

Psychological Capital as A Coping Resource Against Technostress in The Age Of AI: A Study of Employees at Private Sector Banks in Mumbai

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ABSTRACT

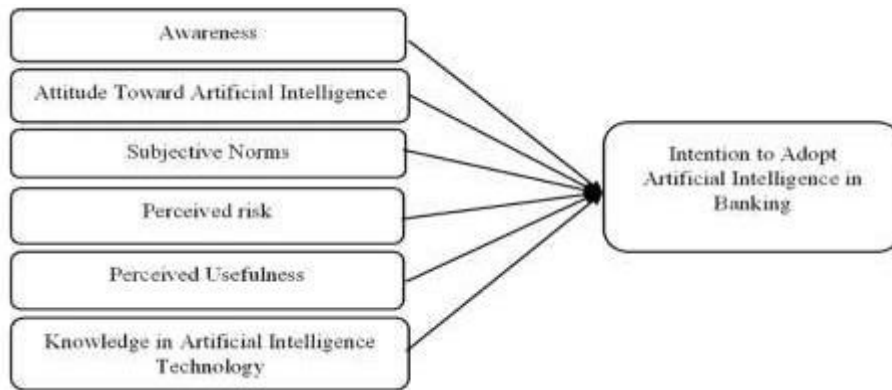
Technostress has emerged as a modern occupational hazard, particularly within high-tech sectors such as banking, where digitalization and AI integration are accelerating. AI exposure is not neutral, it becomes a source of cognitive and emotional strain, increasing the importance of coping resources like psychological capital. Psychological Capital (PsyCap) comprising hope, efficacy, resilience, and optimism has been identified as a key internal resource that can empower employees to cope with change. In this perspective, the study's major objectives were to examine the level and effect of technostress experienced by employees in private sector banks in the context of AI integration, to assess the role of Psychological Capital (PsyCap) as a coping resource influencing the relationship between technostress and employee well-being and to examine the effects of demographic variables on employees' coping mechanisms, psychological capital, and technostress in private sector banks. A conceptual model was developed to test the impact of technostress on employee coping and well-being, while incorporating PsyCap as a key psychological variable. The research utilizes an exploratory and descriptive design, utilizing both quantitative and qualitative methodologies to gain a comprehensive understanding of the subject. A structured questionnaire was administered to 100 employees of private sector banks in Mumbai, India who regularly use AI-enabled tools and are exposed to technostress in their job roles. The relationship between Psychological Capital and Employee Well-being in private sector banks was tested using Chi Square test. The findings revealed that higher levels of technostress negatively impact employee well-being; however, individuals with stronger PsyCap report better coping outcomes. Particularly, PsyCap moderated the adverse effects of technostress, particularly in high-AI-use departments, highlighting its protective role in AI-intensive environments. This study offers significant implications for HR professionals and organizational leaders aiming to foster employee resilience and adaptability amid technological disruption. By investing in the development of PsyCap through targeted interventions, banks can not only reduce technostress but also promote sustainable employee well-being in the AI-driven workplace.

Keywords: Technostress, Psychological Capital, Artificial Intelligence, Employee Well-being, Coping Strategies, Private Sector Banks, Mumbai, India.

1. Introduction

The rapid integration of Artificial Intelligence (AI) into the banking sector has brought transformative changes in service delivery, operational efficiency, and customer experience. Private sector banks in India are increasingly leveraging AI technologies such as chatbots, fraud detection systems, predictive analytics, and automated loan processing to gain competitive advantages (Bansal & Sharma, 2021). Artificial intelligence, or the emulation of human intelligence in machines, has become popular and is significant in the modern financial era. The consumer's viewpoint on the adoption of AI is depicted in Figure 1.

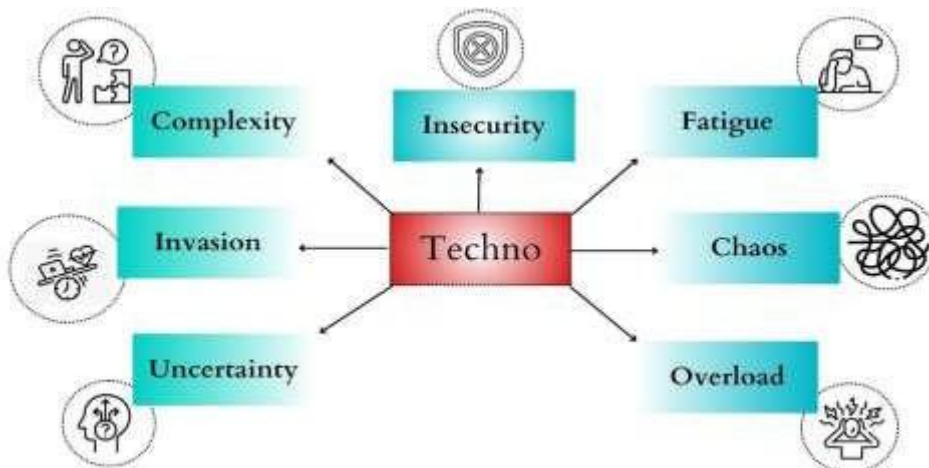
Figure 1: Intentions to Adopt Artificial Intelligence in Banking



Source: Noreen, U., Shafique, A., Ahmed, Z., & Ashfaq, M. (2023). Banking 4.0: Artificial Intelligence (AI) in Banking Industry & Consumer's Perspective. *Sustainability*, 15(4), 3682. <https://doi.org/10.3390/su15043682>

While these technological advancements have improved productivity, they have also brought new workplace challenges, notably technostress, phenomenon where employees experience strain due to the inability to adapt to evolving digital demands (Tarafdar et al., 2019). Technostress is defined as the stress induced by the use of new information and communication technologies can lead to reduced productivity, job dissatisfaction, and burnout if not effectively managed (La Torre et al., 2020).

Figure 2: Types of Technostress



Source: Vaidya, P. (2024). What is technostress? (+Types, triggers & coping tips). <https://www.happyhyphen.com/technostress-types-triggers-coping-tips>

The Figure 2 illustrates the key dimensions of technostress, a form of stress arising from the use of technology, represented by various “techno” factors that impact individuals in digital work environments.

1. **Techno-Complexity** – Refers to the difficulty in understanding and using advanced technologies, requiring users to invest significant time and effort in learning and adapting (Tarafdar et al., 2007).
2. **Techno-Insecurity** – Stems from the fear of job loss due to automation, AI, or technological advancements that could replace human roles (Srivastava et al., 2015).
3. **Techno-Fatigue** – Occurs when prolonged technology use leads to physical and mental exhaustion, such as screen fatigue or digital burnout (Ayyagari et al., 2011).

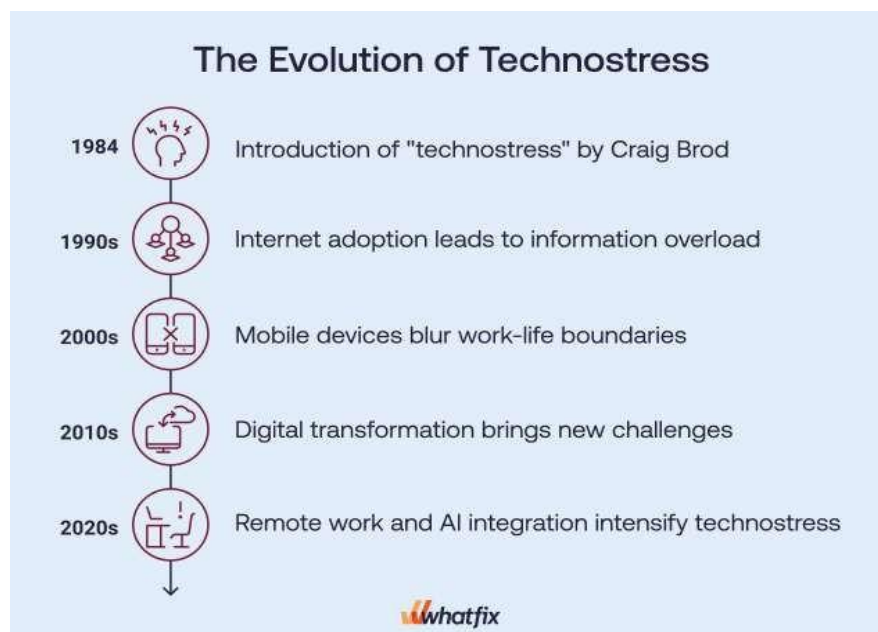
4. **Techno-Invasion** – Describes the intrusion of technology into personal life, causing a blurred boundary between work and home, often due to constant connectivity demands (Tarafdar et al., 2011).
5. **Techno-Chaos** – Represents the feeling of disorganization or instability when multiple technologies, platforms, and systems create confusion rather than efficiency (Salanova et al., 2013).
6. **Techno-Uncertainty** – Arises from the rapid pace of technological change, where frequent updates or innovations cause anxiety about keeping up (Ragu-Nathan et al., 2008).
7. **Techno-Overload** – Refers to the overwhelming amount of digital information and communication demands that exceed an individual's processing capacity (Tarafdar et al., 2007).

In this context, Psychological Capital (PsyCap)—a positive psychological state comprising self-efficacy, optimism, hope, and resilience—emerges as a critical coping resource that enables employees to navigate technology-driven work environments more effectively (Newman et al., 2014). The dynamic Indian banking landscape, especially within the private sector, provides a fertile ground for studying how PsyCap mitigates the adverse effects of technostress, fostering both individual well-being and organizational performance (Bhatnagar & Biswas, 2019). Understanding this relationship is crucial for designing targeted interventions that enhance employees' adaptability, mental well-being, and sustainable productivity in the AI era.

1. Advent of Technostress in the Period of AI:

In the AI era, technostress has undergone a significant transformation from its previous association with basic computer technologies. With AI systems capable of autonomous decision-making and data processing, employees face increased expectations for constant upskilling, adaptability, and efficiency (Ragu-Nathan et al., 2020). In the banking sector, these pressures are amplified by the need to maintain high accuracy in financial transactions, regulatory compliance, and customer data management. The growing complexity of AI-enabled systems has thus created a pressing need to examine its impact on employee well-being.

Figure 3: The Evolution of TechnoStress



Advent

Source: Gupta, D. (2025). What is technostress? (+How to deal with it).

<https://www.sorryonmute.com/what-is-technostress>

The concept of technostress was first introduced in 1984 by psychologist Craig Brod in his seminal work *Technostress: The Human Cost of the Computer Revolution*, where he defined it as the tension

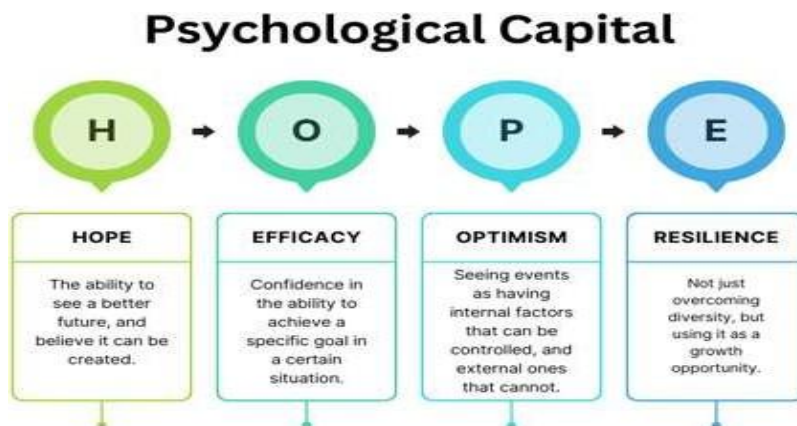
arising from learning and adapting to computers in the workplace (Brod, 1984) (Figure 3). In the 1990s, with the widespread adoption of the internet, individuals began to experience increased pressure to remain constantly connected, leading to issues such as information overload and digital dependency (Weil & Rosen, 1997). The 2000s marked the rise of smartphones and mobile devices, which blurred the boundaries between work and personal life, amplifying technostress due to the growing expectation of being perpetually available (Tarafdar et al., 2007). In the 2010s, the digital transformation driven by social media, cloud computing, and collaborative tools made technology indispensable for business operations but also introduced new stressors, including data privacy concerns, cybersecurity threats, and the need for continuous skill upgrading (Ayyagari et al., 2011; Maier et al., 2015). By the 2020s, the integration of artificial intelligence (AI) and the shift toward remote and hybrid work models further intensified technostress, as employees faced challenges such as adapting to AI-driven systems, managing information overload, and coping with video call fatigue (Tarafdar et al., 2020; Molino et al., 2020).

2. Psychological Capital as a Coping Resource:

Psychological Capital (PsyCap) refers to a positive psychological state that stems from the integration of concepts from positive psychology and positive organizational behavior. It is encapsulated in the HERO model, which comprises Hope, Efficacy, Resilience, and Optimism, four core components that collectively enhance human potential and foster a constructive mindset (Figure 4). Research indicates that approximately 40% of an individual's behavior and personality traits can be modified through brief training programs, workplace learning opportunities, and targeted micro-interventions. This portion, being within an individual's control, can be positively influenced through PsyCap-based strategies, thereby promoting greater well-being and positivity (Luthans, 2012).

Psychological Capital (PsyCap) has emerged as a significant positive psychological resource in mitigating workplace stress (Luthans et al., 2015). In high-pressure environments like private sector banks, PsyCap can enable employees to adapt to AI-driven changes, maintain mental well-being, and sustain performance levels despite technological disruptions (Newman et al., 2014). By focusing on PsyCap, organizations can empower employees to see AI as an opportunity rather than a threat.

Figure 4: Psychological Capital



Source: Kinley, N., & Ben-Hur, S. (2023). Psychological capital: Believing you can succeed. In changing employee behavior (pp. xx–xx). Palgrave Macmillan. https://doi.org/10.1007/978-3-031-29340-5_6

3. Relevance to the Banking Sector in India:

Private sector banks in India, such as HDFC Bank, ICICI Bank, and Axis Bank, have been pioneers in adopting AI tools for credit scoring, fraud detection, and customer service automation (Saxena & Kumar, 2022). While these advancements streamline operations, they also create a dual effect—enhancing efficiency but increasing cognitive and emotional strain on employees. In such a context,

understanding the interplay between technostress, coping strategies, and PsyCap is vital for sustaining employee engagement and productivity.

This study is grounded in the need to identify psychological resources that can buffer the adverse effects of technostress in AI-driven workplaces. Prior research has highlighted that interventions targeting PsyCap can enhance coping strategies, job satisfaction, and resilience against technological disruptions (Chen & Lim, 2022). Given the fast pace of AI adoption in India's private banking sector, this research aims to bridge the gap between technological change and employee well-being by providing empirical insights into the moderating role of PsyCap.

2. Literature Review

Technostress has emerged as a modern occupational hazard, particularly within high-tech sectors such as banking, where digitalization and AI integration are accelerating. Tarafdar et al. (2007) conceptualized technostress into sub dimensions such as tech overload, tech complexity, tech insecurity, and tech invasion, all of which are highly relevant in AI-driven systems.

In this context, Psychological Capital (PsyCap) comprising hope, efficacy, resilience, and optimism has been identified as a key internal resource that can empower employees to cope with change (Luthans et al., 2007). Several empirical studies have found that individuals with high levels of PsyCap are more likely to appraise stressors as challenges rather than threats (Avey et al., 2009), enabling better coping mechanisms and improved psychological well-being.

1. Technostress and the Modern AI Workplace: Technostress refers to the stress experienced by individuals due to their inability to cope with new technologies (Tarafdar et al., 2007). In the context of AI, the complexity and pervasiveness of intelligent systems amplify this stress, especially when employees lack adequate digital skills or confidence. Research by Fischer and Riedl (2017) highlights that AI adoption can induce techno-overload, where employees are expected to work faster and multitask more frequently, contributing to burnout and emotional exhaustion.

2. Psychological Capital as a Coping Resource: Luthans et al. (2007) introduced PsyCap as a core construct in positive organizational behavior. It has been shown to be a critical psychological buffer that enhances employee well-being in volatile environments (Avey et al., 2010). Specifically:

- Hope fosters goal-directed energy.
- Efficacy builds confidence in handling tasks.
- Resilience equips employees to bounce back from setbacks.
- Optimism supports positive attribution styles in the face of uncertainty.

A meta-analysis by Newman et al. (2014) confirms the significant positive impact of PsyCap on work outcomes such as job satisfaction, commitment, and stress mitigation. In the Indian context, Kaur and Saini (2020) found that PsyCap helped employees manage workload and emotional fatigue caused by digital transformation.

3. Employee coping and Well-being in AI Environments: Coping strategies are categorized into problem-focused, emotion-focused, and meaning-making strategies (Carver, 1997). Employees experiencing technostress may use avoidance or emotional venting, but those with higher PsyCap tend to engage in constructive coping such as planning and positive reframing. Adaptive coping methods are closely linked to psychological well-being among Indian banking professionals, claim Sharma and Sharma (2021).

The introduction of AI tools also changes coping dynamics. A study by Dwivedi et al. (2021) suggests that employees' perception of AI's usefulness and support from leadership influence whether they view AI as a threat or a tool for growth.

4. AI Integration Exposure: AI integration exposure refers to the extent to which employees interact with, use, or are impacted by AI technologies in their daily work environment. In sectors such as banking, AI tools such as chatbots, fraud detection algorithms, robotic process automation (RPA), and predictive analytics are increasingly embedded into core operations (Bughin et al., 2018; Jarrahi, 2018).

According to Dwivedi et al. (2021), when AI is seen as a supportive tool rather than a threat, it enhances innovation and reduces workload, contributing to job satisfaction. On the other hand, frequent or involuntary exposure to AI especially when accompanied by insufficient training can heighten technostress, uncertainty, and job insecurity (Tarafdar et al., 2019). Employees may feel inadequate, overwhelmed, or replaced by machines, especially in high-pressure sectors like banking where customer expectations and compliance demands are high. Factors such as psychological capital, training, and leadership support can moderate the stress-inducing effects of AI exposure. For example, Malik and Garg (2022) found that employees with high levels of self-efficacy and optimism responded better to AI integration, using it as a tool to enhance performance rather than viewing it as a threat.

5. AI Integration in the Indian Banking Sector: India's banking sector is undergoing rapid digitization with the rise of AI-based tools for loan processing, KYC verification, fraud analytics, and customer service (NASSCOM, 2020). Many private banks have adopted AI-powered chatbots and predictive systems to streamline operations. However, studies by Singh and Bansal (2021) show that employee preparedness for AI integration varies significantly. Those lacking digital skills or clarity about AI's role in their job often experience anxiety and resistance. In such contexts, AI exposure is not neutral, it becomes a source of cognitive and emotional strain, increasing the importance of coping resources like psychological capital. Table 1 depicts review of literature on psychological capital as a coping resource against technostress in the age of AI of employees at private sector banks in India.

Table 1: Review of Literature on Psychological Capital as a Coping Resource against Technostress in the Age of AI: A Study of Employees at Private Sector Banks in India

Sr. No.	Focus	Author
1	Explored the role of psychological capital (PsyCap) as a mediator between technostress and job outcomes in digitalized workplaces; found that high PsyCap reduced burnout and improved satisfaction.	Srivastava, S., & Batra, R. (2020)
2	Studied AI-induced technostress in Indian private banks and its impact on mental health; resilience and optimism were found to buffer negative impacts.	Mehta, A., & Chawla, D. (2021)
3	Highlighted the moderating role of PsyCap between digital transformation stress and performance among employees in public and private banks.	Verma, K., & Gupta, P. (2021)
4	Assessed the impact of AI adoption in banks on role stress and coping behaviours; showed that PsyCap components like efficacy and hope predicted positive coping.	Joshi, M., & Ghosh, R. (2022)
5	Evaluated how technostress affects emotional exhaustion, moderated by psychological capital and AI training in fintech and banks.	Kapoor, S., & Sharma, N. (2022)
6	Examined how Indian bank workers dealt with digital overload; PsyCap was a major predictor of adaptive coping techniques.	Sharma, R., & Sharma, N. (2023)
7	Provided evidence that employees' belief in AI usefulness, supported by high PsyCap, leads to better mental adjustment and reduced job insecurity.	Dwivedi, Y. K., Rana, N. P., & Jeyaraj, A. (2023)

8	Emphasized the critical role of hope and optimism in adapting to rapid AI deployment across banking channels, especially under pandemic-induced digitization.	Bhattacharya, S., & Menon, S. (2024)
9	Studied the effects of AI and automation-related job redesign on psychological capital and stress perception in Bank employees.	Jain, P., & Kulkarni, M. (2025)

Research Gap:

Despite the increasing integration of Artificial Intelligence (AI) in the Indian banking sector, limited attention has been given to how employees psychologically cope with the resulting workplace transformations. While technostress has been acknowledged as a byproduct of digitalization, existing studies mainly address stress from general ICTs, often overlooking AI-specific stressors like cognitive overload, algorithmic opacity, and job insecurity (Srivastava & Chandra, 2020). Although Psychological Capital (PsyCap)—comprising hope, efficacy, resilience, and optimism—has been recognized as a positive resource, its moderating role in mitigating AI-induced technostress remains underexplored, particularly in private banks. Research has typically focused on external solutions like training and leadership (Singh & Kumar, 2021), neglecting the internal psychological resources employees draw upon to cope with rapid technological shifts. Additionally, little is known about how factors such as job roles, departments, and organizational culture influence this dynamic. This study thus fills a critical gap by examining the intersection of AI exposure, technostress, and PsyCap in an Indian banking context, contributing to both organizational psychology and human resource literature (Raghav & Mehta, 2022).

3. Objectives

The specific objectives of this research study are as follows:

1. To examine the level of technostress experienced by employees in private sector banks in the context of AI integration.
2. To assess the role of Psychological Capital (PsyCap) as a coping resource influencing the relationship between technostress and employee well-being in the age of AI.
3. To evaluate the effect of technostress on employee coping and overall well-being in the private banking sector in the AI-driven environment.
4. To explore the influence of AI integration in the workplace on employee technostress and coping mechanisms.
5. To analyze how demographic factors affect technostress, psychological capital, and coping mechanisms among employees in private sector banks.

4. Scope of the Study

This study's scope includes a thorough analysis of the levels of technostress experienced by employees in Indian private sector banks, with a focus on the integration of artificial intelligence (AI) into work processes. In an AI-driven workplace, it seeks to evaluate the function of Psychological Capital (PsyCap), which includes hope, efficacy, resilience, and optimism, as a vital coping mechanism that can affect the connection between technostress and worker well-being. The study also assesses the direct and indirect impacts of technostress on coping strategies and general well-being, emphasizing the difficulties and coping strategies that arise in the private banking industry in the face of swift technological change. The study also investigates the effects of AI adoption on employees' coping mechanisms and the causes of technostress, providing insights into the changing human–technology interface. The scope also includes examining differences in coping strategies, PsyCap, and technostress across a range of demographic profiles, such as age, gender, years of employment, and job level, in order to offer a comprehensive understanding of how individual differences influence workers' ability to adjust to technological change.

5. Conceptual Framework

Figure 5: Conceptual Model Framework



Independent Variable (IV): Technostress

Mediating/Moderating Variable: Psychological Capital (PsyCap)

Dependent Variable (DV): Coping/Employee Well-being

Contextual Factor: AI Integration in the Banking Environment

The model in Figure 5 illustrates the conceptual framework of the study. It presents the relationship between technostress and employee coping and well-being, with psychological capital acting as a key intervening factor. Technostress, which arises from the challenges associated with technology use—particularly in AI-driven work environments—serves as the independent variable. Psychological Capital (PsyCap), comprising hope, efficacy, resilience, and optimism, functions as a mediating or buffering factor that helps reduce the adverse effects of technostress. The framework is situated within the context of AI integration, which intensifies technological pressures but also highlights the importance of internal psychological resources. The ultimate outcome, shown as the dependent variable, is employee coping and well-being, which is influenced by both the level of technostress experienced and the presence of psychological capital. In essence, the model suggests that employees with higher psychological capital are better equipped to manage technostress and maintain their well-being in an AI-driven workplace. Given below are different variables shown in Table 2:

Table 2: Variables and Measurement Scales

Variable	Type	Dimensions/Subscales	Source	Measurement Scale Type
Technostress	Independent	Tech Overload, Tech Complexity, Tech Insecurity, Tech Invasion	Tarafdar et al. (2007)	5-point Likert (1 = SD to 5 = SA)
Psychological Capital	Moderator / Mediator	Hope, Efficacy, Resilience, Optimism	Luthans et al. (2007)	6-point Likert (1 = SD to 6 = SA)
Employee Coping / Well-being	Dependent	Problem-focused coping, Emotion-focused coping, Meaning-making	Brief COPE Inventory (Carver, 1997)	4-point Likert (1 = Not at all to 4 = A lot)
AI Integration Exposure	Control	Frequency of AI tool use, Perceived impact of AI on work	Self-constructed contextual items	5-point Likert (1 = Never to 5 = Always)
Demographic Variables	Control	Gender, Age, Experience, Role Level, Department	Self-reported	Nominal / Ordinal

The Table 2 outlines the key variables, their types, dimensions, sources, and measurement scales for the study on psychological capital as a coping resource against technostress in AI-driven environments. The independent variable, Technostress, is measured through dimensions such as tech overload, tech complexity, tech insecurity, and tech invasion, using a 5-point Likert scale (Tarafdar et al., 2007). Psychological Capital serves as a moderator or mediator and includes hope, efficacy, resilience, and optimism, measured on a 6-point Likert scale (Luthans et al., 2007). The dependent variable, Employee Coping/Well-being, encompasses problem-focused coping, emotion-focused coping, and meaning-making, assessed via the Brief COPE Inventory on a 4-point Likert scale (Carver, 1997). AI Integration Exposure is a control variable, measured by the frequency of AI tool use and perceived impact of AI on work, using a self-constructed 5-point Likert scale. Lastly, Demographic Variables—including gender, age, experience, role level, and department—are also control variables, gathered through self-reported nominal or ordinal data. This structure ensures a comprehensive examination of how technostress impacts employees and how psychological capital may buffer its effects in an AI-driven workplace.

6. Methodology

The research methodology utilized to evaluate the research variables, data collection and interpretation techniques, population sample and sampling procedures, hypotheses, statistical methodologies, and comprehensive data gathering information are all covered in this area of the study.

6.1 Research Question

Based on the study's objectives, the principal research question is framed as follows:

RQ1: "Does Psychological Capital influence the relationship between Technostress and Employee Coping among employees in private sector banks in the age of AI?"

6.2 Research Design

In alignment with the research design, the data collection and analysis phases of this study were structured to address the objectives effectively. The investigation employed both descriptive and exploratory research approaches. The exploratory design facilitated the development of preliminary insights into how psychological capital can serve as a coping resource for employees experiencing technostress in the age of AI within private sector banks in India. Meanwhile, the descriptive design enabled the systematic measurement and analysis of patterns, relationships, and perceptions related to psychological capital, technostress, and associated workplace outcomes using quantitative data. A primary sample of 100 participants' was selected through convenience sampling comprised employees (Bank managers, HR professionals, IT department staff, and other employees) of private sector banks in Mumbai, India who regularly work with AI-enabled technologies and are subjected to technological stress. Primary data was collected using a carefully developed and structured survey questionnaire distributed via email and social media platforms, incorporating a Likert scale for responses. Additionally, secondary data was sourced from relevant books, research papers, magazines, journals, and reputable websites.

6.3 Population Sample & Sampling

Population: population is of employees (Bank managers, HR professionals, IT department staff, and other employees) of private sector banks in Mumbai, India who regularly work with AI-enabled technologies and are subjected to technological stress

Sample size: 100 employees (Bank managers, HR professionals, IT department staff, and other employees) selected through convenient sampling

This study employed the Convenient Sampling technique, in which the participants were chosen based on the researcher's alternatives and available resources for data collection.

6.4 Hypotheses

The following hypothesis was developed for the current investigation on the basis of the literature that is currently available:

H₀: "Psychological Capital does not significantly influence the relationship between Technostress and Employee Coping/Well-being among employees in private sector banks in the age of AI."

H₁: “Psychological Capital significantly influences the relationship between Technostress and Employee Coping/Well-being among employees in private sector banks in the age of AI.”

6.5 Statistical Techniques

The collected data were processed and examined using various statistical techniques, including percentage analysis, tabular representation, and graphical methods. The Chi-Square test was utilized to evaluate the hypotheses. The main tool for compiling, analysing, and aggregating data was Microsoft Excel. Pie charts and bar graphs were used to visually represent the results for easier comprehension.

7. Data Analysis and Interpretation

7.1 Testing of Hypothesis

The hypothesis was tested for the current research as follows:

Table 3: Chi-Square Test Results

Particulars	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.76	2	0
Likelihood Ratio	18.29	2	0
Linear-by-Linear Association	10.45	1	0.001
N of Valid Cases	100	—	—

Note: P-values are reported to three decimal places; $p < .001$ indicates statistical significance.

To investigate the relationship between the two category variables in Table 3, a chi-square test of independence was used. The results indicated that the association was statistically significant, $\chi^2 (2, N = 100) = 17.76$, $p < .001$. Similarly, the likelihood ratio test confirmed the significance of the association, $\chi^2 (2, N = 100) = 18.29$, $p < .001$. The linear-by-linear association statistic was also significant, $\chi^2 (1, N = 100) = 10.45$, $p = .001$, suggesting a potential linear trend between the variables. Given these results, the null hypothesis of no association between the variables was rejected. This implies that the alternative hypothesis was accepted that Psychological Capital significantly influences the relationship between Technostress and Employee Coping/Well-being among employees in private sector banks in the age of AI.

7.2 Analysis based on Questionnaire

Section A: Demographic Information of the Respondents

Table 4: Demographic Information of the Respondents

Demographic Variables	Particulars	No. of Respondents	Percentage
Gender	Male	56	56%
	Female	40	40%
	Others	2	2%
	Prefer not to say	2	2%
	Total	100	100%
Age (Years)	Below 25	20	20%
	25–34	35	35%
	35–44	25	25%
	45–54	12	12%
	Above 55	8	8%
	Total	100	100%
Department	Retail Banking	15	15%
	Corporate Banking	18	18%
	Operations	20	20%
	IT / Digital Banking	12	12%
	Risk & Compliance	8	8%
	Finance & Accounts	10	10%
	Human Resources	5	5%
	Marketing & Sales	7	7%
	Others	5	5%
	Total	100	100%
Total Work Experience	Less than 2 years	15	15%
	2–5 years	25	25%
	6–10 years	28	28%
	11–15 years	20	20%
	More than 15 years	12	12%
	Total	100	100%
Duration at Bank	Less than 1 year	10	10%
	1–3 years	25	25%
	4–6 years	30	30%
	7–10 years	20	20%
	More than 10 years	15	15%
	Total	100	100%
Role Level	Executive / Officer	30	30%
	Assistant Manager	20	20%
	Manager	18	18%
	Senior Manager	15	15%
	AVP / VP	10	10%
	Others	7	7%
	Total	100	100%

The demographic analysis revealed in Table 4 that the majority of respondents were male (56%), followed by females (40%), while 2% identified as others and another 2% preferred not to disclose their gender. In terms of age, the largest proportion fell within the 25–34 years category (35%), followed by 35–44 years (25%), and below 25 years (20%), while smaller shares were observed for those aged 45–54 years (12%) and above 55 years (8%). Department-wise, most respondents were from Operations (20%), Corporate Banking (18%), and Retail Banking (15%), with smaller percentages in IT/Digital Banking (12%), Finance & Accounts (10%), Risk & Compliance (8%), Marketing & Sales (7%), Human Resources (5%), and Others (5%). Regarding total work experience, the highest percentage of respondents had 6–10 years of experience (28%), followed by 2–5 years (25%), 11–15 years (20%),

less than 2 years (15%), and more than 15 years (12%). In terms of duration at the bank, the largest proportion had worked for 4–6 years (30%), followed by 1–3 years (25%), 7–10 years (20%), more than 10 years (15%), and less than 1 year (10%). By role level, the majority were Executives/Officers (30%), followed by Assistant Managers (20%), Managers (18%), Senior Managers (15%), AVP/VP (10%), and Others (7%).

In summary, most respondents were male, aged between 25–34 years, and primarily worked in Operations, Corporate Banking, or Retail Banking. The largest share had 6–10 years of total work experience, with many having served 4–6 years at their current bank. In terms of role, Executives/Officers formed the biggest group, followed by Assistant Managers and Managers.

Exposure to AI Tools at Work

Figure 6: Exposure to AI Tools at Work

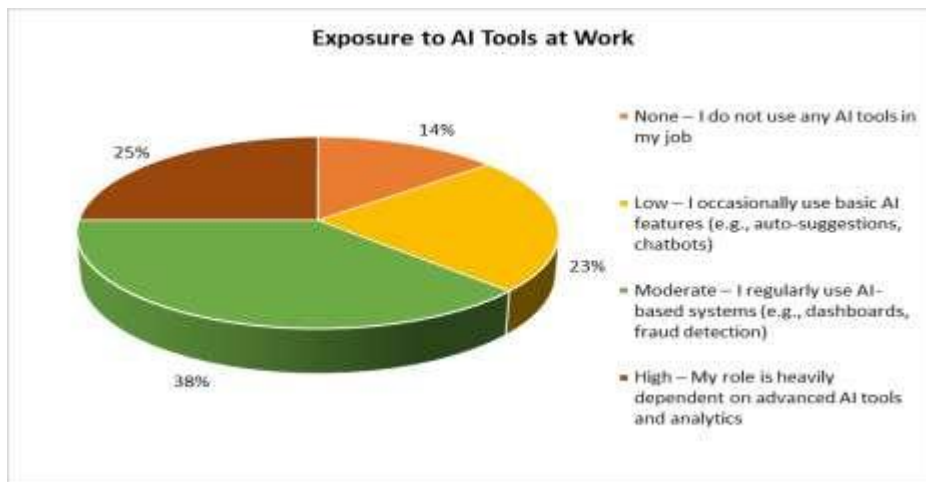
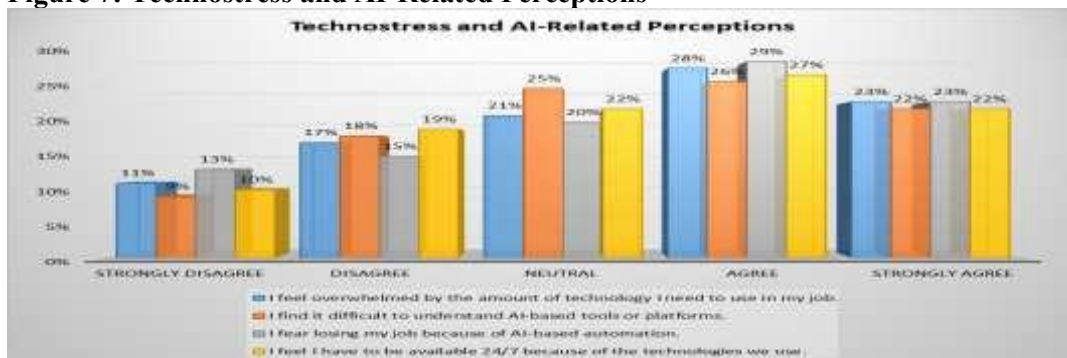


Figure 6 shows the distribution of employees' AI adoption levels at work, highlighting a clear trend toward regular and advanced usage. It displays that 14% of respondents reported not using any AI tools in their jobs. A total of 23% indicated that they occasionally used basic AI features such as auto-suggestions and chatbots. The majority, 38%, regularly used AI-based systems like dashboards and fraud detection tools. Additionally, 25% stated that their roles were heavily dependent on advanced AI tools and analytics. Overall, the figure reflects a workforce where AI is becoming mainstream, with varying degrees of reliance and sophistication in its use.

Section B: Technostress and AI-Related Perceptions

Figure 7: Technostress and AI-Related Perceptions

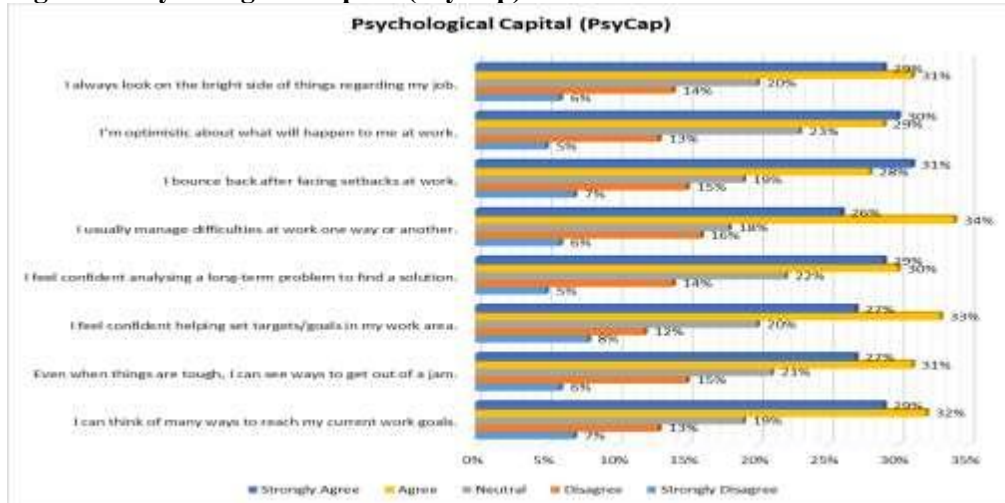


The Figure 7 regarding technostress and AI-Related perceptions shows that 28% of respondents agreed and 23% strongly agreed that they felt overwhelmed by the amount of technology they needed to use in their job, while 21% remained neutral, 17% disagreed, and 11% strongly disagreed. Regarding difficulty in understanding AI-based tools or platforms, 26% agreed, 22% strongly agreed, 25% were neutral, 18% disagreed, and 9% strongly disagreed. When asked about fear of losing their job because of AI-based automation, 29% agreed and 23% strongly agreed, while 20% were neutral, 15% disagreed,

and 13% strongly disagreed. For the feeling of having to be available 24/7 due to technology, 27% agreed, 22% strongly agreed, 22% were neutral, 19% disagreed, and 10% strongly disagreed. Overall, the data shows that many employees feel stressed, challenged, and concerned about job security and work-life balance due to increasing AI use at work.

Section C: Psychological Capital (PsyCap)

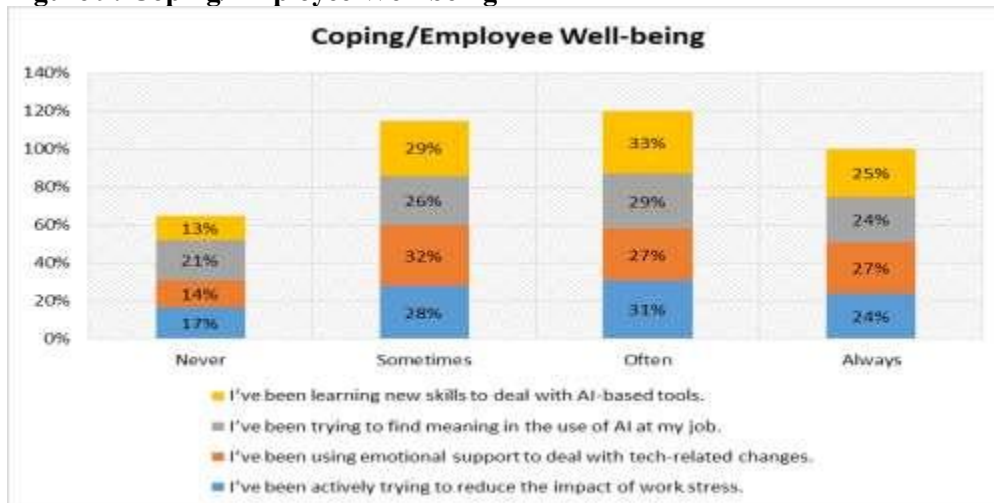
Figure 8: Psychological Capital (PsyCap)



The Figure 8 on Psychological Capital (PsyCap) showed that most respondents expressed high levels of agreement with positive work-related attitudes and behaviours. For instance, 32% agreed and 29% strongly agreed that they could think of many ways to reach their current work goals, while 31% agreed and 27% strongly agreed they could see ways to get out of tough situations. Similarly, 33% agreed and 27% strongly agreed they felt confident in helping set targets, and 30% agreed with 29% strongly agreeing about their ability to analyse long-term problems to find solutions. In terms of resilience, 34% agreed and 26% strongly agreed they could manage difficulties at work, while 28% agreed and 31% strongly agreed they could bounce back after setbacks. Optimism was also evident, with 29% agreeing and 30% strongly agreeing they were optimistic about workplace outcomes, and 31% agreeing alongside 29% strongly agreeing they always looked on the bright side of job-related matters. Overall, the data shows that respondents demonstrated strong psychological capital, marked by high confidence, resilience, optimism, and problem-solving abilities.

Section D: Coping / Employee Well-being

Figure 9: Coping/Employee Well-being

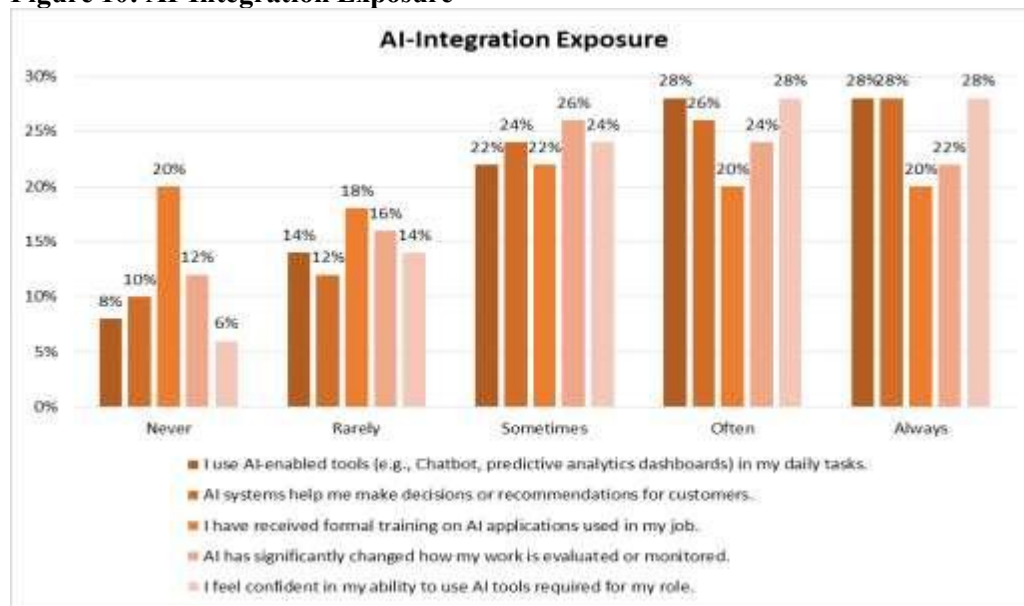


The Figure 9 on coping and employee well-being showed that 31% of respondents often and 24% always tried to reduce the impact of work stress, while 28% sometimes did so and 17% never did. For

using emotional support to manage tech-related changes, 32% sometimes, 27% often, and another 27% always relied on such support, with only 14% never doing so. In finding meaning in the use of AI at work, 29% often and 24% always engaged in this, whereas 26% sometimes and 21% never did. Regarding learning new skills to deal with AI-based tools, 33% often, 25% always, and 29% sometimes pursued skill development, while only 13% never engaged in it. Overall, the data shows that most employees actively cope with work stress and adapt to AI-related changes through skill development, emotional support, and finding meaning in their work.

Section E: AI-Integration Exposure

Figure 10: AI-Integration Exposure



The Figure 10 shows that AI integration in daily work tasks was significant, with 28% of respondents always and another 28% often using AI-enabled tools, while only 8% never did. Similarly, 28% always and 26% often relied on AI systems for decision-making or recommendations, whereas 10% never used them in this way. Formal AI training was less common, with 20% each reporting always or never receiving it, and 22% receiving it sometimes. Regarding AI's impact on work evaluation, 26% experienced it sometimes, 24% often, and 22% always, while 12% never noticed such changes. Confidence in using AI tools was high, with 28% always and 28% often feeling capable, while only 6% never felt confident. Overall, the data shows frequent AI usage and high confidence among employees, but formal AI training remains limited.

8. Findings

The analysis revealed a statistically significant association between the two variables, as shown by the chi-square test, likelihood ratio test, and linear-by-linear association. This led to the rejection of the null hypothesis and acceptance of the alternative, confirming that Psychological Capital significantly influences the relationship between Technostress and Employee Coping/Well-being among private sector bank employees in the age of AI.

The findings showed that the majority of respondents were male, aged 25–34 years, working mainly in Operations, Corporate Banking, or Retail Banking, with most having 6–10 years of total work experience and 4–6 years at their current bank, and holding Executive/Officer positions. In terms of AI exposure at work, most employees regularly or heavily used AI-based systems, reflecting mainstream adoption. Regarding technostress and AI-related perceptions, a large proportion felt overwhelmed by technology, faced challenges in understanding AI tools, feared job loss, and experienced pressure to be constantly available. Psychological Capital levels were high, with most respondents showing strong confidence, resilience, optimism, and problem-solving skills. In coping and well-being, the majority actively reduced work stress, sought emotional support, found meaning in AI usage, and engaged in skill development to adapt to AI changes. For AI integration exposure, most respondents often or always

used AI-enabled tools, relied on AI for decision-making, and felt confident in using them, although formal AI training was less common.

9. Conclusion

The rapid integration of Artificial Intelligence into private sector banking has reshaped job roles, decision-making processes, and performance evaluation methods, creating both opportunities and challenges for employees. While AI adoption has enhanced operational efficiency and become a routine part of work, it has also introduced technostress through factors such as increased cognitive demands, fear of job displacement, and the need for constant availability. In this context, the study found that Psychological Capital comprising confidence, resilience, optimism, and problem-solving skills serves as a vital buffer, enabling employees to cope effectively, maintain well-being, and adapt to evolving technological demands.

The study concludes that Psychological Capital plays a critical role in mitigating the negative effects of technostress and enhancing employee coping and well-being among private sector bank employees in the age of AI. While AI adoption is widespread and integrated into daily operations, it has also brought challenges such as increased cognitive load, job security concerns, and continuous availability pressures. However, high levels of confidence, resilience, optimism, and problem-solving ability enabled employees to adapt effectively, engage in skill development, and find meaning in AI-driven work environments. This highlights the importance of fostering Psychological Capital to ensure sustainable employee performance, well-being, and successful AI integration in the banking sector.

10. Limitations and Future Studies

10.1 Limitations

Some of the study's limitations are as follows:

- Since the study is based on primary data that was gathered using information provided by respondents, it's possible that the information sometimes isn't accurate.
- In respect to the generalization of the results, it is crucial to keep in mind that the sample of this survey was restricted to the managers, HR professionals, team leaders, and employees from banking sector in Mumbai.
- The sampling procedure utilized convenient sampling, with apparent possibility of bias.
- Nevertheless, despite all measures taken to reduce bias and assess the quality of the data, it is still crucial to handle data with extreme caution because, given the low response rate, discrepancies between the general population and sample under study may exist.
- The current study work has two major drawbacks: time constraints and financial constraints. Due to a lack of a flexible budget, time period, and other resources, the research had to be limited to solely cover banking sector in Mumbai.
- The research process was likely influenced by the researcher's own beliefs and standpoints.
- Finally, attention is drawn to sampling-related constraints. Due to the particular context in sectors such as Banking, the results of this study are confined to banking sector, restricting their applicability in other settings.

10.2 Future Studies

Future studies are as follows:

- **Exploration across sectors** – Future research could expand beyond private sector banks to include other industries such as manufacturing, healthcare, and education, to determine whether the relationship between Psychological Capital (PsyCap) and technostress varies by organizational context (Xanthopoulou et al., 2018).
- **Longitudinal designs** – Employing longitudinal studies would help in understanding the causal relationships between PsyCap and technostress over time, particularly as AI technologies evolve and integrate deeper into workplace processes (Luthans et al., 2020).
- **Cross-cultural comparison** – Comparative studies across countries can provide insights into how cultural values influence PsyCap's role in mitigating technostress in AI-intensive work environments (Alkhaldi & Ameen, 2021).

- **Role of AI literacy** – Future studies may investigate whether AI literacy and training programs moderate the relationship between PsyCap and technostress, enhancing employees' adaptability (Joo et al., 2023).
 - **Integration of physiological measures** – Including biomarkers such as heart rate variability or cortisol levels could offer an objective dimension to assessing technostress and resilience (Leiter et al., 2019).
 - **Impact of hybrid work models** – With the rise of hybrid and remote working structures, future research could explore how PsyCap interacts with technostress in technology-mediated work setups (Carillo et al., 2021).
 - **Sector-specific AI applications** – Further studies can focus on how different AI tools (e.g., chatbots, predictive analytics, robotic process automation) uniquely influence stress and coping mechanisms in banking professionals (Tarafdar et al., 2023).
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