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Application-based Technology – The scope and prospects with special reference to FinTech and Sustainable businesses

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Abstract

The proliferation of smartphones and the widespread availability of the Internet have played a crucial role in the increasing adoption of application-based technology across various domains. From mobile applications that facilitate e-commerce and ride-hailing services to online learning platforms and telemedicine apps, the scope of application-based technology has expanded significantly. Application-based technology has become crucial in today's banking system also. Peer to Peer Money Transfer Apps, Digital banking Apps, and Investment and Trading Apps have changed the banking landscape. Further services like Insurance, Personal Finance, and money-saving have expanded the horizon of mobile devices. This paper aims at discussing the scope and prospects covering the development of applications for smartphones, tablets, and wearables in the world of Fin-tech. Lastly, it elaborates on how the Covid-19 pandemic boosted the use of technology, and embracing application-based technology for sustainability initiatives is essential for fostering a more resilient and environmentally responsible business ecosystem.

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Introduction

The rapid advancement of technology has significantly influenced various aspects of human life. One of the key driving forces behind these advancements is application-based technology. Applications, or apps, are software programs designed to run on mobile devices or computers, allowing users to perform specific tasks efficiently and conveniently. Application-based technology, further, refers to the utilization of software applications to perform specific tasks or deliver services on digital platforms. The proliferation of smartphones and the widespread availability of the Internet have played a crucial role in the increasing adoption of application-based technology across various domains. From mobile applications that facilitate e-commerce and ride-hailing services to online learning platforms and telemedicine apps, the scope of application-based technology has expanded significantly.

In recent years, the world has witnessed a rapid transformation in the way technology has penetrated various aspects of our lives. The advent of application-based technology has revolutionized how we interact, communicate, shop, work, and access information. The scope of application-based technology covers

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the development of applications for smartphones, tablets, and wearables. These applications provide access and functionality to end consumers wherever they are and diminish dependency on immovable devices like desktops or laptops.

This paper is an attempt to study Application-based Technology consisting of its scope and prospects.

Research Methodology

The paper adopts an exploratory research approach wherein the data from secondary sources is summarized and interpreted for providing a deeper understanding of the concept of AI-based technology which can form a base for further research.

Findings of the study

This section is divided into four parts. Part 1 gives an overview of application-based technology adoption in various sectors of an economy. Part 2 elaborates upon specific app-based technology in the finance industry. Part 3 discusses the impact of COVID which specifically affected India in the adoption of App-based technology and Part 4 delves into how App-based technology can make businesses more sustainable.

Part 1- The scope of application-based technology

The scope of application-based technology has expanded exponentially, with its widespread adoption contributing significantly to economic growth and societal development. In the following paragraphs, various technology applications (apps) are discussed:

Application-based technology has transformed the way people shop and businesses operate.

Electronic commerce platforms, such as Amazon, Flipkart, and Myntra, have become instrumental in connecting sellers with a vast customer base, offering seamless shopping experiences and convenient delivery options. Several researchers have assessed the importance of the adoption of technology in the context of using websites and mobile versions for the online experience of shopping (Aladwani 2002; Jarvenpaa and Lang, Takeda and Tuunainen, 2003, Wareham, Zheng, and Straub, 2005).

Ride-hailing services like Ola and Uber have revolutionized the transportation industry, providing efficient and affordable travel options for millions of commuters. (Bishnoi & Bhardwaj,2019) Additionally, applications like Google Maps have made navigation and travel planning more accessible than ever before(Zhao,2000).

With the rise of fintech applications, managing finances and banking services have become more convenient. Mobile payment apps, such as Paytm and Google Pay, have facilitated cashless transactions and financial inclusion for millions of people in India. (Gai, Qiu and Sun, 2018). Similarly, Healthcare applications have empowered patients to access medical information, book appointments, and even consult with doctors remotely. Bhuiyan, Rahman, Billah, and Saha, (2021). This has been particularly crucial during the COVID-19 pandemic when telemedicine played a vital role in ensuring healthcare services continuity.

Application-based technology has also transformed the education sector by providing e-learning platforms, digital classrooms, and access to educational resources. EdTech platforms like Byju's and Unacademy have bridged the learning gap and facilitated skill development for students across the country (Sruthi and Mukherjee, 2020).

Social media applications like Facebook, Instagram, and Twitter have become integral parts of people's lives, facilitating communication, networking, and information sharing on a global scale. (Singh, Halgamuge, & Moses, B, 2019). Streaming services like Netflix, Hotstar, and Amazon Prime Video have revolutionized the entertainment industry by offering on-demand access to movies, TV shows, and other multimedia content. (Mathur,2018).

Part 2-Application-Based Technology in the Finance Industry

In today's world, not only business growth but business sustainability is dependent on adopting mobile applications and when it comes to the Finance industry (also termed as Fintech) then it is a base requirement to run the business. In last

few years, the finance industry has seen a drastic transformation in providing services over mobile applications as this helps in reaching to customer doorstep and reducing operational expenses for Financial Institutions. In today's finance world, mobile applications are just not some fancy technological needs but a survival mechanism in today's highly technology-oriented landscape.

Peer to Peer Money Transfer Apps have changed the banking landscape and the need for going to Bank branches has minimized drastically in the last 4-5 years. These apps provide easy ways to transfer money from one person to another person. These apps can operate in 2 ways: Bank account to Bank account transfer and Wallet based money transfer. Bank account transfers mainly work using UPI technology provided by NPCI and instantly transfer money from one person to another person's Bank account. Bank account transfers can be done from same bank or different bank for both payee and receiver, while wallet-based transfers work in same application developer. Some applications like Google Pay only provide Bank to Bank transfer function, while some other apps like Paytm provide both Bank to Bank transfer and wallet-based transfers. UPI-based money transfers have gained lot of momentum after the demonetization step taken by Government of India in 2016. *("UPI: Unified payments interface - Instant mobile payments | NPCI," n.d.)* Peer to Peer money transfer apps are getting more popular than traditional bank transfer methods as they provide faster, convenient and ease of use to end consumers.

Digital Banking apps provided by different Banks have become most competitive space for banks to add new customers. Banks are integrating and adding new services in their respective mobile applications for providing customers a better experience. Digital is new way of life in Banking industry and Banks are thriving to provide new features to their customers at a faster speed. Recently HDFC Bank's Managing Director stated his vision "The clear vision of the bank is to be seen as a technology company with a banking license". (Adhikari, A. n.d.) , This shows the focus of banks to transform themselves into IT companies providing digital applications to end customers at a faster pace. Banks are providing multiple digital services like UPI Payments, Money Transfers, Bill payments, Recharges, Credit Card, Deposits, Mutual funds, Demat, etc in a single platform. This will enable end customer to use a single application for all their Banking related needs and provides a customer-winning ecosystem to Banks. These applications are also serving loan requirements of end customers and also help them manage loan servicing requirements.

Investment and Trading apps have transformed the way investments are made in security markets. End customer have the liberty to access their trading accounts and perform transactions from anywhere across the globe. This have helped people with regular office jobs to invest in share market whenever they need and keep them updated about state of their investments at a single tap. New trading apps are creating new unicorns and challenging traditional trading companies. Trading applications are not just restricting their scope to share trading but also providing key facilities to end customers like trading into government securities, creating SIPs, Investment into mutual funds, Global investing by providing access to global security markets, investment into ETFs etc.

Insurance apps are helping in creating new insurance companies which operate over internet only. Insurance applications are providing all types of insurances like auto, travel, health and life insurance to end customer from the comfort of their home or office. These smart applications help in providing below key features to end customer: Purchasing new insurance product, renewal of existing insurance products, Insurance claim management, and Payment of insurance by providing various payment options like card payment, net banking, wallet etc. In today's fast-paced world, insurance agents are being replaced by these insurance applications and end customer is happily assisted by chatbots whenever required. These applications work in two models: first model is application provided by insurance companies like HDFC Life, ICICI Lombard etc and second model is for aggregator applications like Policy Bazaar which provide facility to compare and take insurance from various insurance providers.

Personal Finance apps helps you with tracking of your investments, expenses, income and also

provides you financial services and advice as per your requirements. These apps provides one stop solution to track your investments in various categories like Fixed Deposits, Mutual Funds, Stock market, PPF, EPF, Bonds, Real Estate, Crypto etc. You can capture your daily, weekly, monthly and annual expenses. These apps provide you guidance for creating goals and telling you how much and what kind of investments are required to achieve those goals. These apps are hassle free as they are integrated with various Banks and Depository participants like NSDL/CDSL and can fetch your details directly from them once you provide consent. These applications can also read your messages or emails to fetch details automatically and present in a convenient way for your tracking and planning investment activities. Apart from tracking your investments/expenses, these apps provide you advice by telling you to invest more or which expense you can cut down.

Money Saving apps provide you benefits in return of various favors. Best example of such app is apps which ask you to upload hotel bill and provide you discount coupon in return. Another use case of such apps is the Dine-out app which provides you discount coupons for various restaurants around you when booked thru them. Cred is another app which gives you cash rewards and discount coupons when you pay credit card bills thru their app. Ind Money app also provides you US stocks of companies like Amazon, Netflix, Apple, Walmart etc when you link credit card and shopping is done on their respective platforms like Amazon, Netflix, Flipkart etc. All in all these app provides extra benefits for using their platform to do regular tasks.

Part 3: The Emergence of Application-Based Technology in FinTech during COVID-19 Pandemic

The financial services industry in India has witnessed a significant transformation with the rise of FinTech. Application-based technology has emerged as a crucial driver of this transformation, enabling the delivery of innovative and convenient financial services to a large and diverse population. However, the landscape of FinTech in India, like many other sectors, was heavily impacted by the COVID-19 pandemic.

The rise of application-based technology in FinTech can be attributed to several factors. First and foremost, India's burgeoning smartphone user base has provided a massive opportunity for FinTech companies to reach a vast audience. With affordable data plans and increasing internet penetration, millions of Indians now have access to financial services through their smartphones. (Singh, 2012; Kandpal and Mehrotra,2019). Secondly, the traditional banking system often fails to cater to the needs of the unbanked and underbanked populations in India. Application-based FinTech solutions have bridged this gap by offering easy-to-use, user-friendly platforms for financial transactions, payments, and savings. (Pant, 2020). These solutions have democratized access to financial services, bringing the previously excluded individuals and small businesses into the formal financial ecosystem.

Moreover, the Indian government's push for digitalization and financial inclusion has been instrumental in promoting FinTech adoption. Initiatives like the Unified Payments Interface (UPI) and the Pradhan Mantri Jan Dhan Yojana have facilitated seamless and cost-effective transactions, encouraging the use of mobile applications for financial activities. (Muthukannan, Tan, Gozman, & Johnson,2020).

The COVID-19 pandemic presented both challenges and opportunities for application-based FinTech in India. On one hand, the lockdowns and restrictions on the physical movement led to a surge in demand for digital financial services. People sought contactless payment options, online banking, and remote access to their financial assets. Consequently, FinTech platforms experienced a spike in usage, accelerating the adoption of application-based financial services. On the other hand, the pandemic also exposed vulnerabilities in the FinTech sector. Economic uncertainties and job losses affected borrowers' ability to repay loans, leading to an increase in defaults. This posed challenges for FinTech lending platforms that heavily rely on data-driven risk assessment models, which were not equipped to handle the unprecedented disruptions caused by the pandemic.

Additionally, cybersecurity threats escalated during the pandemic as cybercriminals exploited the surge in online activities. FinTech companies had to bolster their security measures to protect sensitive customer data and prevent fraud. (Najar,2022).

Part 4 The Emergence of Application-Based Technology in promoting sustainable businesses

In today's rapidly changing and competitive landscape, business sustainability has emerged as a crucial goal for companies. Application-based technology has become a powerful tool in achieving sustainability objectives, transforming the way organizations operate and contributing to environmental preservation. By leveraging digital workflows and cloud-based solutions, businesses can optimize resource utilization, leading to cost savings and increased efficiency. Moreover, embracing remote work through application-based technology not only enhances work-life balance for employees but also reduces the carbon footprint associated with commuting and physical office spaces. (Yustiari,2020).

Beyond internal operations, application-based technology also plays a pivotal role in promoting sustainability throughout the supply chain. Real-time tracking and monitoring of products enable transparency and accountability, allowing businesses to identify areas where eco-friendly practices can be implemented (Munizu, Pono, and Alam, 2019). Moreover, applications serve as a platform for promoting and delivering eco-friendly products and services to consumers, empowering them to make environmentally conscious choices and fostering responsible consumption. Waste management and recycling initiatives are further facilitated by application-based technology, which incentivizes employees to adopt sustainable waste disposal practices and connects businesses with recycling partners (Samsukha, 2022). Additionally, the integration of renewable energy sources through smart energy management applications helps reduce reliance on fossil fuels and minimize the carbon footprint of organizations.

Application-based technology not only contributes to sustainability initiatives but also plays a vital role in engaging customers on environmental matters. Through applications, companies can educate customers on sustainable practices, offer eco-friendly alternatives, and provide rewards for sustainable actions taken by consumers. This engagement strengthens the company's brand image and attracts environmentally-conscious customers.Furthermore, applications enable organizations to collect and analyze data related to sustainability metrics, such as energy consumption, carbon emissions, and waste generation. By monitoring these metrics, businesses can set sustainability targets and track their progress towards achieving them, supporting data-driven decision-making and continuous improvement. (McKinsey and Company, 2022).

Lastly, application-based technology ensures regulatory compliance with sustainability-related regulations and reporting requirements. By integrating compliance tracking features into applications, companies can align their operations with environmental standards, reducing the risk of potential fines or reputational damage. (Lee, (2017).

Discussion

The COVID-19 pandemic has brought about a lasting impact on consumer behavior and business practices, reshaping the future of FinTech in India. pandemic has pushed individuals and businesses to embrace digital channels for financial transactions. This shift is expected to continue, driving the digital transformation of the financial services industry. Application-based FinTech platforms will be at the forefront of this transformation, offering a wide range of services tailored to meet evolving customer needs. Further, FinTech companies have a significant role to play in furthering financial inclusion in India. Application-based technology can empower the unbanked and underbanked by providing them with access to essential financial services, such as savings, credit, and insurance. Furthermore, the expansion of digital banking services to remote and rural areas will help bridge the urban-rural divide in financial access. Moreover, Application-based FinTech platforms have access to vast amounts of data, enabling them to provide personalized financial solutions to customers. By leveraging artificial intelligence and machine learning.

Also, application-based technology is a valuable enabler of business sustainability, providing numerous benefits across resource efficiency, supply chain transparency, waste management, renewable energy integration, and customer engagement. By embracing such technology, organizations can innovate, reduce their environmental impact, and establish a positive reputation among stakeholders. Embracing application-based technology for sustainability initiatives is essential for fostering a more resilient and environmentally responsible business ecosystem.

Conclusion

Digital is the way forward and every organization needs to travel this journey at a faster pace to keep itself relevant in today's digital world. The financial industry is evolving at a faster pace and financial institutions need to reinvent themselves and leave behind traditional ways. Organizations with a greater digital footprint will capture more business. These digital applications will also provide greater security to end customers by providing real-time status and auditing of various transactions. The ease of operating financial products will make these services more popular amongst the common man at a very fast pace. The same is applicable from the point of view of sustainability in businesses via app-based technology.

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References

Adhikari, A. (n.d.). HDFC bank's tech-tonic shift. HDFC Bank's Tech-tonic Shift. https://www.businesstoday.in/interactive/immersive/hdfc-bank-ceo-sashidhar-jagdishan/

Aladwani, A.M. (2002). The Development of Two Tools for Measuring the Easiness and Usefulness of Transactional Web Sites, European Journal of Information Systems 11(3): 223–234.

Bhuiyan, M. N., Rahman, M. M., Billah, M. M., & Saha, D. (2021). Internet of things (IoT): A review of its enabling technologies in healthcare applications, standards protocols, security, and market opportunities. *IEEE Internet of Things Journal*, *8*(13), 10474-10498.

Bishnoi, V. K., & Bhardwaj, R. (2019). Cab Aggregators in India: A Case Study of Ola and Uber. *International Journal of Research in Social Sciences*, *9*(4), 1029-1040.

Gai, K., Qiu, M., & Sun, X. (2018). A survey on FinTech. *Journal of Network and Computer Applications*, *103*, 262-273.

How trading apps are making the stock market more accessible than ever before. (2021, November 4). The Economic Times. https://economictimes.indiatimes.com/markets/stocks/news/how-trading-apps-are-making-the-stock-market-more-accessible-than-ever-before/articleshow/87522827.cms

Insurers vs Aggregators. (2021, August 2). The Economic Times. https://economictimes.indiatimes.com/tech/newsletters/morning-dispatch/insurance-wars-un-academy-bags-440m-founders-lobby-sebi/articleshow/84960549.cms?from=mdr

Jarvenpaa, S.L., Lang, K.R., Takeda, Y. and Tuunainen, V.K. (2003). Mobile Commerce at Crossroads, Communications of the ACM 46(12): 41–44.

Kandpal, V., & Mehrotra, R. (2019). Financial inclusion: The role of fintech and digital financial services in India. *Indian Journal of Economics & Business*, *19*(1), 85-93.

Lee, C. C. (2017). Sustainable Advantage: Accelerating from Regulatory Compliance to Environmental Sustainability. International Journal of Environmental Sustainability, 13(2).

Mathur, P. (2018). Netflix Streaming in Indian Digital World. *Trinity Journal of Management, IT & Media (TJMITM)*, *9*(1), 28-31.

Munizu, M., Pono, M., & Alam, S. (2019). The impact of information technology application on supply chain integration and competitive advantage: Indonesian fishery industry context. *Calitatea*, *20*(169), 151-156.

Muthukannan, P., Tan, B., Gozman, D., & Johnson, L. (2020). The emergence of a fintech ecosystem: A case study of the Vizag Fintech Valley in India. *Information & Management*, *57*(8), 103385.

Najar, A. A. (2022, July). Covid-19 Impact on Cyber Crimes in India: A Systematic Study. In 2022 IEEE India Council International Subsections Conference (INDISCON) (pp. 1-8). IEEE.

Pant, S. K. (2020). Fintech: Emerging Trends. *Telecom Business Review*, *13*(1).

Pay premium 'as you drive, how you drive'. (2022, July

7). The Economic Times. https://economictimes.indiatimes.com/wealth/insure/motor-insurance/pay-premium-as-you-drive-how-you-drive/articleshow/92715715.cms

Roy, S. (2017). Scrutinizing the Factors Influencing Customer Adoption of App-Based Cab Services: An Application of the Technology Acceptance Model. *IUP Journal of Marketing Management*, *16*(4).

Samsukha, A. (2022, September 9). *Role Of Technologies And Mobile Apps In Waste Management*. Forbes. https://www.forbes.com/sites/forbestechcouncil/2022/09/09/role-of-technologies-and-mobile-apps-in-waste-management/?sh=1feefd0b7d26

Singh, A., Halgamuge, M. N., & Moses, B. (2019). An analysis of demographic and behavior trends using social media: Facebook, Twitter, and Instagram. *Social Network Analytics*, 87.

Singh, P. (2012). Smartphone: the emerging gadget of choice for the urban Indian. The Nielsen Company Retrived from http://www. nielsen. com/content/dam/corporate/india/reports/2012/Featured.

Sruthi, P., & Mukherjee, S. (2020). Byju's the learning app: An investigative study on the transformation from traditional learning to technology based personalized learning. *International Journal of Scientific and Technology Research*, *9*(3), 5054-5059.

Still feeling good: The US wellness market continues to boom. (2022, September 19). McKinsey & Company. https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/still-feeling-good-the-us-wellness-market-continues-to-boom

UPI: Unified payments interface - Instant mobile payments | NPCI. (n.d.). https://www.npci.org.in/what-we-do/upi/product-overview

Wareham, J., Zheng, J. G., & Straub, D. (2005). Critical themes in electronic commerce research: a meta-analysis. Journal of Information Technology, 20, 1-19.

Yustiari, S. H. (2020). Smart Governance and Smart Cities: A Review of The Literature. Jurnal Ilmiah Administrasi Publik, 6(1), 166-169.