

Implication of Artificial Intelligence on Service Quality of Banking Sector: A Customer-Oriented Approach using SERVQUAL Model

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Abstract

Artificial Intelligence is transforming banking operations, particularly for providing quality services to customers. In the present rapid digital transformation of banks, AI-driven technologies such as chatbots, automated loan processing, fraud detection, and personalized customer services are reshaping operational efficiency and customer experience. The study emphasises the application of Artificial Intelligence on the service quality provided by banks in India for their customer satisfaction. This research paper thoroughly reviews the literature on the numerous promising applications of artificial intelligence and its impact on the banking sector from the customer's perspective. This research is based on primary data collected using a structured questionnaire. The data collected from 200 consumers of public sector banks operating in the Barak Valley of Assam was considered through the convenience sampling method. The service quality parameters have been selected based on the SERVQUAL model. The research findings suggest that the demand for artificial intelligence in the Indian banking sector is essential for the customers' service quality. Further, this study shows that AI has a crucial role to play in the banking sector. It also observes the main factors that influence the adoption of AI in the banking Industry.

Keywords: Artificial intelligence, service quality, customers, banking sector, technologies

Introduction

The initiation of big data necessitated the development of methods to extract valuable insights from vast datasets, which in turn brought Artificial Intelligence (AI) to the forefront (Kok et al., 2009). It became evident that the full potential of big data could only be harnessed through the application of machine learning algorithms. Since the turn of the 21st century, AI, big data (Guerra et al., 2023), machine learning (Wang et al., 2023), cloud computing, and blockchain technologies have gained significant momentum due to advancements in computing systems (Ratia et al., 2018) and the proliferation of big data (Haenlein and Kaplan, 2019). AI has gained rapid traction because its application across various industries has delivered substantial benefits, such as cost reduction, enhanced customer satisfaction, mitigation of fraudulent activities, and more efficient resource utilisation (McKinsey Global Institute's Report, 2018). A comprehensive AI report published by Stanford University in 2023 (Nestor et al., 2023) underscored the global investments in AI and their subsequent growth. The United States leads AI investment with \$248.9 billion, followed by China at \$95.1 billion, and the United Kingdom in third place with \$18.2 billion.

Israel, Canada, and India follow, with India ranking sixth, investing \$7.73 billion in AI. Further, India ranks sixth in the deployment of machine learning systems, according to the same report. In addition to AI investments, India's economic and financial development over the years attracted the authors' interest in exploring AI's role in the Indian banking sector. According to Forbes (2024), India's AI market is projected to grow at a rate of 33.28 percent between 2023 and 2028, signalling a promising trajectory for the sector.

In India, one of the biggest challenges facing banks today is poor data and customer segmentation. The emergence of payment technology companies such as Airtel Payments Bank and Paytm Payments Bank, the emergence of neo banks and neo banking platforms, and emergence of NBFCs have made it difficult for banks to survive in the existing paradigm. In the new era, banks are using new technologies to further develop and improve their services to customers. AI is helping banks transform their entire business, from insurance to sales, contracts to cybersecurity. Banks are using analytics, blockchain, and machine learning to future-proof their products and services. AI in banking and finance improves the efficiency and competitiveness of banks and financial institutions (Pattanayak, 2021). Banks are using AI for a variety of purposes, including fraud detection, improving customer experience, monitoring customer behaviour to provide better service, and checking the credit history of users' products to predict loan risk.

Literature Review

AI has revolutionised customer experience by providing personalised banking services and seamless interactions. Pfoertsch & Sulaj (2023) highlighted the role of AI-driven chatbots and virtual assistants in improving customer service through empathetic interactions. Fernandes & Oliveira (2021) emphasised AI's role in offering 24/7 services, financial advice, and efficient portfolio management. Mithra et al. (2023) further discussed AI applications in enhancing customer interactions and addressing fraud detection concerns. According to Sardana & Singhania (2018), while digital banking is transforming customer experiences worldwide, India still relies on traditional banking due to customer preferences for in-person interactions. In this connection, the study suggested that collaboration between traditional banks and fintech firms can create a balanced approach to digital banking adoption. Convenience is a key driver of customer satisfaction. AI enhances convenience by ensuring 24/7 service availability, access to real-time information, and engaging customer interactions through bots (Doorn, 2010). Services that are easily accessible and time-efficient foster stronger customer relationships. Besides, customization involves tailoring services to individual customer preferences. AI facilitates this by leveraging customer data, behavioural insights, and prior interactions to deliver personalized solutions (Bilgihan, 2016; Zanker, 2019; Aguirre, 2015). Incorporating empathetic communication and respecting user privacy further strengthens customer trust. Despite ongoing concerns about data protection, customized AI services enhance brand loyalty and customer retention. Trust or confidence is foundational in banking, where customers rely on secure handling of their financial assets and personal information (McKnight, 2001). AI fosters trust by offering personalized services and secure platforms, enhancing user experience through seamless digital interfaces (Pearson, 2019). Transparent communication and robust data protection measures are crucial in

building long-term customer relationships (Ponder, 2016; Wang, 2018; Keiningham, 2017). Customer retention plays a significant role in sustainable banking success. Regular updates, timely issue resolution, and customized offerings contribute to emotional bonding and brand advocacy (Maharjan, 2017; Pennington, 2016). AI supports retention by detecting consumer needs, preventing fraud, and upgrading services using machine learning. These capabilities foster a competitive advantage and increased customer loyalty. In the same manner, customer experience is crucial for understanding and adapting to customer feedback and expectations (Nobar, 2018). AI facilitates the delivery of secure, efficient, and proactive services that align with user needs, prompt and reliable support, minimal wait times, and personalized service delivery contribute to customer satisfaction. AI-enabled services also offer opportunities for upselling and cross-selling while reducing operational costs. These benefits ultimately enhance firm performance (Ameen, 2021). Customer recovery service refers to the process of addressing customer dissatisfaction, resolving complaints through AI enabled services, and restoring trust between the customer and the business (Keiningham, 2017).

Veerla (2021) pointed out the survey report conducted by Infosys on 1600 business executives in decision making roles, where 75 per cent executives regarded AI as fundamental to the success of organization's strategy. Forbes magazine claimed that application of AI can reduce the operational cost of organizations up to 22 per cent. Further asserted that AI serves as a transformative predictive model in the banking sector and concluded on emphasizing the impact of AI on strategy implementation, customer service enhancement, fraud detection, compliance assurance and credit assessment. Adeyemo & Okoronkwo (2024) examined the effect of AI on the operational efficiency of deposit money banks in Lagos State, Nigeria. Survey research design was adopted covering a randomly selected 450 regular employees across five banks and concluded that AI significantly contributed to the operational efficiency such as Service Innovation, Cost reduction, Service quality and Customer satisfaction. Kurode (2018) evaluated the strategies of adoption and implementations of AI in International banks and the financial services industry in the Indian context using the secondary source of information and concluded that AI's automation capabilities help banks eliminate unproductive and repetitive tasks that require human labour, allowing human employees to focus on more strategic and creative roles, which can ultimately enhance business efficiency.

Pattnaik et al. (2024) analysed how AI is used in banks using machine learning so that the bank can recommend products and services that suit the clients' tastes. They pointed out that the analysis of spending and parameters of behaviour, which ML algorithms are capable of, can forecast products or services that might be interesting to the customer, ranging from credit to investment services. The use of personalisation also helps banks revisit the concept of customer loyalty since customers feel like the products being offered are those they would want personally. The study led by Pattnaik et al to determine that customer segmentation makes the banking sector viable in the developed as well as the emerging markets, in which AI-enabled strategies play a significant role in achieving competitive benefits as well as the customer loyalty brought about by the digital competition.

The empirical study focuses on the front-end customer experience through Chatbots on the basis of three variables namely System, Information and Service. A hypothesis test is carried out to check if the relationship between the three quality dimensions and customer experience

is moderated by perceived risk. The findings help banks to establish the consumer and brand relationship by offering chatbots that fulfil customer requirements. The data collection is performed through a survey. (Trivedi, 2019). One of the most notable applications of AI in banking is the development and deployment of chatbots, which have revolutionized the way banks interact with their customers. Suhel et al. (2020) examine the transition from conventional conversation to automation in banking through chatbots, utilizing artificial machine intelligence language. This shift has not only changed the face of customer interactions but has also played a crucial role in the development of the banking sector, underscoring the importance of AI in meeting the ever-changing needs of customers.

Research Gap

Despite the growing integration of AI in banking operations, a significant research gap exists in understanding its consistent impact on the banking sector on customers' perception. While numerous studies explore AI adoption in banking at a national and global level, limited research specifically examines its implementation, effectiveness within the unique economic and infrastructural landscape. There are also less studies conducted in the Indian context. Additionally, existing literature pays little focus on customers' experience and fraud detection, overlooking operational efficiencies, risk management, and decision-making improvements enabled by AI in banks. This study aims to analyse the implications of AI adoption on service quality to bridge this gap.

Significance of the study

The significance of this research study lies in its exploration of how AI is transforming banking operations, particularly for providing quality service to customers. As the banking industry undergoes rapid digital transformation, AI-driven technologies such as chatbots, automated loan processing, fraud detection, and personalised customer services are reshaping operational efficiency and customer experience. Therefore, this study aims to bridge the knowledge gap by analysing the extent of AI adoption, its benefits, challenges, and its effectiveness in the banking sector. Understanding these factors is crucial for policymakers, banking professionals, and researchers to develop strategic frameworks for AI integration, ensuring improved financial services, security, and operational excellence. Additionally, the research will provide insights into the impact of AI on service quality and customer satisfaction, thereby contributing to the broader discourse on technology-driven banking reforms.

Service Quality Dimensions

Service quality denotes the way to fulfil or exceed client expectations. It can coordinate with, encounter or supersede customer preferences and likings. The SERVQUAL instrument has been extensively applied in a variety of service industries (Yoo & Park, 2007). Parasuraman et al. (1988) constructed a 22-item instrument called SERVQUAL for measuring consumer perceptions of service quality. SERVQUAL addresses many elements of service quality divided into the dimensions of tangibility, reliability, responsiveness, assurance and empathy.

According to the SERVQUAL model, service quality can be measured by identifying the gaps between customers' expectations of the service to be rendered and their perceptions of the actual performance of service (Barsky, 1992). The researchers have applied the SERVQUAL model to measure service quality in different industry settings with modified constructs to suit specific situations (Bhatt & Bhanawat, 2016; Saleh & Ryan, 1992). SERVQUAL model is based on five dimensions of service:

Tangibility: Tangibility discusses facilities, equipment, employees and communicable commodities that are examples of physical dimensions (Kasiri, 2017). In other words, these criteria include sophisticated equipment, physical facilities, well-dressed employees and well-organized papers (such as booklets, ledgers, billing material, etc.).

Reliability: Reliability is the capacity to deliver services securely and regularly to meet consumer requirements. This includes consistently delivering the stated job or service, demonstrating an interest in resolving customer issues, implementing service improvements for the first time and offering and delivering service at the promised time.

Responsiveness: This service quality component stresses responsiveness and vigilance towards client requests, inquiries and complaints to assist customers. This includes instances such as employees communicating to customers about what they will do, providing immediate services to customers, always being willing to assist customers, and always being prepared to answer customers' questions.

Assurance: Assurance encompasses ability and the capacity of workers to instill customers with a feeling of the organization's integrity (Genieys et al, 2004). The assurance is high if consumers feel safe interacting with the business, the staff are always courteous while interacting with the customers and the employees possess sufficient expertise to answer the customers' questions (Moerke et al, 2017).

Empathy: It involves engaging with consumers according to their essence to feel like the company understands them. The empathy aspects include personal attention to customers, good business hours for all customers, workers demonstrating individual attention to customers, and employees recognizing the specific consumer demands.

According to Parasuraman et al. (1991), this instrument may be used in various fields, including financial institutions, libraries, hotels, restaurants, medical centres, banks, the tourist sector, hospitals, libraries, transportation services, postal services and the insurance business. It has been argued that expectation is self-motivated and that it can therefore change according to customers' experiences and consumption situations. (Nadiri & Hussain, 2005). However, the SERVQUAL model is generally considered a robust measure of service quality. Hence, the dimensions of this model with some modifications have been considered for identifying 22 items of research variables for this study.

Objectives of the Study

The specific objective of the study is to examine the implications of Artificial Intelligence on bank service quality.

Research Methodology and Approach

The study assumes a descriptive research design to explore the influence of Artificial Intelligence on service quality. Based on the highest market capitalisations as on March 2024, a total of 3 public sector banks operating in Barak Valley, Assam and which were listed in both the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) were considered purposely for the study. The sample consisted of 200 bank customers taking 2 each from the considered bank branches. Table 1 shows the selection of respondents for the purpose of the study.

Table 1: Bank Branches Considered and Sampling Frame

Sl. No.	Public Sector Banks	Bank Branches	No. of customers Considered
1.	State Bank of India (SBI)	39	78
2.	Punjab National Bank (PNB)	40	82
3	Central Bank of India (CBI)	20	40
Total		99	200

Source: *Researcher's Sample selection.*

The sample included individuals from diverse demographic backgrounds such as age, gender, educational qualifications, and employment status, to ensure a comprehensive understanding of customer perspectives. The data were collected using a structured questionnaire through a convenience sampling technique. Based on the SRVQUAL model, respondents' opinions on 22 items indicating agree/disagree were measured on a Likert scale. The aforesaid 22 measuring parameters probe into five dimensions; the tangibility dimension comprising 5 items, the reliability of bank dimension consisting of 5 items, the assurance provided by the bank with 4 items, the responsiveness of banks towards bank customers comprising 4 items and the final dimension viz., empathy shown by the bank comprising 4 item parameters considered to measure the implication of AI on customers service quality paradigms and their relationship. The data analysis was performed using Statistical Package for the Social Sciences (SPSS) software using both descriptive and inferential statistics. The secondary data has been collected from various books, journals, websites, etc.

Data Analysis and Discussions

Demographic Structure of Respondents

The study governs the determination of customers' perceptions based on various services provided by the banks, particularly for an in-depth understanding of the customer taste and preference factors, which can enrich the top management in their decision-making process. In this research investigation, the demographic characteristics such as age, gender, education, occupation, and income of the respondents are considered primary variables influencing customer perceptions. Table 2 depicts the demographic attributes of the sample respondents.

The analysis of the demographic profile confirms the research participants' characteristics. It is observed that out of the total respondents, 50 percent are under the age group of 31-50, followed by 25 percent in the age group of 51- above, and 19.5 percent in the age group of 21-30. It is also revealed that only 5.5 percent of the total respondents are under the 20-below age group. Most respondents are found female, comprising 57.5 percent, and the remaining 42.5 percent are under the male category. Furthermore, the education-wise distribution of the respondents indicates that 40 percent of the total respondents are at graduate level followed by 39 percent at high school level, 9.5 percent at the postgraduate level, and 7.5 percent of respondents at the secondary level.

Table 2: Demographic Features of Sample respondents

Demographic Features	Category / Status	Frequency	Percent	Cumulative Percent
Age (years)	20 -Below	11	05.5	05.5
	21-30	39	19.5	25.0
	31-50	100	50.0	75.0
	51-Above	50	25.0	100.0
Gender	Male	85	42.5	42.5
	Female	115	57.5	100.0
Education	Primary	02	01.0	1.0
	High School	78	39.0	40.0
	Secondary	15	07.5	47.5
	Graduate	80	40.0	87.5
	Postgraduate	19	09.5	97.0
	Others	06	03.0	100.0
Occupation	Cultivator	46	23.0	23.0
	Service	107	53.5	76.5
	Business	28	14.0	90.5
	Home Maker	14	07.0	97.5
	Others	05	02.5	100.0
Area of residence	Urban	110	55.0	55.0
	Semi-urban	57	28.5	83.5
	Rural	33	16.5	100

Source: Computed from primary data

The occupation-wise distribution reveals that 53.5 percent of the respondents are engaged in the service sector followed by cultivators comprising 23.0 percent, business, i.e.14 percent, homemakers, i.e.7.0 percent, and others, i.e. 2.5 percent. Besides, 55 percent of the respondents have an urban orientation, followed by semi urban i.e., 28.5 percent and rural based 16.5 percent. The analysis of these demographic characteristics leads to an accurate representation of research participants and indicates that respondents have been drawn from the required group to support suitable research inferences.

Reliability Analysis

It is crucial to pledge the scales included in the questionnaire are consistent. In order to determine data consistency, a data reliability test was conducted based on the performance score of the items of each construct with Cronbach's alpha coefficient values to verify the data integrity. Normally, Cronbach's alpha coefficient value of a scale should be 0.7 or higher (Pallant, 2010). The analysis results are presented in Table 3.

Table 3: Reliability Test for Constructs

Components	Cronbach's Alpha	Number of items
• Independent Variable: Artificial Intelligence	0.823	4
• Dependent Variables: Service Quality Constructs	0.872	22
• Tangibility (TN)	0.843	5
• Reliability (RL)	0.786	5
• Responsiveness (RP)	0.822	4
• Assurance (AR)	0.819	4
• Empathy (EM)	0.744	4

Source: Computed from primary data.

The values of Cronbach's alpha coefficients of the constructs are more than 0.7, which confirms an acceptable and satisfactory range of the reliability scales, indicating the items that make up the scale are consistent and appropriately measure the underlying constructs.

Descriptive Analysis

Descriptive statistical analysis is a method used to summarise and organise the characteristics of a dataset. It provides a way to present raw data in a meaningful and interpretable form and focuses on describing the data rather than making predictions or inferences about a larger population. Descriptive statistics are essential for summarising data before moving to inferential statistics, which involve hypothesis testing and generalising findings to a larger population. According to the descriptive analysis as presented in Table 4, it can be noted that the standard deviation (σ) of AI is 0.71266, and the Standard deviation error mean reached 0.04337. In the same way, the mean (μ) value of service quality is 3.7714, the standard deviation is 0.69602, and the standard error mean is 0.04218. Furthermore, the standard error mean for all the dimension service quality constructs, viz, tangibility (0.0588), reliability (0.0563), responsibility (0.04600), assurance (0.04524) and empathy (0.04620) indicate that the data set a meaningful interpretable form.

Table 4: Descriptive Analysis of the Constructs/Dimensions

Variables	N	Mean (μ)	Std. Deviation (σ)	Std. Error Mean
AI	200	3.8988	.71266	.04337
TAN	200	3.8207	.86888	.05288
REL	200	3.8259	.83197	.05063
RES	200	3.9991	.75586	.04600
ASS	200	3.7731	.74342	.04524
EMP	200	3.4380	.75914	.04620
SQ	200	3.7714	.69602	.04218

Source: Self-calculation by the researchers.

Analysis of T Statistics

Table 5 presents the results of the t-test for AI and service quality constructs. The t-test result shows that the 95% confidence interval is not very wide at the lower and upper levels against each of the variables, clearly indicating that the confidence interval helps to assess the practical significance of the results.

Table 5: T-test Results of the Constructs

Variables	t	df.	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the difference	
					Lower	Upper
AI	89.893	199	.000	3.89877	3.8134	3.9842
TAN	72.255	199	.000	3.82074	3.7166	3.9248
REL	75.564	199	.000	3.89593	3.7262	3.9256
RES	86.936	199	.000	3.99907	3.9085	4.0896
ASS	83.398	199	.000	3.77315	3.6841	3.8622
EMP	74.415	199	.000	3.43796	3.3470	3.5289
SQ	89.420	199	.000	3.77137	3.6883	3.8544

Source: Self-calculation by the present researchers

Correlation Matrix Analysis

This research employed correlation analysis to examine the correlations between use of AI (independent variable) and service quality (dependent variables). Table 6 depicts the correlation matrix analysis of AI and service quality constructs. The dependent variable, i.e., AI, is correlated strongly with all the independent variables i.e., service quality dimensions. The correlation value of Tangibility ($r=.753$) is significant at $p<0.01$ and $p<0.05$ with artificial intelligence. The Reliability correlated at $r= (.710)$ $p<0.01$, Responsiveness correlated at $r= (.722)$, $p<0.01$, Assurance correlated at $r= (.607)$ $p<0.01$, and Empathy correlated at $r= (.594)$, $p<0.01$. It can be seen from the above analysis that all independent variables have significant and positive relationships with artificial intelligence.

Table 6: Correlation between Average AI and Service Quality Dimensions

Variables	AI	TAN	REL	RES	ASS	EMP
AI	1.00					
TAN	0.753**	1.00				
REL	0.710**	0.822**	1.00			
RES	0.722**	0.805**	0.770**	1.00		
ASS	0.607**	0.672**	0.670**	0.785**	1.00	
EMP	0.594**	0.641**	0.655**	0.623**	0.600**	1.00

Source: Self-calculation by the present researchers

Furthermore, the results reveal that no perfect correlation among the independent variables is higher than (0.90), which is a good initial indicator that there will be no collinearity diagnostic among the independent variables. Moreover, it is evident from the above results that the highest correlation exists between tangibility and reliability ($r=0.822$) indicating sophisticated equipment and facilities of banks are able to resolve customer issues and deliver service at the promised time. The high correlation between tangibility and responsibility ($r=0.805$) indicates that the tangible facilities of banks are able to communicate with the customers and provide immediate services to customers. The relatively low correlation coefficient of AI with empathy ($r=0.594$) showed that personal attention to customers, and recognizing the specific consumer demands etc compensate for lesser consideration.

Nevertheless, high correlation between artificial intelligence and service quality dimensions indicates that better quality of services provided by banks due to application of AI.

Results and Implications

The primary objective of this study was to examine the influence of artificial intelligence on service quality in the banking sector. The analysis of various items relating to various dimensions of services indicates that the perceptions of customers are positive in regard to usage of AI. The scenario of application of AI has been further confirmed with their respective mean and standard deviation values on selected parameters. The correlation analysis result indicates that there is an interrelationship between the inducing factors, namely tangibility, reliability, assurance, responsiveness and empathy, and determines that the variables exhibited a linear relationship relating the factors to each other. Public sector banks prioritise the use of AI and have verified a correlation between the bank services being current and the existence of physical facilities, an interactive website and applications, as well as the need for bank employees to be familiar with IT applications. The research examined the positive association between AI and service quality dimension dependability in terms of whether or not banks fulfil customer expectations. It assures consumers that banks delivering services on time would maintain customer transparency. The findings demonstrated a statistically significant association between AI and service quality dimension responsiveness as measured by the staff's willingness to assist clients and notify them when their services will be completed. The assurance component correlates well with AI since the bank's staff provides courteous, confidential and professional client service. To demonstrate the link between AI and empathy, show that banks provide personalised service to consumers during business hours by recognising their unique requirements. The study will enable the bank management to get a comprehensive range of understanding and empower their strategies effectively to reach out the benefits of use of AI to the customers.

Directions for Future Research

The customers of only public sector banks have been considered to examine the use of AI and their relationship with service quality dimensions. The comparative studies may be undertaken considering customers of private sector banks to gain further insights into the subject. The bank employees' perceptions may also be studied to find out the gap between customer perception and employee perceptions to develop better approaches for improving service quality. This research is limited to the five service quality dimensions based on SERVQUAL to measure customers perception on use of AI; consideration of more parameters may propose a different result.

References

Adeyemo, F, S. and Okoronkwo, G. (2024). Artificial intelligence and operational efficiency of deposit money banks in Lagos State, Nigeria. *Technology Management and the Challenges of Sustainable Development: A Festschrift for Matthew Ilori*, 4-15 <https://doi.org/10.69798/k0266526>.

- Aguirre, D. M. (2015). Unraveling the Personalization Paradox: The Effect of Information Collection and Trust Building Strategies on Online Advertisement Effectiveness. *Journal of Retailing*, 34-59.
- Ameen, A. T. (2021). Customer experience in the age of artificial intelligence. *Compute Human Behav.*, vol. 114, 1-14.
- Barsky, J. D. (1992). Customer Satisfaction in the Hotel Industry: Meaning and Measurement. *Hospitality Research Journal*. 16(1),51-73. <https://doi.org/10.1177/109634809201600105>
- Bhatt, A. K. & Bhanawat, D. S. (2016) Measuring customer satisfaction using the SERVQUAL model - an empirical study, *International Journal of Trend in Research and Development*, 3(1), 267-276.
- Bilgihan, J. K. (2016). Towards a unified customer experience in online shopping environments: Antecedents and outcomes. *Int. J. Qual. Serv. Sci* 8(1), 102–119.
- Doorn, J. V. (2010). Customer engagement behaviour: Theoretical foundations and research directions. *Journal of Service Research*, 253–266.
- Fernandes, T., & Oliveira, E. (2021). The impact of artificial intelligence on customer experience. *Journal of Business Research*, 129, 902–910.
- Forbes (2024), India's AI Market: On Increased Tech Spending and Investment Report, Building the Future Summit, Middle East Forbes.
- Genieys, W., Ballart, X., & Valarié, P. (2004). From 'great leaders' to building networks: the emergence of new urban leadership in Southern Europe? *International Journal of Urban and Regional Research*, 28(1), 183– 199.
- Haenlein, M., & Kaplan, A. (2019). A brief history of artificial intelligence: The world's first chatbots. *Business Horizons*, 62(2), 157–165.
- Kasiri, L. A., Cheng, K. T. G., Sambasivan, M., & Sidin, S. M. (2017). Integration of standardization and customization impacts service quality, customer satisfaction, and loyalty. *Journal of Retailing and Consumer Services*, 35, 91–97.
- Keiningham, J. B. (2017). The interplay of customer experience and commitment. *Journal of Service Marketing*, 148-160.
- Kok, J. N., Boers, E. J., Kosters, W. A., Van der Putten, P., & Poel, M. (2009). Artificial intelligence: Definition, trends, techniques, and applications. *Journal of Artificial Intelligence*, 1(1), 1-28.
- Kurode, T. (2018). Review of applicability of artificial intelligence in various financial services in (*Journal of Advance Management Research*, 6 (1) 209-214.
- Maharjan, K. K. (2017). Value, satisfaction and customer loyalty. *Mark. Entrep. SMEs*, vol. 12, 467-480.
- McKinsey Global Institute. (2018). AI adoption Advances, but Foundational Barriers Remain. *Mckinsey & Company*, retrieved from <https://bobmorris.biz/ai-adoption-advances-but-foundational-barriers-remain> on 20/03/25
- McKnight, D. H. (2001). What Trust Means in E-Commerce Customer Relationships: An Interdisciplinary Conceptual Typology. *International Journal of Electronic Commerce*, 6(2), 35-59.

- Mithra, A. S., Duddukuru, V. C., & Manu, K. S. (2023). How artificial intelligence is revolutionizing the banking sector: The applications and challenges. *Asian Journal of Management*, 14(3), 166-170.
- Moerke, M. J., Banks, M. L., Cheng, K., Rice, K. C., & Negus, S. S. (2017). Maintenance on naltrexone+ amphetamine decreases cocaine-evoked food choice in male rhesus monkeys. *Drug and Alcohol Dependence*, 181, 85–93
- Nestor, M, Loredana, F, Erik, B, John Etchemendy, K.L, Terah L, James, M, Helen N, Juan, C. N, Vanessa, P, Yoav Shoham, Russell, W, Jack Clark, & Raymond, P. (2023). The AI Index 2023 Annual Report, AI Index Steering Committee, Institute for Human-Centered AI, Stanford University, Stanford, (April 2023).
- Nobar, M. M. (2018). Investigating the role of artificial intelligence in customer relationship management. *International Journal of Information Management*, 39, , 173-175.
- Pakurar, M., Haddad, H., Nagy, J., Popp, J., & Oláh, J. (2019). The service quality dimensions that affect customer satisfaction in the Jordanian banking sector. *Sustainability*, 11(4), 1113
- Pallant, J. (2010). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using the SPSS Program*. 4th Edition, McGraw Hill, New York.
- Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1991). Understanding customer expectations of service. *Sloan Management Review*, 32(3), 39–48.
- Parasuraman, A., Berry, L. L., & Zeithaml, V.A. (1991). Understanding customer expectations of service. *Sloan Management Review*, 32(3), 39–48.
- Parasuraman, A., Zeithaml, V. A. & Berry, L. J. (1988). SERVQUAL: A Multiple Item Scale for Measuring Customer Perception of Service Quality. *Journal of Retailing*. 64 (Spring), 12-37.
- Pattanayak, S. K. (2021). The Impact of artificial intelligence on operational efficiency in banking: a comprehensive analysis of automation and process optimization. *International Research Journal of Engineering and Technology*, 8 (10), 2049-2061
- Pennington, A. (2016). *The Customer Experience Book How to design, measure and improve customer experience in your business*. Pearson Education Limited, United Kingdom.
- Pfoertsch, W. & Sulaj, K., (2023). Integrating artificial intelligence with customer experience in banking: an empirical study on how chatbots and virtual assistants enhance empathy. In *2023 International Conference on Computing, Networking, Telecommunications & Engineering Sciences Applications* (pp. 69-74). IEEE.
- Ponder, B. B. (2016). The mediating effects of customers' intimacy perceptions on the trust-commitment relationship. *Journal of Service Marketing*, 75-87.
- Ratia, M., Nguyen, T., & Patel, R. (2018). Cloud computing and blockchain: The evolving landscape of AI-driven technologies. *Computer Science Review*, 24(3), 78-95.
- Saleh, F & Ryan, C (1992). Client Perceptions of Hotels - A Multi-attribute Approach, *Tourism Management*.13(92),163-168. [https://doi.org/10.1016/0261-5177\(92\)90058-F](https://doi.org/10.1016/0261-5177(92)90058-F)
- Sardana, V., & Singhanian, S. (2018). Digital technology in the realm of banking: A review of literature. *International Journal of Research in Finance and Management*, 1(2), 28-32.
- Veerla, V. (2021). A Study on the Impact of Artificial Intelligence as Predictive Model in Banking Sector: Novel Approach, *International Journal of Innovative Research in Technology*, 7(8), 94-105.

- Wang, Y., Li, X., & Zhou, Q. (2023). Machine learning and financial forecasting: The new frontier. *Financial Analytics Journal*, 17(2), 101-123.
- Yoo, D.K. & Park, J.A. (2007). Perceived Service Quality - Analysing Relationships Among Employees, Customers, and Financial Performance. *International Journal of Quality & Reliability Management*, 21(9), 908-926.
<https://doi.org/10.1108/02656710710826180>
- Zanker, L. R. (2019). Measuring the impact of online personalisation: Past, present and future. *International Journal of Human -computer studio*, 160-168.