

## A Study on Behavioral Disruption among the Banking Workforce due to Application of Emerging Technologies in Workplace.

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### ABSTRACT

Emerging technologies such as artificial intelligence (AI), automation, bots, block chain, and the Internet of Things (IoT) are revolutionizing workplace environments. Integration of Emerging technologies transforming the industry by enhancing efficiency, customer experience, and decision-making. However, the shift towards Digital-driven processes is also causing significant behavioral disruptions among the workforce of any Customer Process & Product based Industries especially Retail Banking Industry. This journal examines how these technologies disrupt traditional job roles, reshape industry structures, decision making from psychological, emotional and create both opportunities and challenges for employees and organizations with the help of Behavioral Operation Research (BOR). About Behavioral Operations Research (BOR) - is an interdisciplinary field that integrates behavioral science with traditional operations research (Gino & Pisano, 2008). It examines how human behavior-cognitive biases, emotions, heuristics, and social interactions-influences operational systems and business processes (Bendoly et al., 2010). Unlike classical OR, which assumes rational decision-making, BOR acknowledges real-world complexities, including human errors and bounded rationality (Kahneman, 2011). Specifically, it focuses on understanding behaviour in, with and beyond models

**Keywords:** Digitalization, Artificial Intelligence, Emerging Information Technology, Behavioral Disruption, Machine-2-Machine revolution, Modern Digital Banking, Chatbots, Robotic process automation (RPA), Machine learning



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### INTRODUCTION

Retail banking has witnessed rapid advancements in AI applications, including chatbots, robo-advisors, fraud detection systems, and automated loan processing. While these technologies improve service delivery, they also reshape job roles such as job displacement, skills gaps, ethical concerns, leading to workforce anxieties, resistance to change, and skill transition challenges.

According to the report from World Economic Forum - "Future of Jobs Report 2025" predicts that AI will significantly transform the labor market, creating 170 million new jobs while displacing 92 million, resulting in a net increase of 78 million jobs by 2030.

Another report by PwC found that "by 2030 the potential contribution to the economy from AI will be 15.7 trillion dollars and the global GDP could be up to 14% higher as a result of AI".

This study explores how AI adoption affects employee behavior and impact the workplace dynamics.

#### 1. Job Insecurity and Resistance to Change

- AI automates routine tasks, reducing the need for human intervention, leading to concerns about job loss (Bessen, 2019).
- Employees fear job displacement, leading to anxiety and reluctance to embrace AI-driven solutions (Frey & Osborne, 2017).
- 2. Skill Gaps and Upskilling Challenges
  - Traditional banking roles are evolving, requiring employees to develop digital literacy and data analysis skills (Bughin et al., 2018).
  - The transition can be stressful, especially for employees unfamiliar with emerging technologies (Autor, 2015).
- 3. Emotional and Psychological Stress
  - Increased reliance on AI may lead to a perceived loss of professional relevance (Westerman et al., 2014).
  - Employees may struggle with reduced interpersonal interactions as AI

- handles customer queries and transactions (Arntz et al., 2016).
- 4. Change in Workplace Culture and Employee Engagement
  - AI-driven banking shifts focus from manual processing to strategic decision-making (Davenport & Ronanki, 2018).
  - Employees may feel disconnected from customers due to decreased human touch points, affecting job satisfaction (Baptista et al., 2020).

It is the focus of this paper, to understand AI's impact in banking sector and its effect on workforce behavioral disruption, reskilling challenges and job displacement among the work force in the Retail banking Industry – specific to Chennai region. While specific data for Chennai is limited, Chennai is a significant financial hub in India and is home to offices of major financial institutions.

### RESEARCH GAP

While existing studies explore AI's technological benefits & AI's impact in banking sector, limited research focuses on behavioral disruptions and workforce psychology in retail banking. The following gaps exist & several areas remain underexplored:

- Lack of longitudinal studies - on AI-driven behavioral shifts in banking.
- Long-Term Behavioral Adaptation - Most studies focus on short-term reactions to AI adoption, with limited research on long-term workforce adjustments (Bessen, 2019; Brynjolfsson & McAfee, 2014).
- Limited research on AI acceptance models- specific to retail banking employees.
- Need for empirical studies - on AI-induced job transformation and employee well-being.
- Impact on Leadership and Management Roles - While frontline banking roles are often studied, little attention given to how AI reshapes leadership dynamics and managerial decision making (Tarafdar et al., 2019).
- Emotional Intelligence and AI Integration - More research needed on how AI can be designed to support human emotional intelligence in banking rather than merely replacing human interactions (Huang & Rust, 2021).
- Individual Differences in AI Acceptance - Existing research lacks a comprehensive analysis of how factors like age, experience, and job role influence AI acceptance and resistance (Venkatesh & Bala, 2008).

From the review of various journals and other research works, found many studies done in the past on new

technology advantages & not finding disruption Work-life imbalance due to Change in Human behavior and psychological effects

- a. People are not a major factor. (Many models look at machines without people, so the human side omitted entirely.)
- b. People are deterministic and predictable. People have perfect availability (no breaks, absenteeism). Task times are deterministic. Mistakes do not happen, or mistakes occur randomly. Workers are identical (work at the same speed, have the same values, and respond to same incentives).
- c. Workers are independent (not affected by each other, physically or psychologically).
- d. Workers are “stationary.” No learning, tiredness, or other patterns exist. Problem solving not considered.
- e. Workers are not part of the product or service. Workers support the “product” (e.g., by making it, repairing equipment, etc.) but are not considered explicitly as part of the customer experience. The impact of system structure on how customers interact with workers ignored.
- f. Workers are emotionless and unaffected by factors such as pride, loyalty, and embarrassment.

### LITERATURE REVIEW

#### AI Adoption and Workforce Disruption

AI technologies such as chatbots, robotic process automation (RPA), and machine learning algorithms are reshaping the retail banking landscape. While AI improves operational efficiency, it leads to concerns about job redundancy and skill obsolescence (Bessen, 2019).

- Case Study: A survey by PwC (2021) found that 30% of banking employees feared job loss due to AI automation, while 45% expected major skill shifts within five years.
- Finding: Studies indicate that AI is more likely to augment human work rather than replace jobs entirely, but employees still face anxiety and resistance (Acemoglu & Restrepo, 2020).

#### Employee Resistance and Psychological Stress

Behavioral research highlights employee resistance as a significant barrier to AI adoption in banking (Venkatesh et al., 2018). Resistance due to:

- Job insecurity: Fear of displacement due to AI-driven automation (Frey & Osborne, 2017).
- Technostress: Anxiety related to adapting to new AI-powered tools (Tarafdar et al., 2019).
- Skill gaps: The need for reskilling as traditional banking roles evolve (Makarius et al., 2020).
- Case Study: HSBC introduced AI-driven customer service chatbots in 2019, leading to a 12% reduction in human agent workload, but also increased employee dissatisfaction due to workflow disruptions (Deloitte, 2021).

#### The Need for Workforce Adaptation and Reskilling

Banks are investing in reskilling and upskilling programs to prepare employees for AI-driven roles

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(Autor et al., 2021). Employees with data literacy, AI proficiency, and critical thinking skills are less likely to experience displacement.

- Example: JPMorgan Chase invested \$350 million in AI workforce training, helping employee's transition to new digital roles (Chui et al., 2020).
- Finding: Organizations that integrate change management strategies (such as the ADKAR model) experience higher AI adoption success rates (Prosci, 2022).

## RESEARCH METHODOLOGY

Explorative methodology deployed to investigate workplace disruptions caused by emerging technologies. This approach enables researchers to identify trends, understand new challenges, and generate insights without predefined hypotheses. Various qualitative and observational methods, such as case studies, surveys, and interviews, where used to explore the evolving technological landscape.

Explorative research is an investigative approach that seeks to gain insights into new or poorly understood

issues (Stebbins, 2001). It is useful for studying behavioral disruption, where structured theories are lacking, and qualitative insights are crucial.

### Key Features

- Flexible and adaptive: Allows modifications based on initial findings (Bryman, 2015).
- Open-ended investigation: Does not start with a hypothesis but instead explores emerging themes (Saunders et al., 2019).
- Combination of qualitative & quantitative methods: Uses interviews, surveys, and case studies.

### Deployment of Explorative Methodology in This Study

#### Research Design:

This study follows a mixed-methods explorative approach:

- Qualitative: Employee interviews, focus groups, and case studies.
- Quantitative: Surveys and secondary data analysis (banking AI adoption reports).

### Data Collection Methods:

Method	Description
In-depth Interviews	Interviews with bank employees to understand AI-induced anxieties and behavioral changes.
Focus Groups	Discussions among employees and managers to analyze group perspectives on AI.
Surveys	Structured questionnaires assessing employee attitudes towards AI.
Case Studies	AI adoption case studies in banks (e.g., HDFC, IndusInd Bank).
Observation	Direct observation of AI-influenced work processes.

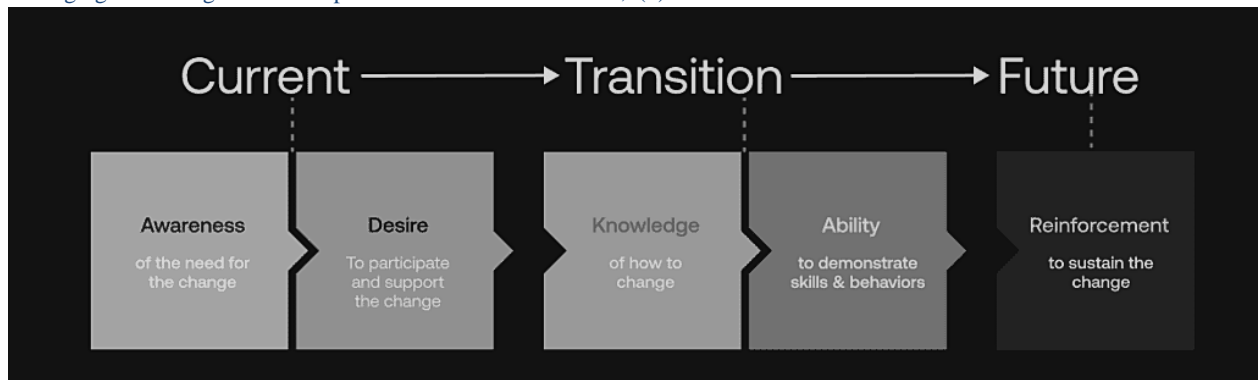
### Application of Explorative Methodology in AI Behavioral Disruption Studies

1. Job Insecurity & Fear of Displacement
  - Employees perceive AI as a threat to job security (Frey & Osborne, 2017).
  - Behavioral interventions like training, change management, and incentives can improve AI adoption (Bughin et al., 2018)
  - Explorative Approach: Surveys assess perceived job loss risks.
2. Technostress & Resistance to Change
  - Employees feel stress adapting to AI (Tarafdar et al., 2019).
  - Explorative Approach: Focus groups capture real-time reactions.
3. Skill Obsolescence & Reskilling Needs
  - AI reshapes skill requirements, demanding reskilling (Makarius et al., 2020).
  - Explorative Approach: Case studies on workforce upskilling initiatives.
4. Ethical and Psychological Concerns in AI Deployment
  - Employees may experience, job insecurity and reduced job satisfaction (Baptista et al., 2020).
  - BOR frameworks guide ethical AI adoption to balance efficiency and workforce well-being (Acemoglu & Restrepo, 2019).

## RESEARCH STUDY

### ADKAR MODEL:

The ADKAR Model is a goal-oriented change management model developed by Jeff Hiatt that focuses on managing change at the individual level. ADKAR stands for Awareness, Desire, Knowledge, Ability, and Reinforcement, representing the five key stages individuals must go through to adopt and sustain change successfully

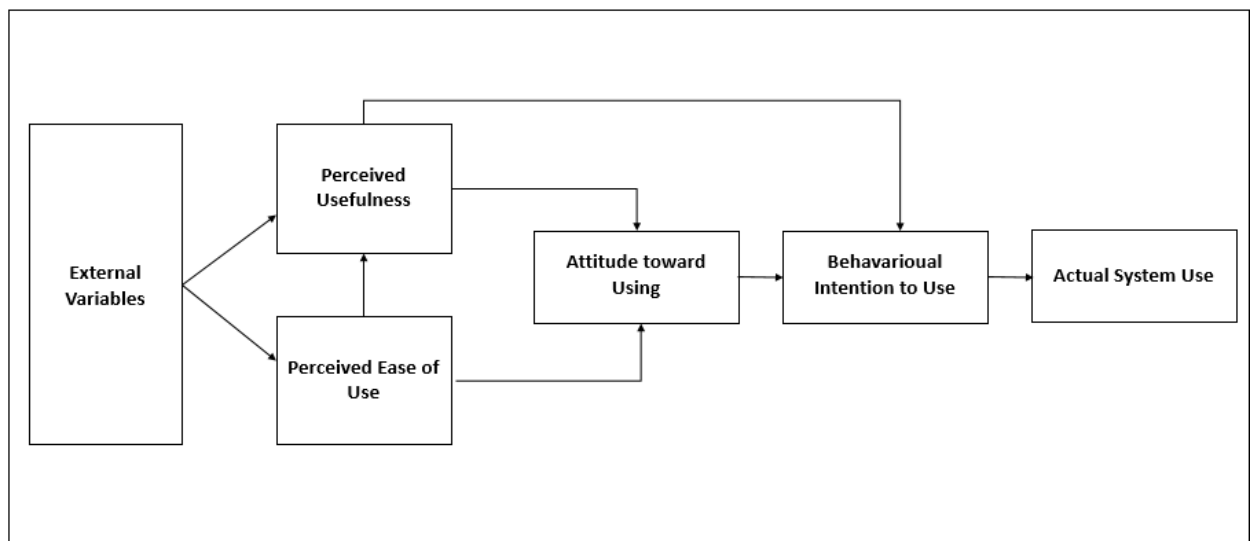


### Technology Acceptance Model (TAM):

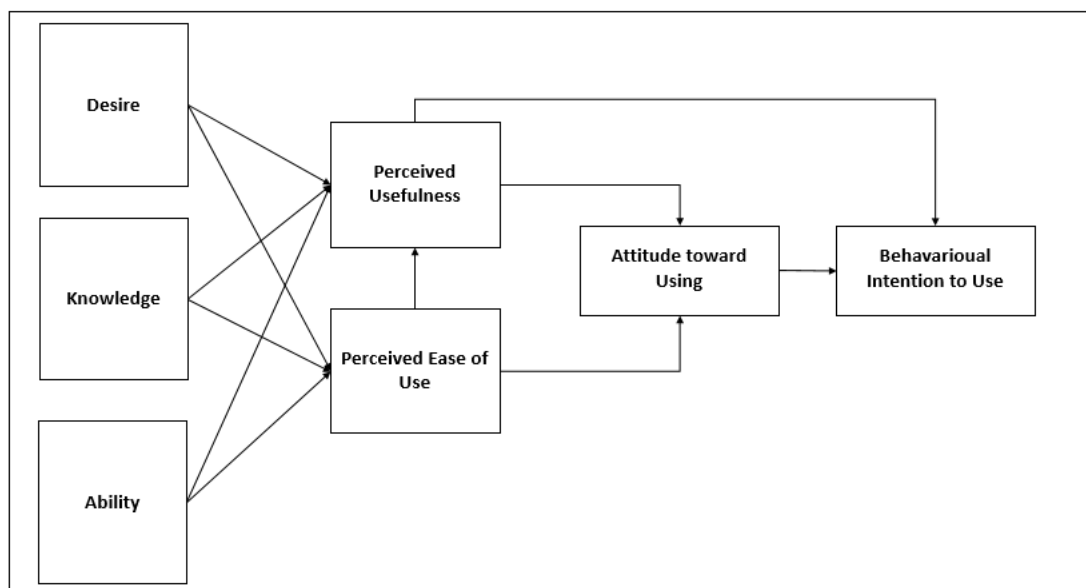
The Technology Acceptance Model (TAM) is a widely used framework that explains how users come to accept and use a new technology. Developed by Fred Davis in 1989 based on the Theory of Reasoned Action (TRA). TAM helps organizations predict user adoption of new technology by analyzing key variables that influence user perceptions and behaviors.

1. Performance expectancy: The degree to which a user believes that using the technology will improve their performance
2. Effort expectancy: How easy the technology is to use
3. Social influence: The degree to which a user believes others will encourage them to use the technology
4. Facilitating conditions: The availability of technical support, infrastructure, and Information and Communication Technology (ICT)
5. Perceived enjoyment: How much fun a user can expect to get from using the technology

### TAM Model:



**Proposed Research Model with Variables justification for inclusion & exclusion in the Study:**



### Key Justification of Variables extracted from ADKAR & TAM Models:

#### ADKAR Variables

##### 1. Desire (D) – Current Stage

- a. Definition: The motivation to support and participate in the change. Simply knowing about the change is not enough; individuals must have the willingness to embrace it.
- b. Key Questions:
  - i. What's in it for me (WIIFM)?
  - ii. How will this change affect me personally and professionally?
- c. Challenges:
  - i. Employee resistance due to uncertainty or fear of job loss.
  - ii. Lack of incentives or motivation to adopt the change.
- d. Strategies:
  - i. Engage employees in the decision-making process.
  - ii. Provide incentives such as career growth opportunities or rewards.
  - iii. Address personal concerns through open forums.

##### 2. Knowledge (K) – Transition Stage

- a. Definition: The information and training required to implement the change. Employees must know how to adopt the new processes or technologies.
- b. Key Questions:
  - i. What skills or training do I need to succeed?
  - ii. Where can I get the necessary training?
- c. Challenges:
  - i. Inadequate training programs.
  - ii. Lack of resources to support learning.
- d. Strategies:
  - i. Provide structured training sessions, workshops, and e-learning platforms.

- ii. Offer mentorship and coaching programs.
- iii. Develop clear documentation and guides.

##### 3. Ability (A)– Transition Stage

- a. Definition: The capability to implement the change effectively. Employees must be given, the opportunity to practice and apply their knowledge.
- b. Key Questions:
  - i. Am I capable of executing the change successfully?
  - ii. What challenges will I face in applying new skills?
- c. Challenges:
  - i. Lack of confidence in applying new skills.
  - ii. Limited real-world practice opportunities.
- d. Strategies:
  - i. On-the-job training and simulations.
  - ii. Encouraging teamwork and collaboration.
  - iii. Providing ongoing support and performance feedback.

#### TAM built around two primary beliefs that drive technology adoption:

##### 1. Perceived Usefulness (PU)

- Definition: The extent to which a user believes that using a specific technology will enhance job performance or productivity.
- Key Questions:
  - Will this technology make my work easier and more efficient?
  - Does this technology provide a significant advantage over current methods?



- Influencing Factors:
  - Performance improvements.
  - Competitive advantage.
  - Time saving and efficiency gains.
- 2. Perceived Ease of Use (PEU)
  - Definition: The degree to which a user finds the technology easy to understand and operate. If a system is too complex, users may resist adoption.
  - Key Questions:
    - Is the system user-friendly?
    - How much effort is required to learn and use this technology?
  - Influencing Factors:
    - Interface design and accessibility.
    - Learning curve and training support.
    - System responsiveness and reliability.

#### These two primary beliefs lead to Behavioral Intentions (BI) and Actual System Use:

- 3. Behavioral Intention to Use (BIU)
  - Definition: The willingness of a user to adopt the technology, influenced by both perceived usefulness and perceived ease of use.
  - Key Questions:
    - Do I intend to use this technology regularly?
    - Is it worth my time to adopt this new system?
  - Influencing Factors:
    - Positive user experiences.
    - Peer influence and social acceptance.
    - Organizational policies and mandates.

#### Key Justification of Variables removed from ADKAR & TAM Models:

- 1. Awareness (A) – Current State
  - Definition: The recognition of the need for change. Employees and stakeholders must understand why a change is necessary.
  - Justification: Digitalization is the need of the hour & every working individual aware of the current demand and situation prevails in the Workplace.
- 2. Reinforcement (R) – Future State
  - Definition: Ensuring the change sustained over a period through continued support, recognition, and corrective actions.
  - Justification: This study trying to measure the Workforce behavior to adapt the impact of Emerging Technologies in the Workplace. Hence, the Reinforcement not

taken into consideration to study the post facto of implementation on long-term basis.

#### 3. Actual Usage (AU)

- Definition: The real-world application and integration of the technology into daily activities. Even if a user intends to use a technology, external factors like system limitations, lack of training, or resistance to change may affect the actual usage.
- Justification: This study trying to understand the Behavioral Intention to Use the Emerging Technologies & Not an Actual Usage. Hence, this variable will be leading to next Research work on the influencing factors such as (a)Availability of Resources (b)Ease of integration with existing processes(c)Long-term benefits and efficiency gains

#### CONCLUSION

AI adoption in retail banking presents significant benefits, but it also disrupts workforce behavior. Addressing job insecurity, skill transitions, and workplace culture shifts is essential for ensuring a smooth transition. Organizations must proactively support their workforce through training, engagement, and transparent communication to maximize AI potential while maintaining a motivated workforce.

This article communicates about the Proposed Model using ADKAR, TAM models & intend to explore the research subject gaps using justified variables. The proposed Research model to be validated using Explorative research methodology & statistical techniques.

#### EXPECTED OUTCOME (OR) RESULTS:

- ❖ Efficient use of work force generates productive AI. Identification proper tools & techniques to impart required knowledge
- ❖ To maintain this, the work force value should be more than the value of AI
- ❖ The measurement of productivity of a work force in a knowledge firm is important as AI does not replace work force but add more value to it
- ❖ Productivity of a work force during an uncertain situation will be more productive if consider past activity or AI

#### Future Directions:

AI adoption in retail banking presents both opportunities and behavioral challenges. Organizations must implement change management frameworks, psychological support systems, and continuous learning initiatives to ensure a smooth workforce transition. Future research should focus on long-term behavioral adaptation to AI and the impact of human-AI collaboration in banking.

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