EVALUATING THE ROLE OF DIGITISATION IN SHAPING MANPOWER PLANNING STRATEGIES IN INDIAN FINANCIAL INSTITUTIONS

Supriya Paul

Assistant Professor, EIILM – Kolkata, India

Mahua Pal

Assistant Professor, J.D. Birla Institute, Jadavpur University, Kolkata, India

Aryan Narayan Das

University of Engineering and Management, Kolkata, India

Rama Prosad Banerjee

Chairman & Director, EIILM – Kolkata, India

Correspondence: supriyap2006@gmail.com

ABSTRACT

The Indian financial sector, including banks, non-banking financial companies (NBFCs), insurance firms, and fintech organisations, is undergoing a transformative shift in manpower planning driven by digitisation. This study examines the specific applications of Artificial Intelligence (AI) for predictive workforce modelling, Machine Learning (ML) for employee performance tracking, and Human Resource Information Systems (HRIS) for integrated talent management. These technologies enhance forecasting accuracy, enable targeted recruitment, support adaptive training programs, and drive data-informed retention strategies, marking a significant shift from traditional intuition-based approaches. However, the digital transition also poses challenges, including digital literacy gaps, high technology adoption costs, and ethical concerns regarding algorithmic transparency and bias. Drawing on an extensive literature review, real-world case studies, and insights from expert interviews and questionnaires within the Indian financial sector, this study critically examines the emerging practices and trends. This study proposes a strategic framework for implementing sustainable, digitally enabled manpower planning models to support the long-term competitiveness and resilience of Indian financial institutions.

1. Introduction

The development of modern digital technology over the last 20 years has completely transformed the operations of financial institutions worldwide. The Indian financial sector, comprising banks and insurance organisations, as well as non-banking financial companies and fintech startups, experienced a complete change because of digital transformation. The industrial revolution has reshaped how organisations reach customers and deliver services and has had a major impact on internal staffing procedures. Traditional financial institutions used to plan their workforce through historical data and management predictions of their staffing requirements. AI digitisation allows workforce management to implement data-based planning and predictive analysis, along with real-time decisions. Digitisation in India continues because of the Digital India program, expanding Internet access, smartphone adoption across the population, and growing numbers of digitally literate citizens. Such elements force organisations to rethink their classical human resource planning systems. This study examines the changing direction of the digital impact on workforce planning methods

for the financial sector in India. This study investigates how workforce planning and development utilise Artificial Intelligence (AI) and Machine Learning (ML) along with Human Resource Information Systems (HRIS) and data analytics. (Gupta et al., 2021)

The implementation of modern technology has transformed Human Resources roles into strategic functions. Through the implementation of digital dashboards alongside robotic process automation (RPA), cloud-based solutions, and blockchain-enabled record-keeping, financial institutions can upgrade their workforce planning programs. The technologies help organisations make swift choices and diminish human-based misfits while making human resources practices more comprehensive and broader. The modern evolution demonstrates how human resource teams transitioned their response systems toward forward-thinking predictions that follow organisational strategic compasses. Indian financial institutions are currently embracing digital transformation through employee experience advancement combined with data-guided human resource management and technological automation. Modern organisations now build intelligent talent management systems that deliver continuous training solutions and predictive recruitment features with enhanced employee involvement tools. The main goal of this review is to combine modern approaches with existing methods to present innovative perspectives for future development. The entrance of Gen Z into the workforce has introduced new digital requirements and career mobility patterns as major workplace trends. Sequential planning of workforce structure requires institutions to anticipate new employee patterns as an indispensable step for developing digital readiness systems. Yahoo has recognised that reliable digital systems are essential to fulfil their mandatory compliance testing regulations and requirements for instant HR activity audits. (Kumar & Sharma, 2022)

Finally, competitive pressure from agile fintech startups has forced traditional financial institutions to accelerate their digital manpower-planning strategies. This growing digitisation demands a cultural shift within HR departments to embrace experimentation, innovation, and resilience in planning, recruitment, and employee development processes.

The technological advancements brought by digitisation help reduce biases during recruitment decision-making and promotion processes, thus enhancing workforce diversity. Through AI decision-making, organisations can find appropriate candidates based on their professional abilities rather than relying on traditional demographics. Institutions that use digital HR systems achieve better employee well-being programs because they integrate AI-powered tools for health monitoring and workplace sentiment analysis. Manpower planning in the digital era relies heavily on skill-based selection systems. The field of workforce hiring is shifting away from traditional educational credentials as AI-driven competency evaluations become a key tool for assessing candidates. Modern organisations prefer digital literacy, problem-solving, and adaptability over traditional educational requirements. Human resource planning is undergoing transformation because of modern financial technology developments alongside digital work environments and artificial intelligence human resource management practices. The automation of routine work allows human resources to dedicate themselves to making strategic decisions for innovation while creating resilient teams that follow business objectives in the digital economy. (Singh et al., 2020)

2. Literature Review

Multiple studies have examined the implications of digital transformation on manpower planning in financial institutions. Experts examine three essential aspects of AI-based workforce optimisation, alongside predictive talent acquisition systems and digital human resource systems. The paper written by Gupta et al. (2021) demonstrated how AI-based workforce analytics systems revolutionise Indian bank hiring procedures to help HR teams forecast employee departures and develop enhanced selection methods. Kumar & Sharma (2022) evaluated how blockchain technology enhances transparency and processing efficiency for employee checks and payroll systems in HR management. According to Singh et al. (2020), time-managed employee performance it significantly increases workforce productivity. Verma et al. (2023) investigated how HR operations benefit from the implementation of chatbots by demonstrating the potential of artificial intelligence to handle employee enquiries and conduct virtual onboarding procedures. Bose et al. (2021) examined the transformation of manpower planning through predictive methods based on big data analytics to replace current reactive systems. The research established that financial institutions utilise machine learning algorithms for workforce projection and resource management. The study

conducted by Mehta (2022) examined how digital HR solutions function better in traditional banks than in modern fintech startups. Traditional banks have experienced difficulty advancing to AI-driven and cloud-based HR systems because their legacy infrastructure has created barriers in fintech firms, which have adopted technology at a rapid pace. Patil & Rao (2024) delivered a relevant study of AI-based skill evaluation tools used for workforce competence development. They demonstrated that financial institutions use artificial intelligence systems to identify employee capabilities before recommending customised training solutions for skill deficiencies. Additionally, Nair & Sen (2023) analysed the impact of remote work and digital collaboration tools on manpower planning. Their research found that hybrid work models necessitate real-time workforce analytics to ensure productivity while maintaining workplace flexibility. Another insightful study by Kapoor et al. (2023) evaluated the adoption of robotic process automation (RPA) in HR functions, demonstrating its impact on reducing administrative workload and improving operational efficiency in financial institutions.

Overall, these studies provide a strong foundation for understanding the evolving role of digitisation in workforce planning. By analysing these contributions, this study aims to offer a comprehensive perspective on emerging trends, challenges, and opportunities in digital manpower strategies.

3. Methodology

In this, we have followed two methods, namely case-based and empirical study.

3.1 Case-based

It is based on real-world examples.

The methodologies employed in various research papers and real-world implementations within Indian financial institutions showcase a comprehensive shift toward AI-driven workforce planning in India. This section discusses the primary methodologies used for digitised manpower planning, including AI-driven workforce analytics, predictive modelling, HR automation tools, blockchain-based HR management and sentiment analysis for workforce engagement.

Figure 1: Workforce analysis (https://images.squarespace-cdn.com/content/v1/5a588e521f318dd974eb925e/1623360504904-2UW48NEHWNYYIC3JVY5O/WFP%2B3.png)

3.1.1 AI-Driven Workforce Analytics

AI-based workforce analytics serves as an essential management tool to maximise human resource planning operations. The processing power of machine learning algorithms scans comprehensive employee data together with performance evaluations, historical resource materials, and workplace relationship strength to create an understanding. The generated insights enable HR departments to rely on data-based decisions when distributing their workforce and determining workforce training requirements and career-development measures. The application of AI models within banks and NBFCs enables productivity evaluation while identifying talent gaps and customised career trajectory recommendations (Sharma et al. (2021); Prasad et al. (2023). Through AI-powered dashboards, HR managers gain real-time performance metric visibility, along with automated decision capabilities that work with workforce trend monitoring functions.

Real-Life Example:

HDFC Bank, one of India's largest private sector banks, has deployed AI-powered workforce analytics to streamline performance evaluations and improve workforce utilisation. Their AI system identifies top-performing employees and suggests tailored learning paths for skill enhancement, boosting internal mobility and retention.

Key Benefits of AI-Driven Workforce Analytics:
- Employee Performance Assessment: AI algorithms evaluate employee productivity and

- Skill Gap Identification: Data-driven insights highlight areas where employees require up-skilling or reskilling.
- Personalised Career Pathways: AI-based recommendation engines suggest career advancement opportunities based on an employee's strengths and market trends.

(*Reference: Nasscom (2022): BFSI Tech report, Deloitte (2022): Digital HR transformation in financial services, McKinsey & Company (2023): Digital transformation in the Indian BFSI sector.*)

3.1.2 Predictive Modelling for Workforce Planning

Future workforce requirements for financial institutions can be determined using predictive modelling that uses market patterns combined with seasonal fluctuations and staff-retention estimates. Statistics-based analysis through time-series tests and regression models, and AI-based forecasting methods work together for higher accuracy. Predictive models assist HR teams in maintaining perfect alignment between workforce availability and business requirements. Leading Indian banks implement AI-based workforce demand forecasting, which helps them maintain a perfect balance between employees and customers (Mishra & Singh, 2022). The use of predictive analytics by banks enables them to predict their future staffing requirements, which facilitates both prompt employee acquisition and avoids staffing shortfalls.

Figure 2 : Workforce analysis (https://media.geeksforgeeks.org/wp-content/uploads/20240614125853/Process-of-Manpower Planning-copy.webp)

Case Study:

State Bank of India (SBI) implemented an AI-powered predictive modelling tool that forecasted staffing shortages in regional branches, allowing the bank to proactively hire and train employees before demand surged. This led to a 15% improvement in customer service efficiency.

Applications of Predictive Modelling in Workforce Planning:

• Attrition Rate Prediction: AI models forecast employee turnover, allowing HR teams to develop retention strategies.
• Demand-Supply Analysis: Workforce analytics tools predict talent shortages and help in recruitment planning.
• Cost Optimisation: AI-driven models ensure efficient resource allocation, reducing labour costs while maintaining operational efficiency.

(*Reference: Nasscom (2022): BFSI Tech report, Deloitte (2022): Digital HR transformation in financial services, McKinsey & Company (2023): Digital transformation in Indian BFSI sector.*)

3.1.3 HR Automation Tools and Chatbots

Using automation within HR processes leads to better operational efficiency in recruiting new hires, employee onboarding, payment management, and staff administration procedures. RPA-driven robotic technologies and AI-powered chatbots operate repetitive HR activities, enabling HR employees to dedicate their time to important strategic work. Automation through RPA performs repetitive actions, including employee data handling, payroll operations, and compliance documentation. AI-powered chatbots handle employee queries regarding absence policies, salary information, and career advancement opportunities. According to Rao and Pillai (2021), the implementation of chatbots in various institutions led to a 40% reduction in HR processing times.

Real-World Implementation:

ICICI Bank's AI chatbot, "iPal," handles over 60% of HR-related employee queries, reducing workload on HR personnel and improving response times. The Chatbot assists in payroll management, policy clarifications, and training enrolments.

Figure 3: HR management (https://thumbs.dreamstime.com/z/vector-slide-template-circle-diagram-human-resources-management-hrm-functions-diagram-scheme-planning-recruitment-132671587.jpg)

Examples of HR Automation Tools:
• AI-Powered Recruitment Systems: Automated screening and shortlisting of candidates usinfg AI-based resume parsing.
• On-boarding Chatbots: AI-driven virtual assistants guide new hires through the onboarding process.
• Employee Self-Service Portals: AI-integrated dashboards allow employees to access HR-related information without manual intervention.
(Reference: Nasscom (2022): BFSI Tech report, Deloitte (2022): Digital HR transformation in financial services, McKinsey & Company (2023): Digital transformation in the Indian BFSI sector.)

3.1.4 Blockchain-Based HR Management

Blockchain technology is gaining traction in HR systems to enhance transparency in payroll processing, certification, and employee contracts. Its decentralised ledger system ensures secure and tamper-proof record-keeping, thereby reducing fraud and compliance risk.

Kapoor & Menon (2023) explored the role of blockchain in maintaining transparent and verifiable employee records, minimising identity fraud, and ensuring seamless compliance with labour laws.

Industry Adoption:
Infosys and TCS have experimented with blockchain-based credential verification for employee hiring, reducing background verification time from weeks to a few hours.

Key Applications of Blockchain in HR:
• Decentralised Payroll Management: Ensures transparent and immutable salary transactions.
• Tamper-Proof Employee Records: Prevents manipulation of experience certificates and academic credentials.
• Smart Contracts for Compliance: Automates contract execution based on predefined employment conditions.
(Reference: Nasscom (2022): BFSI Tech report, Deloitte (2022): Digital HR transformation in financial services, McKinsey & Company (2023): Digital transformation in the Indian BFSI sector.)

3.1.5 AI-Driven Sentiment Analysis for Workforce Engagement

Understanding employee satisfaction and engagement levels is critical to retaining top talent. AI-based sentiment analysis tools analyse internal communication channels, employee feedback, and workplace interactions to assess workforce morale.

Verma et al. (2022) indicated that sentiment analysis can predict attrition rates with 85% accuracy, allowing HR teams to take proactive measures to improve employee engagement. Institutions are increasingly using natural language processing (NLP) to evaluate employee sentiment through email communication, survey responses, and social media activity.

Example from Financial Sector:
Bajaj Finserv uses AI-based sentiment analysis to assess employee satisfaction through feedback surveys. This has enabled HR teams to implement data-driven engagement strategies, improving employee retention rates.

Sentiment Analysis Applications in HR:
• Real-Time Employee Feedback Analysis: AI tools assess employee feedback to identify workplace satisfaction trends.
• Attrition Prediction Models: Machine learning models analyse dissatisfaction indicators and predict employee churn.
• Workplace Stress Monitoring: AI-based emotion detection algorithms assess mental well-being based on communication patterns.
(Reference: Nasscom (2022): BFSI Tech report, Deloitte (2022): Digital HR transformation in financial services, McKinsey & Company (2023): Digital transformation in the Indian BFSI sector.)

3.1.6 Data-Driven Diversity and Inclusion Strategies

AI-driven workforce analytics also plays a crucial role in fostering diversity and inclusion in the workplace. AI models help detect biases in recruitment and promotions, thereby ensuring a fair and inclusive hiring process.

Studies have shown that financial institutions leveraging AI-based hiring tools have increased workplace diversity by removing unconscious bias from candidate evaluation.

Case Study:
Axis Bank partnered with Coursera to offer AI-powered skill assessment tools that recommend personalised training programs to employees, ensuring continuous skill development in digital banking and fintech.

Key Applications of AI in Diversity & Inclusion:
• Bias-Free Hiring Processes: AI algorithms evaluate candidates purely on skills and competencies rather than demographics.

• Diversity Metrics Dashboards: Data-driven reports track diversity progress and highlight underrepresented groups.
• Inclusive Performance Evaluations: AI ensures unbiased performance assessments by analysing objective performance data.
(Reference: Nasscom (2022): BFSI Tech report, Deloitte (2022): Digital HR transformation in financial services, McKinsey & Company (2023): Digital transformation in the Indian BFSI sector.)

3.1.7 Digital Learning and Employee Reskilling Programs

With the rapid digitisation of financial services, reskilling employees has become a necessity. AI-powered learning management systems (LMS) offer personalised training recommendations based on employees' skill gaps and career aspirations.

Financial institutions are increasingly investing in AI-driven training platforms to keep their workforce updated with emerging technologies and regulatory requirements.

Real-Life Example:
Tata Consultancy Services (TCS) has implemented an AI-driven internal career pathing system, TCS Elevate, which analyses employees' competencies and suggests personalised learning modules and job opportunities within the organisation. This has improved employee retention and reduced skill mismatches.

Benefits of AI-Powered Employee Training:
• Personalised Learning Pathways: AI tailors training programs based on an employee's past learning history and performance.
• Gamification of Learning: AI-enabled learning platforms use gamification techniques to enhance engagement.
• Real-Time Skill Gap Analysis: AI continuously evaluates employee skills and suggests necessary upskilling modules.
(Reference: Nasscom (2022): BFSI Tech report, Deloitte (2022): Digital HR transformation in financial services, McKinsey & Company (2023): Digital transformation in the Indian BFSI sector.)

3.1.8 Remote Workforce Management & Hybrid Work Models

The rise of remote and hybrid work models has necessitated the development of AI-driven workforce management solutions. AI-powered collaboration tools help organisations monitor

employee productivity, ensure seamless virtual communication, and optimise resource allocation.

Real-Life Example:
Axis Bank successfully implemented a hybrid work model using AI-powered remote workforce management tools to manage its employees. The bank introduced a digital HR platform that tracks employee performance, ensures compliance with work-from-home policies, and facilitates seamless collaboration across departments. Employees can access cloud-based tools for task management, virtual meetings, and AI-driven productivity analyses to ensure operational efficiency.

AI Applications in Remote Workforce Management:
• AI-Driven Productivity Analytics: AI tracks employee performance metrics in remote settings.
• Smart Scheduling Systems: AI optimises work schedules for remote and in-office employees.
Virtual Employee Engagement Platforms: AI-based platforms facilitate team collaboration and well-being monitoring.
(Reference: Nasscom (2022): BFSI Tech report, Deloitte (2022): Digital HR transformation in financial services, McKinsey & Company (2023): Digital transformation in the Indian BFSI sector.)

3.2 Empirical Study

3.2.1 Data Types

For the study, primary data and secondary data have been used.

Secondary data on the number of Banks, NBFCs were obtained from the official website of the RBI, and data on the number of insurance companies were obtained from the official website of the Insurance Regulatory and Development Authority of India (IRDAI). Primary data were collected from the selected branches of Banks, Insurance companies, and NBFCs located in Kolkata, Howrah, Durgapur, and Siliguri.

3.2.2 Sample Design

Since this study aims to examine the role of digitisation in shaping manpower planning strategy in the selected Indian Financial companies, the target respondents of this study were HR personnel, IT Personnel, Top Management and General Employees working in Banks, Insurance companies, and NBFCs in India. Since the complete list of target respondents was not available, the application of the probabilistic sampling technique was not possible in this study. In such a scenario, the

application of the proportional quota sampling technique can generate representative samples (Fulri et al., 2022). Therefore, this study employed a proportional quota sampling technique. Financial companies are classified into three strata: Banks, Insurance companies, and NBFCs. The number of banks, insurance companies, and NBFCs is presented in the table below.

Table 1

Banks	Insurance Companies	NBFCs
143	62	415

It is evident from the table that the ratio of the number of Banks, Insurance companies and NBFCs is - Total NBFCs – 9327 (Upper, Middle and Base) For this study, NBFCs belonging to the Upper and Middle layers according to the RBI classification were considered. This is because, as of 31.09.2023, NBFCs in the Middle and Upper layers constituted 94 % of total NBFC assets, which means that the huge number of NBFCs belonging to the base layer does not have a significant bearing on the financial stability of the overall economy.

143: 62: 415
2: 1: 7
2/10*300 = 60 1/10*300 = 30 7/10*300 = 210 (Sampling Units)

Table 2

Banks	Insurance Companies	NBFCs
60	30	210

Therefore, the selected sample contained HR personnel, IT personnel, Top Management and General Employees from Banks, insurance companies, and NBFCs in the same ratio. For the convenience of the researcher, sampling units have been specific branches of Banks, Insurance companies, and NBFCs located in Kolkata, Howrah, Durgapur, and Siliguri.

3.2.3 Data Collection Method

Initially, a pilot study was conducted with 30 respondents from the Kolkata branches. Feedback from the respondents was used to assess the appropriateness of the questionnaire in terms of length, word choice, and language clarity. The pilot survey findings revealed that the questionnaire was more or less satisfactory; only a slight alteration of language was required in a couple of

items. After this modification, the questionnaire was finalised. The structured questionnaire was used to collect data through Google Forms and face-to-face interviews. Most of the data were collected face-to-face and online, as this is the most suitable means of collecting a wide range of data with limited resources and under time constraints (Sekaran & Bougie, 2016).

3.2.4 Demographic Profile

Level-wise total respondents = 300

Table 3

Decision-making level	Managing level	Execution level
34	86	180

Years of Experience:

Table 4

Less than 1	1-3 years	4-7 years	8-10 years	10 plus years
18	66	105	75	36

Designation/Department-wise:

Table 5

General Management (Top)	Senior HR Manager and above	Senior IT professional and above	HR executive	IT executive	General Employee
30	30	30	45	35	130

4. Empirical study-based findings

After analysing the collected data through sampling using the questionnaire and based on the following findings, "Awareness of use of Digital tools for workforce planning" was the most impactful positive variable, then "Technologies used in HR Department" as the second most impactful variable. According to the weightage tagged against the extracted data from the research analysis, the following impacting factors are given in descending order.

The figure below illustrates the sectoral distribution of the respondents, with over 180 percent from the private sector.
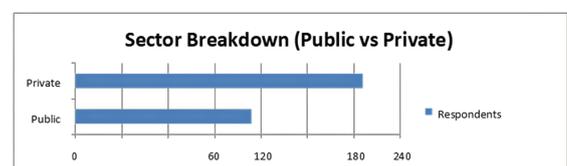

Figure 4: Sector Breakdown (Public vs Private)

The figure below depicts the years of experience of the respondents, showing varying years of experience among the respondents, with the highest number of respondents having about 4-7 years of experience.
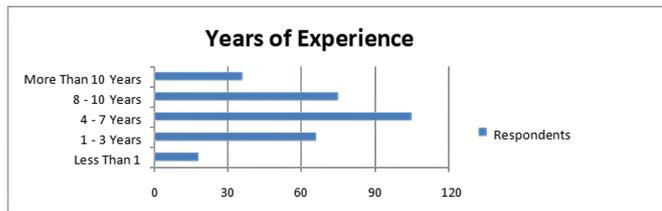

Figure 5: Years of Experience

The figure below shows the awareness of the use of Digital tools for workforce planning, showing that over 250 of the respondents are aware of digital tools for workforce planning.
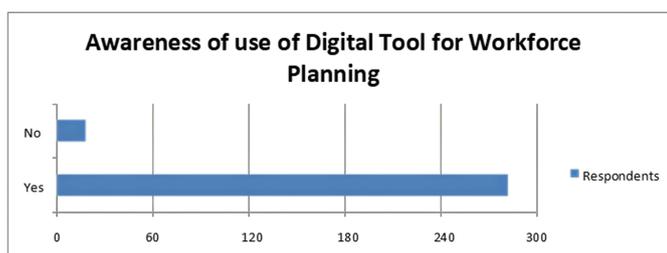

Figure 6: Awareness of Use of Digital Tool for Workforce Planning

The figure below illustrates the various technologies used in the HR department, with biometric systems being used by over 290 respondents, followed by Cloud-based HR systems at 270 and then RPA and AI at 240, respectively
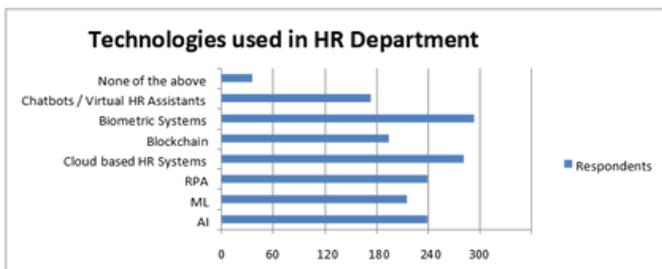

Figure 7: Technologies used in the HR Department

The figure below depicts the challenges and barriers in implementing the digital HR tools, with "Lack of Digital skills among HR being the highest".
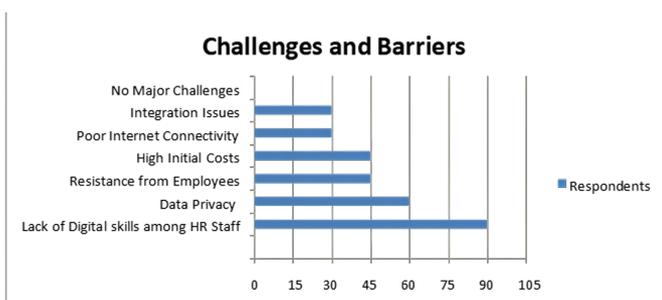

Figure 8: Challenges and Barriers

The figure below illustrates organisational preparedness for the future digital technologies by the respondents, depicting "Somewhat prepared", "not prepared" and "very well prepared" as the three response categories, in which "Somewhat prepared" has the highest number of responses, with over 160 respondents
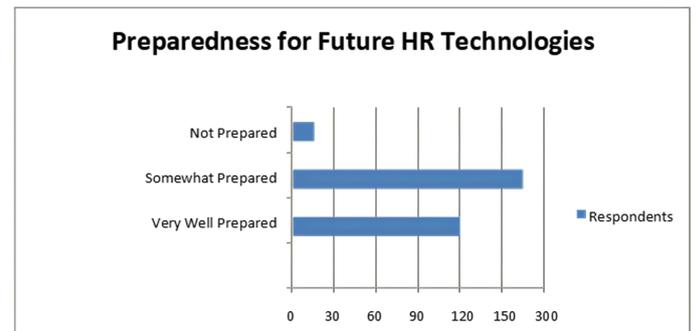

Figure 9: Preparedness for future HR technologies

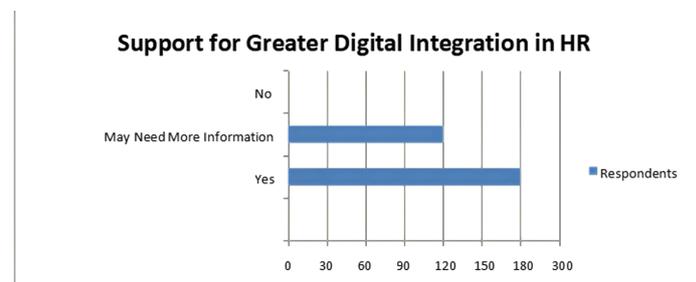The figure below shows the support level for Greater Digital Integration in HR.

Figure 10: Support for Greater Digital Integration in HR

5. The Findings and Recommendations

The findings and recommendations of the research paper may lead to a basic academic reference platform for future researchers and may prove to be proved highly financially beneficial revenue model variable for ensuring sustainable return on investment business model. The third benefit that can be derived from this research paper may be proved at the macro level, financial machinery handling, which may lead in turn to the overall societal growth based on the economic development of the whole country.

6. Limitations

After the completion of the research work, the following real-time constraints were observed:

Due to the lack of time, there was a time constraint as the research had to be completed within a stipulated time. Due to the lack of time, the larger geographical area in terms of financial institutions could not be covered, and we had to contain our research within some specific geographical areas.

The second problem was that the research activities were limited to specific districts; the findings of the research might not be applied from a global perspective due to local and international variations related to socio-economic factors.

Finally, as the data were collected and used based on secondary sources, there might be a problem of authenticity.

7. Future Works

As digitisation reshapes manpower planning in Indian financial institutions, the future of workforce strategies must move beyond AI-centric solutions to incorporate a broader range of innovations. While AI and automation have been instrumental in workforce optimisation, future approaches should focus on human-centric technology integration, organisational adaptability, regulatory compliance, and sustainable workforce strategies. This section explores key areas where future developments can bring transformative changes.

7.1 Holistic Workforce Planning with Human-Tech Synergy

- Future manpower planning strategies must emphasise the balance between human intuition and digital efficiency. While AI plays a role in optimising decisions, organisations should not overlook employee experience, leadership development and cultural adaptability. Proposed Innovations:
- People-Centric Decision-Making Models: Workforce planning should integrate organisational psychology and behavioural economics to understand employee motivation beyond AI-driven analytics.
- HR Leadership Development Programs: Institutions should invest in leadership training that combines digital competency with emotional intelligence (EQ) for effective manpower management.
- Hybrid Task Allocation Frameworks: A human-digital task optimisation approach should be implemented, ensuring that AI handles routine tasks while complex decision-making remains human-driven.

7.2 Sustainable Workforce Strategies & Green HR Practices

Sustainability should be an integral part of manpower planning. Future workforce strategies must align with green finance initiatives by integrating eco-friendly HR practices and sustainable workplace policies.

Proposed Innovations:
- Remote Work as a Sustainability Strategy: Financial institutions should expand carbon footprint assessments of in-office vs. remote work and incentivise green commuting options.
- Sustainable Digital HR Systems: Cloud-based HR platforms should shift to energy-efficient data centres and adopt paperless HR practices.
- Green HR Policies: Encourage environmental leadership programs where employees actively participate in corporate sustainability initiatives.

7.3 Workforce Diversity & Inclusive Growth Strategies

Future manpower planning must prioritise workforce diversity by moving beyond compliance-based inclusion policies. Financial institutions should integrate diversity-driven hiring, skills-based recruitment, and cross-generational workforce engagement.

Proposed Innovations:
- Inclusive AI for Hiring: Instead of relying solely on predictive analytics, institutions should implement multi-perspective hiring panels to reduce algorithmic bias in recruitment.
- Intergenerational Workforce Engagement Programs: With millennials and Gen Z forming the majority of the workforce, strategies should address multi-generational skill transfer and leadership development.
- Accessibility-First HR Systems: Institutions should adopt disability-friendly digital workspaces and HR tools to foster inclusivity.

7.4 Revamping Skill Development through Industry-Academia Collaboration

Future manpower planning must bridge the skill gap between academia and industry by enhancing industry-academic collaboration and implementing real-world training models in financial institutions.

Proposed Innovations:
- Fintech and Banking Certification Ecosystems: Institutions should partner with universities, online education platforms, and financial training institutes to create certification programs for industry-relevant skills.
- Embedded Corporate Learning: Future workforce planning should incorporate "earn-while-you-learn" programs, where employees receive financial incentives while upskilling through workplace-integrated learning modules.
- VR-Based Training Simulations: Financial institutions should adopt virtual reality (VR)

simulations for risk management, fraud detection, and compliance training.

7.5 Behavioural Analytics & Workplace Gamification for Employee Engagement

Understanding workforce behaviour is key to optimising manpower planning. Financial institutions should move beyond traditional surveys and adopt behavioural workforce analytics combined with gamification strategies to drive employee engagement.

Proposed Innovations:
- Neuroscience-Based Employee Engagement Models: AI-free behavioural Neuroscience methods can analyse employee stress levels, motivation factors, and work engagement metrics to optimise workforce policies.
- Gamification of Employee Development: Implement point-based incentive systems where employees earn reward tokens, career development points, and financial incentives for up-skilling and performance milestones.
- Behaviour-Driven Task Optimisation: Use organisational network analysis (ONA) to track how teams interact, identifying workflow inefficiencies and optimising employee collaboration structures.

7.6 Strengthening Cybersecurity & Ethical Digital Workforce Policies

As digital HR solutions evolve, ensuring cybersecurity, data privacy, and digital ethics in workforce management must be a priority. Future HR planning must focus on robust cyber-resilience strategies for data-driven workforce analysis.

Proposed Innovations:
- Decentralised Workforce Identity Systems: Implement self-sovereign digital identity (SSI) frameworks where employees own and control their workforce data, reducing HR fraud risks.
- Cybersecurity Awareness Programs: Workforce training should include phishing simulation exercises, financial fraud prevention modules, and ethical hacking workshops.
- Zero-Trust Digital HR Systems: Future HR management platforms should be built on zero-trust cybersecurity models, where no internal or external entity is automatically trusted.

7.7 Reshaping Organisational Culture for a Digital Workforce

Workforce planning should not be solely about automation; it must also focus on organisational adaptability, cultural shifts, and leadership agility.

Proposed Innovations:
- "Digital First" HR Transformation Programs: Financial institutions should adopt cultural transformation strategies that encourage a mindset shift towards continuous learning and digital adaptability.
- Reverse Mentoring Programs: Younger digital-native employees should mentor senior executives on emerging workforce technologies, fostering a two-way learning culture.
- Resilience Training for Workforce Adaptation: Future HR frameworks should include change management simulations to prepare employees for technological disruptions and organisational transitions.

7.8 Redefining Employee Well-Being with Work-Life Integration Models

Instead of focusing only on traditional work-life balance, future workforce planning should embrace work-life integration, where employees can structure their work schedules to align with their personal productivity peaks.

Proposed Innovations:
- Personalised Work Schedules: AI-free self-managed work hours, where employees choose flexible schedules based on productivity trends.
- 4-Day Workweek Experiments: Financial institutions should explore compressed workweek models to improve employee satisfaction.
- Well-Being-Driven Workforce Planning: Instead of purely data-driven efficiency metrics, HR teams should incorporate mental health assessments and wellness-driven task allocations.

7.9 Digital Nomadism & Global Talent Integration in Financial Institutions

Financial institutions should explore cross-border workforce mobility models in which skilled professionals can work remotely from different geographical locations without relocation.

Proposed Innovations:
- Remote Workforce Expansion Programs: Encourage global hiring policies that leverage distributed talent networks, allowing professionals to work from different countries while contributing to India's financial sector.

- Regulatory Sandboxes for Remote Work Compliance: Collaborate with government bodies to establish cross-border HR compliance frameworks for the remote management of global talent.
- "Work From Anywhere" Digital HR Platforms: Develop HR systems that integrate taxation, compliance, and legal frameworks to manage digital nomads in the financial sector.

8. Conclusion

Financial institutions in India will need to develop manpower planning that combines the automation capabilities of AI systems with human-focused workforce planning and sustainable human resource management, robust cybersecurity protocols, and global talent exchange programs. Financial institutions that apply digital transformation tools alongside behavioural analysis and regulatory agility, alongside workforce wellness development, have agile and innovative staff that conform to global financial market dynamics. In the upcoming years, financial institutions must implement workforce strategies that empower employees while creating sustainable workplaces and promoting inclusivity, along with digital resilience measures.

9. References

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