



ROLE OF CHATGPT ON THE PRIVATE COMMERCIAL BANKS OF BANGLADESH IN DECISION MAKING: AN EMPIRICAL STUDY

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ABSTRACT

The function of ChatGPT in the decision-making processes of private commercial banks in Bangladesh is examined in this empirical study. A 16-item survey was used to gather data from 100 banking professionals working for nine private banks using a quantitative research approach. Use of ChatGPT is common yet cautious, mostly at tactical decision levels, according to analyses employing descriptive statistics, reliability testing, correlation, regression, and chi-square tests. Human monitoring and governance are still essential for the responsible use of AI, but ethical issues, cognitive biases, and employee resistance stand out as the primary obstacles. Strong governance, strategic-level ChatGPT use, and faith in AI's future promise are important indicators of greater integration, whereas formal rules and infrastructure have little direct influence. According to the report, ChatGPT must be transformed from a supplemental tool to a strategic asset through the implementation of thorough AI governance frameworks, improved training, and IT advancements. In order to promote the ethical and sustainable deployment of AI in banking, bank management, legislators, and AI developers may benefit greatly from the findings. To improve AI efficacy and confidence, future research should examine diverse governance models, comparative sectorial studies, and cultural preparedness.

KEY WORDS: Chatgpt, Reliability, Monitoring, Cognitive, Integration, Diverse, Preparedness, Etc.

1.1 INTRODUCTION

The integration of artificial intelligence (AI) into financial services is transforming global banking. Due to its ability to process natural language, provide real-time data analysis, and support operational, strategic, and customer-level decisions, ChatGPT, an advanced Large Language Model (LLM) from OpenAI, has garnered a lot of attention among the most recent advancements (Dwivedi et al., 2023; Liu et al., 2024). Commercial banks throughout the globe have been using ChatGPT for tasks including credit risk assessment, fraud detection, regulatory compliance, and customized financial advising (Jung et al., 2023; Khan & Umer, 2024). Although ChatGPT is becoming more and more popular, there is still a lack of empirical research on its use in poor countries, particularly Bangladesh. Even though Bangladesh's private commercial banks are gradually looking into AI applications, barriers relating to infrastructure, ethics, and laws are keeping wider adoption from happening (Khan et al., 2021; Dewasiri et al., 2024). Zhou et al. (2023) and Birhane et al. (2023) claim that concerns about data security, human oversight, and AI hallucinations continue to impede full-scale implementation. Additionally, Mishra and Rani (2023) have demonstrated that the adoption of AI in South Asian environments is significantly influenced by leadership perception and digital readiness. Srivastava and Bhatnagar (2022) assert that organizational inertia and fear of technological displacement are significant contributors to the opposition to AI adoption. Alam

and Rahman (2023), on the other hand, stress the need of moral AI frameworks for low-income nations. According to Mollah et al (2024), ambiguous regulations and a lack of local expertise restrict Bangladeshi banks' ability to scale AI. Bhuiyan (2023) concludes by pointing out that many institutions are still in the experimental stage rather than the transformative one, despite the rising attention. This study aims to bridge the information gap and offer practical, policy-oriented insights for the digital transformation of the nation's private commercial banks by analyzing the extent, benefits, and challenges of ChatGPT usage in their decision-making processes.

1.2 Statement of the Problem and Significance of the Study

Commercial banks throughout the world are looking at integrating ChatGPT to improve customer service, increase efficiency, and make better decisions. However, issues still exist, including a lack of actual adoption data, accuracy problems, uncertainty in ethics and regulations, poor infrastructure, and worries about privacy, responsibility, and transparency in human-AI cooperation. Although research on ChatGPT's involvement in operational, tactical, and strategic banking choices is available worldwide, there isn't much empirical study done in Bangladesh. By offering insights into contemporary procedures, difficulties, and prospects in private commercial banks, this research fills that knowledge vacuum. The results will help guide ethical and regulatory frameworks, assist digital



transformation in line with international standards, and highlight balanced hybrid decision-making models, all of which will benefit politicians, banking executives, and IT managers. Future studies on AI-driven innovation in banking can benefit greatly from this contribution to the academic conversation on AI in emerging countries, especially in South Asia.

1.3 Objectives of the Study

The main objective of this study is to search the Role of CHATGPT on the Private Commercial Banks of Bangladesh in Decision Making. To accomplish the goal, the following objectives are formulated:

- a) To assess ChatGPT's present level of integration and acceptance in Bangladeshi private commercial banks' decision-making procedures.
- b) To examine the precise banking operations domains (such as customer care, compliance, credit risk assessment, and strategy planning) where ChatGPT is being used to assist in decision-making.
- c) To determine the alleged advantages and difficulties of utilizing ChatGPT in operational and managerial decision-making in the context of private banks in Bangladesh.
- d) To evaluate how ChatGPT affects the responsiveness, accuracy, and efficiency of banking decision-making.

1.4 Hypotheses of the Study

The following hypotheses are put out in order to empirically examine "The Role of ChatGPT on the Private Commercial Banks of Bangladesh in Decision Making,"

H₁: ChatGPT is not widely used by Bangladesh's private commercial banks, particularly for operational-level decision-making.

H₂: Using ChatGPT considerably does not increase decision-making processes' accuracy, speed, and efficiency.

H₃: Using ChatGPT does not improve the quality of customer assistance in the banking industry.

H₄: Concerns about data security and privacy are not significant obstacles to ChatGPT's wider use in banks.

H₅: The strategic use of ChatGPT in financial decision-making is not restricted by unclear regulations.

H₆: Human oversight is not seen to be essential for managing and preventing AI-related mistakes in decision-making, such as hallucinations.

H₇: Adoption of ChatGPT is not greatly aided by established AI governance principles and a robust technological infrastructure.

H₈: The awareness and training levels of employees have no beneficial impact on ChatGPT's adoption, use, and future integration in banking operations.

1.5 Literature Review

The following literature is studied in order to determine the research gap and to acquire the best possible outcome from this study:

Birhane et al. (2023) pointed out that depending on LLMs without the proper validation might result in poor judgments, particularly in high-stakes banking situations. Despite its benefits, ChatGPT

had drawbacks when it came to decision-making. Its propensity to provide believable but inaccurate or deceptive results—a condition known as "AI hallucination"—is one major cause for concern. To guarantee judgment accuracy and accountability, human monitoring is still essential.

Dewasiri et al. (2024) in their article discussed the difficulties in implementing and utilizing banking chatbots in India as well as the difficulties with Chat Generative Pre-trained Transformer (ChatGPT) for banking in the future. The obstacles to using chatbots were determined to be perceived risk, platform quality, connection and infrastructure, data privacy and security, user adoption and education, existing legacy systems, and regulatory constraints. The results also showed that the challenges presented by ChatGPT in the future of banking included the possible loss of traditional banking jobs, linguistic diversity, data privacy and security, explainability and accountability, ethical considerations and bias mitigation, integration with current banking systems, and user acceptance and trust.

Dwivedi et al. (2023) claimed that by facilitating quicker analysis of risk scenarios, consumer mood, and macroeconomic trends, generative AI in banking could enhance strategic decision-making. Their main areas of study were knowledge, transparency, ethics and digital transformation of organizations. They proclaimed that their study would improve corporate operations like marketing and management.

Hassan et al. (2024) in their study, "ChatGPT Practices: Finance and Banking Domain," did a thorough search of both electronic and non-electronic databases yielded literature from a variety of sources, including journals, papers, hearings, and other relevant materials. They suggested that in order to prevent unlawful and criminal behavior, the authorities take the required actions to develop and improve laws and regulations pertaining to ChatGPT.

Jung et al. (2023) stated that banks have simulated interactive financial advisers using ChatGPT, which modify advice in response to changing user behavior. By examining consumer inquiries, transaction histories, and preferences, ChatGPT makes it possible for individualized banking experiences by offering financial guidance and product suggestions. Customer satisfaction is increased by this real-time responsiveness, which also helps banks make judgments about service delivery.

Khan & Umer (2024), in their article "ChatGPT in finance: Applications, challenges, and solutions," noted that ChatGPT's applications in the financial industry explore the ethical issues that arise from its use, such as biased results, the use of false information in financial decisions, privacy and security concerns, a lack of accountability and transparency in financial services and decision-making processes, the displacement of human jobs, and the complex web of legal complexities. They argued that financial organizations using ChatGPT ought to take proactive measures to



address these emerging issues and lessen their negative impacts on people and society.

Khan et al. (2021), in their paper, "Artificial Intelligence in the Banking Sector of Bangladesh: Applicability and the Challenges," discovered that 29% of banks employ AI-based solutions in specific situations. Eighty-one percent of banks did not utilize RPA for service development, while just 19 percent used it in other banking sectors. Banks used RPA systems for KYC evaluation, data center administration, vault management, and currency counting, among other tasks. They discovered that smooth customer support provided by front-end AI systems need human judgment and ongoing monitoring.

Liu et al. (2024) research highlighted how LLMs, such as ChatGPT, could automate loan approval procedures, identify irregularities in financial activity, and minimize human error and decision latency. Using AI has improved operational decision-making, especially in fields like compliance reporting, credit risk assessment, and fraud detection. For compliance officers, ChatGPT helps by processing natural language inquiries concerning risk profiles and providing summaries of regulatory materials.

Njoroge (2024), in his study, "Role of Artificial Intelligence (AI) in Central Banking: Implications for COMESA Member Central Banks," stated that central banks would need to undergo a significant transformation as AI starts to show its effects. This system might lose its dependability, particularly if data patterns change or behavioral correlations drastically change. Particularly in big data sets and depending on how the model is built and trained, AI's capacity to produce content based on training data carries the danger of producing incorrect but believable results due to information misalignment or divergence between reference and source data. Giving AI models training data that is more targeted, higher quality, and transparent reduces inaccurate bias.

Priya et al. (2024), in their work titled "Effect of artificial intelligence on the financial performance of Indian banking sector," investigated how AI affected Indian banks' financial performance. They blended quantitative and qualitative analysis using a mixed method approach. The influence of AI on the Return on Equity (RoE) of 12 Indian banks in the NIFTY Bank Index over a five-year period is examined using a dynamic panel data model. They discovered that the financial performance of a sample of Indian banks is greatly impacted by the incorporation of artificial intelligence (AI). The use of AI has a favorable impact on the particular metric known as return on equity. Improved operational efficiency and fewer mistakes have a favorable effect on banks' profitability.

Wang (2024), in his paper "Application of AI in Banks and Future Development Strategies," explored that the swift advancement of artificial intelligence has resulted in significant increases in production and transformations across all sectors. He made use of the three AI Development Elements, which are essential to AI's

functioning. Although there are a number of obstacles, including data privacy, legal ethics, unemployment, and other hazards worth noting, they discovered that artificial intelligence (AI) in the banking sector has a lot of promise to support the digitally intelligent transformation of the banking sector.

Zhou et al. (2023) clarified that although regulatory agencies are starting to address the application of AI in banking, more precise rules on the auditing and governance of models such as ChatGPT in decision-making settings are required. Concerning data protection, accountability, and transparency in particular, the implementation of ChatGPT presents ethical and legal issues. Maintaining stakeholder trust requires banks to strike a balance between innovation and appropriate AI use.

Ziwei Yi et al. (2023) explored in their paper "Artificial Intelligence in Accounting and Finance: Challenges and Opportunities," that AI presents creative answers to age-old accounting and financial problems. The study is divided into four sections using a qualitative survey: defining common issues, assessing current AI-based research, describing AI application categories, and talking about new developments. The authors point out that although AI has potential, there are several significant obstacles, including subjective judgment, poor accuracy, and issues with big datasets, limited resilience, and limited practical application. By highlighting AI's revolutionary potential in the sector and addressing these constraints, the study seeks to direct future research.

1.6 Research Gaps

After the revision, the following gaps remain unresolved, especially when considering Bangladesh's private commercial banks. There is a dearth of empirical study on private commercial banks in Bangladesh; the majority of studies on ChatGPT in banking concentrate on Western nations. The research now in publication emphasizes Bangladesh's low adoption of AI, but it doesn't go into detail on ChatGPT's function in decision-making. There is not enough research done on integration with current infrastructure, systems, and human resource preparation. Seldom are ethical and legal issues investigated in the local setting.

2. THEORETICAL FRAMEWORK OF THE STUDY

This study's foundation is the Technology Acceptance Model (TAM) (Davis, 1989), which holds that adoption of technology is influenced by perceived utility and usability. AI governance theory (Zhou et al., 2023) and socio-technical systems theory (Bostrom & Heinen, 1977) are used to analyze ChatGPT integration in Bangladesh's private commercial banks, emphasizing the interaction between infrastructure, regulatory frameworks, and human supervision. The operational, moral, and strategic aspects of adopting AI decision-making are informed by earlier research (Dwivedi et al., 2023; Liu et al., 2024; Birhane et al., 2023). Hypothesis testing on the effects on governance, performance, and acceptance is guided by this paradigm.



3. METHODS OF ANALYSES

3.1 Design of the research

The present study employs a quantitative research approach, collecting primary data from professionals working in private commercial banks in Bangladesh using a standardized 16-item survey questionnaire. Four demographic questions (bank name, kind, department, and designation) out of the sixteen are not considered variables. The layout combines informative and descriptive elements. In order to ensure accurate insights into the adoption of AI in the banking industry, this methodological approach is suitable as it makes it easier to evaluate perceptions, behaviors, and interactions between variables in a systematic and objective manner (Creswell, 2014).

3.2 Sampling Method & Population of the Study

To ensure that only pertinent respondents such as those who have either direct or indirect exposure to AI/ChatGPT applications participate, a purposeful sample approach is used. One hundred responders, selected from nine private commercial banks, is the goal sample size. When specialized expertise or experience is needed for a relevant analysis, this non-probability sampling technique is appropriate (Etikan et al., 2016). The study's population consists of decision-makers and staff members from private commercial banks (PCBs) with operations in Bangladesh,

especially those employed in strategies, operations, IT, risk management, and compliance departments.

3.3 Collection of Data

A self-administered, structured questionnaire that was created based on knowledge from the literature is used to collect primary data (Dwivedi et al., 2023; Liu et al., 2024; Khan & Umer, 2024). Direct interviews and a mobile connection are used to collect data.

3.4 Technique of Analysis

Descriptive statistics, reliability analysis (Cronbach's alpha), correlation, multiple regression, and chi-square tests have all been used in the analysis of the data, which was conducted using SPSS version-2024. The analysis looked at internal consistency, adoption patterns, relationships between variables, and associations between categorical factors such as department type and AI adoption level. Pilot testing with 10–15 participants aids in questionnaire refinement, and Cronbach's alpha (≥ 0.7) is used to ensure reliability.

3.5 Limitation of the Study

Since the study only looks at private commercial banks in Bangladesh, it might not accurately reflect the policies of foreign or state-owned commercial banks. Self-reported statistics can also be skewed by response bias or social desirability.

4. RESULT & DISCUSSIONS

Table No. 1
Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.496	0.718	10

Source: Result collected from the respondents through questionnaire and analyzed using SPSS version, 2024.

Table No. 1 shows that a significant degree of internal consistency among the raw (unstandardized) items is indicated by the Cronbach's Alpha rating of 0.496. This number, however, falls below the commonly accepted cutoff point of 0.70 for social scientific research, indicating that respondents' interpretations or

responses to certain topics may vary. Crucially, the standardized items' Cronbach's Alpha of 0.718 surpasses the threshold of 0.70. This implies that the collection of ten variables exhibits appropriate internal consistency despite taking into consideration variations in scale or variance among items.

Table No. 2
Frequency Statistics

N	Valid	a	b	c	d	e	f	g	h	i	j	k
	Missing	0	0	0	0	0	0	0	0	0	0	0
Mean		8.50	1.00	5.74	1.89	2.53	6.30	1.65	4.37	1.66	4.48	1.90
Std. Dev		4.17	0.00	1.70	0.79	1.30	1.72	0.66	0.69	0.65	2.41	0.83
Min		4.00	1.00	1.00	1.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00
Max		14.00	1.00	7.00	3.00	6.00	8.00	3.00	5.00	3.00	7.00	3.00
Sum		850.00	100.00	574.00	189.00	253.00	630.00	165.00	437.00	166.00	448.00	190.00

a) Years of Experience in Banking, here i) indicates 1 to 5 years, ii) 5 to 9 years, iii) 11 to 15 years and iv) above 15 years. b) Adoption of ChatGPT or similar AI language models for any banking operations, i) indicates yes ii) indicates no and iii) under consideration. c) areas of uses ChatGPT i) indicates Customer service/chatbots ii) Credit risk assessment iii) Fraud detection iv) Compliance reporting v) Loan approval/processing vi) Market and trend analysis vii) Financial advisory and product recommendations viii) Internal communication or training. d) level of uses of ChatGPT in decision-making processes: i) Strategic



ii) Tactical iii) Operational. e) frequency of usage of ChatGPT usage in decision-making tasks. i) Daily ii) Weekly iii) Occasionally iv) Rarely v) Never. f) The main challenges in using ChatGPT for decision-making i) Data privacy and confidentiality concerns ii) Lack of regulatory clarity iii) AI hallucination (inaccurate/misleading outputs)iv) Integration with existing banking systems v) Staff lack of technical knowledge vi) Bias or ethical concerns vii) Resistance to change or user trust viii) Inadequate infrastructure or computing power. g) Existence of formal guidelines for governing the use of AI tools like ChatGPT. i) yes ii) no. h) Human oversight is necessary when using ChatGPT for banking decisions i) Strongly Disagree ii) Disagree iii) Neutral iv) Agree v) Strongly Agree. **i) future potential of ChatGPT in the Bangladeshi banking sector, i) High ii) Moderate iii) Low iv) Uncertain. j) Prioritization for effective integration of ChatGPT i) Employee training ii) IT infrastructure upgrades iii) Clear regulatory frameworks , iv) Internal policy development v) AI explainability tools vi) Customer education vii) Collaboration with tech firms. k) Please suggestion for improvements i) Government Inspiration, ii) Gross Development in IT sector iii) Reducing the rate of Internet Charge.**

Source: Result collected from the respondents through questionnaire and analyzed using SPSS version, 2024.

Table No. 2 reveals that most respondents to the study are mid-career professionals, with an average of 8.5 years of experience. As evidence of widespread use, all 100 participants attested to the use of ChatGPT or other AI technologies at their banks. Respondents utilize ChatGPT in five to six functional areas on average, indicating a wide range of operational applications. With sporadic strategic or operational application, the instrument is mostly used at the tactical level. The usage frequency goes toward "occasionally" or "rarely," suggesting that ChatGPT is not yet a daily requirement. Rather than technological difficulties, the most frequently mentioned challenges are related to social and cognitive obstacles, such as prejudice, ethics, and employee reluctance. While many banks have written norms, others are still unclear, suggesting that governance is in a state of flux. Respondents highly agree (mean 4.37) that human monitoring is crucial when using AI. The majority of people believe that ChatGPT has "High" or "Moderate" potential (mean ~1.66), while opinions differ greatly. The creation of AI explainability tools and corporate policies are top goals. The expansion of the IT industry, improved digital infrastructure, and government assistance are suggested facilitators for wider adoption. When it comes to the deployment of AI, the data generally shows cautious optimism and emphasizes the necessity of organized governance, capacity-building, and ethical integration. The information obtained from frequency tables provides a nuanced view of ChatGPT use in Bangladesh's banking industry, which is mostly impacted by mid-level employees. This group consists of both more recent hires and seasoned staff members, fusing a passion for technology with a sense of prudence. A composition like this encourages creativity while upholding operational caution. However, in order to capture more comprehensive strategic perspectives, future research should involve more senior individuals.

The adoption of ChatGPT or comparable AI technologies by their banks, mostly for advising and analytical reasons, was verified by all respondents. Use in high-risk or compliance-focused roles is still restricted, indicating a methodical and cautious approach. AI is utilized to improve customer interactions and support human decision-making, although traditional or hybrid technologies are still employed for key activities. The industry's rising maturity in AI is reflected in this careful yet well-informed integration. More often than not, ChatGPT is employed for tactical and strategic decision-making as opposed to operational duties. Although the technology is being aggressively adopted, most respondents only sometimes use it, indicating that usage is not yet consistent. Despite this, one-third utilize it every day, suggesting a slow transition to AI-assisted rationale. Employee resistance, bigotry, and ethical concerns are major obstacles; they are more significant than technological ones. The regulatory environment is changing; about 50% of banks do not have official AI policies. Both possible hazards and standardization possibilities are presented by this. The necessity for supervision and responsibility is reinforced by the widespread agreement that AI should supplement human judgment rather than replace it. To guarantee successful adoption, the industry has to make investments in IT infrastructure, staff development, and policy formation. Low enforcement intensity or the early adoption stage are probably the reasons for the lower worries about AI hallucinations or regulation.

A multifaceted strategy is ultimately needed for the effective integration of ChatGPT, including inexpensive internet access, IT sector development, and government backing. With these concerted efforts, prudent and broad AI use may be encouraged, establishing ChatGPT as a game-changing tool for Bangladeshi banking in the future.

Table No. 3
Correlations of coefficient

	a	b	c	d	e	f	g	h	i	j
a	1	-0.08	-0.00	-0.09	-0.13	-0.04	-0.09	-0.10	-0.14	1.00**
b	-0.08	1	-0.49**	0.08	0.28**	0.11	0.37**	0.02	0.20	-0.08
c	-0.00	-0.49**	1	0.13	0.28**	0.43**	0.15	0.63**	0.49**	-0.00
d	0.09	0.08	0.13	1	0.20*	0.28**	0.21*	0.17	0.33**	-0.09
e	0.13	0.28**	0.43**	0.20*	1	0.04	0.01	0.04	0.09	0.37
f	-0.04	0.11	0.43**	0.28**	0.04	1	0.01	0.04	0.09	0.37
g	-0.09	0.37**	0.15	0.21*	0.01	0.01	1	0.09	0.33**	-0.09
h	-0.10	0.02	0.63**	0.17	0.04	0.04	0.09	1	0.33**	-0.09
i	-0.14	0.20	0.49**	0.33**	0.09	0.33**	0.33**	0.33**	1	-0.09
j	1.00**	-0.08	-0.00	-0.09	0.37	-0.09	-0.09	-0.10	-0.14	1.00**



e	-0.13	0.28**	0.28**	0.20*	1	0.56**	0.67**	0.47**	0.82**	-0.13
	0.19	0.00	0.00	0.04		0.00	0.00	0.00	0.00	0.19
f	-0.05	0.12	0.43**	0.28**	0.56**	1	0.36**	0.57**	0.74**	-0.05
	0.65	0.25	0.00	0.00	0.00		0.00	0.00	0.00	0.65
g	-0.09	0.37**	0.15	0.21*	0.67**	0.36**	1	0.21*	0.61**	-0.09
	0.36	0.00	0.14	0.04	0.00	0.00		0.03	0.00	0.36
h	-0.10	-0.02	0.63**	0.17	0.47**	0.57**	0.21*	1	0.69**	-0.10
	0.32	0.87	0.00	0.10	0.00	0.00	0.03		0.00	0.32
i	-0.14	0.20	0.49**	0.33**	0.82**	0.74**	0.61**	0.69**	1	-0.14
	0.16	0.05	0.00	0.00	0.00	0.00	0.00	0.00		0.16
j	1.00**	-0.08	-0.00	-0.09	-0.13	-0.05	-0.09	-0.10	-0.14	1
	0.00	0.42	0.99	0.37	0.19	0.65	0.36	0.32	0.16	
N	100	100	100	100	100	100	100	100	100	100

** . Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed).
 a) Years of Experience in Banking, here i) indicates 1 to 5 years, ii) 5 to 9 years, iii) 11 to 15 years and iv) above 15 years.
 b) areas of uses ChatGPT i) indicates Customer service/chatbots ii) Credit risk assessment iii) Fraud detection iv) Compliance reporting v) Loan approval/processing vi) Market and trend analysis vii) Financial advisory and product recommendations viii) Internal communication or training. c) level of uses of ChatGPT in decision-making processes: i) Strategic ii) Tactical iii) Operational. d) frequency of usage of ChatGPT usage in decision-making tasks. i) Daily ii) Weekly iii) Occasionally iv) Rarely v) Never e) The main challenges in using ChatGPT for decision-making i) Data privacy and confidentiality concerns ii) Lack of regulatory clarity iii) AI hallucination (inaccurate/misleading outputs)iv) Integration with existing banking systems v) Staff lack of technical knowledge vi) Bias or ethical concerns vii) Resistance to change or user trust viii) Inadequate infrastructure or computing power. f) Existence of formal guidelines for governing the use of AI tools like ChatGPT. i) yes ii) no. g) Human oversight is necessary when using ChatGPT for banking decisions i) Strongly Disagree ii) Disagree iii) Neutral iv) Agree v) Strongly Agree. h) future potential of ChatGPT in the Bangladeshi banking sector, i) High ii) Moderate iii) Low iv) Uncertain. i) **Prioritization for effective integration of ChatGPT** i) Employee training ii) IT infrastructure upgrades iii) Clear regulatory frameworks , iv) Internal policy development v) AI explainability tools vi) Customer education vii) Collaboration with tech firms. j) Please suggestion for improvements i) Government Inspiration, ii) Gross Development in IT sector iii) Reducing the rate of Internet Charge.

Source: Result collected from the respondents through questionnaire and analyzed using SPSS version, 2024.

The Table no. 3 indicates that there is a strong positive correlation ($r = 1.00, p < 0.01$) between the variables "a" (years of banking experience) and "j" (improvement suggestions, such as government inspiration and the expansion of the IT sector), indicating that the experience of the respondents strongly supports calls for system adjustments. Wider AI application regions may be linked to lower degrees of AI engagement in decision-making stages, or vice versa, as seen by the significant negative correlation found between 'b' (Area of ChatGPT usage) and 'c' (Level of ChatGPT use in decision-making) with $r = -0.49$ ($p < 0.01$). Challenge-related factors (e') show moderate to high positive connections with governance-related variables (f'), human supervision (g'), future potential (h'), and integration prioritizing (i'). For instance, the correlation between 'e' and 'f' is $r = 0.56$ ($p < 0.01$), indicating a strong relationship between

perceived difficulties and the presence of explicit AI governance principles. The significance of capacity-building, strategic planning, and supervision in AI integration is demonstrated by the strong positive correlations between human oversight (g') and priority factors (i') ($r = 0.61, p < 0.01$) and future potential (h') ($r = 0.69, p < 0.01$). More regular users may be more aware of formal policies and practical concerns, as evidenced by the somewhat positive correlations between variables relating to ChatGPT usage frequency (d') and challenges (e') and governance (f'). With the exception of a substantial link with ideas for changes (j'), many correlations with years of experience (a') are weak or nonsignificant, suggesting that experience shapes perceptions of larger systemic requirements rather than day-to-day operational factors.

Multiple Regressions Analysis

Table No. 4
ANOVA when dependent variable: b) areas of uses ChatGPT.

	SS	DF	MS	F	Significance F
Regression	162.06	8	20.26	14.73	.000 ^b
Residual	125.18	91	1.38		
Total	287.24	99			



Coefficient Statistics of the panel data when dependent variable: areas of uses ChatGPT.					
Predictors	Unstandardized Coefficients	Standard Error	Standardized Coefficients		
	B		Beta	t	Sig
(Constant)	3.615	1.133		3.192	.002
c)	-1.802	.196	-.836	-9.173	.000
d)	-.002	.098	-.002	-.023	.981
e)	-.027	.133	-.028	-.205	.838
f)	.261	.275	.101	.950	.345
g)	.813	.246	.330	3.302	.001
h)	.768	.298	.295	2.581	.011
i)	.102	.135	.145	.757	.451
j)	-.005	.144	-.002	-.034	.973

Multiple R: 0.75, R Square: 0.56, Adjusted R Square: 0.53, Standard Error: 1.17, Observations: 100 where degree of freedom (8, 91). Here, Predictors: c), d, e), f),g), h), i) and j).

a) Years of Experience in Banking, here i) indicates 1 to 5 years, ii) 5 to 9 years, iii) 11 to 15 years and iv) above 15 years. b) areas of uses ChatGPT i) indicates Customer service/chatbots ii) Credit risk assessment iii) Fraud detection iv) Compliance reporting v) Loan approval/processing vi) Market and trend analysis vii) Financial advisory and product recommendations viii) Internal communication or training. c) level of uses of ChatGPT in decision-making processes: i) Strategic ii) Tactical iii) Operational. d) frequency of usage of ChatGPT usage in decision-making tasks. i) Daily ii) Weekly iii) Occasionally iv) Rarely v) Never e) The main challenges in using ChatGPT for decision-making i) Data privacy and confidentiality concerns ii) Lack of regulatory clarity iii) AI hallucination (inaccurate/misleading outputs)iv) Integration with existing banking systems v) Staff lack of technical knowledge vi) Bias or ethical concerns vii) Resistance to change or user trust viii) Inadequate infrastructure or computing power. f) Existence of formal guidelines for governing the use of AI tools like ChatGPT. i) yes ii) no. g) Human oversight is necessary when using ChatGPT for banking decisions i) Strongly Disagree ii) Disagree iii) Neutral iv) Agree v) Strongly Agree. h) future potential of ChatGPT in the Bangladeshi banking sector, i) High ii) Moderate iii) Low iv) Uncertain. **i) Prioritization for effective integration of ChatGPT** i) Employee training ii) IT infrastructure upgrades iii) Clear regulatory frameworks , iv) Internal policy development v) AI explainability tools vi) Customer education vii) Collaboration with tech firms. j) Please suggestion for improvements i) Government Inspiration, ii) Gross Development in IT sector iii) Reducing the rate of Internet Charge.

Source: Result collected from the respondents through questionnaire and analyzed using SPSS version, 2024.

The regression model shown in Table 4 is statistically significant ($F = 14.73$, Significance $F = .000$), indicating that the independent variables together account for 56% of the variance in ChatGPT usage regions in the banking industry. A moderate to strong link between the predictors and the level of ChatGPT application across various banking tasks is shown by the adjusted R Square of 0.53, which demonstrates that the model maintains good explanatory power even after controlling for the number of factors. Important variables affecting the variety of ChatGPT usage in banking are identified in the second section of Table 4. A change from strategic to operational use results in a substantial decrease in utilization breadth, indicating that strategic

application promotes greater integration. The decision-making level is the strongest and most significant predictor ($\beta = -0.836$, $p < .001$). A significant positive correlation is also shown with belief in human oversight ($\beta = 0.330$, $p = .001$), suggesting that control and trust work together to encourage wider adoption. Wider functional usage is also encouraged by optimism in ChatGPT's future ($\beta = 0.295$, $p = .011$). In the current model, usage diversity is not directly impacted by other factors, such as frequency of use, perceived obstacles, formal guidelines, policy goals, and improvement proposals, as they are not statistically significant ($p > 0.05$).

Table No. 5

ANOVA when dependent variable: c) level of uses of ChatGPT in decision-making processes.

	SS	DF	MS	F	Significance F
Regression	43.27	8	5.41	26.58	.000 ^b
Residual	18.52	91	0.20		
Total	61.79	99			



Coefficient Statistics of the panel data when dependent variable: usedecis					
Predictors	Unstandardized Coefficients	Standard Error	Standardized Coefficients		
	B		Beta	t	Sig
(Constant)	1.415	.435		3.255	.002
b)	-.267	.029	-.575	-9.173	.000
d)	-.007	.038	-.012	-.191	.849
e)	-.058	.051	-.126	-1.140	.257
f)	.109	.106	.091	1.030	.306
g)	.217	.098	.190	2.224	.029
h)	.526	.105	.436	5.009	.000
i)	.074	.051	.227	1.445	.152
j)	.029	.055	.030	.522	.603

Multiple R: 0.84, R Square: 0.70, Adjusted R Square: 0.67, Standard Error: 0.45, Observations: 100 where degree of freedom (8, 91). Here, Predictors are areacgp, future, consent, frequse, oversigh, uideline, challeng, integrat

Source: Result collected from the respondents through questionnaire and analyzed using SPSS version, 2024.

Table 5 shows that 70% of the variance in ChatGPT's decision-making use can be explained by a statistically significant model (F = 26.58, p <.001). After variable correction, the corrected R2 of 0.67 demonstrates good and reliable explanatory power. The second phase of Table 4.2 demonstrates a strong correlation between lower-level (operational) use and wider ChatGPT use across areas (β = -0.575, p <.001). In the presence of checks, there

is a positive correlation between human oversight and increased strategic usage (β = 0.190, p =.029). Higher-level usage is highly predicted by future potential belief (β = 0.436, p <.001). Nevertheless, ChatGPT's decision-making level is not significantly impacted by factors such as frequency of usage, difficulties, explicit guidelines, recommendations for improvement, and integration priority (p >.05).

Table No. 6
ANOVA when dependent variable: e) The main challenges in using ChatGPT for decision-making

	SS	DF	MS	F	Significance F
Regression	215.48	8	26.94	31.62	.000b
Residual	77.52	91	0.85		
Total	293.00	99			

Coefficient Statistics of the panel data when dependent variable: e) The main challenges in using ChatGPT for decision-making g					
Predictors	Unstandardized Coefficients	Standard Error	Standardized Coefficients		
	B		Beta	t	Sig
(Constant)	2.434	.905		2.690	.008
b)	-.017	.082	-.017	-.205	.838
c)	-.243	.213	-.111	-1.140	.257
d)	-.120	.076	-.091	-1.574	.119
f)	-.082	.217	-.031	-.376	.708
g)	.571	.196	.230	2.913	.005
h)	-.123	.242	-.047	-.506	.614
l)	.584	.087	.821	6.724	.000
j)	-.025	.113	-.012	-.225	.822

Multiple R: 0.86, R Square: 0.74, Adjusted R Square: 0.71, Standard Error: 0.92, Observations: 100 where degree of freedom (8, 91). Here, Predictors are usedecis, consent, frequse, oversigh, guidelin, areacgp, future, integrat

Source: Result collected from the respondents through questionnaire and analyzed using SPSS version, 2024.



Table No. 6 demonstrates a statistically significant model that accounts for 74% of the variance in problems faced ($F = 31.62, p < .001$). Excellent fit and prediction strength are demonstrated by the model, which has a R value of 0.86 and an adjusted R2 of 0.71. Table 4.3's second phase reveals that integration priority is the best indicator of difficulties ($\beta = 0.821, p < .001$), suggesting that there are more difficulties if integration attempts are

insufficient. A major predictor of difficulties is human oversight ($\beta = 0.230, p = .005$), which indicates heightened risk sensitivity. Other factors, such as usage area, level, frequency, explicit instructions, expectations for the future, and suggestions, do not appear to have a statistically significant effect on perceived obstacles on their own.

Table No. 7
ANOVA when dependent variable: g) Human oversight is necessary when using ChatGPT for banking decisions

	SS	DF	MS	F	Significance F
Regression	27.070	8	3.384	15.214	.000b
Residual	20.240	91	.222		
Total	47.310	99			

Coefficient Statistics of the panel data when dependent variable: g)) Human oversight is necessary when using ChatGPT for banking decisions					
Predictors	Unstandardized Coefficients	Standard Error	Standardized Coefficients		
	B		Beta	t	Sig
(Constant)	2.496	.403		6.198	.000
b)	.132	.040	.324	3.302	.001
c)	.237	.107	.271	2.224	.029
d)	.010	.040	.019	.257	.797
e)	.149	.051	.371	2.913	.005
f)	-.169	.110	-.160	-1.537	.128
h)	-.390	.117	-.370	-3.335	.001
i)	.138	.052	.481	2.629	.010
j)	.008	.058	.009	.134	.894

Multiple R: 0.76, R Square: 0.57, Adjusted R Square: 0.54, Standard Error: 0.47, Observations: 100 where degree of freedom (8, 91). Here, Predictors are), challeng, consent, frequse, areacgp, future, guidelin, usedecis, integrat

Source: Result collected from the respondents through questionnaire and analyzed using SPSS version, 2024.

Table 7 displays a good predictive power (Multiple R = 0.76, Adjusted R2 = 0.54) and a significant regression model ($F = 15.21, p < .001$) that explains 57% of the variation in the perceived requirement for human oversight in ChatGPT-based banking decisions. A number of significant predictors ($p < .05$) of perceived human oversight demands in ChatGPT use are identified in the second phase of the table. Higher perceived problems ($\beta = 0.371$), strategic-level usage ($\beta = 0.271$), and broader application regions ($\beta = 0.324$) all substantially raise the perceived requirement for supervision, indicating that complexity

and risk enhance accountability expectations. Remarkably, optimism about ChatGPT's future ($\beta = -0.370$) lowers oversight worries, indicating a rise in AI trust. A high correlation between increasing monitoring demands and integration priority ($\beta = 0.481$) suggests that organized implementation recognizes the importance of human functions. Non-significant predictors include guidelines, recommendations, and frequency of usage, indicating that these criteria do not independently affect perceptions of supervision in the absence of strategic or risk-related consequences.

Table No. 8
ANOVA when dependent variable: h) future potential of ChatGPT in the Bangladeshi banking sector

	SS	DF	MS	F	Significance F
Regression	27.959	8	3.495	21.963	.000b
Residual	14.481	91	.159		
Total	42.440	99			



Coefficient Statistics of the panel data when dependent variable: h) future potential of ChatGPT in the Bangladeshi banking sector					
Predictors	Unstandardized Coefficients	Standard Error	Standardized Coefficients		
	B		Beta	t	Sig
(Constant)	1.075	.390		2.756	.007
b)	.089	.034	.231	2.581	.011
c)	.411	.082	.496	5.009	.000
d)	-.031	.033	-.061	-.919	.361
e)	-.023	.045	-.060	-.506	.614
f)	-.008	.094	-.008	-.084	.933
g)	-.279	.084	-.295	-3.335	.001
i)	.178	.042	.656	4.229	.000
j)	-.023	.049	-.029	-.461	.646

Multiple R: 0.81, R Square: 0.66, Adjusted R Square: 0.63, Standard Error: 0.40, Observations: 100 where degree of freedom (8, 91). Here, Predictors are oversigh, consent, usedecis, frequse, guidelin, areacgp, challeng, integrat.

Source: Result collected from the respondents through questionnaire and analyzed using SPSS version, 2024.

A highly significant model ($F = 21.96, p < .001$) that explains 66% of the variation in opinions about ChatGPT's potential in banking is shown in Table No. 8, demonstrating the model's strength and explanatory power in perception-based social science research. Table 4.5's second section highlights important determinants of opinions on ChatGPT's potential in banking. The biggest positive indicators are integration priority ($\beta = 0.656, p = .000$) and strategic-level usage ($\beta = 0.496, p = .000$), indicating that optimism is driven by serious, well-supported execution.

Expanded application regions ($\beta = 0.231, p = .011$) also raise hopes for the future, demonstrating increasing trust via real-world use. On the other hand, a greater conviction that human supervision is necessary ($\beta = -0.295, p = .001$) is associated with less optimism, maybe as a result of worries about AI's limitations. In the absence of strategic purpose, non-significant predictors (such as challenges, guidelines, suggestions, and frequency of usage) do not influence favorable future judgments.

CHI Square Test

Table No. 9
Pearson Chi-Square of (d) level of uses of ChatGPT in decision-making processes with

Name of the Variables	Chi-square value	Degrees of freedom (df)	p-value (Asymptotic Significance)
a) Years of Experience in Banking	4.374 ^a	4	.358
c) Areas of uses ChatGPT	163.65	12	0.000
e) frequency of usage of ChatGPT usage in decision-making tasks.	27.571 ^a	10	.002
f) The main challenges in using ChatGPT for decision-making	97.600 ^a	8	.000
g) Existence of formal guidelines for governing the use of AI tools like ChatGPT	69.366 ^a	4	.000
h) Human oversight is necessary when using ChatGPT for banking decisions	98.019 ^a	6	.000
i) Future potential of ChatGPT in the Bangladeshi banking sector	103.833 ^a	4	.000
j) Prioritization for effective integration of ChatGPT.	80.681 ^a	10	.000
h) Suggestion for improvements	4.374 ^a	4	.358

Source: Result collected from the respondents through questionnaire and analyzed using SPSS version, 2024.

Result of Chi-Square Test

The findings of Table No. 9's Chi-Square test offer comprehensive insights into the variables affecting ChatGPT adoption in Bangladeshi private commercial banks' decision-making processes. There was no discernible correlation between ChatGPT use and the experience of banking professionals (p

$= .358$) or recommendations for enhancements such as IT infrastructure or government assistance ($p > 0.05$). However, correlations between ChatGPT application areas and decision-making levels (strategic, tactical, and operational) were significant ($p < 0.05$), as was the frequency of use across decision layers ($p = .002$), indicating varying levels of use intensity. There



were strong correlations ($p < 0.001$) between ChatGPT utilization and strategic goals, personnel training, consumer awareness, and regulatory requirements. Using ChatGPT was linked to estimates of future potential and the availability of guidelines, according to Pearson Chi-Square and Likelihood Ratio tests. These results demonstrate how ChatGPT integration differs depending on the organizational function, difficulties, and strategic goal. Key operational and organizational factors greatly influence ChatGPT uptake and efficacy in banking decision-making, even while other contextual elements have little effect overall.

FINDINGS

From Frequency Distribution

According to the study results, ChatGPT and related AI technologies have been widely implemented in private commercial banks in Bangladesh, mostly by professionals in their mid-career who have an average of 8.5 years of experience. Each responder uses it extensively in five to six functional domains, with a particular emphasis on tactical-level decision-making. However, as the majority of individuals only report infrequent or sporadic use, everyday dependency is still restricted. AI is being used cautiously, with little presence in high-risk or compliance-intensive sectors. This is indicative of a calibrated, hybrid strategy in which AI complements human input but does not replace it. Overcoming technical constraints, employee resistance, cognitive biases, and ethical issues are the most urgent issues. Around half of the banks do not have explicit AI policies, thus governance is still in its infancy. It is clear that respondents firmly believe that human monitoring is necessary (mean = 4.37), highlighting the need of accountability. Despite the high level of confidence for ChatGPT's future function (mean ≈ 1.66), its potential is thought to be contingent on better internal policies, infrastructure, and explainability tools. Clarity in regulations, coordinated IT development initiatives, and reasonably priced internet are necessary for wider use. Strategic investments in ethics, training, and governance are necessary for banking to achieve sustained AI maturity as it transitions from experimentation to integration.

From Correlations

Experience in banking and recommendations for systemic reform had a perfect positive association ($r = 1.00$, $p < 0.01$), suggesting that seasoned professionals strongly support structural improvements. Wider usage of ChatGPT may lessen strategic dependence, according to a substantial negative connection ($r = -0.49$) between its use areas and decision-making level. The interdependence of risk awareness, planning, and policy requirements in successful AI deployment is shown by the strong positive correlations found among difficulties, governance, oversight, and integration priority.

From Regression Analyses

The results of the regression analysis show that the best indicators of ChatGPT's wider adoption across banking operations are strategic-level use, human oversight, and faith in its future potential. The adoption of ChatGPT is strongly correlated with these parameters, as the model accounts for more than half of the

variation. Importantly, elements like frequency of use, official rules, or perceived challenges do not by themselves encourage widespread use, highlighting a disconnection between institutional readiness and practical implementation. Applying ChatGPT to larger operational regions seems to decrease strategic utilization, most likely as a result of decentralized usage. However, greater integration into higher-level choices is fostered by a mix of robust governance (such as human monitoring) and forward-looking faith in AI. This emphasizes how crucial visionary leadership and governance are, rather than just having policies in place.

It suggests that the more a company prepares for AI, the more it becomes aware of possible ethical or operational concerns. Weak integration efforts and an emphasis on supervision are the main factors influencing perceptions of problems. Other factors like frequency or formal policies may still have indirect impacts, although they have little direct impact. Integration prioritizing, problem perception, and usage breadth all influence the requirement for human oversight. A trust-based difference in attitudes is seen in the increased desire for supervision that is correlated with greater use and deeper integration of AI, while those who are more hopeful about the future of AI tend to urge less oversight. The study shows that human-centered governance, strategic implementation, and faith in ChatGPT's revolutionary potential must all line up for the service to go from a utility tool to a strategic asset in Bangladesh's banking industry. Policies and infrastructure by themselves might not guarantee successful adoption in the absence of these.

From Chi-Square Test

The results show that the statistical significance of the factors varies. There is no significant correlation ($p > 0.05$) between using ChatGPT and banking experience or recommendations for enhancement. Nonetheless, there were notable correlations ($p < 0.05$) between ChatGPT use and problems, frequency, utilization locations, and decision-making levels. These imply that decision levels, corporate priorities, and contextual impediments influence ChatGPT integration, necessitating focused tactics.

Problems

The research indicates that ethical issues and cognitive biases that undermine equity and confidence in AI results are major issues with ChatGPT's use in private banks in Bangladesh for decision-making. Fear and insecurity are the root causes of employee resistance, and their limited daily use is a reflection of their reluctance. Formal AI policies are absent from over half of the banks, which results in uneven risk management and governance. ChatGPT is mostly used tactically; wider use is associated with less strategic engagement. Adoption is further hampered by insufficient integration and inadequate IT infrastructure. When autonomous AI is heavily dependent on human monitoring, it is a sign of poor trust. Some policies are in place, but their actual application is lacking. Furthermore, insufficient digital infrastructure and expensive internet limits broader adoption. AI integration will remain primarily experimental and unfinished in



the absence of strategic governance, training, and cultural preparedness.

Recommendation and Conclusion

Private commercial banks ought to create transparent, thorough AI governance frameworks that address risk management, data protection, fairness, and openness in order to guarantee the moral, responsible, and consistent use of ChatGPT. In order to minimize biases and mistakes, it is essential to prioritize human oversight, which is bolstered by training initiatives that foster staff knowledge and confidence. Implementing explainability tools and upgrading IT infrastructure would increase system transparency and dependability, allowing for easier integration. Leadership should encourage the strategic use of ChatGPT in addition to its tactical uses to ensure balanced adoption. The application of AI must be in line with social norms and ethical and bias-awareness training. Particularly in underprivileged regions, cooperation between regulators and service providers is required to improve digital infrastructure and reduce internet costs. Banks can also address job security issues and encourage AI knowledge to lessen employee opposition. Sustainable AI adoption will be ensured by cross-functional collaboration between business, compliance, and IT departments. To address new issues and developments, governance, policy, and training will be improved with the support of ongoing review and feedback. Nonetheless, research into resistance factors, training efficacy, and employee views may expand our knowledge of cultural preparedness for AI. Comparative research across various banking industries or geographical areas may shed information on the contextual elements affecting the adoption of AI. Additionally, studies of changing governance frameworks and their real-world effects on AI responsibility and trust would offer important new information for long-term AI integration plans.

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