engagement of the brand among customers (Bates DW and Saria 2014).

4. Data analytics also helps in product forecasting and estimating the success of the newly launched products. It helps collect customer's feedback for a newly launched product (Zhang Xinzhi et.al. 2017)

B. Business

By utilizing data analytics, pharma organizations can rapidly locate the new, undiscovered, underserved and potential markets to comprehend data from various sources, for example, demographic, socioeconomics, clinical records, and public health data from different sources, based on that the company can divide their customers easily into segments and can target the right customer in a right manner(Raghupathi W 2019).

Pharma organizations are also modifying their marketing approach based on doctor's behavior, demands, and interests. There is a higher possibility of the doctor prescribing a specific brand's drug if the marketing strategy is customized according to his character; for example, if one doctor is result-oriented and focused more on the ability of a drug to treat the disease and the other is having a scientific focus who requires the minute details of the molecule, mechanism of action and side effects. With the help of Data Analytics, pharma companies can analyze the doctor's behavior and segmentize such doctors based on their prescribing habits, and based on that the company can customize their marketing strategies according to the doctor (Data Analytics in the Pharmaceutical Industry 2021).

With the constant pressure of reducing costs, pharma organizations are hoping to upgrade their supply chain and improve operational activities. Organizations can use big data analytics to have a clearer picture of their sales and supply process. It can help them in forecasting and anticipating the demand and according to that company can plan their manufacturing (Bian J, 2020). Data analytics can help in the tracking of inventory and give more visibility to the company as well as stakeholders regarding stock availability.

With the help of data analytics, healthcare organizations and pharma companies can monitor the market competition. It helps them to identify their prominent competitors, their growth, and their market standings (Chakraborty M 2021)

Patient

1. Big data analytics can improve patient outcomes by managing all the health records and medical data of the patients like their test reports, medical history, demographic and socioeconomic data of the patients to segmentize the patients to provide cost-effective patient-centric care (Zhang Xinzhi et.al. 2017). Data related to patients' age, gender, weight can help to identify the group which is more prone to a particular disease.

2. Data analytics can be used to create patient awareness for disease prevention and treatment. It helps to predict health disasters and disease patterns for a particular area.

3. Different hospitals can be connected using data analytics and information technology and a referral pathway can be created for patients. It could be used in patient mapping, analyzing, patient monitoring, and tracking, and reimbursement process.

4. Patient feedback and reviews can be recorded, and this can help in the improvement of public and private healthcare (Dr. Smarta RB. 2019).

Innovation

1. Data analytics can help store the current and previous data. The new data is constantly updated, which can be used in drug and vaccine innovation for the diseases based on available data. It also helps in reviewing the concerned literature and research articles and various journals to collect the data related to demography, epidemiology, and scientific material for developing drugs and vaccines.

2. Many innovative ideas can also be generated by using big data in healthcare, and analytics makes it easy to comprehend the data in one place. It also allows the comparative analysis and differentiation of massive amounts of healthcare data (Bates D.W et.al. 2014).

3. To patent a drug, the documentation and litigation part is most important, and data analytics can smooth down the complex process by managing the whole data (Chakraborty M 2021).

Challenges of data analytics in healthcare

- Because of the absence of an effective data management process, capturing data is the biggest hurdle for medical organizations and healthcare associations. To utilize data more productively, it should be perfect, exact, and effectively designed to be utilized across different healthcare arrangements (Dr. Smarta RB. 2019).

- Nowadays, most patient records are saved for quick and simple access in a unified database, but the issue arises when there is a requirement to share this data with other healthcare professionals.

- For most medical professionals, data security is one of the biggest issues with constantly increasing hacking and security breaking that should be taken care of (Raghupathi W 2019).

- When managing extremely confidential data and patient-related data, which are important, the healthcare industry should be extremely cautious.

CONCLUSION

Healthcare organizations deal with the massive amount of data from patients' personal and health information to their organization's data, and it is not possible to manage it manually or with traditional data-handling tools (Frost & Sullivan 2020). Healthcare and Pharmaceutical organizations are now moving towards digitization rapidly as any other organization. Data analytics is useful in almost every operation of the healthcare and pharmaceutical business, like Innovation, research and development, clinical trials, production, manufacturing, sales and marketing, patient mapping, creating awareness, supply chain, and taking feedback (Dolzele Diane 2019).

Data analytics is playing an important role in big data management but, some significant challenges like; security, confidentiality, accuracy, hacking, data theft, and other malpractices are some of the major concerns of the healthcare and pharmaceutical industries (Chakraborty M 2021). To manage the sensitive data of the healthcare industry, some prominent solutions are needed to avoid any data mishandling (Ristevski Blagoj et al. 2018).

REFERENCE

1. Bates D.W., Saria S., Ohno-Machado L., Shah A., Escobar G. (2014) big data in health care. Health Aff (Millwood); 33(7):1123–1131
2. Beal Vangie, Big Data Analytics Definition & Meaning, Webopedia, Retrieved from https://www.webopedia.com/definitions/big-data-analytics/accessed on January 2021.
3. Bian J, Topaloglu U, Yu F, Yu F. (2012). Towards Large-scale Twitter Mining for Drug-related Adverse Events.
4. C. Louis (2016). Ten Ways Big Data Is Revolutionizing Marketing and Sales. Retrieved from https://www.forbes.com/sites/louiscolumbus/2016/05/09/ten-ways-big-data-is-revolutionizing-marketing-and-sales/?sh=2b2a292d21cf accessed on December 2020.
5. Chai Wesle. Big data analytics. (2020).Tech target. Retrieved from https://searchbusinessanalytics.techtarget.com/definition/big-data-analyticsaccessed on January 2021.
6. Chakraborty Monoxide, (January 4, 2021), Big data analytics in healthcare: Possibilities and challenges, Analytics insights, Retrieved from https://www.analyticsinsight.net/ accessed on December 2020.
7. Dash Sabyasachi et.al. (2019).Big data in healthcare: management, analysis and future prospects. Journal of big data. Retrieved from https://journalofbigdata.springeropen.com/articles/10.1186/s40537-019-0217-0 accessed on December 2020.
8. Data Analytics in the Pharmaceutical Industry. Upgrad Enterprise. Retrieved from https://www.upgrad.com/blog/data-analytics-pharmaceutical-industry/accessed on January 2021.
9. Dolzele Diane. (2019). big data analytics: Investigating the diffusion of information. Perspective in health information management. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6669368/ accessed on January 2021.
10. Dr. Smarta RB. (2019). Data Analytics helping pharma companies customize their marketing to doctors. ETHealthWorld. Retrieved from https://health.economictimes.indiatimes.com/news/health-it/data-analytics-helping-pharma-companies-customize-their-marketing-to-doctors-dr-rb-smarta/70884752 accessed on December 2020.
11. Frost & Sullivan. Drowning in Big Data? Reducing Information Technology Complexities and Costs for Healthcare Organizations. Retrieved from http://www.emc.com/collateral/analyst-reports/frost-sullivan-reducing-information-technology-complexities-ar.pdf accessed on December 2020.
12. Raghupathi W. Data Mining in Health Care. In: Kudyba S, editor. (2010). Healthcare Informatics: Improving Efficiency and Productivity. Retrieved from http://www.fordhamcdt.org/img/2013/07/HealthAnalyticsJournalPaperVersion5.final_.pdf accessed on January 2021.
13. Ristevski Blagoj et.al. (2018). Big data analytics in medicine and healthcare. Journal of integrative bioinformatics. 15(3): 20170030. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6340124/ accessed on December 2020.
14. Zhang Xinzhi et al. (2017). Big Data Science: Opportunities and Challenges. Ethnicity and Disease, 27(2): 95–106. Retrieved from https://pubmed.ncbi.nlm.nih.gov/28439179/ accessed on December 2020.

Perspectives on Business Management & Economics
Volume IV • April 2021 • ISBN: 978-81-951151-2-9

IMPACT OF COVID-19 PANDEMIC ON THE INDIAN INSURANCE SECTOR

Dr. V. PARVATHI, Assistant Professor
GITAM Hyderabad Business School, GITAM (Deemed to be University)
Hyderabad, Telangana, India
ORCID: 0000-0002-3463-2343

DR. C. LALITHA, Associate Professor,
Director EDCELL, St. Joseph's Degree & PG College
Hyderabad, Telangana, INDIA
ORCID: 0000-0001-8991-9862

ABSTRACT

The outbreak of the COVID-19 Pandemic has caused massive economic shocks worldwide due to the business interruptions and shutdowns which has led to the worst financial crises. India is one of the countries which severely got affected by the deadly novel coronavirus. Even though the insurance industry has been hit majorly due to the Pandemic, the future seems hopeful. The industry can grow through innovative products and new-service-based models. This chapter highlights the challenges and opportunities for the Indian Insurance Sector during this pandemic.

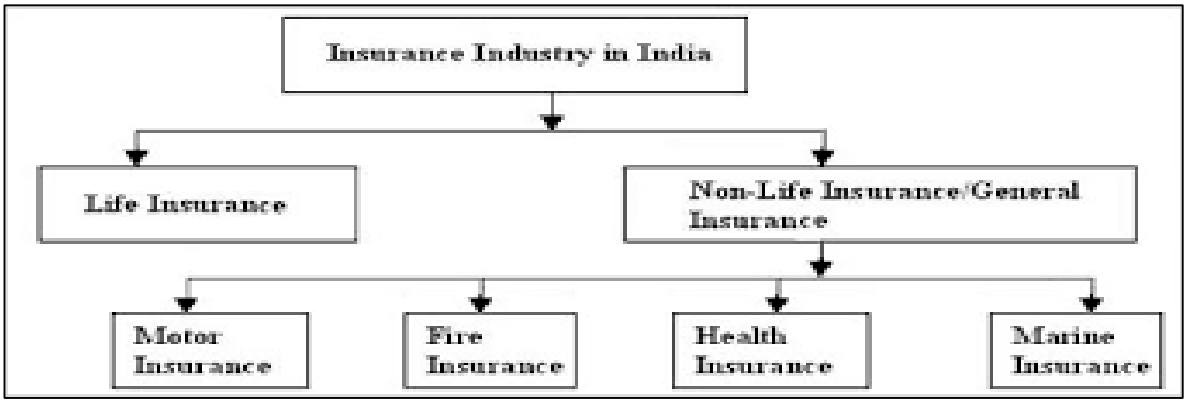
Keywords	insurance industry, pandemic, insurance innovations
JEL Classification	O16, G22
Cite this Article	Dr.V.Parvathi (2021, April). Impact of COVID-19 Pandemic on the Indian Insurance Sector. In Perspectives on Business Management & Economics (Vol. IV, pp. 60-65). Retrieved from http://www.pbme.in/papers/115.pdf
Article History	Received: December 31, 2020; Accepted: February 18, 2021; Published: April 30, 2021

Introduction

The Insurance industry plays a significant role in the Indian economy by providing safety to individuals, groups, institutions, and businesses. The Indian Insurance industry is growing at 15-20 percent and adds about 7 percent to the GDP. The Indian Life Insurance industry comprises Life Insurance and Non-Life Insurance. It is governed by the Insurance Regulatory and Development Authority of India, regulating and monitoring the insurance sector.

STRUCTURE OF INSURANCE SECTOR IN INDIA

Figure 1: Structure of Insurance Industry in India



Source: Author compilation

Life insurance companies offer life cover to individuals, and non-life insurance companies offer coverage like travel, health, vehicles and home insurance, crop, industry, gadgets, and pets.

The COVID-19 pandemic has a significant impact on business, individuals, society, and the economy worldwide. (Sravani, 2020) The deadly novel coronavirus has triggered structural changes in all sectors. The insurers have to face many challenges as the economy recovers and see many new opportunities shortly. This Pandemic could be one of the most severe challenges the Indian financial services industry faces in nearly a century, and the Indian insurance industry buckled down very efficiently.

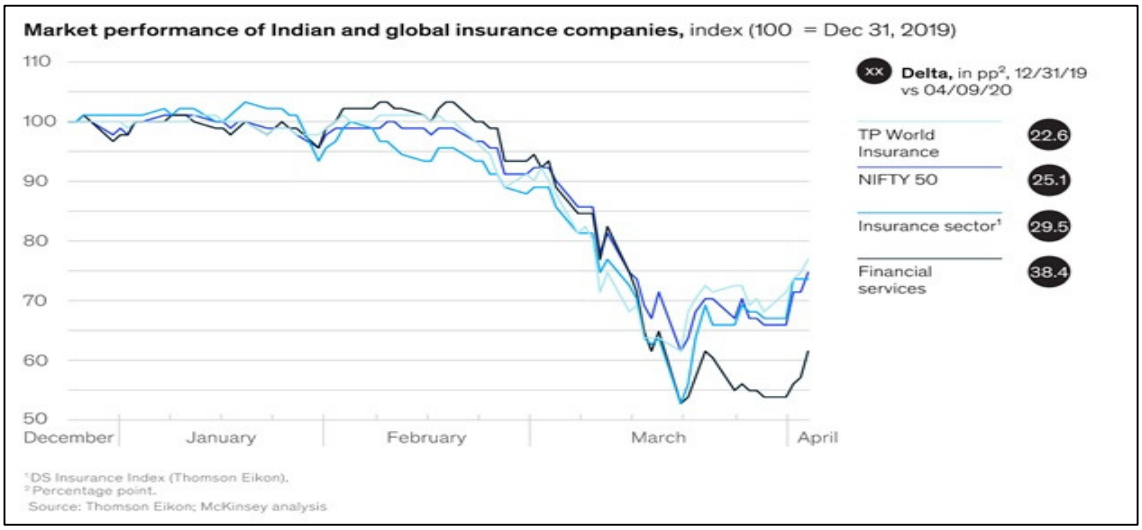
According to McKinsey's analysis, the Pandemic affected the insurance sector globally, with a decrease in the index by 22.6 percent. The share prices in the insurance sector have dropped by 25.9 percent.

PwC report says that the two productive months for the insurance industry—March and April for renewals have hit by around 30% and 15%, respectively.

The General Insurance market has suffered as it depends on the performances of industries and individual businesses. IRDA has mandated all general and health insurers to start policies for their customers as these policies cover the hospital and medical expenses of COVID patients. Life Insurance directly correlates with the earnings of people, their business performance, and net worth. Due to the onset of the Pandemic, there has been an increase in the number of policies. According to the PwC report, pure life covers should see

renewed interest, and thus, see a boost in demand. The automobile sector, which accounts for over 35% of the overall insurance premium collection, witnessed a slowdown, thus reducing significant revenue.

Figure 2: Market performance of Indian and global insurance companies



Source: Thomson Eikon; McKinsey analysis

KEY CHALLENGES FACING INDIA'S INSURANCE INDUSTRY DURING THE PANDEMIC

The COVID-19 Pandemic has raised many challenges for the Indian insurance sector. The insurance companies were facing operational and procedural difficulties, which has led to dips in revenue and depleting reserves.

- **Business Stability:** As the insurance sector is a highly complex business involving multiple processes, one must plan the risks on insurers' existence.
- **Managing employee Welfare:** As the insurance sector moves towards digitization, it will be employee-centric and a mass shift to remote working. Employers need to work remotely to support the customers and the enterprise operations as the premises will not be available. There was an urgent need to balance working from home procedures by minimizing in-person meetings and dealing with the clients virtually.
- **Crisis management and resolution:** There is a need for the Insurers to monitor the crisis and initiate the necessary measures to communicate and manage the employees and customers effectively. They must maintain frequent communications with regulators, customers, partners, agents, and brokers, shareholders to build confidence and ensure continuity of service and rethink processes.
- **Capital adequacy:** Insurers have started experiencing liquidity and solvency challenges. Insurers are required to closely monitor their liquidity and ensure financial resilience by maintaining prescribed regulatory solvency. They should manage the investor

community, intra-group stakeholders, and rating agencies on overall performance and stability.

- **Claims Processing:** The Claims volume has reduced drastically due to the lower level of economic activity. There were only a few accident claims with the customers staying at home.
- **Cybersecurity:** It has demanded the challenge of building an appropriate IT infrastructure within a short time with the increase in remote access requirements. There was an increased level of criminal activity, which has impacted the companies and their customers. It has increased the risk of cyber incidents and scams to which the insurance companies were inevitably vulnerable and easy targets. The Insurers have to increase their Cyber fraud prevention and monitoring activities.

Response to the Crisis

As the insurance can protect against many of the financial impacts, the outbreak of COVID-19 has created uncertainty and offered a unique opportunity for the insurers to rethink innovation, improved customer experiences, and an upskilled and reskilling workforce. The number of customers contacting their insurer during the Pandemic increased. COVID-19 has been the catalyst for innovation in the Insurance Sector.

Customer Outreach: There was a significant increase in the communication with the customers by the Insurers. They need to communicate to their customers concerning COVID-19 coverage and related policies. They should bring more value to their customers by launching and announcing packages for COVID-19 patients. Insurers need to monitor and review the business that requires customer support and attention.

Claims-Management Processes: The payment of claims has become a challenge for the Insurers. They need to carefully evaluate and simplify claims processing virtually by upgrading interactive voice-response systems. Artificial Intelligence and Robotics can replace field visits.

Digitization: Insurers have undergone a digital transformation by which they could benefit from digital and automation tools at the product level. They will reprioritize technology into InsurTech, digital distribution, and technological infrastructure. Digital underwriting can be used to maximize customer reach. They should establish Risk Management teams to assess and respond to the crisis. They can also implement auto-renewal for most cases using analytics.

INNOVATIONS IN PRODUCT PORTFOLIO

The insurance Sector has managed risks traditionally through the products sold by the intermediaries and protected against threats. Insurers should sell more products with better flexibility and convenience. They can launch innovative and more capital-efficient insurance products for specific risks and reward life-insurance customers for maintaining a healthy lifestyle. During the COVID-19 Crisis, The Insurance Regulatory and Development Authority of India (IRDAI) has made health insurance products more customer-friendly and aimed at bringing maximum people under the insurance umbrella. The Internet of Things will help the insurers initiate the damage repair and claim process in auto insurance. Voice Analytics can be used to analyze and record customer interaction and experience.

Modernization of distribution channels

The insurance distribution channel globally has got affected by the Pandemic. There is a need for the Insurers to rethink their distribution model and establish a digital agency channel for online recruitment, selection, and training with videos. They should encourage the sales forces and also the intermediaries to move entirely online to improve productivity. The reward and recognition schemes have to be introduced for agents and intermediaries.

CONCLUSION

The Pandemic has posed an unexpected shock to the Indian Insurance Sector. The Insurers must act decisively to overcome the disruption created by the Pandemic. A robust insurance sector has contributed to India's growth in recent years. The government and IRDAI should get back to rebuilding the insurance sector. There should be regular updates with the regulatory authorities by the insurers. The strategies have to be re-evaluated, including business lines and products to reflect the business's Pandemic's impact. Insurers need to adapt to the Customers' expectations of what products and solutions they need. Channel strategies will need to be updated. New operating models viewed as unachievable will be at the forefront of planning. Investments in automation, including AI and RPA, have to be increased. The M&A opportunities for insurers may crystallize the further growth in existing lines of business or new segments. The World Bank can assist the insurers with training on Crisis response strategies and offer financial assistance to the insurers who cannot recover the loss.

REFERENCES

1. Babuna, Pius & Yang, Xiaohua & Gyilbag, Amatus & Awudi, Doris & Ngmenbelle, David & Bian, Dehui. (2020). The Impact of COVID-19 on the Insurance Industry. International Journal of Environmental Research and Public Health. 17. 5766. 10.3390/ijerph17165766.
2. Cerra, V.; Saxena, S.C. Growth dynamics: The myth of economic recovery. Am. Econ. Rev. 2008, 98, 439–457
3. Dreyer, A.; Kritzinger, G.; Decker, J.D. Assessing the Impact of a Pandemic on the Life Insurance Industry in South Africa. In Proceedings of the 1st IAA Life Colloquium, Stockholm, Sweden, 10–13 June 2007
4. Peer, N.C.; Shrestha, N.; Rahman, M.S.; Zaki, R.; Tan, Z.; Bibi, S.; Baghbanzadeh, M.; Aghamohammadi, N.; Zhang, W.; Haque, U. The SARS, MERS and novel coronavirus (COVID-19) epidemics, the newest and biggest global health threats: What lessons have we learned? Int. J. Epidemiol. 2020, 10, 14–25
5. Ramasamy, Dr. Kannamani, Impact Analysis in Banking, Insurance and Financial Services Industry Due to COVID-19 Pandemic (August 6, 2020).
6. Ramasamy, Dr. Kannamani, Impact Analysis in Banking, Insurance and Financial Services Industry Due to COVID-19 Pandemic (August 6, 2020). Pramana Research Journal, Volume 10, Issue 8, 2020, Available at SSRN: https://ssrn.com/abstract=3668165Sravani Kumari, B., & Sruthi, A. (2020, June). Impact of COVID-19 on the Indian Economy. In Perspectives on Business Management & Economics (Vol. 1, pp. 1-14). Retrieved from http://www.pbme.in/papers/3.pdf
7. https://www.mckinsey.com/industries/financial-services/our-insights/how-indian-insurance-companies-can-respond-to-coronavirus
8. https://www.pwc.com/us/en/library/covid-19/covid-19-and-insurance-industry.html
9. https://www.financialexpress.com/money/insurance/5-new-trends-that-will-shape-insurance-industry-in-2021/2192643/