The Academic
International Journal of Multidisciplinary Research

An Online Peer Reviewed / Refereed Journal
Volume 3 | Special Issue 2 | September 2025
ISSN: 2583-973X (Online)
Website: www.theacademic.in

Industry Policy 5.0: Pioneering the Future of Core Banking

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DOI : https://doi.org/10.5281/zenodo.17370750

ARTICLE DETAILS

Research Paper

Accepted: 01-09-2025

Published: 25-09-2025

Keywords:

ABSTRACT

The present era is marked by unprecedented technological progress, reshaping industries across the globe. Emerging innovations such as artificial intelligence, machine learning, and the Internet of Things are driving significant transformations in organizational structures and service delivery. Traditional business models are steadily transitioning from physical operations to virtual platforms in order to meet the evolving expectations of customers. The banking sector, in particular, has experienced remarkable changes in this regard. With the advent of Industrial Policy 5.0, core banking operations have undergone a paradigm shift. This paper seeks to investigate these transformative developments and evaluate their far-reaching implications for the banking industry.

Industry Policy 5.0,

Also known as the Fifth Industrial Revolution, represents a transformative phase that combines integration, sustainability, data analytics, automation, digitalization, the circular economy, customization, and human collaboration. Its vision is to merge artificial intelligence with human inclusion in order to foster holistic social development. Unlike the traditional focus on manufacturing and service delivery, Industry 5.0 extends beyond efficiency and productivity, reimagining industries as drivers of inclusive and sustainable growth. This era emphasizes a broader perspective of societal advancement, underpinned by technological innovation and human-centric values.

Industry 4.0 was characterized by technological progress across nine core domains: additive manufacturing, augmented reality (AR), the Internet of Things (IoT), cybersecurity, big data and

analytics, cloud computing, horizontal and vertical system integration, autonomous robots, and simulation with digital twins. These innovations collectively redefined industrial processes by enhancing automation, connectivity, and efficiency.

Industry 5.0, however, is not simply a subsequent phase but an evolution of these advancements. It builds upon the foundation of Industry 4.0 by integrating human intelligence with robotic and digital technologies, thereby shifting the focus toward a human-centric, sustainable, and inclusive industrial paradigm.

Principle Elements Defining Industry 5.0

Human-Centric(Humanitarian):

The foremost focus of Industry 5.0 is on human beings. The idea is not merely about how people can adapt to technology, but rather how technology can be designed and deployed to serve people. While machines excel in precision, efficiency, and repetitive tasks, they lack critical thinking, creativity, and decision-making abilities—qualities unique to humans. Industry 5.0 emphasizes collaboration between humans and intelligent systems to enhance overall productivity and well-being.

Sustainability:

A key element of Industry 5.0 is the commitment to sustainable development. The policy emphasizes reducing energy wastage, lowering greenhouse gas emissions, and adopting preventive measures for the preservation of natural resources. By integrating green technologies, circular economy practices, and eco-friendly innovations, Industry 5.0 aims to ensure industrial growth without compromising environmental balance.

Resilience:

Resilience in Industry 5.0 refers to the ability of industries to withstand and adapt to global challenges such as climate change, trade conflicts, pandemics, and supply chain disruptions. Industrial policy under this framework focuses on gathering and analyzing data, assessing risks, and implementing adaptive strategies with active human intervention. The goal is to create robust systems capable of overcoming uncertainties while maintaining stability and long-term growth.

Core banking

Banking can be understood as the process of accepting deposits from the public and channelizing those funds to business enterprises, thereby ensuring smooth financial flow within the economy. With the rapid advancement of technology, however, the functioning of banks has become more complex and challenging. To remain competitive and enhance customer satisfaction, banks are now expected to offer a wide range of subsidiary services along with their primary functions.

Some of the important services provided under core banking include:

- **Automated payments** – facilitating monthly or cyclic payments (such as utility bills, insurance premiums, and subscriptions) on behalf of customers.
- **Trading services** – assisting customers in carrying out investment and trading-related activities.
- **Digital banking options** – providing convenient access to banking through mobile applications and internet banking platforms.
- **E-statements** – offering paperless bank statements for quick reference and record-keeping.
- **Loan facilities** – simplifying the process of applying for and availing loans through online platforms.
- **Customer support** – extending 24x7 customer care and grievance redressal services to improve customer trust and satisfaction.

Novelty in Core Banking Activities:

Banking activities have undergone a transformative change with the advent of technology. What once required customers to stand in long queues for simple tasks like passbook updates has now been reduced to just a single click. The shift from traditional, paper-based banking to modern digital tools such as mobile banking, internet banking, and automated services has revolutionized the way customers interact with banks, making transactions faster, more convenient, and highly efficient.

Review of Literature:

Iyer (2024), in *"Moving from Industry 2.0 to Industry 4.0: A Case Study from India on Leapfrogging in Smart Manufacturing"*, examined India's shift from the restrictive License Raj to modern industrialization. Early policies limited large-scale growth and competitive advantage, but today India must integrate human skills with advanced machinery. Iyer emphasized that economic policies should

focus on comparative advantage and critical technological development, while the education system shifts toward practical, skill-oriented training. Initiatives like the Smart Cities Mission promote digitally-driven design and manufacturing, supporting a technologically advanced industrial ecosystem. The study highlights the importance of policy reform, skill development, and human-machine synergy for sustainable growth.

Bonilla et al. (2023), in their article *"Industry 4.0 and Sustainability Implications: A Scenario-Based Analysis of the Impacts and Challenges"*, examined the relationship between smart manufacturing and sustainable development. The study emphasized that in the modern era, consumers are increasingly aware and prefer environmentally friendly products, making sustainability a critical factor for industries. The researchers proposed a conceptual model expressed as **Environmental Impact = f(Population, Affluence, Technology)**, highlighting that the environmental consequences of industrial activities are influenced by population growth, levels of consumption, and the type of technologies employed. Their work underscores the importance of aligning Industry 4.0 practices with sustainability objectives to meet both market demands and ecological responsibility.

Kuo et al. (2019), in their study *"Industrial Revitalization via Industry 4.0: A Comparative Policy Analysis among China, Germany, and the USA"*, analyzed how different countries approach Industry 4.0 policies. The study found that the USA emphasizes demand-side policies, focusing on education and workforce training. Germany prioritizes scientific and technological development, while China adopts environmental and public service-oriented policies. The researchers concluded that integrating these diverse policy approaches with Industry 4.0 strategies can effectively revitalize industrial sectors, suggesting that well-coordinated policy frameworks play a critical role in achieving sustainable industrial growth in the modern technological era

Novelty in Core Banking Activities:

Modern banking has evolved significantly with technology, introducing several innovative services to meet changing customer expectations:

- **AI-Powered Personalization:** Today's consumers expect personalized and intuitive banking experiences. Banks use AI to offer tailored financial advice based on earnings, provide reminders for bills, track savings and spending, set budgets, and help customers achieve financial goals. Studies show 72% of customers prioritize personalization for loyalty and continuity.

- **Robotic Advising:** Customers now access all investment management tools in one place. Banks provide analytical insights on personalized portfolios, including market trends, investment growth tracking, and recurring forecasts.
- **Enhanced Security with Biometrics and Multi-Factor Authentication:** Security concerns affect 80% of e-banking users, while 70% use weak passwords. Biometric and double-password authentication ensure secure access, building stronger customer trust.
- **Sustainable and Ethical Banking:** With growing environmental awareness, banks promote e-statements, paperless transactions, and eco-friendly cards, enhancing customer loyalty and supporting green finance initiatives.
- **Contextual Recommendations:** Personalized financial advice is delivered by tracking transactions, analyzing spending patterns, and sending alerts and investment guidance, replacing traditional in-branch services.
- **In-App Financial Education:** Apps now provide tutorials, budgeting tips, saving strategies, and investment guidance, empowering users to handle complex banking independently.
- **Flexible Payment Options:** Banks offer digital wallets, QR code payments, contactless payments, peer-to-peer transfers, buy-now-pay-later, Zero EMI, subscription-based, and voice-activated payments, ensuring convenience and user satisfaction.

Research Objectives

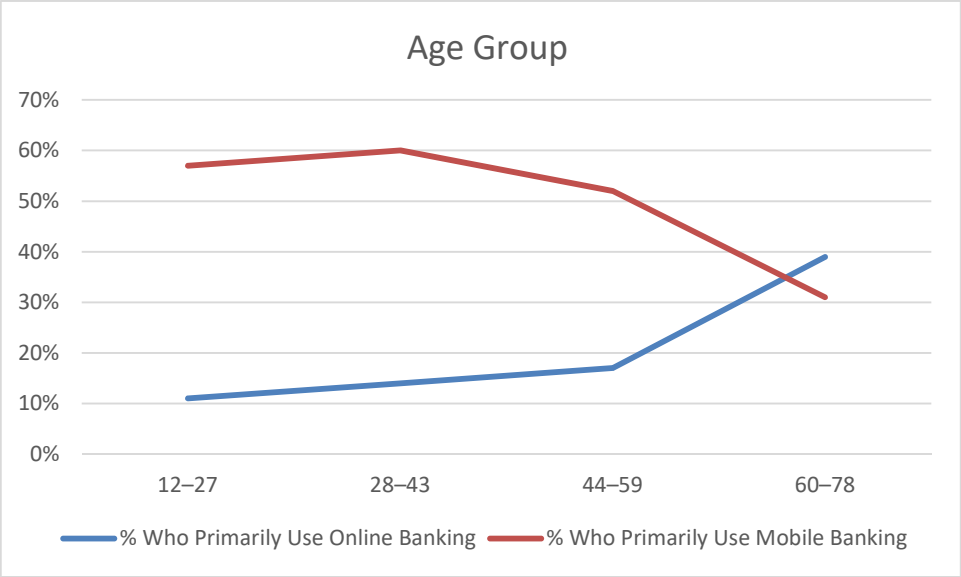
To examine the impact of Industry 5.0 policies on core banking operations.

Research Methodology:

This study will primarily rely on secondary data. Relevant information will be collected from sources such as annual reports, scholarly articles published in national and international journals, government records, and survey reports. Appropriate analytical tools will be employed to examine, interpret, and understand the collected data. The findings will be presented and analyzed using graphs, charts, and diagrams wherever necessary. Conclusions will be drawn based on the systematic analysis and interpretation of the data, providing insights into the research objectives.

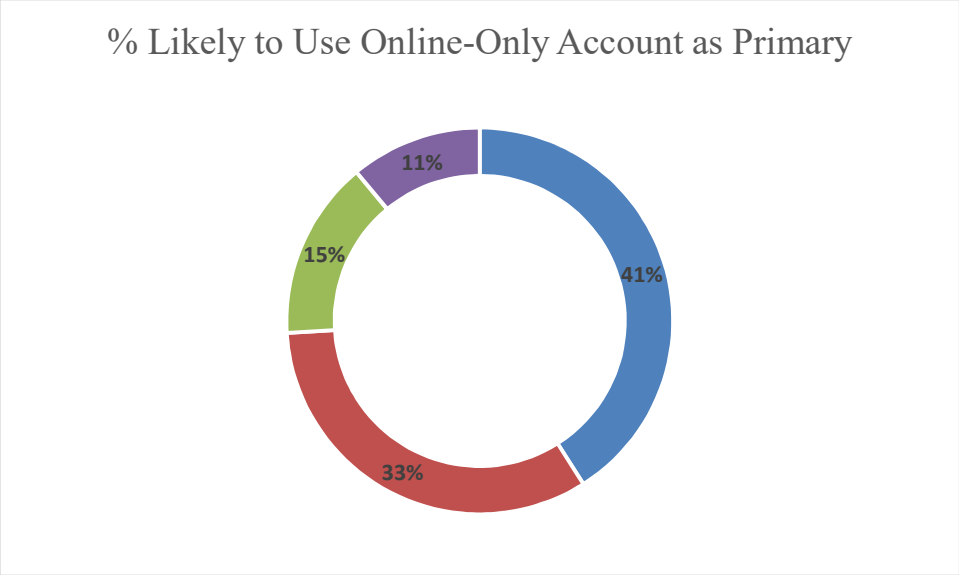
Analytics and interpretation of data UPI (Unified Payments Interface) has seen significant growth in India since its launch in 2016 by National Payments Corporation of India (NPCI). Here are some highlights of the UPI journey in India with YoY (Year-on-Year) growth statistics till Jan 2025

Age Group	% Who Primarily Use Online Banking	% Who Primarily Use Mobile Banking
12–27	11%	57%
28–43	14%	60%
44–59	17%	52%
60–78	39%	31%



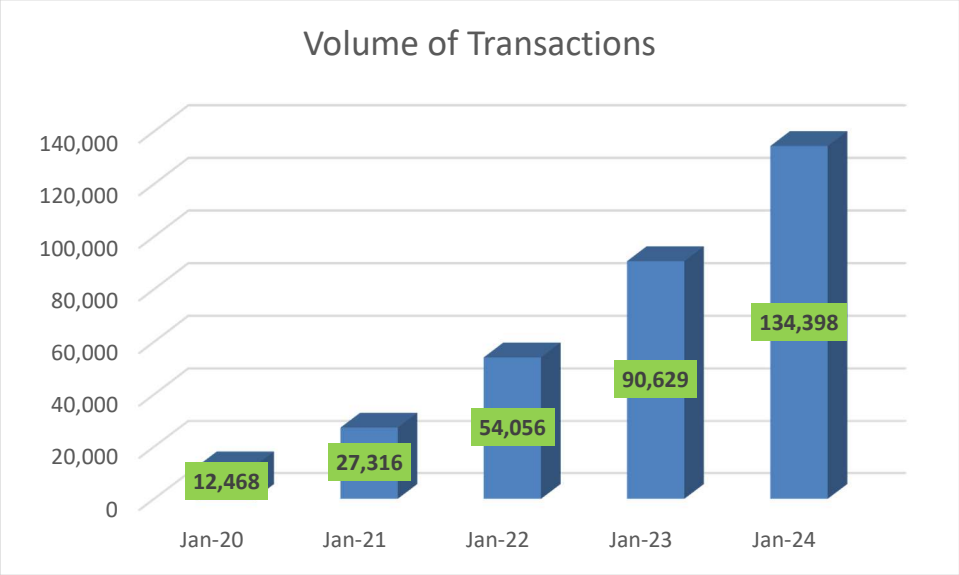
Statistics indicate that online banking is predominantly used by individuals aged 60 to 78, whereas mobile banking is mainly adopted by those aged 28 to 43. This suggests that the younger generation prefers mobile banking due to its greater convenience and ease of use.

Age Range	% Likely to Use Online-Only Account as Primary
18-24	41%
25-34	33%
35-54	15%
55+	11%



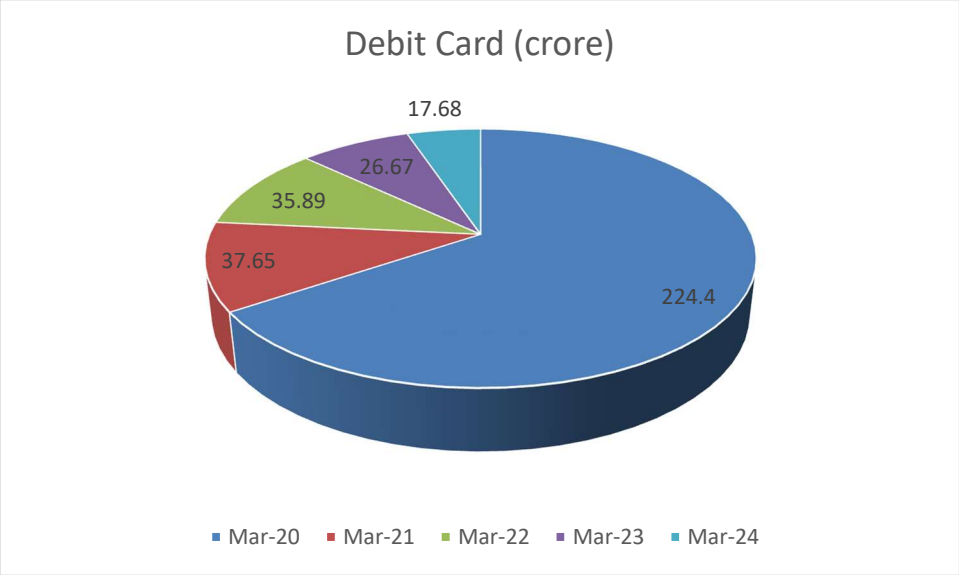
According to the statistical data, 41% of people in the 18–24 age bracket use online-only methods for making payments. In the 25–34 age group, 33% rely on online-only payments, while 15% of those aged 35–54 use this method. Among individuals aged 55 and above, 11% primarily use online payment methods.

Year	**Volume of Transactions**
Mar-20	12,468
Mar-21	27,316
Mar-22	54,056
Mar-23	90,629
Mar-24	1,34,398



The volume of transactions has increased from 12,468 to 1,34,398 in the last 5 years. This increase shows a hike of more than 10 times increase in the number of transactions.

Year Ended	**Debit Card (crore)**	**Credit Card (crore)**	**UPI (crore)**	**Internet Banking (crore)**	**Mobile Banking (crore)**
Mar-20	224.4	20.37	130.83	16.17	11.25
Mar-21	37.65	17.38	223.41	18.87	8.31
Mar-22	35.89	21.13	456.62	55.25	18.45
Mar-23	26.67	25.56	782.97	26.62	11.43
Mar-24	17.68	32.15	1320.99	19.41	9.91



The volume of digital transactions has witnessed a remarkable surge, particularly after the introduction of UPI. Over the past five years, UPI transactions have grown from 130.83 crore to 1,320.99 crore, reflecting nearly a tenfold increase in demand.

Conclusion:

In conclusion, it is evident that core banking functionalities have undergone a significant transformation. The advent of digitalization and technological upgrades has revolutionized the banking industry, enhancing efficiency and accessibility for customers.

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