

Customer Perception of Artificial Intelligence in Public Banking: An Empirical Analysis

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Abstract. The widespread consensus is that artificial intelligence is the ability of robots to mimic human intelligence by performing activities that are similar to those of humans. The contemporary environment, which is marked by a sharp growth in AI use, highlights the technology's expanding importance. Two fundamental ideas form the basis of AI's operational framework. Firstly, there is an emphasis on understanding the mechanisms of the human brain and grasping its cognitive processes. Subsequently, these insights are practically implemented by applying machine learning methodologies. This research study investigates customer perspectives on integrating AI within the Banking Industry. To achieve this objective, participants were specifically chosen from the customer bases of certain public sector banks. The primary data used in this study was gathered through the use of a structured questionnaire. For the study, 439 responders were taken into consideration. Random sampling was used to choose the responders. Customers of selected public sector banks were chosen for the study. This article demonstrates how important AI is to the banking industry. Additionally, it identifies the primary features or circumstances that impact the banking industry's adoption of AI. The study tries to comprehend artificial intelligence and its significance in the banking service.

1 Introduction

The banking sector has witnessed significant evolution, progressing from its early stages, referred to as Banking 1.0, to the current phase, termed Banking 4.0 [33]. This transformation signifies a shift from historical or traditional banking practices to the contemporary era marked by the widespread adoption of advanced technology across diverse banking domains. The process of this transition, requiring substantial investments in time, cost, and effort from various stakeholders in the banking industry, has posed challenges. Digital disruption, characterized by the emergence of payment banks and neo-banks with technology-intensive platforms, has urged traditional banks to embrace tech-centric banking models (Singh, 2020). Key technological instruments like Blockchain, Machine Learning, or Artificial Intelligence (AI) are indispensable for the Fintech sector, including banking.

New technologies were introduced during the fourth industrial revolution. AI, in particular, played a crucial role in transforming various fields, utilizing computational procedures to create intelligent behaviour and reducing manual intervention [22]. The use of IT applications has experienced significant growth, with AI emerging as a critical component [13]. Management analytics are evolving rapidly, driven by the transformative impact of AI and machine learning, simplifying solutions for complex business problems[8].

Nevertheless, the banking industry and other Fintech firms face a substantial hurdle when shifting from their current setups to seamlessly integrating AI [16]. This transition is a gradual and precarious process that requires meticulous handling due to its extended duration and substantial investment prerequisites [28]. Despite the advantages AI offers to the banking industry, challenges persist, mainly in the form of low awareness hindering the swift acceptance and adoption of AI across various banking functions [33]. This research focuses on addressing AI awareness and its perception by customers as a valuable tool for bank growth. The paper also explores crucial factors influencing AI adoption in banking and suggests ways to optimize their utilization for the benefit of banks.

2 Examination of existing works:

2.1 Artificial intelligence:

John McCarthy coined the term "artificial intelligence" in 1956, marking a sea change in the area [14]. AI, as per[15], is any process capable of acting and thinking rationally like humans. It encompasses intelligence exhibited by machines, mirroring human cognitive traits.

Newell and Shaw's 1958 discovery of the General Problem Solver was hailed as the first artificial intelligence tool capable of solving problems akin to human

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problem-solving skills. [30] noted that AI served as a crucial tool, providing a significant competitive advantage for businesses. This observation was substantiated by approximately 85% of surveyed business executives.

2.2 Banking sector and AI:

The Banking industry is actively leveraging technology, with artificial intelligence (AI) finding applications across various domains: front office (utilizing biometrics and voice assistants), middle or intermediary office (monitoring Legal and Anti Money Laundering activities), and back office (implementing smart contract infrastructure for credit underwriting) [25]. Projections suggest that by 2023, banks could potentially save \$447 billion through the adoption of AI technologies. A substantial 80% of US banks recognize the possible advantages presented by artificial intelligence [9]. Enhancing customer experience is now achievable through the observation and understanding of customer behaviour in various aspects [7]. Currently, there is a discernible trend of banks making aggressive investments in AI to comprehend and analyze customer behavioural patterns.

Minimizing traditional assistance in lending, regulatory compliance decisions and customer service is a strategy adopted in the banking sector [29]. Banks tailor solutions to customer needs, and AI tools play a pivotal role in automatically adjusting these facilities [2, 20]. The adaptation of AI tool allows for improved customer engagement in the current landscape [24,18]. A noteworthy example is Bank of America's utilization of chatbot services as a commonly employed AI tool. These virtual assistants enable banking institutions to enhance operational efficiency, managing high volumes of information seekers concurrently and providing 24/7 customer support [26].

Chatbots play a pivotal role in data collection, aiding banks in formulating strategies and identifying previously unnoticed marketing opportunities. AI contributes to fraud detection efficiently and economically by pinpointing outliers within data sets [28]. The effectiveness of any technology integrated into service communication relies on the extent of interaction between with and without human intervention.[17]. Despite the heavy reliance of banks on technology, customers often exhibit hesitation in trusting AI-enabled applications [4]. This emphasizes the crucial need to comprehend how customers perceive newer technologies in the banking environment. [6,1].

2.3 Attitude towards AI:

AI, a technology-driven technique, stands out as a crucial and highly effective tool, having witnessed significant growth in modern days [13,31]. Experiencing a yearly expansion rate of around 20% [8], applications of this system have the potential to significantly impact the labour market, potentially

displacing many workers [3]. As noted by [5], systems are continuously improving along with it becoming more astute over time, opening the door for numerous sectors to embrace AI for diverse uses.

2.4 Factors or variables influencing AI in the Banking Industry

Technology is found in every field including the service sector and this forms the basis for innovation, strengthening the organization to standardize, customize, transaction creation and relationship service [21]. For organizations to provide better customer experience it is apt to provide proper service innovation through system usage [12].

Technology added to its adequate knowledge has created several new jobs as well as improved the quality of life of the workers [11]. Government and companies need to prepare by keeping technology, ethics politics and society in mind [27].

[23] Emphasize the purpose of adopting M-banking apps is notably influenced by assumed risk. A positive attitude toward any system, particularly AI, plays a pivotal way in driving M-banking usage or AI services within the banking sector [19]. Furthermore, empirical research indicates that perceived utility and usability are powerful predictors of the propensity to utilize electronic payment [32].

3 Objectives of the study

This research was conducted to achieve the following:

- a. To know how AI affects customer service in the banking sector
- b. To analyze customer perception of AI towards banking

4 Research Model and Hypothesis

The model with the hypotheses for this research, derived from the literature review, is outlined below.

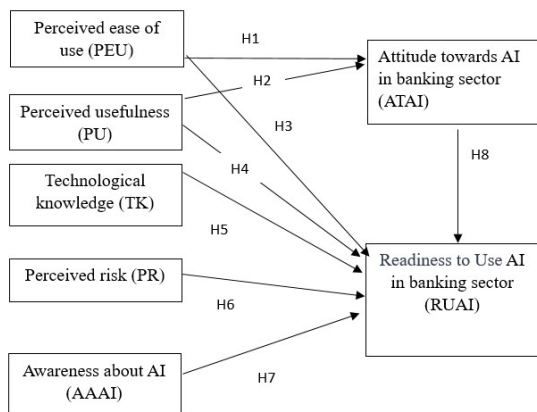


Fig. 1. Research Model

Based on the above research model below mentioned hypotheses were framed:

H1: Attitudes regarding artificial intelligence in the banking sector are significantly influenced by the sense of ease of use.

H2: The perceived usefulness significantly influences the Attitude towards artificial intelligence in the banking service.

H3: The banking industry's readiness to use artificial intelligence is influenced by perceived ease of usage.

H4: The banking industry's readiness to use artificial intelligence is influenced by perceived utility.

H5: The banking industry's readiness to use artificial intelligence is influenced by technological expertise.

H6: The banking industry's readiness to adopt artificial intelligence is influenced by perceived risk.

H7: The banking industry's readiness to adopt artificial intelligence is influenced by knowledge about the technology.

H8: A person's attitude about AI has a big impact on how ready they are to use it in the banking sector.

5 Research Methodology

The concentration of the research in banking is to assess the influence of artificial intelligence on the banking industry, concentrating on customers of nationalized banks such as Canara Bank, SBI, and Union Bank of India, among others, located in different districts of Karnataka. Employing a cross-sectional approach, the research gathered primary data through a survey conducted among bank customers. The data collection utilized a structured closed-ended questionnaire featuring a five-point Likert Scale. The gathered data from the specified sample was subjected to various statistical tests to evaluate the eight hypotheses outlined in the study.

5.1 Sampling and data collection

The research population is the customers of certain nationalised banks like Canara Bank, SBI and Union Bank. Convenience sampling was used to select the bank and customers representing various districts of Karnataka were randomly chosen for data collection.

According to Cochran (1963), where $n = z^2pq/e^2$, the total sample size is 384 at a 95% confidence level and 5% accuracy. Using a random selection technique, 500 respondents are given the questionnaire. 439 full responses serve as the basis for the analysis. As a result, 439 is the study's sample size.

5.2 Statistical tools used

This research analysis was done using SPSS 21.0 for result generation.

To identify the underlying constructs, factor analysis was used. Similarly, the endogenous variables were recognised with the use of Confirmatory factor analysis.

6 The Banking industry's use of artificial intelligence tools

Artificial intelligence (AI) plays a pivotal and essential role towards revolutionizing diverse facets of banking operations, encompassing customer service, risk management, and other critical functions. Its significance endures as a driving force within the banking sector, contributing to:

6.1 Enhancing Customer Service

AI entities like Chatbot and virtual helpers provide continuous customer support round the clock, addressing inquiries, facilitating transactions, managing accounts, and providing product information, all without human intervention.

6.2 Fraud Detection and Security

AI fundamentally analyzes patterns in activities and user behaviours to detect anomalies and potential instances of fraud, thereby bolstering security measures and mitigating risks.

6.3 Personalized Banking Experience:

Through the analysis of customer data, AI empowers banks to generate personalized recommendations, services, and products customized to individual needs, ultimately enhancing customer satisfaction and fostering loyalty.

6.4 Risk Assessment and Credit Scoring

AI algorithms enhance the accuracy of risk assessment by scrutinizing extensive datasets, allowing banks to enhance their lending activities with better-informed choices while evaluating creditworthiness effectively.

6.5 Process Automation

AI automates repetitive operational works, like entering data, processing documents, and regulatory compliance, resulting in reduced operational costs, minimized errors, with increased efficiency.

6.6 Predictive Analytics

Predictive models powered by AI anticipate market trends, customer behaviours, and financial risks, assisting banks in making well-informed decisions and formulating proactive strategies.

6.7 Algorithmic Trading

AI engages in high-frequency trading, analyzes diverse market trends, and optimizes investment portfolios, thereby enhancing investment decisions and portfolio management.

6.8 Regulatory Compliance:

AI aids in assisting, monitoring, and ensuring compliance with intricate regulatory requirements by analyzing extensive datasets and identifying discrepancies or non-compliance issues.

6.9 Natural Language Processing (NLP) for Insights

NLP tools driven by AI extract insights from specific data sources such as customer feedback, social media, and news, furnishing valuable information for decision-making.

6.10 Robo-advisors

AI-powered tools, like Robo-Advisors, offering automated investment recommendations tailored to individual financial situations, goals, and risk tolerance, contribute to making investment management more accessible and cost-effective.

In the banking sector, AI not only boosts operational efficiency but also enhances customer experiences, refines risk management, and streamlines decision-making processes. This ultimately results in improved financial outcomes for both banks and their customers.

7 Data Analysis:

The collected data was analyzed using the SPSS software, and the pertinent descriptive statistics are displayed below. Additionally, the data has also been examined using structural equation modeling, or SEM.

N= 439			
Variable	Code	Mean	SD
Perceived ease of use	PEU1	4.250	.9532
	PEU2	4.204	1.0346
	PEU3	4.204	1.0478
	PEU4	4.204	1.0421
Perceived usefulness	PU1	4.241	.9984
	PU2	4.253	.9613
	PU3	4.212	1.0292
	PU4	4.194	1.0562
Technological knowledge	TK1	4.220	1.0294
	TK2	4.216	1.0529
	TK3	4.186	1.0723
	TK4	4.208	1.0563
Perceived risk	PR1	4.206	1.0779
	PR2	4.204	1.0534
	PR3	4.208	1.0711
	PR4	4.200	1.0781
Awareness about AI	AAAI1	4.520	1.0941
	AAAI2	4.510	1.1085
	AAAI3	4.529	1.0794
	AAAI4	4.514	1.0906
Attitude towards artificial intelligence	ATAI 1	4.533	1.0498
	ATAI2	4.516	1.0706
	ATAI3	4.508	1.0780
	ATAI4	4.506	1.0961
Readiness to Use Artificial Intelligence	RUAI 1	4.510	1.0651
	RUAI 2	4.522	1.0543
	RUAI 3	4.519	1.0743
	RUAI 4	4.533	1.0662

Table 1. Descriptive Statistics

8 Factor Analysis:

A measurement model was used to determine the present connection between items and latent variables.

Two endogenous variables, attitude toward AI and desire to use AI and five exogenous variables, perceived ease of use, perceived usefulness, technological knowledge, perceived risk, and awareness are included in the model.

The 28 components that make up the suggested model in this investigation are loaded with these variables.

The sample is sufficient, according to the KMO test result of 00.854. To derive the latent variables for data analysis, all scale items were included. There was no need to remove any dimensions to create a more appropriate measurement model because the first CFA model showed a reasonable fit. The results of the original model should be kept as the final model, according to the model fit indications. $\chi^2=10767.060$, $p.001$, according to the CFA results, indicates that the data is consistent with the model under evaluation.

Cronbach α , CR, and AVE calculations were used to assess the validity and reliability of this study's tests. The various factor loadings, which surpass 0.600, demonstrate that factors adequately eliminate variance from the variables. Composite reliability ratings above 0.600 imply strong internal reliability for the hidden variables. Convergent validity is shown by AVE values higher than 0.800 [10].

Table 2: Model with statistics

Variables	Factor Loadings		SE	Squ. Multiple R	Cronbach α	CR *	AVE**
	EF A	CF A					
PEU					0.777	0.674	0.883
PEU1	.712	.894	**	0.714			
PEU2	.762	.806	0.052	0.803			
PEU3	.700	.761	0.061	0.643			
PEU4	.608	.739	0.029	0.62			
PU					0.722	0.672	0.899
PU1	.683	.918	**	0.329			
PU2	.674	.992	0.05	0.644			
PU3	.721	.989	0.029	0.64			
PU4	.695	.811	0.055	0.749			
TK					0.732	0.662	0.811
TK1	.714	.901	**	0.007			
TK2	.817	.782	0.112	0.078			
TK3	.895	.630	0.05	0.783			
TK4	.770	.932	0.03	0.841			
PR					0.772	0.664	0.783
PR1	.718	.893	**	0.715			
PR2	.769	.807	0.052	0.803			
PR3	.700	.762	0.061	0.642			
PR4	.607	.738	0.029	0.62			
AAAI					0.754	0.679	0.912
AAAI1	.796	.853	**	0.564			
AAAI2	.801	.901	0.038	0.673			
AAAI3	.802	.912	0.04	0.762			
AAAI4	.836	.715	0.025	0.774			
ATAI					0.771	0.621	0.853
ATAI1	.754	.902	**	0.211			
ATAI2	.753	.978	0.049	0.974			
ATAI3	.839	.863	0.053	0.374			
ATAI4	.891	.712	0.053	0.666			

RUAI					0.764	0.632	0.917
RUAI 1	.750	.844	**	0.732			
RUAI 2	.703	.752	0.029	0.883			
RUAI3	.854	.756	0.028	0.881			
RUAI4	.693	.833	0.027	0.271			
Cumulative(%)	71.760						
KMO	0.844						
P-value	0.000						

9 Results

The different statistical results and the conclusions on whether or not to accept these hypotheses are shown below. The data has been examined and the hypotheses tested.

Table 3. Summary of Hypothesis results

Hypothesis	P value	Accept/Reject
H1: Attitudes regarding artificial intelligence in the banking sector are significantly influenced by the sense of ease of use.	0.57	Accepted
H2: The perceived usefulness significantly influences the Attitude towards artificial intelligence in the banking service.	0.23	Accepted
H3: The banking industry's readiness to use artificial intelligence is influenced by perceived ease of usage.	0.49	Accepted
H4: The banking industry's readiness to use artificial intelligence is influenced by perceived utility.	0.42	Accepted
H5: The banking industry's readiness to use artificial intelligence is influenced by technological expertise.	0.07	Accepted
H6: The banking industry's readiness to adopt artificial intelligence is significantly influenced by perceived risk.	0.67	Accepted
H7: The banking industry's readiness to adopt artificial intelligence is significantly influenced	0.05	Accepted

by knowledge about the technology.		
H8: A person's attitude about AI has a big impact on how ready they are to use it in the banking sector.	-0.65	Rejected

The above summary of hypotheses states that the majority of the hypotheses are accepted and are having a positive impact except for the last hypothesis which states that the attitude towards artificial intelligence significantly influences the willingness to embrace or use artificial intelligence (AI) in the banking industry.

10 Discussion

This study sought to determine the relationships between many aspects, including attitude toward artificial intelligence, perceived usefulness, and ease of use. The study attempted to ascertain the connection between perceived danger, technological proficiency, AI awareness, and preparedness to embrace AI. Perceived benefit, perceived ease of use, technological know-how, perceived risk, and artificial intelligence awareness were all independent variables. Tests were conducted to see how these traits affected attitudes toward and preparedness to embrace artificial intelligence.

The study result showed a favourable correlation between perceived ease of use along disposition towards artificial intelligence. Easy usage of technology leads to a positive disposition towards AI. Consumers are pleased with AI's involvement in the banking industry. The banking sector has embraced artificial intelligence Technology (AI) as a result of this optimistic outlook. Willingness to adopt AI and attitudes toward AI are positively impacted by perceived utility. Customers believe that AI can improve banking performance and have developed a favourable disposition towards AI and have shown a favourable willingness to embrace artificial intelligence.

Perceived risk also has an association with the willingness to embrace artificial intelligence. Awareness of the risk and security measures can make customers adopt and adapt to AI technology. According to the study's findings, attitudes on AI and the banking industry's readiness to use it are negatively correlated. Customers had a negative propensity to adopt artificial intelligence, despite their positive attitude about technology, as this demonstrated. This could be because of the perceived risk or due to the lack of awareness about AI and its uses.

11 Limitations and Future Research Scope

Despite the innumerable theoretical and practical findings and contributions, it is apt to acknowledge the research limitations and set a direction for future

research. Firstly, the sample selected was from Karnataka State in India further studies can be conducted in various other states or as a pan-India activity. Further this study was limited to only the nationalized banks and hence opportunity exists for testing this model in private sector banks. Also, this study schematized only five main aspects that impact the embracing of AI, namely perceived usefulness, perceived ease of use, technological knowledge, perceived risk, and awareness about AI. Nevertheless, there is scope for future researchers to look beyond these factors for a comprehensive study.

12 Conclusion

AI can help banks by automating their work and can also eliminate data fraud and competition from FinTech competitors. AI plays and remains to significantly contribute to the advancement of bank by requiring limited human participation. Reduction in human participation can also help the banks in cost reduction and efficient rendering of services. This indirectly leads to increasing customer satisfaction which in turn increases the customer base for a bank, but to achieve this creating awareness about the usage of AI is inevitable.

References

1. Newell and J. C. Shaw, *Elements of a theory of human problem solving*, Psychol. Rev. **65**, 151 (1958).
2. Mallawaarachchi, *The importance of artificial intelligence in customer perceptions in services of interactive voice recognition in the banking industry in Sri Lanka*, Int. J. Innov. Res. Sci. Eng. Technol. **1**, 13 (2019).
3. Acemoglu and P. Restrepo, *Robots and Jobs: Evidence from US Labour Markets*, Journal of Political Economy **128**, 2188 (2020).
4. Belanche, L. V. Casal_o, and C. Flavi_an, *Artificial Intelligence in FinTech: Understanding Robo-Advisors Adoption among Customers*, Industrial Management and Data Systems **119**, 1411 (2019). <https://doi.org/10.1108/IMDS-08-2018-0368>
5. C. Vijai, *Artificial intelligence in Indian banking sector: challenges and opportunities*, Int. J. Adv. Res. **7**, 1581 (2019).
6. D. Jung, V. Dorner, C. Weinhardt, and H. Puzmaz, *Designing a robo-advisor for risk-averse, low-budget consumers*, Electron. Markets **28**, 367 (2018).
7. D. W. Schrottenboer, *The impact of artificial intelligence along the customer journey: a systematic literature review*, Univ. Twente (2019). <http://purl.utwente.nl/essays/78520>.
8. D. Wiljer and Z. Hakim, *Developing an artificial intelligence-enabled health care practice: rewiring health care professions for*

- better care*, J. Med. Imaging Radiat. Sci. **50**, S8 (2019).
9. Digalaki, *The Impact of Artificial Intelligence in the Banking Sector & How AI Is Being Used in 2022*, <https://www.businessinsider.com/ai-in-banking-report?r=US&IR=T>.
 10. C. Larcker DF. *Evaluating structural equation models with unobservable variables and measurement error*. J Mark Res. 1981; 18(1):39-50.
 11. J. Barrat, *Our Final Invention: Artificial Intelligence and the End of the Human Era*, Macmillan (2013).
 12. J. Grenha Teixeira, L. Patrício, K. H. Huang, R. P. Fisk, L. Nóbrega, and L. Constantine, *The MINDS Method: Integrating Management and Interaction Design Perspectives for Service Design*, J. Serv. Res. **20**, 240 (2017).
 13. J. Lee, H. Davari, J. Singh, and V. Pandhare, *Industrial Artificial Intelligence for industry 4.0-based manufacturing systems*, Manuf. Lett. **18**, 20 (2018).
 14. J. McCarthy, M. L. Minsky, and N. Rochester, *The Dartmouth summer research project on artificial intelligence*, *Artif. Intell: Past, Present, Future* (1956). http://www.dartmouth.edu/*vox/0607/0724/ai50.html.
 15. J. N. Kok, E. J. Boers, W. A. Kusters, P. Van der Putten, and M. Poel, *Artificial intelligence: Definition, trends, techniques, and cases*, *Artif. Intell.* **1**, 270 (2009).
 16. J. Truby, R. Brown, and A. Dahdal, *Banking on AI: mandating a proactive approach to AI regulation in the financial sector*, *Law Financial Markets Rev.* **14**, 110 (2020). doi:10.1080/17521440.2020.1760454.
 17. J. Van Doorn, M. Mende, S. M. Noble, J. Hulland, A. L. Ostrom, D. Grewal, and J. A. Petersen, *Domo arigato Mr Roboto: the emergence of automated social presence in organizational frontlines and customers' service experiences*, J. Serv. Res. **20**, 43 (2017).
 18. K. Singh, *Banks banking on AI*, *Int. J. Adv. Res.* **5**, 1 (2020).
 19. L. M. Payne, J. Peltier, and V. Barger, *Omni-channel marketing, integrated marketing communications and consumer engagement: A research agenda*, J. Res. Interact. Mark. **11**, 185 (2017).
 20. L. Vanneschi, D. M. Horn, M. Castelli, and A. Popović, *An artificial intelligence system for predicting customer default in e-commerce*, *Expert Syst. Appl.* **104**, 1 (2018).
 21. M. H. Huang and R. T. Rust, *Technology-driven service strategy*, J. Acad. Mark. Sci. **45**, 906 (2017).
 22. M. Haenlein and A. Kaplan, *A brief history of artificial intelligence: on the past, present, and future of artificial intelligence*, *Calif. Manage. Rev.* **61**, 5 (2019).
 23. M. Lee and T. T. Chen, *Revealing research themes and trends in knowledge management: From 1995 to 2010*, *Knowl. Based Syst.* **28**, 47 (2012).
 24. M. Nadimpalli, *Artificial intelligence risks and benefits*, *Int. J. Innov. Res. Sci. Eng. Technol.* **6**, (2017).
 25. O. H. Fares, I. Butt, and S. H. M. Lee, *Utilization of artificial intelligence in the banking sector: A systematic literature review*, J. Financ. Serv. Mark. **28**, 835 (2023).
 26. P. Crosman, *How Artificial Intelligence Is Reshaping Jobs in Banking*, *American Banker* **183**, 1 (2018).
 27. P. Daugherty, *Teconomy Magazine*, Accenture Inst. High Perform. (2017).
 28. R. Bharadwaj, *Artificial Intelligence for Risk Monitoring in Banking*, *Fintech News* (2019).
 29. R. Schmelzer, *5 benefits of AI in the banking industry*, Search Enterprise AI (2019). <https://searchenterpriseai.techtarget.com/feature/AI-in-banking-industry-brings-operational-improvements>.
 30. S. Ransbotham, D. Kiron, P. Gerbert, and M. Reeves, *Reshaping business with artificial intelligence closing the gap between ambition and action*, *MIT Sloan Manage. Rev.* **59**, (2017).
 31. T. A. Baigh, C. C. Yong, and K. C. Cheong, *Existence of Asymmetry between Wages and Automatable Jobs: A Quantile Regression Approach*, *International Journal of Social Economics* **48**, 1443 (2021).
 32. T. Zhou, Y. Lu, and B. Wang, *Integrating TTF and UTAUT to explain mobile banking user adoption*, *Comput. Hum. Behav.* **26**, 760 (2010).
 33. U. Noreen, A. Shafique, Z. Ahmed, and M. Ashfaq, *Banking 4.0: Artificial Intelligence (AI) in Banking Industry & Consumer's Perspective*, *Sustainability* **15**, 3682 (2023). <https://doi.org/10.3390/su1504368>.