LEAPFROG GROWTH OF DIGITAL ECONOMY

Dr. N. Mukundan

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Leapfrog Growth of Digital Economy

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To

The fond memory of

My cherished Mother, Late Rani Naraciman:

My guiding light, shining star, and source of inspiration, whose Life was sacrificed

PREFACE

Digital Economy" refers to the use of information technology in the way of use in digital novelties sectors like Banking (digital banking) Commerce(e-commerce) Education(virtual education). In other words, integrate all the digitally-oriented economic activities. Digital economy facilitate the more people are using smart phones, tablets, and other mobile Internet devices to connect to a global environment at anytime and anywhere. It is taking shape and undermining conventional notions about how businesses are structured; how firms interact; and how consumers obtain services, information, and goods. Prof. Walter Brenner rightly states: "The aggressive use of data is transforming business models, facilitating new products and services, creating new processes, generating greater utility, and ushering in a new culture of management."The digital economy can also contribute to the growth of GDP thereby reducing the unemployment rate and improving the employment structure.

This editing book is the culmination of more than two decades of my professional expertise in teaching, research and extension. I chose today's topical interest of "digital economy," its pace and level, the lessons learned from India's experience, and how people practiced in the digitalized world. In addition to acquiring knowledge about the digital economy.

The collection of articles is a great task but the generous mind and assistance given by the numerous eminent scholars from all over Tamil nadu made it easy to do so. I extremely happy for the opportunity to engage in this intellectual venture. In this context, a genuine teacher should go beyond a class room and enlarge the scope of his/her academic activities. I am really thank all the authors who have graciously responded to our humble request and contributed articles, which can expand the horizon of knowledge.

ACKNOWLEDGEMENT

At the outset, I must acknowledge the generous support that I have got from all the authors who, in spite of their busy schedule, had been very kind to my request and contributed theme related resourceful chapters. I find no words to express my sincere gratitude to all those contributors. I am also very much grateful to all the learned authors whose writings enriched me and helped me in writing one chapter in the book.

My greatest debt is to my teachers Dr.P.Vinmathy, Former Head, Dept. of Economics MTN College (A), Madurai, Dr.M. Stephen Samuel Former Head, Dept. of Economics,

The American College (A) Madurai, TN. Prof. Dr.M.A.Sudhir, Former Head, Dept. of Applied Research, GRI,TN, Dr,G.Chandra Kumar, Former Head Dept. of Economics, A.V.C. College (A) Mayiladuthurai, TN who taught me through their work and attitude and also constant blessings. I extend my sincere thanks to them all.

I am intellectually indebted to budding Fiscal Economist Prof. Emmanuel Thomas, Assistant Prof. of Economics, St Thomas College, Thrissur, Kerala who stood by me completion of this edition in time.

I owe my thanks to my friend Professional Economist Dr.S. Janakiraman, Assistant Prof. of Economics (SG) Government Arts College (A) Kumbakonam,TN for giving me intellectual support.

My heartfelt thanks are also due to Mrs M. Vijayalakshmi my beloved wife for her understanding and for freeing me from all household responsibilities in order to concentrate successfully on this book. I also thank my daughters M. Krubhashini and M. Dhanushini who allowed me to work and also refreshed me. This safe home scaffolding has enabled me to complete the stupendous task without tiredness.

The editor express his sincere thanks to Empyreal publishing house who have shouldered the responsibility of printing and publishing in a commendable manner.

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Dr. N. Mukundan

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EMBRYONIC OF DIGITAL ECONOMY

In recent past years, the digital economy has become a new economic form after the agricultural and industrial economies. The concept of the digital economy was first proposed by Tapscott, who indicated that the age of networked intelligence. Further, it is not only about the networking of technology. According to Mesenbourg defined the digital economy in terms of three components: **e-business infrastructure, e-business and e-commerce**. Other scholars rightly considered the digital economy as a dynamic process instead of static efficiency. The Organization for Economic Co-operation and Development (OECD) described the concept of the digital economy as "the digital transformation of economic and social development" and considered all traditional industries in the process of digitization and networking as part of the digital economy . The spectrum of digital economy encompasses wide range of ideas such as e-commerce, e-payment system, e-banking, e-knowledge processing, internet banking, mobile banking , payment wallets etc.,(Chakravorti et.al., 2016)

DIGITAL ECONOMY IS PANACEA

No doubt that digital economy is way to solution of all economic ills. For example '"Belt and Road Initiative"(BRI) transport projects can expand trade,-by **lowering trade costs** (As of August 2022, **149** countries were listed as having signed up to the BRI) increase foreign investment and reduce poverty. Also contribute to the growth of GDP by way of **reducing the unemployment rate and improving the employment structure**. Smitkumar Maji and Arindan Laha opined that the strength of the digital economy lies in its spillover effect that promotes economic growth, ability of lowering non accelerating inflation rate of employment, equilibrating inflation and unemployment in short run, introducing of innovative and quality products and services, dampening the business cycle(which allows the economy to operate at full capacity(Howard et al., Saxena,2018).

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DIGITAL ECONOMY IS INNOVATION DRIVER FOR GROWTH

In the context of the present circumstances among the people and business were connected through Online world. In the mid-90s, Canadian Finance expert **Don Tapscott** wrote on "The Digital Economy", He states "how the Internet and digitalized information could change business in the future". Time has proven the author right: today technology has innovated not only how companies do business but also means of growing interconnectedness of people, organisations, and machines that results from the Internet, mobile technology and the internet of things (IoT).Kumar and Ghosh (2019) estimated the size of India's digital economy based on the ICT sector using National Industrial Classification to be around 6.7 per cent of India's economy during 2011- 12 to 2017-18. India's future looks really optimistic and setting examples for the world. First major breakthrough was Aadhaar followed by UPI and FASTag for cash-free toll payments. There are many such steps that the government has taken for better interoperability with the help of innovative digital solutions. It has been compared to the American Marshall Plan.

The digital economy is considered as an effective measure to mitigate the negative economic impact of the Corona Virus Disease 2019(COVID-19)epidemic. No doubt that COVID-19 has boosted the demand for the digital industries and the impact from the demand side is much lager than that from the supply side. It is evidence that the digital industries in Israel, Latvia and Estonia have shown great growth potential during the epidemic. However, a notable studies evaluated the role of digital economy on the economic growth of countries along the"Belt and Road" and the impact of COVID-19 on their digital industries. Then, a Global Trade Analysis Project(GTAP) model was used to examine the impact of COVID-19 on their digital industries and digital pattern.

The G20 Digital Economy Development and Co-operation Initiative further defined the digital economy as "a broad range of economic activities that include using digitized information and knowledge as the key factor of Production, modern information network as an important activity space and the effective use of ICT as an important driver of productivity growth and economic structural optimization. India's digital consumer base is the second largest in the world and growing at the second-fastest rate

amongst major economies. As per the findings of report by the Government of India's Ministry for Electronics and Information Techonology (MEITY) '**India's Trillion-Dollar Digital Economy** 'half the potential economic value of $1 trillion in 2025 could come from digital ecosystem in diverse sectors like fiancé, logistics, agriculture healthcare etc. (Rajeswari,2020).Therefore, we hope that Indian digital economy leads to **defrag growth of the GDP** in future**.**

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LEAPFROG GROWTH IN DIGITAL ECONOMY

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DIGITAL ECONOMY IN INDIA

The digital economy in India has been growing rapidly in recent years, driven by a combination of factors including increasing internet and smartphone penetration, government initiatives to promote digital infrastructure and services, and the growth of various sectors such as e-commerce, digital payments, and online education. The Indian government has also launched several initiatives, such as Digital India and Make in India, to promote the growth of the digital economy and attract foreign investment. Despite the challenges posed by the COVID-19 pandemic, the digital economy in India is expected to continue growing in the coming years, with increasing digitization and automation of various industries and increasing adoption of digital services by consumers and businesses.

DIGITAL ECONOMY IMPACTS IN INDIA

The digital economy has had a significant impact on India, both in terms of economic growth and social development. Some of the key impacts include:

Job Creation: The digital economy has created new job opportunities in areas such as e-commerce, digital payments, and online education.

Economic Growth: The digital economy has contributed to India's overall economic growth, particularly in sectors such as e-commerce and digital payments.

Access to Services: The digital economy has improved access to a wide range of services, such as online education and healthcare, for people in remote and underserved areas.

Financial Inclusion: The digital economy has improved financial inclusion by providing more people with access to financial services through digital channels.

Improved Efficiency: The digital economy has improved the efficiency of various industries, such as agriculture and logistics, through the use of digital technologies.

Increase in Cybercrime : The digital economy has also led to an increase in cybercrime, with hackers targeting digital financial services and e-commerce platforms.

Digital Divide: The digital economy has also led to an increasing digital divide, with people who have access to digital technologies and services enjoying greater opportunities, while those who do not have such access are at a disadvantage.

Overall, the digital economy has had a positive impact on India, but challenges such as digital divide and cybercrime need to be addressed to ensure that the benefits of the digital economy are inclusive and sustainable.

PARAMETERS THAT AFFECTS DIGITAL ECONOMY IN INDIA

There are several key parameters that affect the growth and development of the digital economy in India. Some of the most important ones include:

Internet and Smartphone Penetration: The availability and accessibility of internet and smartphones are crucial for the growth of the digital economy, as they enable people to access digital services and participate in online transactions.

Digital Infrastructure: The availability of robust and reliable digital infrastructure, such as high-speed internet, data centers, and cloud computing, is essential for the growth of the digital economy.

Government Policies and Regulations: Government policies and regulations play a crucial role in shaping the digital economy, both in terms of promoting its growth and protecting consumers.

Talent Pool: The availability of skilled workers, particularly in areas such as digital technology and data analysis, is essential for the growth of the digital economy.

Consumer Trust and Adoption: The level of consumer trust and adoption of digital services is a key parameter that affects the growth of the digital economy.

Entrepreneurship: Entrepreneurship ecosystem and innovation plays a crucial role in driving the digital economy forward.

Education: Digital literacy and education is also important for the growth of the digital economy, as it helps more people to access and use digital services.

Overall, these parameters are interconnected and require a holistic approach to fully unlock the potential of the digital economy in India.

How Chatgpt Affects Digital Economy in Near Future

ChatGPT is a large language model developed by OpenAI that can generate human-like text based on the input provided to it. In the near future, it could have a significant impact on the digital economy in a few ways:

Virtual Assistants: ChatGPT could be integrated into virtual assistants, chatbots, and other AI-powered customer service systems, improving the efficiency and effectiveness of digital services.

Content Generation: ChatGPT can generate high-quality, human-like text, which can be used to generate marketing content, website copy, and other types of digital content, which could be beneficial for businesses looking to improve their online presence.

Language Translation: ChatGPT can be trained on multiple languages, making it useful for language translation and other multilingual applications.

Education and Training: ChatGPT can be used to generate personalized educational content and online training programs, which could be beneficial for online education platforms.

Research and Analysis: ChatGPT can be used to generate reports, summaries, and other types of information based on large amounts of data, which could be beneficial for research and analysis in various industries.

However, it is worth noting that ChatGPT is a tool and its impact will depend on how it is used, and it is important to consider the ethical and societal implications of its use.

How Chatgpt Helps to Grow the Digital Economy

ChatGPT can help grow the digital economy in a few ways:

Automation of Services: ChatGPT can be integrated into various digital services such as chatbots, virtual assistants, and customer service systems, which can automate

repetitive tasks and improve the efficiency of digital services, ultimately leading to better customer experience and increased adoption of digital services.

Improved Content Generation: ChatGPT can be used to generate high-quality, human-like text, which can be used to improve the content of digital platforms such as e-commerce websites, social media platforms, and online marketplaces.

Personalization: ChatGPT can be trained on specific data sets, which can enable it to generate personalized content and recommendations, which can improve the user experience and increase engagement with digital services.

Artificial Intelligence-Powered Customer Service: ChatGPT can be used to power customer service chatbots and virtual assistants, which can help businesses to respond to customer inquiries in a more timely and efficient manner, which can lead to increased customer satisfaction and ultimately increased revenue.

Overall, ChatGPT can be a valuable tool for businesses and organizations looking to improve the efficiency, personalization, and reach of their digital services, but again it is important to consider the ethical and societal implications of its use.

THE TRANSFORMATION OF DIGITAL ECONOMY

The digital economy has undergone a significant transformation in recent years, driven by a number of factors including technological advancements, changing consumer behavior, and government policies. Some of the key transformations that have taken place include:

Shift Towards E-Commerce: The growth of e-commerce platforms such as Amazon and Flipkart has led to a shift in consumer behavior, with more people choosing to shop online.

Digital Payment: The growth of digital payment systems such as UPI and wallet apps has led to a significant increase in digital transactions and a shift away from cash-based transactions.

Increased Digitization of Industries: The growth of digital technologies such as cloud computing, artificial intelligence, and the Internet of Things has led to increased digitization of various industries, including manufacturing, retail, and healthcare.

Remote Work and Learning: The COVID-19 pandemic has accelerated the shift towards remote work and learning, with more companies and educational institutions using digital tools to enable employees and students to work and learn from home.

Increased focus on Cybersecurity: The increased digitization of industries and increased reliance on digital technologies have led to an increased focus on cybersecurity, as businesses and individuals become more vulnerable to cyber attacks.

Data-Driven Decision Making: The growth of big data and analytics has led to an increased focus on data-driven decision making, with organizations using data to gain insights and improve their operations.

Rise of Platforms: The growth of digital platforms such as Google, Facebook, and Alibaba has led to a concentration of power in the digital economy, with a small number of companies controlling large amounts of data and influencing consumer behavior.

Increase in Digital Inclusion: The digital economy has also been instrumental in increasing digital inclusion, by providing access to digital services for people in remote and underserved areas, and by providing access to financial services for people who were previously unbanked.

These transformations have led to a more connected, digital-driven economy, but also pose new challenges and opportunities, such as data governance, digital divide, and cybersecurity.

THE ROLE OF AI IN DIGITAL ECONOMY

Artificial intelligence (AI) plays a significant role in the digital economy by enabling businesses to automate processes, make better decisions, and improve customer interactions. AI-powered technologies such as machine learning, natural language processing, and computer vision can be used to analyze large amounts of data, identify patterns, and make predictions. This can lead to more efficient operations, increased productivity, and improved customer satisfaction. Additionally, AI can also create new business models, such as the development of personalization and recommendation systems. AI is also being used to automate routine tasks and replace human labor, which is likely to change the structure of the workforce and the nature of work in the future.

WHERE AI USED IN DIGITAL ECONOMY

AI is used in a wide range of industries and applications within the digital economy. Some examples include:

E-commerce: AI is used to personalize online shopping experiences by recommending products based on a customer's browsing and purchase history. Additionally, AI-powered chatbots can provide customer support and help customers find the products they're looking for.

Finance: AI is used to detect fraud, predict stock prices, and evaluate credit risk. Additionally, AI-powered robo-advisors are becoming increasingly popular for providing financial advice and managing investment portfolios.

Healthcare: AI is used to analyze medical images and assist with diagnostics, as well as to identify potential drug candidates and assist with drug development. Additionally, AI-powered chatbots can provide symptom checking and triage.

Marketing: AI is used to analyze customer data and predict which marketing campaigns will be most effective, as well as to target ads to specific audiences.

Supply Chain Management: AI is used to optimize logistics, predict demand and improve forecasting, as well as to automate warehouse management and monitoring.

Transportation: AI is used to optimize routes and improve traffic management, as well as to develop autonomous vehicles.

These are just a few examples, but AI is being used in many other industries and applications within the digital economy as well.

Growth of Digital Economy in India Last 5 Years

India's digital economy has seen significant growth in the last five years. According to a report by Google, Temasek, and Bain & Company, the Indian digital economy is expected to reach $1 trillion by 2025.

E-Commerce: The e-commerce market in India has seen strong growth in recent years, driven by the increasing adoption of smartphones and internet access. According to a report by the Indian Ministry of Electronics and Information Technology, the Indian e-commerce market is expected to reach $99 billion by 2024.

Digital Payments: The adoption of digital payments in India has increased significantly in the last five years, driven by the government's demonetization program in 2016 and the launch of the Unified Payments Interface (UPI) in 2016. According to a report by Google, Temasek, and Bain & Company, the digital payments market in India is expected to reach $500 billion by 2023.

Online Education: The online education market in India has seen significant growth in recent years, driven by the increasing adoption of internet and mobile technology. According to a report by KPMG, the Indian online education market is expected to reach $1.96 billion by 2021.

Digital Media: The digital media market in India has seen significant growth in recent years, driven by the increasing adoption of smartphones and internet access. According to a report by KPMG, the Indian digital media market is expected to reach $4.4 billion by 2021.

Online Travel: The online travel market in India has seen strong growth in recent years, driven by the increasing adoption of internet and mobile technology. According to a report by KPMG, the Indian online travel market is expected to reach $48 billion by 2020.

These are just a few examples, but overall the Indian digital economy has seen significant growth in the last five years and it is expected to continue to grow in the future.

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EMERGING TRENDS IN DIGITAL ECONOMY

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INTRODUCTION

The digital provides India a way to start off the journey towards becoming a developed nation without waiting for costly and time-consuming industrial infrastructure investment to bear fruit. As the story of globalization progressed, it was always accompanied by several socio-cultural changes but no change was as prominent as the development of modern technology and one of the most important technological advancements of this period was the growth of the Internet. With the rapid expansion of the internet, the traditional and digital economies are slowly merging into one. And as the name suggests, the digital economy refers to the economy based on computing and digital technologies. It includes the economic, business, cultural, and social activities that are highly dependent on the internet. Digital technology in essence refers to the transactions and commerce activities that take place in the online domain. "India's digital economy grew 2.4 times faster than the Indian economy, with strong forward linkages to non-digital sectors; digital output multiplier has increased over time, highlighting the role of investments to drive growth and 62.4 million (11.6%) workers are employed in the digitally dependent economy," the Reserve Bank of India stated in its Bulletin. The Asian Development Bank's 2021 framework, the core digital economy is estimated to be 5.40% or $0.11 trillion of the Indian economy's overall gross value added (GVA) in 2014 ($1.99 trillion), which increased by more than 15% annually in absolute terms to contribute to 8.5% of the economy's GVA in 2019.

THE ARCHITECTURE OF A DIGITAL REVOLUTION

The progress is gradual when it comes to modernizing physical infrastructure but our digital infrastructure has leapfrogged. With the Digital India revolution, we are on a path to hyper-digitize businesses, data, and even public infrastructure – payment systems, land records, and service delivery such as welfare distribution and subsidy transfers. While it seems like a natural evolution, it’s a feat of massive proportions. In

the west, companies are still figuring out real-time payments – IMPS and UPI achieved this almost a decade ago. The foundation of this digital infrastructure lies in JAM – Jan Dhan, Aadhaar, and Mobile numbers. This trinity powers billions of rupees of direct subsidy transfers to millions of Indians every month–completely digitally and with minimal human intervention. Once we built the infrastructure, we learned to harness its power to build other use cases on top of it. One must lay down the rails before the trains can run. Now, we have UPI, GSTIN, e-KYC, e-sign, and Account Aggregation among dozens of other digital solutions that are the envy of the world.

THE PROMISE OF AN INCLUSIVE, PROSPEROUS FUTURE

- How did India do this? What can we learn from this leapfrog?
- First, India developed this digital infrastructure as a public good -allowing both the public and private sectors to innovate. Unlike the closed-loop, proprietary systems built by private players, India Stack is open for all – and this enables seamless authentication, authorization, and transfers of funds/information transfers between institutions, intermediary channels, and citizens.
- Second, it developed a strong legal framework around financial services. India's Payments and Settlement Systems Act designated the RBI as the authority on payments. The RBI then formed the NPCI – giving it enough operational freedom for innovation while maintaining regulatory oversight.
- Third, the focus has been to boost entrepreneurship and ties into the goal of improving the ease of doing business.
- The local store now accepts digital payments, makes its financial accounts on apps, accesses instant credit and banking services through the internet – and sells to the world through e-Commerce marketplaces.

ATTRIBUTES OF DIGITAL ECONOMY

Some of the key attributes of the digital economy are:-

- **It is Digitized:** Various analogue objects produce digital signals which can be easily measured, tracked, and even analyzed for efficient decision making. Also, lower costs for modern technology are allowing operators to invest more processing out into the business.

- **It is Connected:** The Workers, assets, suppliers, and even stakeholders are all linked together by wireless communications. It enables various people to make better decisions that promote safety, visibility, and efficiency across the enterprise.
- **It is Shared:** The digital economy operates on the principle of sharing. Buying only what is required often reduces costs and allows the companies to pay only for the value received.
- **It is Personalized:** One of the most important characteristics of the digital economy is customer personalization. Hence, it enables customers to get benefits from their favorite brands whenever and wherever they want.
- **It is Direct:** The Leveraging of remote intelligence to monitor, manage, report, and resolve asset problems throughout the service lifecycle, eradicates the need to have local personnel on the ground.

MAIN COMPONENTS OF DIGITAL ECONOMY

In the context of the present circumstances of the world, the "Digital economy" refers to the use of information technology to create or adapt market or consume goods and services. According to US economist and statistician Thomas Mesenbourg in his 2001 paper, the Digital economy can be divided into three components distinguish the digital economy from the regular economy: **(1)**Infrastructure (2) E-business and (3) E-commerce.

The three things about the Digital Economy: More people are using smart phones, tablets, smart watches and bracelets, and other mobile Internet devices to connect to a global environment, anytime and anywhere. Millions around the world can take part in the digital economy to buy or sell goods and services.

Infrastructure. Businesses have software, hardware and other technological resource, plus specialist human talent.

- **E-business.** Computer applications, online tools and digital platforms help carry out business processes.
- **E-commerce.** A familiar concept, e-commerce means the sale of goods and services online.

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THE DIGITAL ECONOMY: WHAT IT AND WHY ITS'S FUTURE OF BUSINESS

The Internet and real-time access to information have changed how we secure products and services. Technology is transforming banking, retail..even agriculture. In the mid-90s, Canadian finance expert Don Tapscott wrote *The Digital Economy*, a book that warned of how the Internet and digitalized information could change business in the future. Time has proven the author right: today technology has innovated not only how companies do business but also personal finance. "Digital economy" refers to the use of information technology to create or adapt, market or consumer goods and services. Digital novelties include digital banking, e-commerce, virtual education, Smartphone apps and collaboration platforms.

GROWTH OF DIGITAL ECONOMY IN INDIA

G20 offers India a chance to be the architect of a new digital economy. Digitalization acquires a critical element in the development of the modern economy, giving birth to an all new term-'Digital Economy' as it promises to add a lot more within a short span of time. Digitalization or the digital transformation of the economy is essentially the introduction of information and communication technologies in a sector in order to increase its efficiency, productivity, extents and competitiveness, thereby creating an innovative high-tech digital economy.

LEAPFROGGING ECONOMY

According to traditional theories of development, the path to prosperity for emerging economies is to follow in the tracks of developed nations. The theory goes that if countries wish to become wealthier, they should simply commit to following the same series of steps that allowed developed economies to prosper. Through modernization, urbanization, and industrialization, this "Catch –Up" theory of development translates into a sequential process of investment in skills, production capacity, and design technologies that allow developing nations to move through the same stages of development. This process would eventually narrow the income gap and delivering new wealth for their citizens. In recent years, however, an alternative theory of "leapfrog" development has been growing in popularity as the development community has

searched for new ways to leverage technological progress to drive growth and help emerging economies avoid the so-called "Middle –Income Trap".

Leapfrogging occurs when a nation bypasses traditional stages of development to either jump directly to the latest technologies (stage-skipping) or explore an alternative path of technological development involving emerging technologies with new benefits and new opportunities (path-creating). Probably the most famous and regularly cited instance of stage-skipping is the mobile revolution, which put phones in the hands of millions of people while allowing developing nations to skip directly to mobile phones without the need to invest in landline infrastructure. The opportunities of path-creating leapfrogging, on the other hand, are exemplified by the explosion of mobile payment systems and digital banking apps in the developing world. These new services have dramatically expanded access to financial services while allowing emerging economies to chart an alternative, superior path to the credit card-based systems that still dominate in most developed nations.

ADVANTAGES OF THE DIGITAL ECONOMY

The digital economy is set to carry more weight in the future, as the "Internet of Things", artificial intelligence (AI), virtual reality, blockchain, self-driving cars, and other technology develop. Some advantages it offers are:

- **Information.** Consumers have more information — not just from manufacturers and firms, but also from other consumers in forums and reviews — to make decisions about goods and services.
- **Proximity.** Direct customer service channels enable customers to resolve queries and issues with a manufacturer or service provide more quickly.
- **Global presence.** With goods and services available consumers anytime and anywhere, companies can enter more markets.
- **Security.** Digital technology, like strong authentication of online payments, makes transactions more secure.
- The digital economy is transforming age-old production sectors. Agriculture has already begun to benefit from technological innovations. Mobile apps connect crops

to farmers, providing them with real-time updates on quality, soil and irrigation to make management decisions.

- India's digital vision is based on citizen centric services, where ***transparency and accountability*** are ensured as it envisions a kind of digital transformation that allows everyone – whether in rural or urban areas and irrespective of their economic or social status, to take ample benefits.
- ***Digital technologies*** are playing the role of a great equaliser by distributing the ***fruits of economic developments to all, thereby bringing sociological changes .***
- India's inclusive digital model is narrowing the ***digital divide among people*** and bringing benefits of technology to all segments of people, as less affluent states leapfrog to catch up with more affluent ones on dimensions such as internet subscriber growth, density of internet infrastructure and common service centres.
- ***Digital technologies such as data pooling, Artificial intelligence and others*** are now widely used to track and diagnose issues in ***agriculture, health, environment, logistics, jobs and skills market, e-governance,*** performing daily tasks such as navigating traffic, paying a bill, financial transactions and others.
- ***In human development,*** technology has always played a revolutionary role, changing the features of the labour force, creating a new face, form, pattern and process of work and bringing about wider economic and societal changes.
- The digital economy has generated new job opportunities as new businesses are springing up. It has also created new job roles spread all over the world.
- The digital economy has increased the transparency of businesses as they can now use technology to share information with their customers.

RELATED INITIATIVES AND THEIR ACHIEVEMENTS

- Over the last 75 years, India has executed many citizen-friendly programmes.
- Through the Digital India Programme, the Government of India is focusing much on creating a strong foundation of digital infrastructure and expanding digital access to all, creating tremendous economic value and empowerment of citizens as new digital applications permeate sector after sector.

- Today, over 20 platforms support the Digital India initiative, touching over a billion lives and presenting a $700 billion opportunity for India by 2030.

➢ Today, over 775 million Indians have access to broadband services, telemedicine has grown 500%, Co-Win enabled over 2 billion vaccination doses, the Aadhaar ecosystem has scaled to 1.3 billion registrations, and Bhim UPI clocked over 6.28 billion transactions as of July 2022.

Other Initiatives: Digitisation of Post Offices, Pradhan Mantri Jan Dhan Yojna , DigiLocker, Bharat Net, Smart Cities and Digital Rupee

Issues

➢ The increased use of technology has also led to an increase in cybercrime.

o This is because criminals can now use technology to commit crimes like identity theft, fraud, and money laundering.

➢ The digitisation of businesses requires heavy investments in technology.

o This is a challenge for small businesses which might not have the resources to invest in technology.

➢ The increased use of technology in the digital economy has led to an increase in the number of e-waste and heavy carbon footprint.

CONCLUSION

Digital transformation must be intentionally inclusive and thoughtfully designed and implemented to ensure that all are well taken care of and no one is left behind. There is a need for Internet users to train themselves on the best practices of cyber security and follow dos and don'ts to ensure a safe digital economy, user awareness would help with digital transformations in future. The government could create a financial institution through which loans can be given at zero or very low interest rates to players who are rolling out digital communications infrastructure. We need to bring in changes in our approach to education and training by placing more emphasis on science, technology, engineering, maths, soft skills, resilience, skilling, re-skilling, up-skill of the people in general. However, the digital economy provides India a way to start off the journey toward becoming a developed nation without waiting for costly and time-consuming

industrial infrastructure investments to bear fruit. Instead, the nation can focus on improving digital infrastructure, for instance in areas of online education, government transparency and rural connectivity. For the price of an internet connection and a laptop (or a smart phone), entrepreneurs across the land can instantaneously plug in to the digital economy and commence the Great Indian Leapfrog. This is India's best chance of cashing in on its demographic and cultural dividend.

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PERFORMANCE OF DIGITAL TRANSACTIONS DURING COVID-19

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INTRODUCTION

The payment industry has been developing, expanding, and innovating steadily. Money has been taken in a variety of places, quantities, and shapes, including metal coins, paper, bank accounts, ATMs, and now e-Wallets. The payment industry has experienced considerable expansion in recent years because to new suppliers, platforms, and payment methods. Over the last three decades, India has witnessed a healthy evolution of payment methods because to the liberalisation of the banking industry and the introduction of new technologies like Magnetic Ink Character Recognition (MICR), Automated Teller Machines (ATM), and This is the outcome of the measured road maps that the Reserve Bank utilised, first as a developer and then as a catalyst and facilitator.

KEY DEVELOPMENT IN THE DIGITAL SPACE:

- **2004** Launch of the National Switch
- **2007** Passage of the Payment and Settlement Act
- **2010** Launch of IMPS and PPIs, Launch of RuPay in march, Formation of OPGSP guidelines
- **2013** Formation of padmanabhan committee to study the GIRO-based payment systems
- **2015** Formation of contactless payment guidelines in may
- **2018** Formation of interoperability guidelines for PPIs/wallets
- **2019** Formation of tokenization guidelines

Launch of NCMC

Formation of reimbursement guidelines for MDRI

Launch of the digital India campaign

FASTag made mandatory for all vehicles

In order to send and receive money in digital payments, both the payer and the payee employ electronic technology. India has seen a rise in digital payments as a result of rising internet usage, government efforts, and mobile adoption. There are many different formats and processes for digital payments. The Unified Payments Interface (UPI) service, debit/credit cards, online banking, mobile wallets, digital payment applications, and unstructured supplemental service data are just a few examples (USSD). Mobile banking, prepaid bank cards, and similar services.

COVID 19 AND DIGITAL PAYMENTS

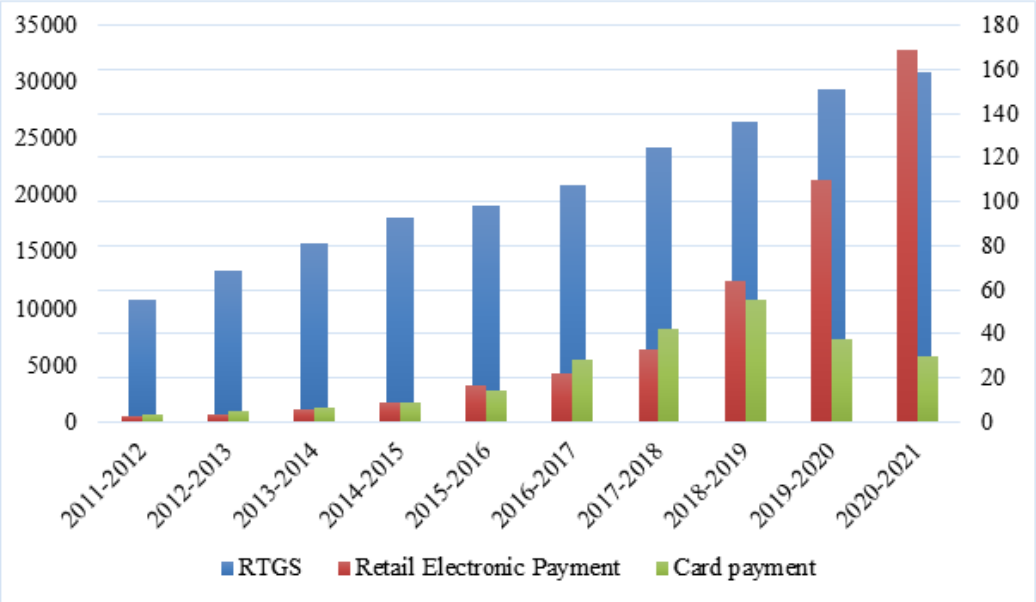
Due to social conventions that encourage social isolation and widespread lockdowns, the Covid-19 epidemic has inevitably resulted in a rise in the usage of digital devices. The drop in volume to the aviation, rail, or hotel industries may have had a negative impact on digital payments. During the Covid-19-induced shutdown, these push factors frequently cause a decline in digital payments. Many digital payment providers are working really hard to promote these options. Due to the lockout, more people may have used e-commerce sites for recharges, bill payments, online pharmacies, and food shopping, which might have helped digital payments grow in the country. The post-pandemic period will without a doubt usher in the digital payment mechanism. As technology develops, a number of businesses have installed enhanced payment terminals. Retailers might accept credit card payments more easily with the help of these payment terminals. Customers will now have the choice to deposit money in a convenient way. As a result, the digital payment method will really be a gift for small businesses.

The Government of India's main initiative, the Digital India programme, aims to make India into a knowledge-based society and economy. One of the purported roles of Digital India is to be "Faceless, Paperless, and Cashless." A "digital transaction" is a payment transaction carried out through a seamless system without the use of currency on at least one, if not both, of the two legs. This covers financial transactions carried out via digital or electronic means in which both the sender and the recipient send or receive

money. A variety of digital payment methods including UPI, NEFT, AEPS, mobile wallets, and PoS terminals are offered in an effort to encourage cashless transactions and make India a society that uses less cash.

Digital Transaction Annual Volume Turnover (2011-2021)

The Indian digital payment market has had phenomenal growth in recent years, with transaction volumes expanding at a compound annual growth rate (CAGR) of 23%. The introduction of new and innovative payment solutions such as the Unified Payments Interface (UPI), National Electronic Toll Collection (NETC), and Bharat Bill Pay Service (BBPS) has propelled the digital payment sector forward.



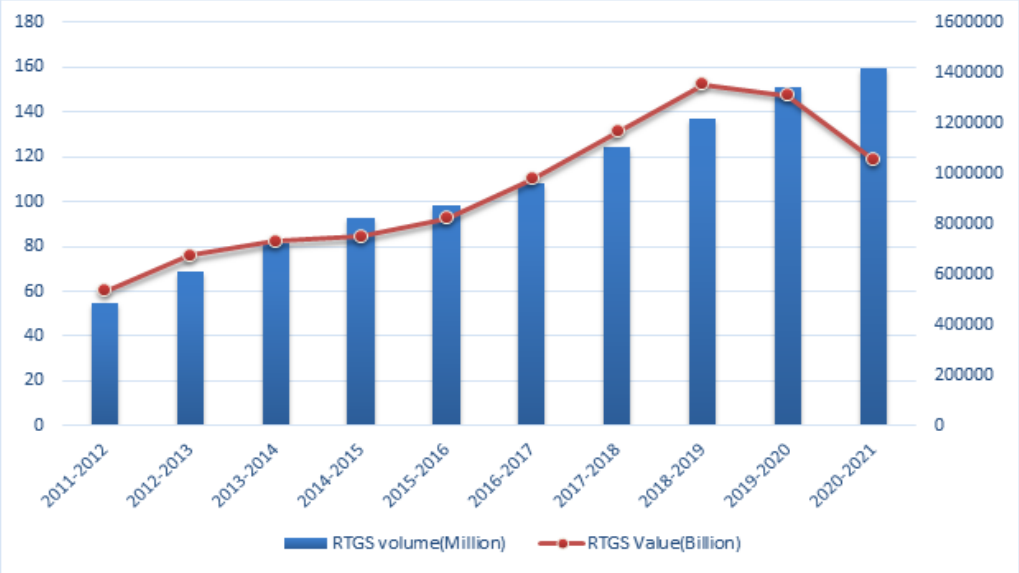
Source: RBI

The diagram has shown the gradual growth in the digital payment industry. The growth in digital payments has been driven by multiple factors such as launch of new and innovative payment products, smartphone adoption, a growing need for faster payment modes and a strong push from the Government and regulators adoption of digital channels

Real-Time Gross Settlement Transaction From (2011-2021)

Real Time Gross Settlement (RTGS) system – RTGS system enables transfer of money from one bank account to another on a "real time" and on "gross" basis. The RTGS

service window for customer's transactions is available to banks from 8 am to 4:30 pm on weekdays (Monday through Friday) and on working Saturdays for settlement at the RBI's end. RTGS is operated by RBI.



Source: RBI

Year	Volume	Value	Growth	CAGR
2011-2012	55	539307		
2020-2021	159.2	1055998	49%	7%

Source: RBI (Computed Value)

The above chart RTGS usage (in volume terms) has steadily grown with a CAGR of about 7% over the past 10 years. While the number of transactions is small, the transactions are very large.

National Electronic Fund Transfer Volume and Value (2011-2021)

National Electronic Funds Transfer (NEFT) – NEFT facilitates funds transfer across all computerized branches of banks (member / sub member of NEFT) across the country. Presently, NEFT operates in half hourly batches – there are twenty-three settlements from 8 am to 7 pm on weekdays (Monday through Friday) and on working Saturdays. NEFT is operated by RBI

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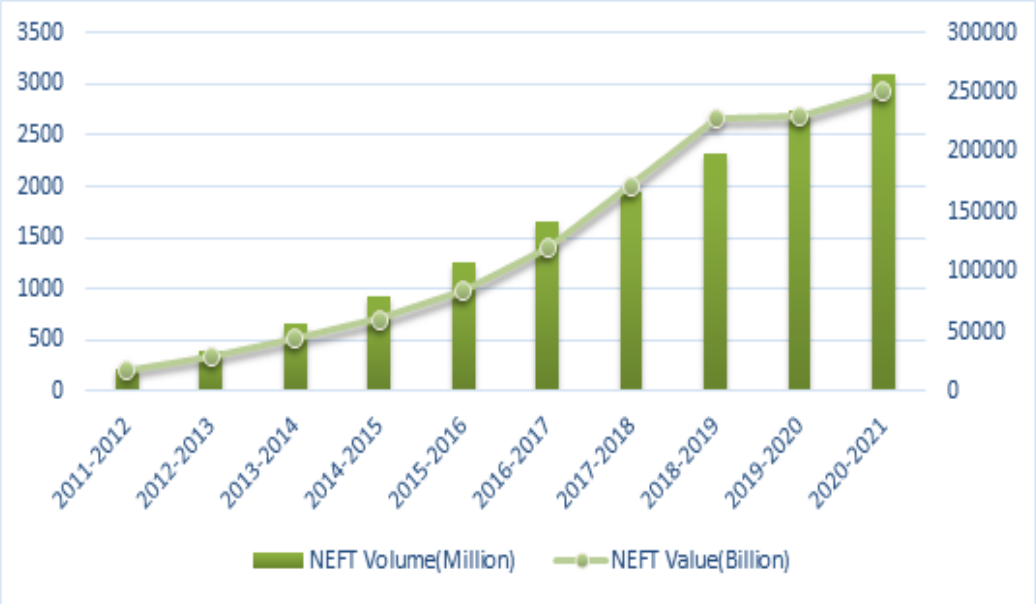
Year	Volume	Value	Growth	CAGR
2011-2012	226.1	17903.5		
2020-2021	3092.8	251309	93%	30%

Source: RBI (Computed Value)



Source: RBI

NEFT usage (in volume terms) has steadily grown from (226.1 to 3092.8) in last 10yeras with CAGR of 30%! While the number of transactions is small, the size of transactions is large.

Immediate Payment Service Volume And Value (2011-2021)

Immediate Payment Service (IMPS) – IMPS is a fast payment system operated by NPCI and is available 24x7. Under this, beneficiary gets funds on a real time basis with the settlement between banks happening on a deferred net basis.

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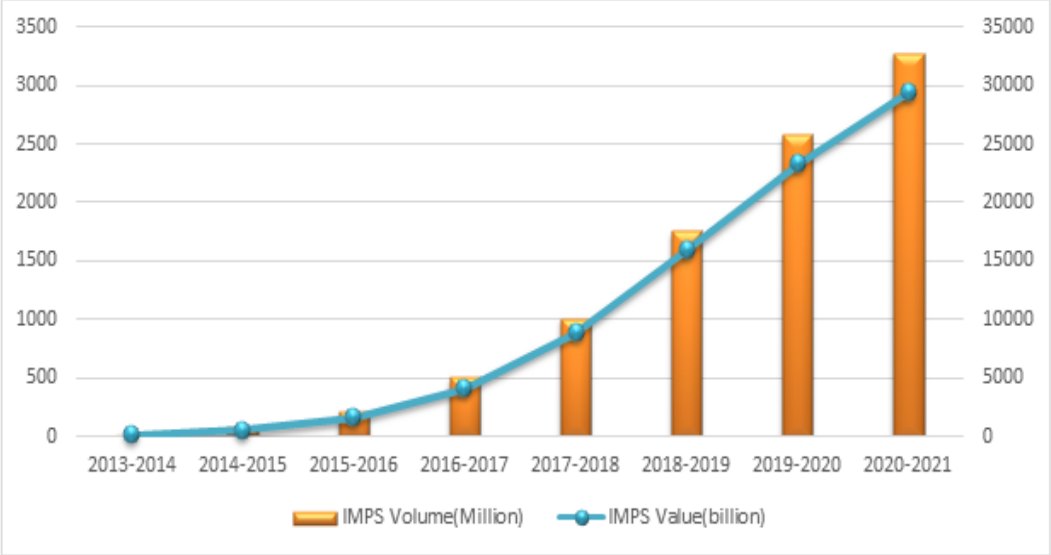

Source: RBI

Year	Volume	Value	Growth	CAGR
2013-2014	15.4	96	0.996736	105%
2020-2021	3278	29415		

Source: RBI (Computed Value)

IMPS has been used for remittance, and its use has gone up steadily grow from 2015-2016 to 2010-2021 and IMPS volume and values increase with CPGR 105%. SME and MSME in garments, textiles chemicals and contractors for construction city corporation largely use IMPS for vendor Payments, with most Indians now having a bank account. IMPS transaction are replacing money order as a prime mode of transfer for the domestic remittance market. Recently, IMPS has been allowed for receiving Foreign Inward Remittances.

National Clearing House Volume/Value (2013-2021)

NACH Status of Digitization of Payments 43 is also used for making payments related to Government benefits, for instance, subsidies. The National Automated Clearing House which is used for periodic payments such as bills, mutual funds and salaries will be made available on all days of the year including bank holidays and weekends. A variant of NACH called eNACH has been created, which is digital, and relies on a digital signature of the user (based on eSign with Aadhaar).

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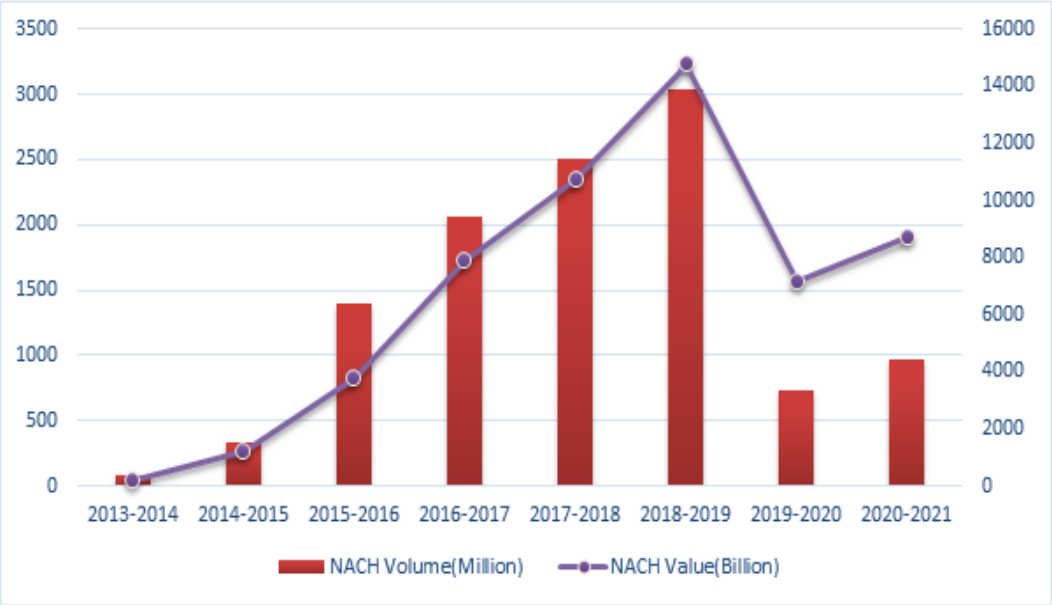

Source: RBI

Year	Volume	Value	Growth	CAGR
2013-2014	86.5	215	98%	59%
2020-2021	963	8689		

Source: RBI (Computed Value)

This is convenient because it simplifies the process of onboarding a new customer (no issues with checking a wet signature. While this system has shown continuous robust growth from 2013 -2014 to 20118-2019 after 2019 the NACH transactions amount (value) and volume have got reduced.

Debit And Credit Card Volume / Value Transaction (2011-2021)

India has made tremendous gains in financial inclusion, bringing in most Indians into the banking system, from 2011-2018 the usage of card volume and transaction amount steadily increased, and during COVID -19 the usage of card payments god reduced because most of the people using cards in ATM, so many people they manage with an alternatives payment system such as UPI, BHIM and etc.

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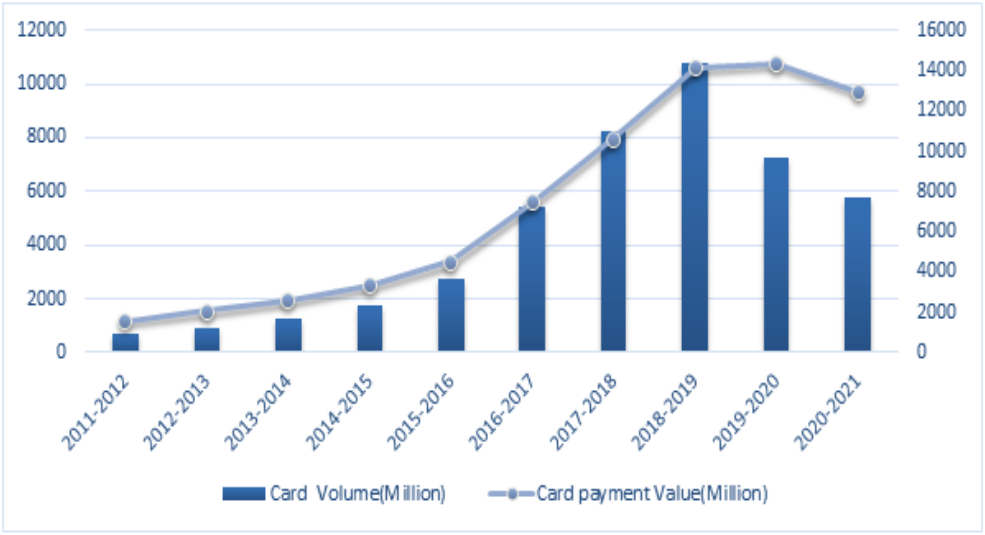

Source: RBI

Year	Volume	Value	Growth	CAGR
2011-2012	678.1	1562	88%	24%
2020-2021	5784.1	12938		

Source: RBI (Computed Value)

The table explains Cards are well-understood products at the global level, and find acceptance at stores, as well as for online payments. Cards have played an important role in the spread of digital payments. Credit cards have been used in India for over 40 years now. While the other digital payments have taken off, the use of cards has gone up as well. There are 3 dominant card schemes in India – RuPay, MasterCard and Visa. Over the past few years, the number of credit cards has grown, but it is overwhelmed by debit cards.

Digital Transaction Performance During Covid-19 (2020-2021)

The digital payments sector has seen a 30% drop in transaction value in the current COVID-19 situation, and recent data from the National Payments Corporation of India (NPCI) attest to a sharp drop in the months when lockdowns were implemented3 (primarily due to the impact on the travel, hospitality, and retail sectors). However, at such instances, the government and regulator have encouraged digital payments such as

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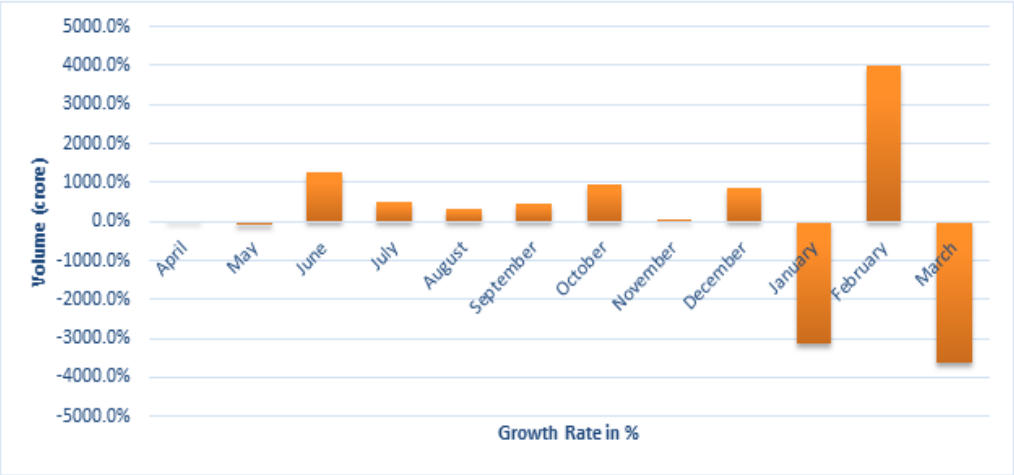
National electronic funds transfer (NEFT), Immediate payment service (IMPS), UPI, BHIM, and others to prevent the use of physical currency, which carries a higher risk of COVID-19 transmission. Such efforts, in combination with the liberalization of the economy, are evident in the rapid recovery of various digital payment platforms on NPCI.



Source: Digipay

In the present COVID-19 situation, the digital payments sector saw a 30% drop between transaction value and volume, especially in January and March, indicating a detrimental impact on the economy. Some sectors' expansion had a negative impact on the economy.

Popularized Mode of Payment During COVID -19 (2020-2021)

Payment	Volume (Cr)
BHIM	2232.95
IMPS	327.84
PPI	493.92
NEFT	309.27
Mobile Banking	99.42
Others	630.39

Source: Digipay

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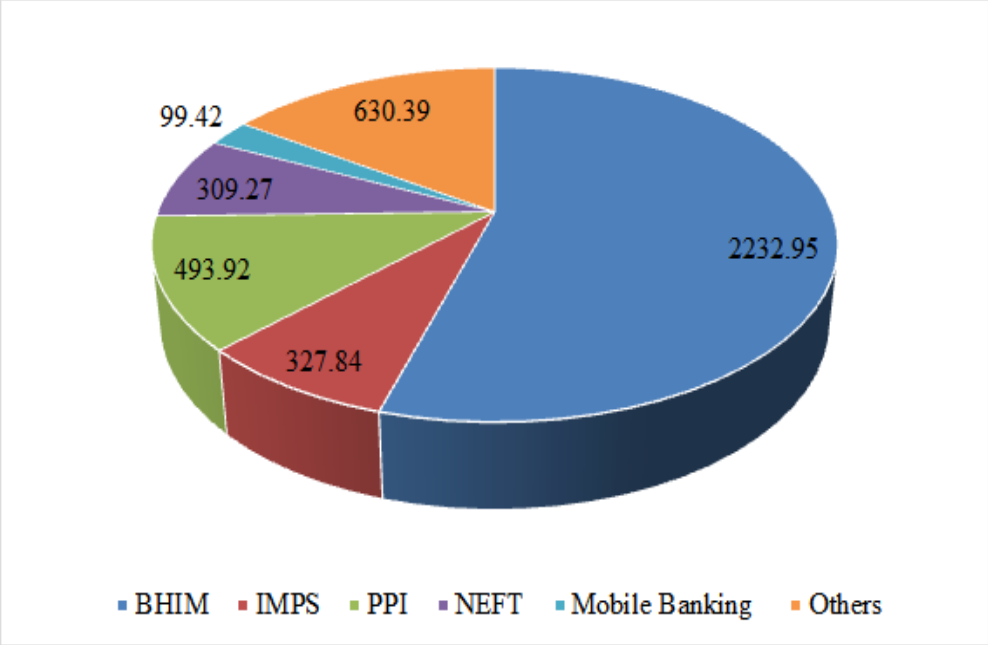

During the years 2020-2021, the government and the general public pushed digital payments through UPI (Unified Payments Interface), IMPS (Immediate Payment Service), PPI (Prepaid Payment Instrument), Mobile banking, and others (ECS, AePS). During this time, the majority of the Indian population used the UPI interface of digital transactions (2232.4) to avoid using physical cash, which has a higher risk element of COVID-19.

Per Capita Volume of Digital Payments In India By 2021

The digital payment landscape in India has undergone a transformation in the last several years, particularly after demonetization's per the official data available till January 31, per captia transaction in Andhra Pradesh is recorded as first place in terms of per capita digital transactions, (17.6%) Andhra Pradesh has been leading the states in the digital payment arena for the several years in a row.

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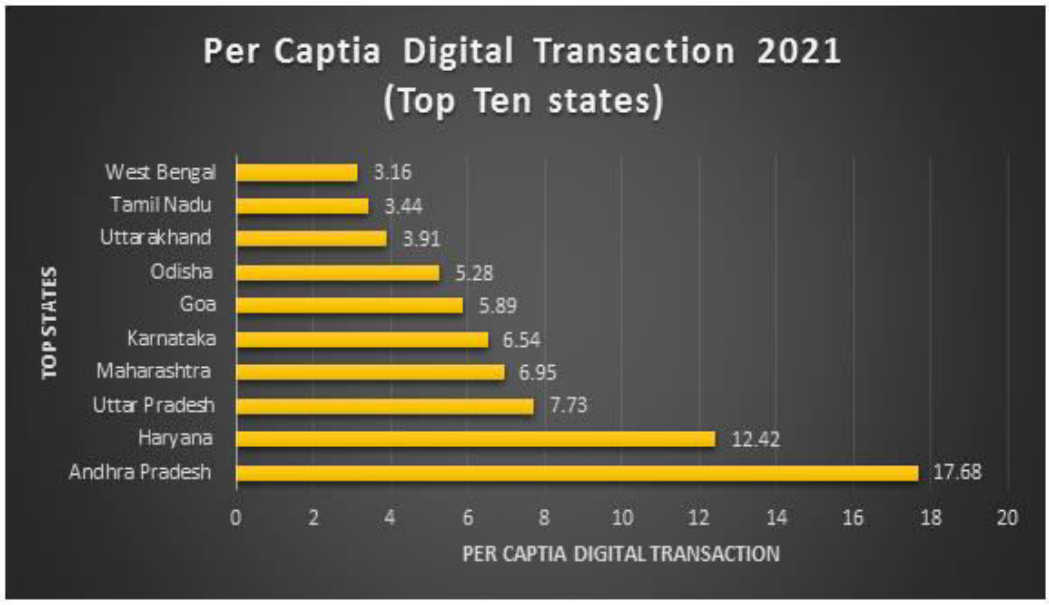
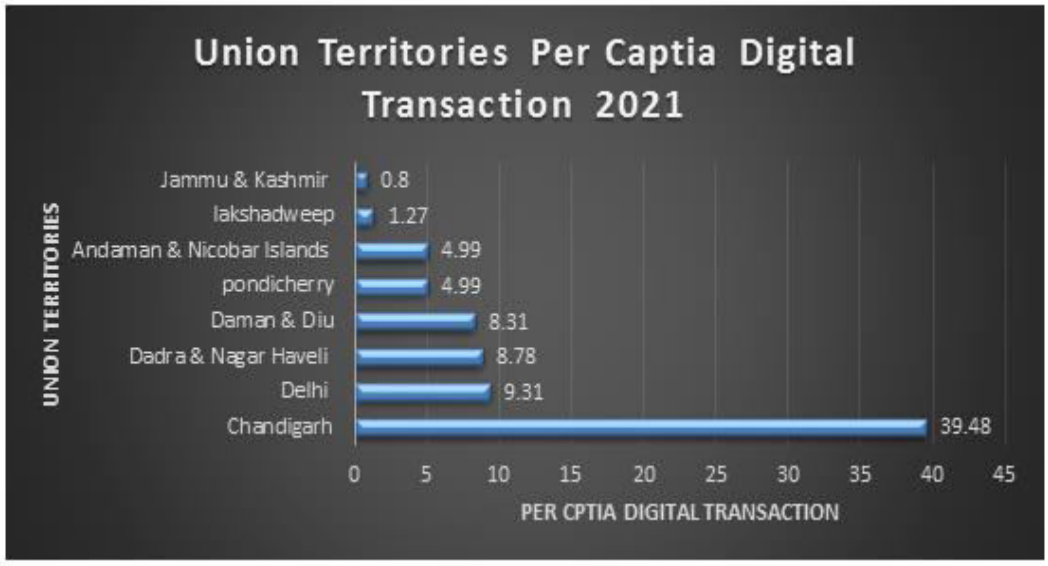


The penetration of the internet into even remote villages and affordable smartphone have further added to digital payment momentum. The multi-layer security involved in the digital payments seems to have increased the confidence of the public. When it comes to Andhra Pradesh, digital literacy among the public is more compared to other states.



CONCLUSION

The process of moving payments from offline to online has been around for a while, but the most recent lock-down scenario linked to COVID-19 has seen a greater shift in

consumer behaviour. Customers and all suppliers of essential services were advised by NPCI to switch to digital payment systems in order to stay safe. Solutions are beginning to emerge, and Merchants are moving farther into the "phygital world." They also don't have to use the internet exclusively. People will be able to phone any communications system we currently employ to place orders, exchange photographs, and discuss their shopping lists. At some point, digital payments will also be possible. Everyone leaves to deliver or pick up the stuff.

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E– PAYMENT SYSTEM: AN ECONOMIC TRANSFORMATION FROM CONVENTIONAL TO DIGITAL ERA

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INTRODUCTION

As payment is an integral part of mercantile process, electronic payment system is an integral part of e-commerce. The emergence of e-commerce has created new financial needs that in many cases cannot be effectively fulfilled by traditional payment systems. For instance, new types of purchasing relationships-such as auction between individuals online-have resulted in the need for peer-to-peer payment methods that allows individuals to e-mail payments to the other individual. Recognizing this, virtually all interested parties (i.e. academicians, government, business community and financial service providers) are exploring various types of electronic payment system and issues surrounding electronic payment system and digital currency. Some proposed electronic payment systems are simply electronic version of existing payment systems such as cheques and credit cards, while, others are based on the digital currency technology and have the potential for definitive impact on today‟s financial and monetary system. While popular developers of electronic payment system predict fundamental changes in the financial sector because of the innovations in electronic payment system. Therefore, electronic payment systems and in particular, methods of payment being developed to support electronic commerce cannot be studied in an isolation. A failure to take place these developments into the proper context is likely to result in undue focus on the various experimental initiatives to develop electronic forms of payment without a proper reflection on the broader implications for the existing payment system.

PROCESS OF ELECTRONIC PAYMENT SYSTEM

Electronic payment systems have been in operations since 1960s and have been expanding rapidly as well as growing in complexity. After the development of conventional payment system, EFT (Electronic Fund Transfer) based payment system

came into existence. It was first electronic based payment system, which does not depend on a central processing intermediary. An electronic fund transfer is a financial application of EDI (Electronic Data Interchange), which sends credit card numbers or electronic cheques via secured private networks between banks and major corporations. To use EFT to clear payments and settle accounts, an online payment service will need to add capabilities to process orders, accounts and receipts. But a landmark came in this direction with the development of digital currency. The nature of digital currency or electronic money mirrors that of paper money as a means of payment. As such, digital currency payment systems have the same advantages as paper currency payment, namely anonymity and convenience. As in other electronic payment systems (i.e. EFT based and intermediary based) here too security during the transaction and storage is a concern, although from the different perspective, for digital currency systems double spending, counterfeiting, and storage become critical issues whereas eavesdropping and the issue of liability (when charges are made without authorizations) is important for the notational funds transfer.

TYPES OF ELECTRONIC PAYMENT SYSTEMS

With the growing complexities in the e-commerce transactions, different electronic payment systems have appeared in the last few years. Thus, electronic payment system can be broadly divided into four general types:

Online Credit Card Payment System, Electronic Cheque System, Electronic Cash System and Smart Card based Electronic Payment System

Online Credit Card Payment System: It seeks to extend the functionality of existing credit cards15 for use as online shopping payment tools. This payment system has been widely accepted by consumers and merchants throughout the world, and by far the most popular methods of payments especially in the retail markets. This form of payment system has several advantages, which were never available through the traditional modes of payment. Some of the most important are: privacy, integrity, compatibility, good transaction efficiency, acceptability, convenience, mobility, low financial risk and anonymity. Added to all these, to avoid the complexity associated with the digital cash

or electronic-cheques, consumers and vendors are also looking at credit card payments on the internet as one of possible time-tested alternative.

Electronic Cheque Payment System: Electronic cheques address the electronic needs of millions of businesses, which today exchange traditional paper cheques with the other vendors, consumers and government. The e-cheque method17 was deliberately created to work in much the same way as conventional paper cheque. An account holder will issue an electronic document that contains the name of the financial institution; the payers account number, the name of payee and amount of cheque. Most of the information is in uncoded form. Like a paper cheques e-cheques also bear the digital equivalent of signature: a computed number that authenticates the cheque from the owner of the account. Digital chequing payment system seeks to extend the functionality of existing chequing accounts for use as online shopping payment tools.

Electronic Cash Payment System: Electronic cash (e-cash) is a new concept in online payment system because it combines computerized convenience with security and privacy that improve on paper cash. Its versatility opens up a host of new markets and applications. E-cash is an electronic or digital form of value storage and value exchange that have limited convertibility into other forms of value and require intermediaries to convert. E-cash presents some characteristics like monetary value, storability and irretrievability, interoperability and security. All these characteristics make it more attractive payment system over the Internet. Added to these, this payment system offers numerous advantages like authority, privacy, good acceptability, low transactions cost, convenience and good anonymity..

Smart Cards based Electronic Payment System: Smart cards are receiving renewed attention as a mode of online payment. They are essentially credit card sized plastic cards with the memory chips and in some cases, with microprocessors embedded in them so as to serve as storage devices for much greater information than credit cards34 with inbuilt transaction processing capability.This card also contains some kinds of an encrypted key that is compared to a secret key contained on the user‟s processor.

Usage of Electronic Payment

It is observed that different countries prefer the different forms of electronic payment system. The market has been from the start dominated by traditional financial intermediaries offering conventional electronic payment services augmented with minor innovations to adapt to the internet.

E- Payments System in India

Sl. No.	E-Payment Systems	Percentage	Rank
1	Credit Card	35	1
2	Debit Card (Smart Card)	26.5	2
3	Cash on Delivery	23.5	3
4	Bank Transfer	9	4
5	Money Transfer	5	5
6	Postal Transfer	1	6
7	Prepaid Card	0	0
8	Payment Through Convenience Store	0	0
	Total	100	0

Source: Various issues in RBI Bulletin

COMPARISON OF ELECTRONIC PAYMENT SYSTEMS

The electronic payment system- the ability to pay electronically for goods and services purchased online- are an integral part of e-commerce and an essential infrastructure for e-commerce models. One of the major reasons for the widespread of e-commerce transactions is perhaps the rapid development and growth of various electronic payment systems. In the developed countries, credit cards have been used even before the advent of Internet. The present part of the study revealed many electronic payment systems and broadly these electronic payment system can be grouped or classified into four categories: (1) Online Credit Card Payment System (2) Online Electronic Cash System (3) Electronic Cheque System and (4) Smart Cards based Electronic Payment System. These payment systems have numbers of requirements: e.g. security, acceptability, convenience, cost, anonymity, control, and traceability. Therefore, instead of focusing on the technological specifications of various electronic payment systems, the

researcher have distinguished electronic payment systems based on what is being transmitted over the network; and analyze the difference of each electronic payment system by evaluating their requirements, characteristics and assess the applicability of each system. Figure 7 presents the comparison of various electronic payment systems.

CONCLUSION

The existence of variety of e- payment systems, credit cards are the most dominant payment system. This is consequences of advantageous characteristics, most importantly the long established networks and very wide users base. Second, alternative e-commerce payment systems are some countries are debit cards. In fact, like many other studies, present study also reveals that the smart card based e-commerce payment system is best and it is expected that in the future smart cards will eventually replace the other electronic payment systems. Third, given the limited users bases, e-cash is not a feasible payment option. Thus, there are number of factors which affect the usage of e-commerce payment systems. Among all these user base is most important. Added to this, success of e-commerce payment systems also depends on consumer preferences, ease of use, cost, industry agreement, authorization, security, authentication, non-refutability, accessibility and reliability and anonymity and public policy.

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A STUDY ON CONSUMER AWARNESS ABOUT CASHLESS TRANSACTION OF DIGITAL ECONOMY IN ERODE DISTRICT OF TAMIL NADU

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INTRODUCTION

In recent years, Information and Communication Technology are contributing more in the growth of Indian economy. The dominance of the services sector in the growth process is associated with the third stage of development. However, in India, the acceleration in growth in recent years has been to the dynamism of the services sector while the contribution of industry has tended to stagnate over the three decades. Services now contribute to almost 57 per cent to India's GDP and have contributed to more than 60 per cent of India's growth during the period of the last decades and a half. This has led to speculation whether India would chart out a unique growth path in which the country would leapfrog from a predominantly agriculture to a directly service-dominated economy by skipping the intermediate stage of rising share of industrial sector that was experienced by all the existing industrialized countries.

Currently, Markets are more focused on digital technologies and in every sector depend on digital technologies. The economy is also called digital economy. According to Tapscott D (1996), "Networking is not technology it is all about how human uses technology and also their creativity and knowledge to create social development". The modern generations are living with the world of social media and e-commerce. So this paper focuses on consumer awareness on cashless transaction among the younger generation in Erode District of TamilNadu.

Cashless payment is suitable for the most of the younger generation and there was a number of benefits availed from the most of the respondents. The digital transaction of

the money by using net banking, credit and debit cards, mobile banking etc., is called cashless transfer. People can easily pay their bills online, shop and scheduled transaction and manage all the financial transactions. In India many of the people were heavily depends only on cash economy, but the cashless transaction forced the consumers to switches from cash to cashless transaction.

Table 1: Indicators of Digital Payment System in India 2020-21

Item	Volume (Lakh)			Value (` Crore)		
	2018-19	**2019-20**	**2020-21**	**2018-19**	**2019-20**	**2020-21**
A. Settlement Systems						
CCIL Operated Systems	36	36	28	11,65,51,038	13,41,50,192	16,19,43,141
B. Payment Systems						
1. Large Value Credit Transfers – RTGS	**1,366**	**1,507**	**1,592**	**13,56,88,187**	**13,11,56,475**	**10,55,99,849**
2. Credit Transfers	**1,18,481**	**2,06,506**	**3,17,852**	**2,60,90,471**	**2,85,62,857**	**3,35,22,150**
2.1 AePS (Fund Transfers)	11	10	11	501	469	623
2.2 APBS	14,949	16,766	14,373	86,226	99,179	1,12,747
2.3 ECS Cr	54	18	0	13,235	5,145	0
2.4 IMPS	17,529	25,792	32,783	15,90,257	23,37,541	29,41,500
2.5 NACH Cr	8,834	11,290	16,450	7,29,673	10,43,212	12,32,714
2.6 NEFT	23,189	27,445	30,928	2,27,93,608	2,29,45,580	2,51,30,910
2.7 UPI	53,915	1,25,186	2,23,307	8,76,971	21,31,730	41,03,658
3. Debit Transfers and Direct Debits	**4,914**	**7,525**	**10,456**	**5,24,556**	**7,19,708**	**8,72,552**
3.1 BHIM Aadhaar Pay	68	91	161	815	1,303	2,580
3.2 ECS Dr	9	1	0	1,260	39	0
3.3 NACH Dr	4,830	7,340	9,630	5,22,461	7,18,166	8,68,906
3.4 NETC (Linked to Bank Account)	6	93	650	20	200	913
4. Card Payments	**61,769**	**72,384**	**57,841**	**11,96,888**	**14,34,814**	**12,93,822**
4.1 Credit Cards	17,626	21,773	17,641	6,03,413	7,30,895	6,30,414
4.2 Debit Cards	44,143	50,611	40,200	5,93,475	7,03,920	6,62,667
5. Prepaid Payment Instruments	**46,072**	**53,318**	**49,392**	**2,13,323**	**2,15,558**	**1,97,695**
6. Paper-based Instruments	**11,238**	**10,414**	**6,704**	**82,46,065**	**78,24,822**	**56,27,189**

Total – Retail Payments (2+3+4+5+6)	2,42,473	3,50,147	4,42,229	3,62,71,303	3,87,57,759	4,15,12,514
Total Payments (1+2+3+4+5+6)	2,43,839	3,51,654	4,43,821	17,19,59,490	16,99,14,234	1471,12,363
Total Digital Payments (1+2+3+4+5)	**2,32,602**	**3,41,240**	**4,37,118**	**16,37,13,425**	**16,20,89,413**	**14,14,85,173**

Source: Reserve Bank of India – Annual Bulletin – 2020-21.

Table 1 depicts that the payment systems recorded a vigorous growth of 26.2 per cent in terms of volume during 2020-21 on top of the expansion was 44.2 per cent in the previous year 2019-20. The contributes to digital transactions in the total volume of non-cash retailpayments was increased to 98.5 per cent during 2020-21. The all over the country, lockdown due to COVID-19pandemic resulted in turn down in payments during its first phase. However, the value and volume ofpayments consequently picked up with the slow rise in lockdown.

REVIEW OF LITERATURE

Yuvaraj S and Sheila Evaline. N (2018), in their study reveals that the consumer perception towards cashless transaction and information security in digital economy. The study was based on primary data and adopted a convenient sampling method. The main findings of the study was the majority of the respondents were prefers credit and debit cards are the most comfortable mode of transaction. It was also analysed that the consumer has enough awareness on cashless transaction and in spite of new innovations that takes place in cashless security consumer must able to adopt the changes and move forwarded to the digital transaction.

Padmavathi D and Aryashree B (2021), in their empirical study on determinants of using cashless payment, the study based on convenient sampling methods and collected 228 respondents. The main findings of the study were to increase the coverage of cashless transactions, the bankers, policy makers and businesses floating cashless products can focus on these factors. It is also evident from the analysis that rewards and offers do not have any significance in determining the usage of cashless payments which can be given less importance in policy making.

Siby K M (2021), in her study analysed the digital payment methods during the time of covid 19. The study has been adopted well structured primary information by using of

simple random sampling method. The study was concluded that the people tend to utilize digital payment methods in times of Covid epidemic, regardless of age, gender, education, monthly income or occupation. The researcher has also explained that in the middle of the Covid epidemic, Kerala's strong digital literacy, coupled with extensive cell phone penetration and simple Internet access,has played a crucial part in the digital revolution of payment methods.

Kasuba Sirisha, and Anitha K (2021), in their study on Digital India Cash to cashless economy A study on consumer Perception", it was revealed that user preferences and perception towards cashless India. The main findings of the study have been helpful in understanding the use of e wallet services. The study reveals that easy to transact the money and save the time, lower risk secure privacy, safety, transparency and accountability of the customer.

Neelu Tiwari and Naveen Kumar Singh (2019), in their study reveals that the enormous implementation of information and communication technology, in the field of digital payment systems, investigative the research was the first and to test the consumer satisfaction level towards cashless payment systems through two leading companies like Paytm and BHIM. It was provided the digital payment platform to all transactions. The main objective of the study was to identify the factors affecting adoption of cashless payment services and consumer satisfaction in India through survey method. Cashless payment provides focus not only on the adoption of cashless payment systems but also the satisfaction of the consumers in India. The study also presents a model for attractive the rate of customer satisfaction with respect to e-wallets in India. Through comparative analysis it is found that BHIM to be a much more secure platform as compared to Paytm since it is a government-owned platform.

OBJECTIVES OF THE STUDY

The main objectives of the study are

1. To study the demographic details of the respondents in Erode District of TamilNadu
2. To identify the consumer perception on cashless transaction in digital economy.

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TESTING OF HYPOTHESIS

H_0: There is no significant relationship between gender, educational qualification and consumer awareness on mode of transaction.

H_1: There is a significant relationship between gender, educational qualification and consumer awareness on mode of transaction.

METHODOLOGY OF THE STUDY

The study was exploratory in nature and it was uses the primary information. The primary data for the study was collected through distributing structured questionnaires among the respondents. The sample size was limited to 125 respondents. The study was conducted based on convenient sampling technique. The collected data was analysed by percentage analysis and Chi-square analysis by using SPSS 20.0.

ANALYSIS AND DISCUSSION

The demand for the cashless transaction was increases day-by-day and consumer had a wider and variety of options for chooses for their transaction. Each and every consumer has different characteristics for using of cashless payments.

Table 2: Demographic profile of the respondents

Age					
Classification		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	17 - 20	64	51.6	51.6	51.6
	21 - 24	36	28.8	28.8	80.4
	25 - 28	6	4.8	4.6	85.2
	29 - 32	5	4.0	4.0	89.0
	33-36	10	8.0	8.0	97.0
	37-40	4	3.2	3.0	100
	Total	125	100.0	100.0	
Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	46	36.8	36.8	36.8

	Male	79	63.2	63.2	100.0
	Total	125	100.0	100.0	
Marital Status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	17	13.6	13.6	13.6
	Single	108	86.4	86.4	100.0
	Total	125	100.0	100.0	
Educational Type					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Arts	112	89.6	89.6	89.6
	Professional	4	3.2	3.2	92.8
	Science	9	7.2	7.2	100.0
	Total	125	100.0	100.0	
Place of Residence					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rural	96	76.8	76.8	76.8
	Urban	29	23.2	23.2	100.0
	Total	125	100.0	100.0	
Educational Qualification					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Higher Education	123	98.4	98.4	98.4
	Primary	2	1.6	1.6	100.0
	Total	125	100.0	100.0	

Source: Computed from primary data.

The above table explains that the demographic details of the respondents, majority of the respondents (52 per cent) were under the age group of 17 to 20 years. It was concluded that the younger generations were used more in digital transaction. 79 per cent of the male respondent were availing and using of digital mode of transactions, around 86 per cent were younger and still not married. Among the 125 respondents, 90 per cent of them were studied in arts and they were lived in nuclear family system. 77

per cent of the respondents were in rural area, they were availing more of digital transaction.

Table 3: Occupational Status and Monthly Income of the Respondents

Occupational Type	Monthly Income				Total
	10001-25000	25001-50000	Less than 10000	More than 50001	
Govt Employee	2	1	0	2	5
Labourer	4	0	0	0	4
Private Employee	10	4	2	0	16
Self Employed	4	0	0	0	4
Student	2	6	88	0	96
Total	22	11	90	2	125

Source: Computed from Primary data

The above explains that occupational status and income of the respondents, around 72 per cent of the customers were earned less than Rs.10, 000 per month. Majority of the respondents were students. Around 13 per cent of them were in private employee and were earned Rs. 10000 to Rs.25000 per month. Five percent of the respondents were government employee and earned less than Rs. 25, 000 per month.

Table 4: Mode of Transaction

Variables		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ATMs	70	56.0	56.0	56.0
	Debit/Credit Card	12	9.6	9.6	65.6
	Debit/Credit Card, ATMs	10	8.0	8.0	73.6
	Debit/Credit Card, ATMs, Mobile Banking	4	3.2	3.2	76.8
	Debit/Credit Card, ATMs, Mobile Banking, Point of Sales, Digital wallets	2	1.6	1.6	78.4
	Internet Banking	4	3.2	3.2	81.6
	Internet Banking, ATMs	4	3.2	3.2	84.8

	Internet Banking, Debit/Credit Card	1	.8	.8	85.6
	Internet Banking, Debit/Credit Card, ATMs	10	8.0	8.0	93.6
	Mobile Banking	8	6.4	6.4	100.0
	Total	125	100.0	100.0	

Source: values computed from primary data.

The table 4 shows that the majority of the respondents around 56 per cent were uses ATM card has the most comfortable mode of payment, around 10 percentages were preferred credit and debit card, 8 per cent of the respondents were prefer Internet banking, Debit, credit and ATMs card, around 6 per cent prefer mobile banking and 3 per cent prefer internet banking has the most comfort mode of payment.

Table 5: Usages of Digital transactions

Variables		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	As and when	72	57.6	57.6	57.6
	Daily	12	9.6	9.6	67.2
	Daily, Weekly	1	.8	.8	68.0
	Monthly	16	12.8	12.8	80.8
	Monthly, As and when	2	1.6	1.6	82.4
	Weekly	20	16.0	16.0	98.4
	Weekly, Monthly	2	1.6	1.6	100.0
	Total	125	100.0	100.0	

Source: Values computed from primary data.

The above table depicts that frequency for usages of digital transaction of the respondent, the majority of the respondent around 58 percentages were used the digital transaction were as and when they were needed for money. Nearly 16 per cent of the customers were used the digital transaction was done in weekly. Around 13 percentages of the customers were used their digital transaction once in a month.

Table 6: Known about the details of the digital transactions					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Friends / Colleague	43	34.4	34.4	34.4
	Internet Sources	34	27.2	27.2	61.6
	News Paper	6	4.8	4.8	66.4
	Social Media	40	32.0	32.0	98.4
	Television	2	1.6	1.6	100.0
	Total	125	100.0	100.0	

The above table shows that 34 percent and 32 of the respondent were aware about the digital transactions from friends and social media. 27 per cent respondents were gained the information through the internet sources.

HYPOTHESIS TESTING

H_0: There is no significant relationship between gender, educational qualification and consumer awareness on mode of transaction.

H_1: There is a significant relationship between gender, educational qualification and consumer awareness on mode of transaction.

Table 7: Chi-Square Tests 1: Educational qualification and mode of transaction			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.319[a]	4	.365
Likelihood Ratio	4.627	4	.328
N of Valid Cases	125		

Chi-square test reveals that, there is no significant difference between education qualification and awareness about the mode of transaction. Hence Null hypothesis were accepted and alternative hypothesis are rejected.

Table 8: Chi-Square Tests 2: Gender and awareness about the mode of transaction			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.438[a]	9	.491
Likelihood Ratio	12.124	9	.206
N of Valid Cases	125		

Table explains that, null hypothesis accepted and alternative hypothesis were rejected. It was concluded that, there is no significant difference between gender and awareness about the mode of transaction.

Table 9: Chi-Square Tests 3: Education qualification and awareness			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.340[a]	4	.002
Likelihood Ratio	19.839	4	.001
No of Valid Cases	125		

It reveals that, null hypothesis were rejected and alternative hypothesis were accepted. It was concluded that, there was a significant difference between the educational qualification and awareness about the digital transaction.

Table 10: Usages of digital wallet by respondent					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rank 1	57	45.6	45.6	45.6
	Rank 2	14	11.2	11.2	56.8
	Rank 3	24	19.2	19.2	76.0
	Rank 4	10	8.0	8.0	84.0
	Rank 5	20	16.0	16.0	100.0
	Total	125	100.0	100.0	

Source: Values computed from primary data

Table 10 examines that the rank of usages of digital wallet, around 46 per cent of the respondent were assigned a rank of first and 19 per cent were in second rank. 16 per cent of them were in providing a rank 5 and 11 per cent were in rank second. It was concluded that usage of digital wallet preferences was more in younger generation.

CONCLUSION

This paper concludes that, transformations take place in digital world and also impacted in every phrase of human life. Smart phone and internet facilities had made life simpler by click on the button. In the current scenario, increased the uses of digital transaction that is cashless transaction and also majority of the younger generations will prefer only a cashless transactions through the Phone pay, Gpay and Paytm. Its inferred that, younger generation are aware on the information security and digital transaction. Hence, new innovations takes place in the cash less society the newer generation must able to adopt with new changes and move forward to the countries growth.

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PRADHAN MANTRI JAN DHAN YOJANA (PMJDY) - NATIONAL MISSION FOR FINANCIAL INCLUSION IN THOOTHUKUDI DISTRICT

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ABSTRACT

The development of Indian digital payment systems has been attributed in large part to digitalization, the introduction of new payment choices, and greater customer awareness. Most research investigations came to contradictory conclusions that need to be looked into. As a result, the research study selected 200 PMJDY customers from the Thoothukudi District using a convenient sampling technique. It was tested using the t-test, f-test, ANOVA, and Post Hoc Test. In terms of socio-economic characteristics, the study found that only education had a positive relationship with multiple digital payments indicators. It also showed that customers preferred digital payments due to their ease, time savings, easy use, safety, and security.

INTRODUCTION

Digital wallets are used by customers to make purchases through software-created payments. E-wallets, prepaid cards, credit and debit cards, as well as online banking are some of the PMJDY digital payment methods available in India. The convenience of doing transactions in rural areas, which were mainly unaffected by any digital payment mechanism, has improved, and it has drawn numerous local and international investors.

RESEARCH PROBLEM

The emergence of multiple digital payment methods that allow customers to carry out their transactions in a safer, user-friendly, convenient, and private manner as a result of technical improvement will increase the demand for using mobile payment methods.

Socio-economic indicators have no effect on digital payment systems, according to studies by Anuradha C. Hastak and Arun Gaikwad (2021), Gokilavani, R, Kumar, Venkatesh. D, Durgarani, M, and Mahalakshmi R (2018).

However, research by Ranganath Santosh & Tulsi Rao G (2018), Sobana Shanthini J and Dr. J. Immanuel Nallathmbi (2018) indicated a significant positive correlation between socioeconomic characteristics and understanding of digital payment systems. The PMJDY digital payment systems in India have shown inconsistent results in previous studies, which should be looked into. In order to better understand its effects, the current study looks primarily at the Thoothukudi District in Tamilnadu.

HYPOTHESIS

H_{01}: There is no significant difference between multiple digital payment indicators with socio-economic factors.

SAMPLE SELECTION

For this purpose, 200 sample respondents from the Thoothukudi district of Tamil Nadu were chosen for this article. ppA convenient sampling technique was used for this, and an interview schedule method was adopted. Statistical methods such the t-test, ANOVA, and post-hoc test were used to test the hypotheses.

Table 1: Reliability Statistics

Sl.No.	Statements	Cronbach's Alpha
MDP1	It reduces the cost of financial transactions	0.738
MDP2	It moderates the financial risk	0.791
MDP3	It maintains privacy transactions	0.783
MDP4	Spending time is very less	0.802
MDP5	Multiple Digital Payment modes are good	0.797

Table 1 expresses the reliability statistics on socio-economic and multiple digital payments factors. All the factors are greater than 0.7, so we go for further analysis.

RESULTS

Table 2: Socio-Economic Frequency

Indicator	N	Percent
Age		
Up to 20	49	24.50
21 to 40	59	29.50

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Indicator	N	Percent
41 to 60	63	31.50
Above 60	29	14.50
Total	200	100.00
Gender		
Female	121	60.50
Male	79	39.50
Total	200	100.00
Education		
Illiterate	38	19.00
School	38	19.00
College	41	20.50
Professionals	41	20.50
Others	42	21.00
Total	200	100.00
Monthly Income		
Up to 5000	18	9.00
5001 to 10000	66	33.00
10001 to 15000	46	23.00
15001 to 20000	32	16.00
Above 20000	38	19.00
Total	200	100.00
Forms of Payments		
Net banking	40	20.00
E-wallet	37	18.50
Credit/Debit Card	40	20.00
POS	37	18.50
Prepaid card	46	23.00
Total	200	100.00

Table 2 describes the socioeconomic frequencies in Thoothukudi District. Out of 200 sample respondents, 49 were under the age of 20; 59 were between the ages of 21 and 40; and 63 and 29 were between the ages of 41 and 60, respectively. In terms of gender, 60.50 percent have taken from females and 39.50 percent from males. Out of percent, 9 percent and 33 percent fell into the income segments of up to 5,000 and 5,001 to 10,000, respectively. Furthermore, 23 percent of respondents were chosen from the income bracket of Rs.15, 001 to 20,000, while 19 percent were chosen from the income bracket of more than 20,000. In terms of payment methods, the majority of respondents (23 percent) preferred prepaid card; 18.5 percent preferred point of scale and E-wallet, respectively; and 20 percent preferred net banking.

Table 3: Age and Factors of Multiple Digital Payment Indicator

Age	Up to 20	21 to 40	41 to 60	Above 60	F	Sig.
MDP1	3.70	3.84	3.63	3.45	1.560	0.200
MDP2	3.71	3.80	3.60	3.83	0.702	0.552
MDP3	3.55	3.68	3.53	3.78	0.695	0.556
MDP4	3.57	3.73	3.56	3.60	0.485	0.693
MDP5	3.64	3.67	3.64	3.73	0.078	0.972
OVMDP	19.17	18.23	18.78	18.67	0.435	0.654

Table 3 explains the connection between age and the multiple digital payments indicator factor. The significant value of MDP1 was 0.200; MDP2 was 0.552; MDP3 was 0.0.556; MDP4 was 0.693; MDP5 was 0.972; and the overall multiple digital payment indicators was 0.654, all of which were greater than the significant value, and thus we accepted that no relationship was found between the above selected variables.

Table 4: Gender and Factors of Multiple Digital Payment Indicator

Gender	Female	Male	t	sig.
MDP1	3.69	3.62	0.557	0.578
MDP2	3.65	3.58	0.520	0.603
MDP3	3.64	3.60	0.271	0.787
MDP4	3.68	3.69	0.125	0.901

Gender	Female	Male	t	sig.
MDP5	3.72	3.73	0.063	0.950
OVMDP	18.38	18.24	0.316	0.752

Table 4 entails the correlation between gender and multiple digital payments indicator factors. The t-value and p-value of MDP1 were showed to be 0.557 and 0.578; MDP2 was found to be 0.520 and 0.603; MDP3 was recorded to be 0.271 and 0.787; MDP4 was found to be 0.125 and 0.901; MDP5 was observed to be 0.063 and 0.950; and OVMDP was found to be 0.316 and 0.752, all of which were greater than the significant value

Table 5: Education and Factors of Multiple digital payments Indicator

Education	Illiterate	School	College	Professionals	Others	F	Sig.
MDP1	3.22^{a}	3.56^{ab}	3.84^{bc}	4.09^{c}	3.98^{c}	6.872	<0.001**
MDP2	3.35^{a}	3.40^{ab}	3.71^{abc}	3.79^{ab}	3.93^{c}	3.563	0.008**
MDP3	3.47^{a}	3.51^{a}	3.76^{ab}	3.85^{b}	3.87^{ab}	1.954	0.012*
MDP4	3.37^{a}	3.42^{a}	3.73^{ab}	3.96^{b}	3.70^{ab}	3.091	0.017*
MDP5	3.39^{a}	3.49^{ab}	3.76^{bc}	3.89^{c}	3.83^{c}	2.894	0.023*
OVMDP	16.80^{a}	17.39^{a}	18.80^{b}	19.57^{b}	19.30^{b}	6.291	<0.001**

Table 5 shows the relationship between education and multiple digital payments indicator factors. The p-values of MDP1 and OVMDP were less than 0.001percent, and the significant value of MDP2 was 0.008, both of which were less than the 1percent level. Furthermore, MDP4 detected 0.017, MDP3 detected 0.012, and MDP5 detected 0.023, all of which were less than the significant value of 5percent. As a result, we noted that there was a significant correlation between multiple digital payments factors and education.

According to post hoc results of education categories with multiple digital payments factors MDP3 and MDP4, illiterate and school groups differed from professionals, but college and other categories differed from the rest of the groups. Furthermore, MDP2 discovered that illiteracy differed from other classifications and was associated with school and professional groups, whereas college was positively matched with all other segments. Furthermore, MDP1 and MDP5 discovered that illiteracy varied with

professional classification, but school and college groups were related to the remaining baskets. Furthermore, OVMDP determined that the illiterate and school clusters were unrelated to the rest of the groups.

Table 6: Monthly Income and Factors of Multiple digital payments Indicator

Monthly Income	Up to 5,000	5,001 to 10,000	10,001 to 15,000	15,001 to 20,000	Above 20,000	F	Sig.
MDP1	3.84	3.50	3.52	3.61	3.90	1.684	0.154
MDP2	3.68	3.59	3.80	3.66	4.00	1.409	0.232
MDP3	3.52	3.51	3.75	3.54	3.83	1.202	0.311
MDP4	3.72	3.67	3.52	3.71	3.76	0.509	0.729
MDP5	3.68	3.65	3.77	3.66	3.67	0.138	0.968
OVMDP	18.44	17.93	18.36	18.17	19.17	0.876	0.479

Table 6 depicts the relationship between monthly income and multiple digital payments indicator factors. The f-value and p-value of MDP1 were found to be 1.684 and 0.154; MDP3 was found to be 1.202 and 0.311; MDP5 was 0.138 and 0.968; MDP2 was 1.409 and 0.232; MDP3 was 0.509 and 0.729; and OVMDP was 0.876 and 0.479, both of which are significant. As a result, we conclude that no relationship between multiple digital payments indicators and monthly income variables was discovered.

Table 7: Mode of Payments and Factors of Multiple digital payments Indicator

Mode of Payments	Net banking	E-wallet	Credit/Debit Card	POS	Prepaid card	F	Sig.
MDP1	3.90^{a}	4.00^{b}	3.60^{ab}	3.67^{ab}	3.31^{a}	4.777	0.001**
MDP2	4.00^{b}	3.81^{ab}	3.91^{b}	3.61^{ab}	3.42^{a}	3.352	0.011*
MDP3	3.94^{b}	3.88^{b}	3.79^{b}	3.57^{ab}	3.37^{a}	3.301	0.012*
MDP4	3.77^{ab}	3.74^{ab}	3.91^{b}	3.41^{a}	3.39^{a}	3.195	0.014*
MDP5	3.79^{b}	3.83^{b}	3.79^{b}	3.49^{ab}	3.34^{a}	2.767	0.028*
OVMDP	19.40^{b}	19.26^{b}	19.00^{ab}	17.75^{ab}	16.82^{a}	5.739	<0.001**

Table 7 depicts the relationship between modes of payment and multiple digital payments indicator factors. The significance value of overall multiple digital payments

factor and MDP1 was less than one percent, which is less than the 1percent level. Furthermore, MDP5 had a p-value of 0.028, MDP4 and MDP3 had p-values of 0.014 and 0.012, respectively, and MDP2 had a p-value of 0.011, all of which were less than 5 percent. As a result, we concluded that the selected variables had a significant relationship.

According to the post hoc results expressed the sub segments of the above two variables. The MDP5 and MDP3 indicators explained that there was a difference between the net banking, E-wallet, and credit/debit card groups and the prepaid card group, but not between the rests of the baskets. The MDP4 factor discovered a significant difference between point of sale and prepaid card segments and the credit/debit card category, but net banking and E-wallet groups were positively related to the remaining three brackets. The MDP2 factor measured the difference between prepaid card holders who used net banking and credit/debit card holders, while the E-wallet and point of sale variables were significant when compared to the rest of the factors. The MDP1 factor revealed a significant deviation.

CONCLUSION

The findings of a study on the PMJDY digital payments system customers' perspectives on socioeconomic variables such as age, gender, monthly income, education, and mode of digital payments with multiple digital payments indicators are summarized below.

The relationship between age, gender, and monthly income did not differ significantly with multiple digital payments indicator; whereas education and mode of payment were significantly differ with multiple digital payments and purchase factors. Furthermore, the overall multiple digital payments indicator results highlighted that the E-wallet cluster differed significantly from prepaid card holders. According to the findings of this study, the majority of customers are shifting from conventional to digital transactions, and usage is increasing in both directions. It is clear that the majority of the PMJDY sample customers preferred digital payments because they take less time and are more convenient.

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AN OBSERVATION OF BANK CUSTOMER'S ATTITUDE TOWARDS E-BANKING SERVICES: A REFERENCE TO TAMBARAM, CHENGALPATTU DISTRICT

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INTRODUCTION

The Indian banking sector has emerged as one of the strongest drivers of India's economic growth. The Indian banking industry has made outstanding advancement in last few years, even during the times when the rest of the world was struggling with financial meltdown. This technology driven delivery channels are used to reach maximum customers at lower cost and in most efficient manner. The beauty of these banking innovations is that it puts both banker and customer in a win-win situation. The need of an hour is to design a system to promote marginal efficiency of investment in technology and widen the gap between marginal benefits and marginal cost involved in banking transformation with special reference to technological up gradation.

Technology has occupied all spheres of human life and banking industry plays a significant role in our society. Banking today is in the midst of an IT Revolution. A combination of regulatory and competitive reasons has led to increasing importance of automation in the banking industry. In the wake of the internet revolution, electronic commerce emerged and allowed businesses to interact more effectively with their customers and other corporations. In this proliferated information age, banking industry has been using this new communication channel to reach its varieties of customers. E-commerce has become a very important technological advancement for businesses by changing business practices. This has experienced tremendous growth in recent years as a result of new business initiatives utilizing these technologies. In particular, industries that are information oriented such as banking services and securities trading sector are expected to experience the highest growths in e-commerce. Inevitably, this phenomenon

has sparked a lot of attention in the in the academic literature lately. Undoubtedly, electronic banking has experienced explosive growth and has transformed traditional practices in banking.

Banking transactions done through electronic means is e-banking. It is more of a science than art. E-banking is knowledge based and mostly scientific in using electronic devices of the computer revolution. E-banking denotes the provisions of banking and other related services through the extensive use of IT, without any direct physical link between the bank and the customers, which includes ATMs, electronic fund transfer at point of sale, smart cards, stored value cards, phone banking, home banking, internet and intranet banking, Tele banking, Mobil banking, SMS banking, WAP banking, SIM toolkit, Television banking, Anytime banking, Anywhere banking, Electronic pass book. Thus, a significant transformation has taken place from traditional to e-banking.

STATEMENT OF THE PROBLEM

The Report of the Committee on Financial Inclusion under the Chairmanship of Dr. C. Rangarajan highlights the need of financial inclusion to sustain and accelerate growth of banking sectors. The Reserve Bank of India has also taken various initiatives including policy reforms to give a big push to the agenda of financial inclusion. It aimed at providing access to financial products and services to underprivileged sections in rural and urban area at an affordable cost in a fair and transparent manner. The Committee on Financial Inclusion defines financial inclusion as "the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker section and low income groups at an affordable cost."

The banking industry is now using the new communication media to offer its versatile services to the customers with ease and convenience. This system of mutual transactions between the customers and the banking industries is widely known as e-banking. This system breaches the geographical, industrial, and regulatory barriers, creating new products, services, market opportunities and developing more information and system oriented business and management process. As prospect of e-banking depends on customers, therefore, specific understanding on customers' perceived requirements and meeting their demands and expectations is becoming an intricate challenge. With the

growth of internet and e-economy, the customer is in control and it is not difficult for them to move to a competitor's site. The total customer experience includes all stages of a customer's interaction with an e-commerce environment, such as the delivery of the service or product on schedule, the web-based retail site, the back-office systems, and the post sales support. The database for this research study consists of both primary and secondary data. The primary data were collected by using interview schedule from the sample respondents in Tambaram, Chengalpattu District Tamilnadu.

This paper examines the customer's attitude towards services provided by the banks interconnected with information technology.

OBJECTIVES

- To study the e-banking services provided by banks.
- To analyse the attitudes of bank customers towards e-banking services.

METHODOLOGY

Sources of Data

This study is purely based on primary data. The data has been collected directly from the customers of banks by using questionnaire prepared exclusively for this study.

Sample Design

Two hundred and fifty respondents were selected from Tambaram in Chengalpattu District, Tamilnadu. A convenient method of sampling technique is applied to get the questionnaire.

Tools for Analysis

The collected data are classified and tabulated for further analysis. Chi-square test is used to find out the relationship between the variables and the level of satisfaction of customers towards e-banking services of banks.

Hypotheses

1. Age of the customers does not influence their attitude towards e-banking services.
2. Educational qualification of the customers does not influence their attitude towards e-banking services.

3. Income level of the customers does not influence their attitude towards e-banking services.
4. Occupation of the customers does not influence their attitude towards e-banking services.

ANALYSIS AND INTERPRETATIONS

In this study an attempt has been made to analyse the attitudes of bank customers towards e-banking services of selected sample respondents in the study area namely, the classification of age, educational status, income level and occupation of the sample farmers.

CLASSIFICATION OF AGE

Age is one of the main demographic factors that determine the attitudes of the respondents towards e-banking services of banks. A two way table has been prepared to show the age and the attitudes of the respondents towards e-banking services. The results obtained from the analysis are shown in Table 1.

Table: 1 Classification of the respondents on the basis of their age and the attitude towards E-Banking services

Age	Level of influence			Total
	Low	Medium	High	
0-25	5 (13.88)	6 (4.06)	8 (12.12)	19 (7.6)
26-35	14 (38.89)	92 (62.16)	38 (57.58)	144 (57.6)
36-45	11 (30.56)	36 (24.32)	14 (21.21)	61 (24.4)
Above 45	6 (16.67)	14 (9.46)	6 (9.09)	26 (10.4)
Total	36 (100)	148 (100)	66 (100)	250 (100)

Source: Primary Data. (Figures in parentheses represent percentages to total)

Since the calculated value of chi-square (13.39) is more than the table value (12.60) at 5% level of significance the null hypothesis is rejected and there is a significant relationship between the age of respondents and the attitude towards e-banking services. Hence it can be concluded that the age influences the level of attitudes of the respondents towards e-banking services of banks.

EDUCATIONAL QUALIFICATION

The educational qualification is also one of the main demographic factors that determine the attitudes of the respondents towards e-banking services of banks. A two way table has been prepared to show the educational qualification and the attitudes of the respondents towards e-banking services of banks. The results obtained from the analysis are shown in Table 2.

Table 2: Classification of the respondents on the basis of their educational qualification and the attitude towards E-Banking services

Educational Qualification	Level of influence			Total
	Low	Medium	High	
No formal education	5 (13.88)	6 (4.06)	8 (12.12)	19 (7.6)
School Level	11 (30.56)	36 (24.32)	14 (21.21)	6 (24.4)
Graduate / Post graduate / Diploma	14 (38.89)	92 (62.16)	38 (57.58)	144 (57.6)
Professional	6 (16.67)	14 (9.46)	6 (9.09)	26 (10.4)
Total	36 (100)	148 (100)	66 (100)	250 (100)

Source: Primary Data. (Figures in parentheses represent percentages to total

It is given that the calculated value of chi-square (13.39) is more than the table value (12.6) at 5% level of significance the null hypothesis is rejected and there is significant relationship between the educational qualification of the respondents and the attitude towards e-banking services. Hence it can be concluded that the educational qualification influences the level of attitudes of the respondents towards e-banking services of banks.

Income Level

The income level is another demographic factor that determines the attitudes of the respondents towards e-banking services of banks. A two-way table has been prepared to show the income level and the attitudes of the respondents towards e-banking services of banks. The results obtained from the analysis are shown in Table 3.

Table 3: Classification of the respondents on the basis of their income level and the attitude towards E-Banking services

Income Level	Level of influence			Total
	Low	Medium	High	
Below Rs.15,000	6 (16.67)	26 (17.57)	14 (21.21)	46 (18.4)
Rs.15,001-30,000	5 (13.89)	24 (16.22)	12 (18.18)	41 (16.4)
Rs.30,001-45,000	10 (27.78)	48 (32.43)	14 (21.21)	72 (28.8)
Rs.45,001 – 60,00	9 (25.00)	28 (18.92)	16 (24.24)	53 (21.2)
Above 60,000	6 (16.66)	22 (14.86)	10 (15.16)	38 (15.2)
Total	36 (100)	148 (100)	66 (100)	250 (100)

Source*:* Primary Data. Figures in parentheses represent percentages to total)

In view of the fact that the calculated value of chi-square (3.61) is less than the table value (15.5) at 5% level of significance the null hypothesis is accepted and there is no significant relationship between the income level of the respondents and the attitude towards e-banking services. Hence it can be concluded that the income level does not influences the level of attitudes of the respondents towards e-banking services of banks.

OCCUPATION

The occupation is another demographic factor that determines the attitudes of the respondents towards e-banking services of banks. A two way table has been prepared to show the occupation and the attitudes of the respondents towards e-banking services of banks. The results obtained from the analysis are shown in Table 4.

Table 4: Classification of the respondents on the basis of their occupation and the attitude towards E-Banking Services

Occupation	Level of influence			Total
	Low	Medium	High	
Own business	16 (44.44)	98 (66.22)	39 (59.09)	153(61.2)
Govt. employee	9 (25.00)	24 (16.22)	16 (24.24)	49 (19.6)
Private	6 (16.67)	12 (8.11)	6 (9.09)	24 (9.6)

employee				
Professional	5 (13.89)	14 (9.46)	5 (7.58)	24 (9.6)
Total	36 (100)	148 (100)	66 (100)	250 (100)

Source*:* Primary Data.(Figures in parentheses represent percentages to total)

As the calculated value of chi-square (8.44) is less than the table value (12.6) at 5% level of significance the null hypothesis is accepted and there is no significant relationship between the occupation of the respondents and the attitude towards e-banking services. Hence it can be concluded that the occupation does not influences the level of attitudes of the respondents towards e-banking services of banks.

CONCLUSION

This paper examines the attitudes of the customers towards e-banking services in Tambaram in Chengalpattu District, Tamilnadu. It is observed that the variable 'Age' influences the attitudes of the customers, the banks are expected create awareness about the e-banking services among the people who is having the age of below 25 years and above 45 years. The variable 'Educational qualification' also influences the attitudes of the customers; the banks are expected to create awareness about the e-banking services among illiterate peoples. With aggressive marketing strategies for generating business opportunities, banks are expected to develop innovative products, keeping in view the needs of different classes of individual customers. The emergence of e-banking has created new financial inclusion that in many cases cannot be effectively fulfilled by the traditional payment systems.

Today, information technology has become a vital element in economic development and the backbone of knowledge based economies in terms of operations, quality delivery of services, and productivity of services. Hence, taking the advantage of information technology is an increasing challenge for developing countries. Information technology has been a great essence in banking system. The changes that the new technologies have brought to banking are enormous in their impact on employees and customers of banks. Advance technology are allowing for delivery of banking products and services effectively than ever before-thus creating new bases of competition.

E- Banking made it convenient for customers to do their banking from geographically diverse places. Banks also sharpened their focus on rural markets and introduced a variety of services geared to the special needs of their rural customers. The internet is slowly gaining popularity in India. The internet banking is changing the banking industry and is having the major effects on banking relationships. E- Banking involves delivery of banking products and services. At present many of the banks around the world have web presence in form of ATMs, internet banking, support services etc. In the world of banking, the development in information technology has an enormous effect on development of more flexible payment methods and more- user friendly banking services. Electronic Banking services are new and the development and diffusion of these technologies by financial institutions is expected to result in more efficient banking system.

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PANDEMIC IMPACT ON SELF FINANCE AUTONOMOUS AND GOVERNMENT EDUCATION IN NAMAKKAL DISTRICTS, TAMIL NADU

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ABSTRACT

In an outset education has a key role to play in human being. According to the J.M. Clark (1957) knowledge is the only instrument of production that is not subject to diminishing returns. In fact, upliftment through education reduces poverty, unemployment, paves way for social inclusiveness and makes hazard free environment etc., the world has shrinkage due to the winning of knowledge. The entire globe clock is blocked due to spreading of Covid-19. As a result the survival of the entire humane is questionable in a sustained environment. The entire world has been concentrating in finding solutions and an amicable precocious measure how to resolve the Covid-19 pandemic to endemic situations. During Covid-19 both Central and State governments initiate numerous programs which will not be reckon possible to know the short period of time. Hence, the study will take in to account of Tamil Nadu government launched higher education enhancement programs of Covid-19. In view of the fact, the government of Tamil Nadu has been ensuring conducive environment in providing standard education during 2019 - 2022 in Tamil Nadu. The Gross Enrolment Ratio (GER) 51.4 per cent as against the national average of 27.1, as compared to other states Tamil Nadu has attained the first position at higher education in India. Women GER is 51 per cent as against of national value of 27.3 per cent, further it continues vulnerable societies Scheduled Tribe men and women are 43.8 per cent and 37.7 per cent respectively. Is inclusiveness of higher education possible to continue in first position among the state of India after Covid-19? The study attempts to make out if free laptop, free education (in Government Arts and Science Colleges up to postgraduate level), financial assistant to economically weaker sections, Chief minister relief fund and free SIM cards for students of Government College, Government Aided college and also for the students, who avail scholarship in Self financing Colleges are provided with

2 GB data per day to attend online classes during the pandemic. How many of educationists are aware of Online Education? How far are both students and staff members (Teaching and Non- Teaching) benefited through Online Education using Educational Tools? How effective are lecturing, understanding and testing in the online mode? The unexpected global lockdown during Covid-19, the education had a good scope to pave the way of global link through coalition of Institutions are connected. The affordability of ICT is very costly for vulnerable community, so that the policy makers keenly to resolve this problems way in which to promote their future

INTRODUCTION

In an outset education is a key role to play in human being. According to the J.M. Clark (1957) rightly points out that Knowledge is the only instrument of production that is not subject to diminishing returns. Development of educations reduce poverty, unemployment, social inclusiveness and hazard free environment etc., the world has shrinkage due to the winning of knowledge. The entire globe clock is blocked due to spreading of Covid-19. As a result the human being survival is questionable to sustain the environment. The entire world has to ready to prepared how to resolve the Covid-19 pandemic to endemic situations. During that time of Center and State governments initiate numerous programs which will not be reckon possible to know the short period of time. So that the study will be take in to account of Tamil Nadu government launched higher education enhancement program of Covid-19.

ORIGIN OF THE RESEARCH PROBLEM

Whether the students and staff member who has benefited or not? That will know of 2019 - 2022 the impacts of higher education in Tamil Nadu. The Gross Enrolment Ratio (GER) 51.4 per cent as against the national average of 27.1, as compared to other states Tamil Nadu has attained the first position in higher education in India. Women GER is 51 per cent as against of national value of 27.3 per cent, further it continues vulnerable societies Scheduled Tribe men and women are 43.8 per cent and 37.7 per cent respectively. The inclusiveness of higher education may possible to continue in first position among the states of India after Covid-19. The study to attempt to know free laptop, free education (in Government Arts and Science Colleges up to postgraduate

level), financial assistant to economically weaker sections, Chief minister relief fund and free SIM cards for Government College Autonomous, and who are avail scholarship in Self financing Autonomous Colleges are provided with 2 GB data per day to attend online classes during the pandemic.

T. Mayai (2020) study reveals that the Covid-19 lockdown period human capital weekend especially education attainment of 2 million school-age children learning opportunities deprived. Further notifies that the economic recovery from Covid-19 will require a coordinated strategy that addresses specter specific challenges. Especially women enterprises and small firms could be rejuvenated through targeted interventions.

Daly, Buckman and Seitelman views in similar of Cody Parkinson (2020) study has found that during Covid-19 inequalities were developed further notifies that access to education is not equal and that greater access to higher education may ensure better economic resiliency in the future for the country and its people.

Ketan K Sha (2020) study indicates that while entering of online classless, everyone has private and adequate space at home, peaceful surroundings unlimited access to high-speed broadband, an army of latest electronic gadgets, mastery over hardware and software, and complete peace of mind. In fact, this luxury is available to less than 0.01 per cent of Indians.

N. Rajagopal (2020) study has indicates that Multidimensional Poverty Index (MPI) is calculated as 0.123 about 27.9 per cent of the total population includes the multidimensional poor. The percentage of people susceptible to multidimensional poverty is 19.3 per cent. The share of deprivation dimension to total multidimensional poverty in terms of health, education land standard of living is 31.9 per cent 23.4 per cent 44.8 per cent respectively. The impact of the pandemic will be severe on MPI. It is important at this stage to mobilize more resources and continue all supportive measures in terms of the public distribution system, regular immunization programmes, safety network for the poor, etc, that may minimize the affect of deprivation indicators on MPI.

Andrew P. Kelly and Rooney (2020) study emphasis the few institutions had a good options, the pandemic compel leaders to reconsider the old playbook. Further notifies

that the institutions are opportunity to do so will be in a better position to respond to their structural challenges that the industry will continue to face with or without the threat from Covid-19

OBJECTIVES

1. To critically study the existing level of the functional aspects of the colleges of education during Covid -19 in the following areas:

a) Physical features

b) Academic aspects

c) Staff Quality

d) Student Quality

e) Innovations

HYPOTHESES

1. There is no significant difference between the Self finance Autonomous and Government Autonomous colleges of education in Tamil Nadu during Covid –19 in the availability of physical features.
2. There is no significant difference between the Self finance Autonomous and Government Autonomous colleges of education in Tamil Nadu during Covid-19 of the academic aspects in the institution
3. There is no significant difference between the Self finance Autonomous and Government Autonomous colleges of education in Tamil Nadu during Covid – 19 in the staff quality.
4. There is no significant difference between the Self finance Autonomous and Government Autonomous colleges of education in Tamil Nadu during Covid –19 in the students' quality.
5. There is no significant difference between the Self finance Autonomous and Government Autonomous colleges of education in Tamil Nadu during Covid –19 in the innovations, carried out.

RESULTS AND DISCUSSION

The study has carried out during Covid – 19 impact assessment of

Table 1: Distinguish between Self finance Autonomous Colleges and Government Colleges in Namakkal District

Sl. No.	Variables	Self Finance College		Government College		Calculated 't' value
		Mean	SD	Mean	SD	
1	Physical Features	73.35	4.54	62.05	3.94	7.01*
2	Academic Aspects	66.75	6.24	39.46	4.84	13.91*
3	Staff Quality	76.24	4.73	61.54	13.46	7.65*
4	Student Quality	72.05	6.43	49.16	5.26	9.32*
5	Innovations	68.76	5.32	49.21	7.84	7.68*

***Source*:** Field Data

**Note: ***Level of Significance 0.01

Table 1 shows that distinctions are made for the security of physical features, academic aspects, staff quality, student quality, and innovation practises between self-financed autonomous and government-funded autonomous colleges. How will both operate during COVID-19? The researcher discovered that the "t" value of 7.01 is greater than the significance level. As a result, hypothesis 1 was rejected, and an alternative hypothesis that distinguishes between self-financing autonomous and government autonomous in a significant physical manner was proposed. As a result, the study discovered that the self-financing autonomous colleges of Tamil Nadu's Namakkal district are superior to the government-run autonomous colleges. Academic aspects included staff quality, student quality, and innovation practises in similar results.

CONCLUSION

Autonomous colleges allow colleges to think freely, construct intellectually, and effectively bring in innovations. The status of autonomy makes an individual responsible and accountable to one's profession. Knowing the advantages of being an

autonomous college, government colleges should strive to become autonomous. Autonomous colleges do meet various challenges, but most of these challenges prove to be opportunities for achievement and progress. Let us remember whether we belong to an autonomous college or a government college of education.

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PANDEMIC IMPACT ON DISTANCE AND REGULAR EDUCATION AT HIGHER EDUCATION IN TAMIL NADU

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INTRODUCTION

Education has a key role to play in human being. According to the J.M. Clark (1957) knowledge is the only instrument of production that is not subject to diminishing returns. In fact, upliftment through education reduces poverty, unemployment, paves way for social inclusiveness and makes hazard free environment etc., The world has shrinkage due to the winning of knowledge. The entire globe clock is blocked due to spreading of Covid-19. As a result the survival of the entire humane is questionable in a sustained environment. The entire world has been concentrating in finding solutions and an amicable precocious measure how to resolve the Covid-19 pandemic to endemic situations. During Covid-19 both Central and State governments initiate numerous programs which will not be reckon possible to know the short period of time. Hence, the study will take in to account of Tamil Nadu government lauched higher education enhancement programs of Covid-19.

STATEMENT OF THE PROBLEM

Whether students and staff members are benefited or not? In view of the fact, the government of Tamil Nadu has been ensuring conducive environment in providing standard education during 2019 - 2022 in Tamil Nadu. The Gross Enrolment Ratio (GER) 51.4 per cent as against the national average of 27.1, as compared to other states Tamil Nadu has attained the first position at higher education in India. Women GER is 51 per cent as against of national value of 27.3 per cent, further it continues vulnerable societies Scheduled Tribe men and women are 43.8 per cent and 37.7 per cent respectively. Is inclusiveness of higher education possible to continue in first position among the state of India after Covid-19? The study attempts to make out if free laptop,

free education (in Government Arts and Science Colleges upto postgraduate level), financial assistant to economically weaker sections, Chief minister relief fund and free SIM cards for students of Government College, Government Aided college and also for the students, who avail scholarship in Self financing Colleges are provided with 2 GB data per day to attend online classes during the pandemic. How many of educationists are aware of Online Education? How far are both students and staff members (Teaching and Non- Teaching) benefited through Online Education using Educational Tools? How effective are lecturing, understanding and testing in the online mode?

REVIEWS OF AN INTERNATIONAL AND NATIONAL STATUS

T. Mayai (2020) reveals in her study that the Covid-19 lockdown period weakened human capital especially in educational attainment of 2 million school-age children learning opportunities and further notifies that the economic recovery from Covid-19 will require a coordinated stratgey that addressess sector specific challenges.

Daly, Buckman and Seitelman views in smilar of Cody Parkinson (2020) found that during Covid-19, inequaliies have been developed and access to education is not equal and that greater access to higher education may ensure better economic resiliency in the future for the country and its people.

Ketan K Sha (2020) study indicates that while entering of online classess, everyone has private and adequate space at home, peaceful surrondings unlimited access to high-speed broadband, an army of latest electronic gadgets, mastery over hardware and software, and complete peace of mind. In fact, this luxury is avaialble to less than 0.01 per cent of Indians.

N. Rajagopal (2020) states that Multidimensional Poverty Index (MPI) is calculated as 0.123 about 27.9 per cent of the total population includes the multidimensionally poor. The percentage of people susceptible to multidimensional poverty is 19.3 per cent. The share of deprivation dimesion to total multidimensional poverty in terms of health, education land standard of living is 31.9 per cent 23.4 per cent 44.8 per cent respectively. The impact of the pandemic will be severe on MPI. It is important at this stage to mobilise more resources and continue all supportive measures in terms of the

public distribution system, regular immunisation programmes, safety network for the poor, etc, that may minimise the affect of deprivation indicators on MPI.

Andrew P. Kelly and Rooney (2020) emphasis the few institutions have good options in hybrid course if facilitating each and every requirment; the pandemic compel leaders to reconsider the old playbook. Public insititions have opportunity to do so and will be in a better position to respond to their structural challenges that the industry will contintue to face with or without the threat from Covid-19.

V. SIGNIFICANCE OF THE STUDY

In March 2020 nation wide range of lockdown, normal classroom teaching abandoned. The faculties have to complete their curriculum and students have to prepare for ready to attempt to write examination for their future progress. Without knowing of online tools and techniques are implementing for both faculties and students. According to the Global internet network research emphasized 24 per cent of households only had consistent internet facilities, where as remaining of them unreachable.

3. OBJECTIVES OF THE STUDY

The present study endeavours to achieve the following objectives:

- To identify number of students completed Higher Secondary Education and enrolled in Tamil Nadu,
- To study educational condition of students in Tamil Nadu,
- To evaluate employment opportunities of students during the Pandamic in Tamil Nadu and
- To analyse how effective the educational tools and Methods in the study regions and
- To equip students level with the help of technical support (seminar/webinar) globalizes the students horizons

4. RESEARCH METHODOLOGY

This proposed research study based on primary and secondary data. The secondary data will bring out Higher Educational Institutions, MHRD, CMIE, CSO and NSSO etc., The data collected **300 (Students) and 200 (Staff Members) sample respondents'** from

the various places mentioned in the scheduled. The researcher planned to adopt **Stratified Random Technique** for selecting the appropriate sampling respondents. The collected data classified and tabulated accordingly for descriptive and inferential analysis to meet the objectives of the study. After proper coding and scrutinizing, the data may take for formal and rigorous data analysis, through a gamut of statistical technique to get logically consistent inferences with help of Statistical Package for Social Science (SPSS), Analysis of a Moment Structures (AMOS).

RESULTS AND DISCUSSION

Table 1: Distinguish between Regular Colleges and Distance Colleges in Tamil Nadu

Sl. No.	Variables	Regular College		Distance College		Calculated 't' value
		Mean	SD	Mean	SD	
1	Physical Features	73.35	4.54	62.05	3.94	7.01*
2	Academic Aspects	66.75	6.24	39.46	4.84	13.91*
3	Staff Quality	76.24	4.73	61.54	13.46	7.65*
4	Student Quality	72.05	6.43	49.16	5.26	9.32*
5	Innovations	68.76	5.32	49.21	7.84	7.68*

Source: Field Data

Note: *Level of Significance 0.01

Table 1 shows that distinctions are made for the security of physical features, academic aspects, staff quality, student quality, and innovation practises between regular colleges and distance mode of colleges. How will both operate during COVID-19? The researcher discovered that the "t" value of 7.01 is greater than the significance level. As a result, hypothesis 1 was rejected, and an alternative hypothesis that distinguishes between regular and distance in a significant physical manner was proposed. As a result, the study discovered that the regular colleges of Tamil Nadu's are superior to the distance mode of colleges. Academic aspects included staff quality, student quality, and innovation practises in similar results.

CONCLUSION

The unexpected global lockdown during Covid-19, the education had a good scope to pave the way of global link through coalition of Institutions are connected. The affordability of ICT is very costly for vulnerable community, so that the policy makers keenly to resolve this problems way in which to promote their future.

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Apart from the teaching and extension responsibilities, he has been engaged in research activities. He has obtained Post-graduate course from The American College, Madurai, M.Phil degree from Gandhigram Rural Institute-Deemed University, Gandhigram, and Ph.D from the Bharathidasan University, Trichy,Tamil nadu. He has cleared State Level Eligibility Test (SLET). He has served as lecturer in Economics in several reputed colleges. He is a talented and dedicated teacher. He also a life member of AET(Association of Economists of Tamilnadu).The Research Project sponsored by University Grants Commission, New Delhi,Tamilnadu Tamilnadu State Higher Education Council, Chennai and Malcolm and Elizabeth Adishaiah Trust, Chennai. adds to his credit. He has contributed several research papers in scholarly journals and published four books: Water Resources Management: Thrust and Challenges, (ed., 2005); Emerging Dimensions in Self-Help Groups,(ed.2008):Rural Development and Poverty Eradication in India,2009: Food Security: Facts and Issues,2013:Hehas presented papers in national seminars and conferences and organised the State level seminar and workshop sponsored by U.G.C. New Delhi. and ICSSR, Hyderabad. He has attended training course at national level important institutions viz., National Institute of Public Finance, New Delhi, V.V.Giri National Institute of Labour Studies, Noida, Madras School of Social Work, Chennai, Centre for Development Studies, Tiruvandrum, Centre for Multidisciplinary Development Research, Dharwad and Institute of Economic and Social Change, Bangalore. His main areas of interest include field-oriented empirical research on Rural Development, Environmental Economics, and Developmental Issues. He received the prestigious awards Viz.,

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- Young Economist Award (2017) Association of Economists of Tamilnadu, Tiruchirappalli
- Malcolm Adidhaiah Award for Best Teacher in Economics (2017-18).
- Kalvi Bharathi Award (2018-19) International Society For Lion's Club
- Excellent Co-ordinator Award.(2021) LRF Research Foundations, Muslim Arts College, Thiruvithancode, Kanyakumari Dt

And associated with Membership in Professional and academic bodies namely, Life Member in Association of Economists of Tamil nadu,Life Member in Association of Gernotology and Life Member in Indian Association for Research in National Income and Wealth. Dr.Mukundan has carved out a niche for himself among the student community and academic circles.

ABOUT THE BOOK

Today, the newly emerging concept of "digital economy" is attractive to everyone because of the adoption of digital technology to transform services or businesses. Further, it will lead to changes in the shape of the global economy. The contents and coverage from various campus academics have shown how the impactions role of Digital economy made perceptible changes in the manual (non-digital) with digital ones. In this perspective, I strongly believe that this edited volume will be a very useful referral to students, researchers, and policy pundits. This editing book is an addition to my own venture, "Nuts and Bolts."

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