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Advent of Technology in the Financial Sector: A Step into the Future

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ABSTRACT

The financial sector of the economy provides financial services to both retail and commercial customers. With the introduction of interfaces like Python and R Programming, the finance sector has stepped into a world of "FinTech" with its own costs and benefits. The emergence of technology in the financial sector has revolutionised the way the sector has operated for years. The surge of technological advancements has led to the creation of new and improved business propositions, such as online investment, crowd funding, digital currencies and so on.

Purpose of study

This study is conducted with the sole purpose of understanding the impact of technology in the financial sector and the ever-increasing use and demand of such technology by growing organisations.

Introduction

In order to improvise the efficiency and speed of the services, as well as for providing better customer experience, the progressive financial services companies are in search for new technologies and innovations. The use of technology has rapidly increased the availability and use of data for creating better customer satisfaction. With user-friendly interfaces the transition to technology is smoother than ever.

The use of social media to promote such marketing styles has also led to the emergence of new fields like digital marketing, affiliate marketing, drop-shipping and so on.

With the development of Python in 1991 and R Programming in 1993, around 30 years ago, the financial sector has seen some drastic changes. Around 40 years ago, the thought of integrating information systems in the financial sector and digitalising the entire industry was a distant dream. The archaic practices of physical record and intuition-based approaches to stock trends are long gone. In times of technology such practices are outmoded and replaced with more data driven and statistical approaches to evaluation.

The innovation and development of customer friendly platforms has helped business organisations lower costs and streamline their operations. The growth of technology and lack of supervision thereof has led to the capitalisation of private data of consumers in the name of creation of "higher customer satisfaction".

The World Economic Forum's report further explores that "the individual and collective approaches that are needed for a successful convergence of mitigation efforts. With strategic planning and cooperation, technology can continue to be a powerful and beneficial force in financial services".

Python And R In Finance

Python is a leading programming language used in finance. Such technology gives not only a competitive advantage but also accelerates the speed by which financial transactions occur. Python is object oriented and is an open-source language. It is used by many large companies like Google for several projects.

Most beginners find Python a very easy language as it can read English and is available on major platforms and operating systems like Windows, Linux and Mac.

Financial analysts use Python for both qualitative and quantitative analysis, using extensions like Pandas, spicy, NumPy etc.

On the other hand, R is used by data analysts and data scientists to keep up with trends and capitalise available opportunities. In order to have the sense of huge data, which is raw in nature, R is the tool to make sense of it.

It helps in processing big data in less time and is considered the most-used data science language after SQL. Because of its diversity in application, R is being used by major companies for various purposes.

Earlier used for research purposes, both Python and R are now diversified into multiple sectors. The application and demand of these languages now range from the IT sector to the banking as well as the finance sector. The extensive use of these technological tools has led to a dramatic increase in the demand of financial and business analysts and has led to the development of new fields of study such as Data analysis, Machine learning and AI development, Data Science, etc.

The demand for these fields has sky-rocketed in the past decade and is expected to continue the same trend in the coming years.

Such fast-track change in the sector has led to the development of another term “FinTech” which is used to mark the application of technology in the financial sector.

What Is Fintech?

Financial technology (Fintech), at its core, is used to help business owners and consumers in better management of their financial operations and processes by utilizing specialized software and algorithms. Fintech is used to describe new technology that seeks to improve the delivery and use of financial services.

In the new era of Fintech, the traditional banking sector has had a huge impact and in order to stay operational has to adapt to these changes. Fintech is likely to decrease jobs by 30% in the banking sector, according to Citibank. Such expected decline has led to collaborations between banks and Fintech companies.

Risk In Fintech

With the heavy use of unsupervised technology, the risk associated with Fintech is exorbitant. The lack of safety nets in business models can lead to misuse of personal data and increase chances of electronic frauds. Such risks make Fintech an extremely risky option for inexperienced customers.

To protect customers and mitigate such risks regularisation and supervision of Fintech companies is of significant value. Consumer data protection and education measures need to be taken. Many online learning platforms now offer short courses and certifications in various aspects of Finance and Information Systems. Specialising in such areas can help consumers prevent scams and fraud and can also help protect their identities.

The application of FinTech can ironically be used counteract the risks associated with its use. The development of blockchains and development of AIs has helped protect the identities of various consumers, individual or commercial.

FinTech is expected to grow more in the upcoming years. FinTech will continue to provide a better life to people worldwide with all its unique features and life-changing technologies.

Trends and technologies that contribute to fintech

1. Artificial Intelligence and Machine Learning

Artificial Intelligence and Machine Learning are some of the highly used technologies in fintech. This technology creates foundation for higher degree of chance of progress and development in fiancé and technologies. Some of the significant applications of Artificial Intelligence and Machine Learning are fraud detection, credit scoring, regulatory compliance, and wealth management etc.

2. Bank & FinTech collaborations

Customers receive technological improvements, increase financial security, faster access and also innovation in every aspect of their financial planning.

Banks offer their own financial products based on FinTech services to enjoy greater trust in tech companies, which, in turn, means more customers. This benefits both parties involved, the customers as well as the banks.

3. Robotic Process Automation (RPA)

To understand, Robotic Process Automation (RPA) can be taken as a process of transferring the physical, repetitive everyday jobs to robots in place of persons to rationalize workflows in financial institutions. The highly used applications of Robotic Process Automation in the field of finance are transaction management, statistics and data collection, regulatory compliance management, etc.

4. Blockchain

“Blockchain technology is being adopted at a large scale in the financial industry, primarily due to its ability to securely store transaction records and other sensitive data. Each transaction is encrypted under such technology. The chances of successful cyber-attacks are relatively low when blockchain technology is employed. Blockchain is also the backbone of many cryptocurrencies”.

5. Big Data and Data Analytics

In the today’s world of Information data whether its from customers or from the markets, it is of high worth to fintech companies. The huge datasets of customer preferences, investment behaviours, spending habits, etc. are really useful in predictive analysis for many of the companies. Such forecasts are also useful in fraud finding by using historical data and mathematical algorithms.

Applications of fintech

1. Crowdfunding

Developments in FinTech has resulted in crowdfunding platforms like GoFundMe, Kickstarter, etc. These allow entrepreneurs and small business owners to procure huge funds across the globe. FinTech helps in removing geographical barriers and increases global reach of small and early-stage businesses.

2. Mobile Payments

Applications like Venmo and Paytm are becoming extremely common. Without physically visiting a bank, these apps allow users to perform the banking functions smoothly. With minimal service fees, consumers can enjoy banking at their fingertips.

3. Robo-Advisors

Robo-advisors are nothing but the online investment management services. These advisors utilise the algorithms to assign assets and create portfolios for clienteles. At bare minimum fees with negligible physical labours, they permit users of all age groups to participate in investment activities.

4. Insure-tech

The term insure-tech refers to "the application of technology to the insurance model. This allows companies to provide tailored insurance services and data security". Via online claims filing and policy management, Insure-tech helps streamline the insurance process.

5. Reg-tech

Reg-tech (regulatory technology) mainly focuses on the automation of compliance processes for financial institutions. It provides quick and cost-effective administration of huge volumes of data, including transaction records and compliance documents, such as corporate tax returns etc.

What does the future hold?

"FinTech has become the future of all things be it investing or trading". The advancements in technology such as AI development and Machine Learning has opened new doors in the finance industry.

Due to the transition to technology, customers now experience greater efficiency and transparency with using the platforms. Better money management has smoother transaction process has made customers more trusting of the platforms and has also helped develop a better and informed decision-making process.

The quicker and easier access to the finance sector has made customers more involved and interested in the functioning of the sector and has helped build a better and more interactive interface with higher consumer choice awareness and higher consumer satisfaction.

Conclusion

The growing use of technology in the finance sector, although involves some risks, has made financial services (and all in all, life) easier for both companies and their customers. The user-friendly platforms offered by companies has created a sense of "financial independence" in the minds of its customers. Such an attitude has indulged consumers to take charge of their finance and interact more with the companies in the financial sector.

Technology like Python and R has not only made jobs easier but has also increased demand for such professionals. Both companies and consumers reap the benefits of such advancements. The future of trends and predictions from the current state of the finance sector only brings hope of improvement and growth in the industry.

In conclusion, Fintech has been a foot in the future of technology, not only in the IT sector, but in every aspect of the economy as a whole.

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