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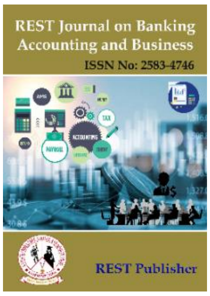


# Issues and Challenges of the Digitisation of the Capital Market in India

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***Abstract:*** *Governance involves the use of political, economic, and administrative power to manage a nation's affairs and ensure citizens' rights. E-governance utilizes electronic means for efficient, transparent public service delivery. India's National e-Governance Plan (NeGP) aims to enhance governance through a Public-Private Partnership (PPP) model, establishing over 100,000 Common Service Centres (CSCs). These CSCs act as delivery hubs for public and private services, addressing regional development while fostering private sector and community participation for sustainable livelihoods. Mitigating the challenges of digitization requires raising user awareness and advancing the regulatory system through the use of cybersecurity practices*

***Keywords:*** *Challenges, Capital market, NeGP, PPP, Sustainability, Governance.*

## 1. INTRODUCTION

A capital market is crucial for economic growth, as it helps businesses and governments raise funds and is often seen as a key indicator of economic health. The market channels savers' money into long-term, profitable projects, and is regulated by authorities like the Bank of England, the US SEC, and SEBI to protect investors. The Indian stock market, one of the oldest in Asia, dates back over 250 years. Initially dominated by the East India Company, it evolved in the 1830s with trading in stocks and shares in Bombay. Dalal Street was established in 1874, and the Native Share and Stock Brokers Association, founded in 1887, eventually became the Bombay Stock Exchange. Today, India has 23 stock exchanges, with the National Stock Exchange (NSE) leading in volume and turnover. The National Stock Exchange (NSE) was established by leading organizations to provide a modern, fully automated, screen-based trading system with nationwide reach. It has set high standards for market integrity, safety, speed, and efficiency. NSE has revolutionized the Indian stock market, introducing innovations like dematerialization, electronic transfers, securities lending, improved risk management, and the use of advanced technology for efficient and transparent trading, clearing, and settlement processes (Thayammanni & Deepak 2018). A record of trading values is crucial in situations where trading activities are ongoing because these values serve as indicators of how successful individual transactions are and because the market price paid for various securities shows how the value of the market is moving. The information on the market capitalization and trading value of various market segments is displayed in the tables below.

**TABLE NO 1 NSE FACT BOOK**

| Segment/Year | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
|---|---|---|---|---|---|
| Capital Market | 3330152.2 | 5184499.29 | 4977071.59 | 6054173.58 | 8317794.21 |
| Equity Futures & Options | 38,211,408 | 55,606,453 | 64,825,834 | 94,370,302 | 164,984,859 |
| Wholesale Debt Market | 851,434 | 772,369 | 569,495 | 682,426 | 517,889 |
| Currency F&O * | 4,012,513 | 3,023,908 | 4,501,886 | 4,857,076 | 5,028,502 |
| Interest Rate Futures ** | 30,173 | 421,558 | 526,425 | 307,809 | 321,208 |
| **Total** | **45,914,017** | **64,153,943** | **74,660,623** | **105,273,526** | **178,087,284** |

Source: NSE Fact book,2018

It is evident from the above table that between 2013–14 and 2017–18, the value of the equities market grew by about 150%. In the last five years, there has been a 332% increase in value even in the F&O sector. The wholesale debt market fell by 40% among several market segments. This table shows a growing tendency if we take into account the overall increase in each market segment. This Study mostly discussed about the challenges, issues and mitigation plans for the Digitisation of the capital market in India, Framework of E-Governance in the capital market operations, Digitisation on Value Creation.

## 2. REVIEW OF LITERATURE

Bhasin (2015) explored digitisation in the capital markets has led to a rise in cybersecurity risks and fraud. Indian capital markets have witnessed a growing number of cyberattacks as more investors transition to online trading platforms. The increasing reliance on digital platforms has made the system vulnerable to hacking, phishing, and other fraudulent activities. To address these risks, the Securities and Exchange Board of India (SEBI) has imposed stringent regulations on cybersecurity measures for market participants, yet enforcement remains a challenge. Shah and Saini (2017) Described one of the major challenges of digitisation in the Indian capital market is the digital divide, particularly in rural areas, while digitisation has made trading more accessible, it has also excluded a significant portion of the population due to low digital literacy. Rural investors and older generations find it difficult to adapt to online platforms, leading to unequal participation in the market. Despite efforts to improve digital literacy, inclusion remains a significant issue that hinders the full benefits of digitisation. Kumar and Singh (2020) discussed the rapid digitisation of the capital market has brought forward several regulatory and legal challenges. Indian regulators face difficulties in keeping up with the evolving digital landscape. The rise of fintech, cryptocurrency, and algorithmic trading has created complexities that existing regulations do not adequately cover. There is a growing need for regulatory frameworks to adapt to these digital innovations while ensuring transparency and investor protection. Sinha (2019) Examined data privacy is a growing concern in the digital transformation of the capital market. With the increasing use of online trading platforms, massive amounts of sensitive data, such as personal identification and financial transactions, are being stored online. This raises issues related to data breaches and unauthorized access. The implementation of the General Data Protection Regulation (GDPR) in Europe has influenced India to adopt similar measures, but compliance among market participants remains inconsistent. Mishra (2021) explored the cost of digitisation and the need for robust technological infrastructure remain significant challenges for small and medium-sized enterprises (SMEs) in India's capital market. While large companies can invest in advanced trading technologies, smaller players struggle with the high costs of digital infrastructure, making it difficult for them to compete. Furthermore, inadequate internet penetration in some regions adds to the technological bottleneck, preventing seamless participation in the market

**Objective:**

To study the conceptual framework of e-governance with regards to capital market in India.

**Challenges And Issues:**

The study is descriptive in nature and used secondary published reports from capital market websites of India.

## 3. DIGITISATION OF THE CAPITAL MARKET IN INDIA

There are many advantages to the digitalization of India's financial and investment sectors, but there are also many drawbacks. The need to maintain user data security and privacy, which is crucial to keeping investors' trust and confidence in digital platforms, is one of the biggest challenges. Preventing certain groups of people from being marginalised as a result of digitalization—especially those without access to digital technologies—is another barrier. The benefits that come with online stock trading are matched by several disadvantages that pose serious challenges for the typical investor. First and foremost, the typical investor lacks financial market expertise. It can be risky to let the independence of internet trading fool you into thinking you are a seasoned investor. An internet investor who is seated at home on a computer also forfeits financial planning and appropriate investment guidance, which are two of the most beneficial services that traditional brokers may offer. Only listed securities of public limited firms may be traded on Indian stock exchanges. They fall into two main categories: non-specified securities (cash list) and specified securities (forward list). The Indian stock exchanges allow for the following two types of transactions: (a) spot delivery, which are defined as "for delivery and payment within the time or on the date stipulated when entering into the contract which shall not be more than 14 days following the date of the contract"; and (b) forward transactions, which are defined as "delivery and payment can be extended by further period of 14 days each so that the overall period does not exceed 90 days from the date of the contract." The latter is only allowed in certain sharing scenarios (Gomathy C.K. & Hemalatha C K 2022). Some of the major challenges as listed by (Kumar A. 2023) are as follows: Technology Infrastructure: Ensuring the availability of a strong technology infrastructure to support digital transformation is one of the main issues. This includes having access to digital gadgets, dependable internet connectivity, and safe systems that can process a lot of transactions. Training and Skill Gaps: Successful digital transformation calls for highly qualified individuals who can comprehend and apply new technologies. To make sure that workers have the requisite skills and abilities, organisations and the general workforce may have skill gaps. In these cases, upskilling and training programmes may be required. Compliance and Regulation: A regulatory framework that protects consumers, thwarts fraud, and upholds financial stability governs the money market. It can be difficult to adapt digital transformation while adhering to current regulations since emerging technology may make the current legal system unworkable. It's critical to strike a balance between innovation and compliance. Cross-Border Regulations: While digital transformation makes cross-border financial transactions possible, it also brings with it new difficulties in terms of compliance with various regulatory frameworks. For businesses that operate internationally, harmonising legislation and guaranteeing compliance in several jurisdictions can be a major challenge. Cybersecurity Risks: As society gets more digitally connected, there is a greater chance of data breaches and cyberattacks. Strong cybersecurity protocols must be put in place by financial institutions in order to safeguard private client information, stop illegal access, and guarantee the accuracy of financial transactions. Data Privacy: With the increasing digitization of financial transactions and consumer data processing, data privacy becomes increasingly important. Organisations must handle and secure consumer data responsibly in order to comply with data protection requirements, such as the General Data Protection Regulation (GDPR) in Europe and the Personal Data Protection Bill in India. The Indian capital market has evolved significantly, with geographical barriers removed and financial products accessible online. Investors now actively trade shares using the internet, saving time, energy, and money. India’s vast digital capital positions it for future economic growth, advancements in healthcare and education, and the modernization of agriculture. With strengths in AI, blockchain, and cybersecurity, it aims to bridge technological gaps.

## 4. FRAMEWORK OF E-GOVERNANCE IN THE CAPITAL MARKET OPERATIONS

A nation's capital market has the power to significantly impact a company by enforcing laws and guidelines pertaining to the company's management procedures. Even while legal and regulatory frameworks are necessary, the capital market has the power to reward or penalise companies based on their governance practices if sufficient accountability and transparency are in place (Drobetz et al. 2004). The capital market can use its governance function to punish management and enhance the firm's general governance in order to lessen agency issues. This section of the chapter deals with the elaborations of the different conceptual frameworks given by the researchers in relation to the governance of the capital market in India. Faizul et al. (2008) presented a Conceptual model on how corporate governance affects a company's ability to obtain financing, its financial performance, and ultimately the growth of the capital market. it demonstrated how a nation's institutional processes, such as its political and economic aspects, legal and regulatory requirements, and markets, have a significant impact on a company's level of corporate governance. Nonetheless, the framework acknowledged that the firm's adherence to the law and its voluntary involvement in corporate governance issues can lower the costs associated with expropriation in the governance process and somewhat offset the inefficiencies of the institutional structures in developing economies. Better firm-level corporate governance, according to the economic approaches to corporate governance, lowers agency costs and raises investors' confidence in the company's future growth and cash flow prospects. This lowers the rate of return that investors were expecting, which lowers the cost of equity capital for the company. Similarly, better regulated companies should see an increase in their operating and investment performance as a result of lower agency expenses. The CIA triad, which stands for Confidentiality, Integrity, and Availability, forms the three major pillars of cybersecurity. These principles can vary between organizations, especially in the capital market where the availability of data is particularly vital. In this sector, availability often takes precedence over digital cybersecurity protection. Therefore, it is crucial to standardize best practice norms while designing the cybersecurity framework. Additionally, the vision of the capital market and the availability of cybersecurity practices within the market are equally important considerations.

## 5. DIGITISATION ON VALUE CREATION

The quiet operation of computers processing trades has taken the place of the bustle of a trading floor in today's society. This means that even for the smallest of purchases, we can now make them with just a few taps on our mobile devices and avoid having to rush to the bank. All of this is made possible by the growing usage of digital technologies in the Indian banking sector (Karan 2023). Over the past ten years, new technologies and innovation have had a varied impact on most industries, altering the competitive landscape and having an impact on existing technologies, goods and services, and business models. In actuality, opportunities to improve flexibility, scale up efficiencies, and reduce market complexity are being presented by the advancement of capital market technology. The impact of disruptive technology on financial markets is significant for players in the industry (Thippeswamy. C. B & Manjunath 2023). This section deals with the elaboration of the digital value creation chain on the customer engagement and interaction and how the digital capital market has enhanced the productivity of the overall structure of purchase and sale of products in the capital market. the idea of these aspects has been taken from the study of (Shukla & Nerlekar 2019).

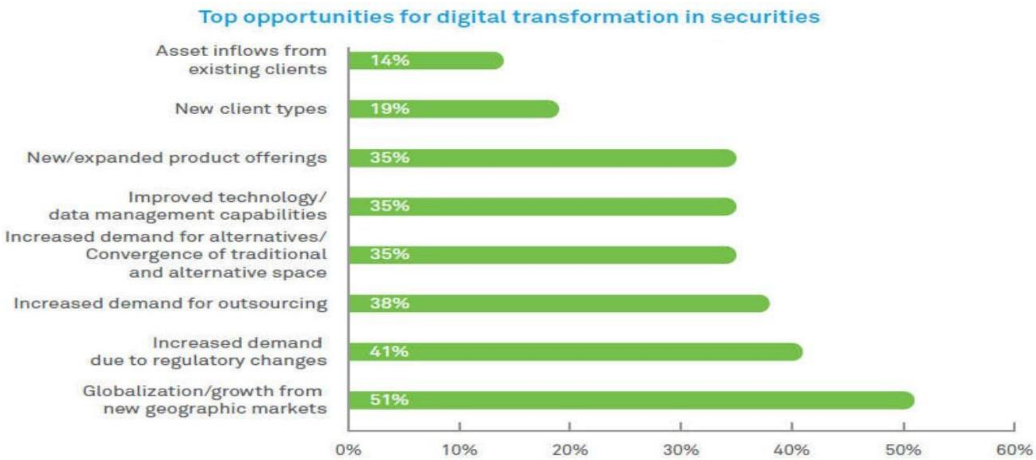


**FIGURE 1.**

Source: (Thippeswamy. C. B & Manjunath 2023), Opportunities for digital transformation in capital market

Interacting with Current Customers: Product details are now accessible across a number of channels. Therefore, when customers visit the company's digital platforms, access to the product for purchase may be more important to them than product knowledge at times. For instance, instead of visiting the fund's website to make a direct purchase, clients may compare information about mutual funds on third-party web aggregator sites. Prospect Engagement: This is a high-impact sector where digital techniques aid in sharing information, developing brands, and raising prospects' level of product awareness in an effort to persuade them to make a purchase. This type of involvement also aids in educating the general public about the importance of saving and investing in the first place, which is particularly important in the financial services sector, where penetration levels in India are still low owing to a lack of knowledge. Therefore, even before educating about the company's particular items, it aids in educating about the concept itself. When a prospect is serious about converting, this is also a crucial activity that establishes top-of-mind brand recall due to the intense rivalry in the financial services industry. Lead Generation: Digital techniques, which also have a strong impact, encourage audience participation through online tools, advertising, and contests. These are tried-and-true strategies that increase audience interaction on social media. Participation from the audience facilitates direct communication with leads, allowing the business to follow up with a more focused pitch. One important indicator that helps businesses determine whether or not their digital marketing initiatives are succeeding is the conversion of audience interaction into lead generation. New Client Acquisition: A subset of the preceding "Lead Generation" statement, digital media is starting to hold its own against traditional media as a means of acquiring new clients, although it hasn't completely replaced it yet. However, as widespread acceptance of digital technology increases, its significance will only grow. Product Promotion and Comparison: A high-impact domain where platforms controlled by the corporation and by third parties provide access to product data. This offers feature-by- feature product comparisons, allowing customers to compare characteristics directly. The purpose of the product comparison tool is to sway customers' purchasing decisions. As an illustration, web aggregators have surfaced that store its limited resources throughout the entire nation. Product details and enables customers to compare them based on a range of criteria. Purchasing Decision & Completion: Digital techniques have been widely utilised for brand presence, product awareness, and information access. On the other hand, real purchasing activity increased slowly. One may like offline shopping for a variety of reasons, such as the opportunity to speak with a salesperson before making a purchase, the ability to physically examine the product, worries about online payment gateway security, etc. But as security code gets more rigorous, customers are growing more at ease making purchases and completing transactions online. Examples of leveraging social media and digital platforms to finish the entire banking transaction are Kotak's #Banking and ICICI's Pocket. Preference storage and device-agnostic: Access refer to using the platform on several devices so that a user's location does not limit their interaction. For instance, broker trading platforms are now available on computers, smartphones, and tablets, allowing clients to examine financial data from anywhere and, if desired, make trades using their device. This also involves keeping track of the customer's preferences and favourites across devices to expedite future purchases. Convenience is enhanced by the Google browser's ability to sync user preferences and favourites across devices. With the help of the smartphone app Pocket, users may bookmark webpages with content so they can read it at their leisure. Reporting and notifications: Financial firms must have reporting and notifications in place to guarantee quick response times and ease of access. Through digital channels including emails, SMS, and online portfolio tools, clients receive rapid access to periodic portfolio reports, account statements, transaction confirmations, installment alerts, payment confirmations, courier alerts, etc. Frequently, the clients are the ones who have access to the platform that provides this data, which might be online portfolio platforms or an SMS query sent to a pre-arranged number. As a result, the client truly acquires ownership, increasing speed and convenience. For instance, Motilal Oswal offered the ability to open new client accounts online, an industry first, even in locations where the company was not physically present. Customer service and feedback: these aspects are also essential for all organisations, not just those in the financial services industry. Digital client care techniques save turnaround times and service costs while tracking the status of client inquiries. Its performance is easily measured, which makes it crucial for determining client satisfaction levels and whether any changes are necessary. For instance, a lot of websites have web chat features that allow for quick response to customer inquiries. Numerous social media platforms enable users to report concerns from customers, which are promptly investigated. IVR phone features enable clients to reach the appropriate department directly with their question, even in situations when the business is not physically located. Gathering Information for Decision-Making by Management: Business intelligence is poised to be a high-impact field where digital techniques can transform how corporate executives use data to make better informed decisions. Large amounts of pertinent customer data can be collected and processed, allowing for more relevant decision-making because there is more data to support the conclusions. This covers engagement data from both online and offline sources, expanding the pool of potential customers. Business intelligence focuses on big data. Although businesses are still not utilising it to its full potential, it will undoubtedly play a significant role in digital management in the years to come. Growth In the Investment Practices: India's investment and financial markets have greatly benefited from the country's usage of digital technologies. A survey by PwC India and the industry body Assocham projects that there will be 150 million retail investors in India by 2025, up from 20 million in 2015


**FIGURE 2.**

Source: Kumar et al (2024). New retail investors account: (Relli, 2021) Undoubtedly, the pandemic has played a significant role in the remarkable ascent of individual investors. However, without technology, the epidemic would not have had such a significant effect. First, the broad adoption of the internet in even the most remote areas of the nation has opened up a whole new online world for Indians. This resulted in easier access to market news, education about investing, and a broader understanding of various investment options. Additionally, many investors from tier 2 and tier 3 locations now have access to more contemporary asset classes and portfolio diversification strategies. The migration of investors from smaller towns and cities is largely responsible for the manner that India's investment landscape is changing. In today's digital era, the Banking, Financial Services, and Insurance (BFSI) sector heavily relies on digital technologies. Consequently, cybersecurity has become paramount to protect against cyber-attacks. In the capital market, time scale accuracy is particularly crucial, especially in stock exchanges, where it plays a vital role. The three major pillars of the CIA triad—Confidentiality, Integrity, and Availability—are essential in this context. The criticality of these pillars varies between organizations, with Availability often taking precedence. These industries employ advanced technologies to safeguard their entire systems. In this scenario, customer feedback is crucial for ensuring both customer satisfaction and company growth.

## 6. CONCLUSION

The digitization of the Indian capital market has revolutionized the financial landscape, bringing about enhanced efficiency, accessibility, and transparency. However, it also introduces several significant challenges. Cybersecurity risks, digital illiteracy, and the exclusion of rural investors impede inclusive growth. Regulatory and legal frameworks struggle to keep pace with evolving technologies such as fintech and cryptocurrency, while concerns about data privacy remain pressing. Additionally, the high cost of technological infrastructure limits the participation of smaller players, exacerbating inequalities in the market. Addressing these challenges through robust cybersecurity measures and controls, improved cybersecurity programs, regulatory compliance, and technological investments is essential for creating a secure, inclusive, and resilient capital market in India.

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