



ANALYSIS THE ROLE OF ARTIFICIAL INTELLIGENCE IN THE CUSTOMER CARE SERVICE OF ISLAMI BANK BANGLADESH PLC USING TAM

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Abstract:

Customer care service is one of the most time-consuming activities for a bank. In a customer care service of a bank, customers asked questions which are basic and simple to solve. With the help of Artificial Intelligence system bank can develop a recorded conversation system that analyzes customer information and automatically proceeds with service. The chatbot of bank customer care is based on Artificial Intelligence, the robot is able to identify answer of the questions and further improve the service that was already facilitated before. The customer care service of Islami Bank Bangladesh PLC is serving 24/7 a day. This paper explain how AI help to perform customer care service of IBB PLC smoothly. The research show that how AI help to bond an emotional connection between Islami Bank Bangladesh PLC and it's customers by customer care service.

Key Words: Customer Care Service, Artificial Intelligence, TAM, IBB PLC

Introduction:

A modern bank provide various service to its customers including transferring funds, credit facilities provision of loans etc. The main function of a bank is cash transactions; people can deposits cash and withdrawals money through various money agents. In order to make ease of banking a modern bank offer various alternative delivery channels such as debit card, Internet banking, Online banking, mobile banking, credit card etc. Islami Bank Bangladesh PLC is a number one bank of Bangladesh establish customer care service or call center on account of providing smooth banking service 24/7. The role of a bank customer care service in fostering favourable customer attitude. The call centre of Islami bank Bangladesh PLC (IBB PLC) use Artificial Intelligence because AI swiftly analyzes vast customer data and replied promptly. The integration of call centre/contact centre and Artificial Intelligence provides incredible opportunities to increase the customer benefits. Use of AI in bank customer care service enable to reply huge customers at a time, which empowering bank business to achieve yearly target smoothly. IBB PLC utilizing the analysis power of AI in its customer care service/call centre service, can able extract information from customers, solve their problem instantly, process raw data into actionable insights and detect patterns in customer behavior, market trends and recurring issues. In this paper the author used technology acceptance model (TAM) to analysis the usefulness and simplicity of the function of customer care service of Islami Bank Bangladesh PLC. The author also discusses the role of AI in the customer care service of IBB PLC and how it increase bank business. By utilizing the analysis power of AI, you can extract information from siloed customer touch points, process raw data into actionable insights and detect patterns in customer behavior, market trends and recurring issues.

Objective of the Research:

- To inspect the role of AI in customer care service of Islami Bank Bangladesh PLC.
- To evaluate how AI make an emotional bond to the customers of IBB PLC.
- To explain how good AI can perform customer care service in order to enhance the bank business.
- Evaluate the impact of natural language processing in the customer care service of IBB PLC.

Research Question:

- To what extent the perceived ease of use of the customer care service of IBB PLC influence the customer's attitude towards call centre?
- To what extent the perceived usefulness of the customer care service of IBB PLC influence the customer's attitude towards call centre?
- To what extent customer's attitude towards using customer care service of a bank influence their intention to use it.

Literature Review:

Artificial intelligence (AI) is an extending section of computer science that objective is to build machine suitable of carrying out tasks that usually require human intelligence. While AI is an interdisciplinary science with multiple approaches, advancements in machine learning and deep learning, in particular, are creating a paradigm shift in virtually every industry. Artificial intelligence allows

machines to match, or even improve upon, the capabilities of the human mind. From the development of self-driving cars to the proliferation of generative AI tools, AI is increasingly becoming part of everyday life.

The customer care service of a bank handle customer complaints, query, provide appropriate solutions within the time limits. The AI help follow up to ensure resolution, keep records of customer interactions, process customer accounts, unlock password, active internet banking service, active debit card, reset PIN of a debit or credit card, and file documents. The AI can also help to follow communication procedures, guidelines and policies of customer care service of Islami Bank Bangladesh PLC. The AI of customer care service take the extra mile to engage customers. Customer care service is when bank treat it's customers with respect and kindness and build an emotional connection with them.

Customer care service of a bank is increasingly using chatbots and virtual assistants that are AI powered to provide 24/7 customer service. Improving customer experience AI can be applied through user personalization, chatbots and automated self-service technologies, making the customers.

Artificial intelligence refers to computer systems that are capable of performing tasks traditionally associated with human intelligence - such as making predictions, identifying objects, interpreting speech and generating natural language. AI systems learn how to do so by processing massive amounts of data and looking for patterns to model in their own decision-making. In many cases, humans will supervise an AI's learning process, reinforcing good decisions and discouraging bad ones, but some AI systems are designed to learn without supervision.

In IBB PLC customer care service the AI systems are designed to make reply without supervision. It serves the customers twenty four hours. And different customers have different problem and queries, so the AI system is installed in IBB PLC customer care service is very updated, sometimes it takes decision by its own without any human supervision. Over time, AI systems improve on their performance of specific tasks, allowing them to adapt to new inputs and make decisions without being explicitly programmed to do so. In essence, artificial intelligence is about teaching machines to think and learn like humans, with the goal of automating work and solving problems more efficiently.

Natural Language Processing:

Natural Language processing (NLP) involves teaching computers to understand and produce written and spoken language in a similar manner as humans. NLP combines computer science, linguistics, machine learning and deep learning concepts to help computers analyze unstructured text or voice data and extract relevant information from it. NLP mainly tackles speech recognition and natural language generation, and it's leveraged for use cases like spam detection and virtual assistants. In IBB PLC customer care service the NLP is used to analyze data and report on performance. The NLP in customer care service is to automate responses to simple and repetitive queries, such as FAQs, account balance, password change, debit card activation etc.

How AI is Transforming Contact Centers:

Advanced technology in call centres is not a new phenomenon. The chances are you're already using some kind of Interactive Voice System (IVR) to help get customers to the right place. AI in call centres has the power to revolutionise how customer interactions are handled. Here are just a few of the things that AI can do for your contact centre:

- Increase contact centre efficiency: AI to handle routine call centre tasks such as answering FAQs, call routing, and outcome tracking. This helps free up agent time, enabling them to focus on more complex calls that require a personal touch.
- Extract customer insights: Call centre software, such as Conversation Analytics, extracts insights from every call, at scale. This helps you develop a deeper understanding of what customers really need and want. With these insights, you're able to handle calls more efficiently, reduce churn, and drive sales.
- Offer real-time assistance: The advancement in AI means you can utilise AI-powered chatbots in your customer support. This means customers don't have to wait on hold to speak to an agent which is a root cause of frustration.
- Predictive call analysis: AI will identify peaks and troughs of call volumes. As a result, you can make sure you've got the right number of agents available at key times, enabling you to provide top-tier customer service when it really matters.
- 24/7 availability: AI-powered chatbots answer questions and queries outside of standard working hours. This means customers can get in touch with you on their terms, without putting extra pressure on your agents or requiring extra staffing.

Will AI Replace Call Centre Agents?

While there are plenty of benefits to AI in call centres, it isn't designed to replace your call centre agents. It's here to make the work they do even better. After all, it's impossible to overlook the value of human connection. AI tools can't replicate human sentiment and the personal touch will always remain a key differentiator in customer service.

Benefits of AI in Call Centres:

We've discussed AI's potential in transforming the contact centre, now let's take a look at the benefits. We've identified four key benefits of using AI in the contact centre.

- Improved Employee Engagement: There are several ways AI improves employee engagement - and job satisfaction - across the call centre.
- Understand what makes or breaks a call: One of the most effective ways to improve the customer experience is to understand which talking points led to our desired outcome. Call tracking provides customer-centric data that enables your entire call centre to become better aligned with customer needs.
- Better customer experiences: As we've demonstrated, the best way to stay ahead of the competition is to provide top-notch customer experiences. AI enables us to give customers the right information at the right time.
- Enhance the performance of your call centre: AI in call centres drives improvements across all key metrics. Having the power to analyse conversations at scale to extract historic trends is a vital part of developing our customer experience strategy.

Leveraging AI in Call Centres to Provide Unrivalled CX:

AI presents opportunities for businesses looking to improve customer experiences, drive efficiencies, and create a solid sales pipeline. With AI-powered Conversation Analytics, you can evolve your tactics based on real data from your customers, instead of relying on intuition. It tells you things such as:

- Why people are getting in touch by monitoring and logging the topics of conversation, including any associated keywords and phrases.
- The outcome of each call so you can surface trends from calls that delivered positive or successful outcomes. Quickly identify areas in need of improvement and create better agent training programmes.
- How customer sentiment is changing throughout the call so you can pinpoint exactly what makes the phone call experience positive or negative and improve from there.

Customer service is a crucial aspect of any business, encompassing the support and assistance provided to customers before, during and after a purchase. Artificial Intelligence in customer service refers to the use of AI to enhance and improve customer service. Organizations leverage AI systems to automate and augment various customer service tasks and interactions by deploying technologies like:

- AI self-service
- Sentiment Analysis,
- Predictive analytics,
- Natural Language Processing,
- Agent assistance.

Key benefits of artificial intelligence in customer service:

- The role of customer service in fostering positive customer
- Handle large volumes of data.
- Reduce average handling times (AHT).
- Personalize experience and offerings:
- Become cost-efficient:
- Track and improve support quality:

Key uses of AI in customer service for business:

AI has the potential to improve customer service in many ways. Combining AI's efficiency with human agents' empathy and problem-solving skills can result in a more comprehensive customer experience. AI in customer service can be leveraged in four main ways:

- AI-supported human customer service: By leveraging AI in conjunction with human agents, business can create a seamless transition towards a more optimized customer service system. With AI to handle simple tasks like case management and call routing, human agents can focus on complex queries and relationship building. AI augments human customer service by:
 - Maintaining context: AI systems provide agents with context by retrieving customer information quickly. For example, they can scour our CRM, sales, and marketing records to quickly retrieve information about previous customer interaction or purchase histories so agents can pick up the conversation from where it was left
 - Pro tip: For best results, use omni channel chatbots that can recall customer information from all the channels a customer has used during their brand journey. This way, our customer need not repeat their story every time, which goes a long way in enhancing their brand experience.
 - Answering routine queries independently: By redirecting routine questions to FAQ chatbots and other self-serve tools, AI reduces our call inflow drastically, which lightens our agents' caseload and improves resolution time.
 - Intelligent routing: With AI at our support front end, customer queries are filtered and routed to the agent/team with the right skill set to solve them efficiently. AI also assesses your agents' availability and work load before assigning them cases - giving our overworked support teams a welcome respite.

- Timely recommendations: An AI powered knowledge base can serve our agents with the right content and product recommendation during calls. This allows agents instant access to relevant information, product details or trouble shooting steps.
- AI- organized email inquiries: Managing and comprehending every email received by a company can be a time consuming task when relying solely on human effort. To expedite this process, companies can leverage AI to:
 - Scan and tag emails ensuring they are directed to the appropriate department for timely resolutions.
 - Auto-suggest responses that have appealed to the customer in the past.
 - Clean inboxes of spam and promotional messages that take our agents away from answering critical messages.
 - All in all, AI-powered email tools offer the capability to expedite our email customer support, delighting customers with prompt, personalized and well-timed emails.
- AI- enhanced call management: AI is harder to deploy for voice-based communications. On a purely technical level, it is more challenging for a computer system to deal with voice than chat, as one needs to overcome challenges like background noise, unusual speech patterns, accents and poor pronunciation.
- Visual recognition for product support: By analyzing images or videos, these systems swiftly identify and comprehend product-related issues. This advanced technology allows customers to visually convey their concerns, enabling a more intuitive and efficient trouble shooting process.

How to integrate artificial intelligence and customer service:

Integrating artificial intelligence (AI) into customer service using technologies like Machine Learning and Computer Vision can significantly enhance efficiency and customer satisfaction. Below is a seven-step process to do it.

Do's:

- Prioritize quality over quantity: Emphasize accurate and relevant data , prioritizing over sheer volume to avoid diluting the effectiveness of AI models.
- Ensure data privacy compliance: Adhere to data privacy regulations and implement robust security measures to protect customer satisfaction.

Don'ts:

- Avoid biased sampling: Steer clear of biased data collection methods to prevent skewed insights that could perpetuate discriminatory or inaccuracies.
- Refrain from over-collection: Resist the temptation to collect excessive data beyond what is necessary for the defined objectives, as it can lead to increased storage costs and potential misuse of sensitive information.

The Benefits of using AI for Customer Service:

According to our CX Trends Report, 72 percent of business leaders say expanding their use of AI and bots across the customer experience is an important priority over the next 12 months. As businesses invest resources in customer service AI, more benefits emerge. Here are some of the top benefits of AI for businesses.

- AI keeps costs low
- AI delivers fast, consistent support
- AI boosts customer satisfaction and customer retention
- AI reduces agent burnout

Examples of AI and Automation in Customer Support:

There are some examples of AI and automation in customer support include chatbots, natural language processing (NLP), face and voice recognition, interactive voice response (IVR), and intelligent virtual assistants (IVAs).

- Chatbots: AI that can understand customer inquiries and automate responses in a friendly way.
- Natural language processing (NLP): Machine Learning technology that can comprehend and respond to voice commands and translate text.
- Face and voice recognition: Biometric AI that uses algorithms and math to detect and distinguish human facial features and voices for authentication purposes.
- Interactive voice response (IVR): Automated phone system tool that answers incoming calls, understands vocal replies, and offers options for next steps, like routing calls to the right agent or department.
- Intelligent virtual assistant (IVA): AI program that understands voice commands and completes tasks for customer support agents.

Understanding Emotion Analysis:

Imagine a world where an AI-powered customer service system can detect the emotions of your customers and deliver service that immediately lowers their frustration levels. Emotion analysis in customer service AI makes that a reality. Emotional AI is the application of artificial intelligence to analyze and interpret human emotions. It leverages Natural Language Understanding (NLU), a type of artificial

intelligence that allows AI-powered chatbots to understand, interpret, and respond to human language contextually. Emotional AI can detect subtle cues in customer interactions to determine their emotional states-like frustration, satisfaction, or confusion. As it turns out, emotions are one of the most important drivers of self-serve rates. Gartner research found that negative emotions drive the abandonment of self-service channels. Anxiety, frustration and doubt have a huge effect on whether a customer decides to reach out to human support.

Elevating Customer Satisfaction:

According to Deloitte research, eight in ten customers (83%) believe that trust is the first emotional metric that influences brand loyalty. The study emphasized that customer-brand relationships need to be built on more than rational factors. They found that emotional connection is the vital factor to sustained customer loyalty. Analyzing subtle cues in customer interactions using emotion analysis-like tone of voice or choice of words-AI-powered customer service systems can identify frustration, satisfaction, or confusion, building that emotional connection that leads to long-term customer loyalty.

Technical Aspects of Emotion Analysis:

Emotion analysis in AI uses NLP, machine learning, and deep learning to understand customer emotions based on their messages. Trained on emotionally labeled datasets, these systems can analyze and sort through a lot of sentiment patterns in no time. In the context of AI chatbots for customer service, detecting and responding to customer emotions is possible by leveraging a number of key AI algorithms and methodologies like:

- Natural Language Processing (NLP): As a subset of AI, NLP analyzes and understands language structure and meaning in large subsets of data, breaking down language into smaller elements to understand how they collectively convey meaning.
- Natural Language Understanding (NLU): NLU specializes in reading comprehension for machines, allowing AI to grasp the context and subtleties in text the way a human would.
- Machine Learning: This is the backbone of AI that allows systems to learn and improve from experience, adapting to new data without direct programming. This approach is the foundation for understanding customer emotions and intent over time.
- Deep Learning: This is an advanced subset of machine learning, mimicking human cognition to process data independently. Deep learning's ability to digest vast amounts of data improves its capacity to interpret complex customer emotions and responses.

Implementing Emotion Analysis in our Business:

Sentiment analysis in customer service AI can significantly elevate the support experience companies offer, making every interaction more personalized, human-centered (see: empathetic) and effective. Here's a straightforward way to achieve this, inspired by real-life examples from companies like Upwork, Kickfin, Q4 Inc., and Spoon flower:

- Classify emotions automatically,
- Personalize interactions,
- Empower agents with information
- Respond quickly and accurately

There are also ethical considerations to take into account when considering the use of emotion analysis in customer service AI. It's crucial to keep customers informed about how their data is used to understand their sentiments, building a trust-based relationship.

Organization Background:

Islami Bank Bangladesh PLC. is an Islamic banking company based in Bangladesh. It became incorporated on 13 March 1983 as a public limited company under the Companies Act 1913 and started operation on 30 March, the same year. IBBPLC maintains its own ATM Booths with a country-wide shared ATM network.

- Customer service: 02-8331090
- Founded: March 13, 1983, Dhaka
- Headquarters: Islami Bank Tower 40, Dilkusha C/A, Dhaka - 1000, Bangladesh
- Number of employees: 21,000.

Data Analysis:

Data Processing Method:

Here the author used questionnaire to evaluate the impact of customer care service on the development of bank business in Bangladesh. The author takes interview of 405 customers via face to face. In accordance with the variables of TAM & UTUAT the following hypotheses were developed;

- Ho1: There is no significant relationship between perceived ease of use and attitude of customers towards using customer care service of a bank.
- Ho2: There is no significant relationship between perceived usefulness and attitude of Customers towards using customer care service of a bank.
- Ho3: There is no significant relationship between customer's attitude towards using customer care service of a bank and their intention to use it.
- Ho4: There is no significant impact of AI in customer care service of IBB PLC

- Ho5: There is no significant impact of AI on making emotional bond with customers of IBB PLC.
- Ho6: There is no significant impact of role of Artificial Intelligence on the function of customer care service of a bank.
- Ho7: There is no significant impact of AI of customer care service on the development of bank business.
- Ho8: There is no significant impact of natural language processing on the customer care service of IBB PLC.
- Ho 9: Customer care service of a has no significant impact on business development of the bank.

Data Analysis:

The populations used in this study are people with a sample 405 respondents scattered across all over Bangladesh. Samples were selected by intentional random sampling using a 1-5 Likert scale questionnaire. Research data analysis is performed by using regression analysis, independent t test, simple linear regression analysis.

Table 1: Function of the customer care service of IBB PLC

Statement	Strongly Agree	Agreed	No Response	Disagree	Strongly Disagree	Mean	Standard Deviation
Online customer care service of IBB PLC can answering customer questions promptly.	172	175	22	17	19	4.15	11.97
The online customer care service of IBB PLC using tools such as email, social media, live chat, and messaging apps to solve the problem of customers correctly more immediate and in the moment help.	174	169	23	19	20	4.13	11.85
The online customer care service of IBB PLC helped in activate debit card, credit card etc.	169	171	21	22	22	4.09	11.76
The customer care service helps in set Personal Identification Number(PIN) of customers for Internet banking service, card service etc.	177	179	16	19	14	4.2	12.26
Online customer care service deactivated card of customers instantly if the card stolen or lost.	175	173	19	19	19	4.15	12.00
Online customer care service of IBB PLC make no withdrawal of an account instantly if cheque book or card lost by the customers.	173	175	21	18	18	4.15	12.01
The online customer care service meeting customer's emotional needs by providing right technical support and fostering relationship between the bank and customers.	172	174	17	19	23	4.12	11.95

(Strongly agree = 5, Agree = 4, No response = 3, Disagree = 2, Strongly Disagree = 1)

N=405

The range of interpreting the Likert scale mean score is as follows: 1.0-2.4 (Negative attitude), 2.5-3.4 (Neutral attitude), and 3.5-5.0 (Positive attitude).

A low standard deviation means there was a lot of agreement about the answers. High SD means there was a wide range of answers, indicating disagreement. Here the author get high standard deviation indicates disagreement among the answers.

Table 2: Role of AI in customer care service of Islami Bank Bangladesh PLC

Statement Scale (5-1)	Strongly Agree	Agreed	No Response	Disagree	Strongly Disagree	Mean	Standard Deviation
AI can answer customer inquiries and provide customers with account information.	164	155	28	37	21	3.99	11.15
AI can help to maintain service standards for quality customer service, turnaround time, accuracy and follow up.	167	159	32	28	19	4.05	11.35
AI can authorize service fee refunds within bank's guidelines.	155	148	35	39	28	3.89	10.70
AI help to cross sell loan and deposit products and other services to new and existing customers.	162	158	31	26	28	3.99	11.16
AI promote use of self-service functions such as online banking, mobile banking, Internet banking etc.	171	168	26	24	16	4.12	11.73
AI of Bank customer care services provide input to management on workflow matters, format, design and development.	158	164	37	21	25	4.01	11.24
AI can Perform account transactions including accepting loan applications, opening accounts etc.	166	169	22	27	21	4.07	11.60
AI can help activate Debit card, activate password, reset PIN of a card of the customers.	173	169	26	18	19	4.13	11.82
AI of customer care service can help processing transfers, withdrawals and deposits.	156	154	33	29	33	3.92	10.88

(Strongly agree = 5, Agree = 4, No response = 3, Disagree = 2, Strongly Disagree = 1)

N=405

Table 3: Role of AI to make an emotional bond to the customers of IBB PLC

Statement	Strongly Agree	Agreed	No Response	Disagree	Strongly Disagree	Mean	Standard Deviation
AI sorting customer inquiries based on their emotional tone. It's about getting to the heart of customer issues faster and more accurately.	172	169	21	23	20	4.11	11.79
Bank can use AI to tailor how they talk to customers based on what they're feeling. They learned that customer intent can transform the self-service experience, making it feel more human and less like talking to a bot.	168	161	23	27	26	4.03	11.43

AI of customer care service can able instant access to relevant customer information right when they need it. This resulted in quicker, more informed responses to their customers which enhance customer's trust.	165	159	37	22	22	4.04	11.29
AI of customer care service automating responses which can significantly reduce wait times and improve customer satisfaction.	171	173	23	21	17	4.14	11.88
AI learned customer intent can transform the self-service experience, making it feel more reliable to the customers.	165	169	28	26	17	4.08	11.58

N=405

The mean of all statements are greater than 3.5 respectively which indicate positive attitude of perceived ease of use of customer care service. Standard deviation of all the statements are greater than 10 which indicate high disagreement among the answers.

Table 4: AI can perform customer care service in order to enhance the bank business

Statement	Strongly Agree	Agreed	No Response	Disagree	Strongly Disagree	Mean	Standard Deviation
Use of AI in the customer care service of bank increase customer loyalty, so more customer attracted by the bank which enhance bank business.	173	171	24	21	16	4.15	11.88
Use of AI in the customer care service pave the way to bank customer's hearts and wallet by understanding their needs, wants and behaviour.	167	169	23	24	22	4.07	11.63
AI of customer care service analyze bank customer to innovate, differentiate and deliver the customer experience they desire.	165	167	26	25	22	4.06	11.51
Use of AI in bank customer care service analysis sentiment to understand how consumers perceive bank service.	162	164	25	28	26	4.01	11.34
AI of bank customer service can identify areas of excellence and improvement of bank business.	169	173	22	24	17	4.12	11.82

N=405

The mean of all statements are greater than 3.5 respectively which indicate positive attitude of perceived ease of use of customer care service. Standard deviation of all the statements are greater than 10 which indicate high disagreement among the answers.

Table 5: Impact of natural language processing in the customer care service of IBB PLC

Statement	Strongly Agree	Agreed	No Response	Disagree	Strongly Disagree	Mean	Standard Deviation
NLP of customer care service helps in understanding customer queries and reply.	168	166	24	25	22	4.07	11.57
NLP also analyzing the customer queries, feedback and messages by extracting meaning, context, and intent from text data.	171	169	22	24	19	4.11	11.76
The understanding of NLP allows IBB PLC to categorize and prioritize incoming messages for efficient handling and response.	173	171	23	22	16	4.14	11.88
The NLP of customer care service can also help with capturing insights from conversations.	166	163	26	23	27	4.03	11.43
NLP can be helpful for bank manager and agents who may need to double back and review certain customer calls.	167	168	24	25	21	4.07	11.60

N=405

The mean of all statements are greater than 3.5 respectively which indicate positive attitude of perceived ease of use of customer care service. Standard deviation of all the statements are greater than 10 which indicate high disagreement among the answers.

Table 6: Perceived Ease of Use Customer Care Service

Statement Scale (5-1)	Strongly Agree	Agreed	No Response	Disagree	Strongly Disagree	Mean	Standard Deviation
Customer care service of IBB PLC make easy to attend.	171	173	26	16	19	4.14	11.88
The view of customer care service of IBB PLC is clear and understandable.	169	172	22	18	24	4.09	11.79
It is easy to access the customer care service of IBB PLC through mobile and land phone.	165	167	25	27	21	4.06	11.52
The promptness of the customer care service of IBB PLC is sufficient.	172	173	21	19	20	4.13	11.91
The customer care service of IBB PLC is simple and convenient to use.	171	169	23	24	18	4.11	11.76

(Strongly agree = 5, Agree = 4, No response = 3, Disagree = 2, Strongly Disagree = 1)

N=405

The mean of all statements are greater than 3.5 respectively which indicate positive attitude of perceived ease of use of customer care service. Standard deviation of all the statements are greater than 10 which indicate high disagreement among the answers.

Table 7: Perceived Usefulness of Customer Care Service

Statement Scale (5-1)	Strongly Agree	Agreed	No Response	Disagree	Strongly Disagree	Mean	Standard Deviation
Customer care service of IBB PLC is very useful for me.	176	171	21	18	19	4.15	11.97
The customer care service of IBB PLC provides me convenient banking support.	169	167	25	22	22	4.08	11.63
I believe that the application of customer care service of IBB PLC is a useful support to solve banking issues.	174	172	22	17	20	4.14	11.94
The customer care service of IBB PLC are useful in solving the problem of any banking related problem.	169	172	23	22	19	4.11	11.79
Customer care service is useful to perform banking problem in a short time.	161	164	32	26	22	4.03	11.31

(Strongly agree = 5, Agree = 4, No response = 3, Disagree = 2, Strongly Disagree = 1)

N=405

The mean of all five statements are greater than 3.5 which indicate positive attitude of perceived usefulness of customer care service. Standard deviation of all the statements are greater than 10 which indicate high disagreement among the answers.

Table 8: Customer's Attitude towards Customer Care Service

Statement Scale (5-1)	Strongly Agree	Agreed	No Response	Disagree	Strongly Disagree	Mean	Standard Deviation
I have been using customer care service regularly.	167	164	33	23	18	4.08	11.49
I feel safe using the customer care service of IBB PLC.	169	171	23	22	20	4.10	11.76
I have a positive mindset towards using the customer care service of IBB PLC.	167	166	27	23	22	4.07	11.54
I think it will be a smart idea to use customer care service of IBB PLC.	168	167	24	23	23	4.07	11.60
I have a positive attitude towards using the customer care service of IBB PLC.	164	167	24	26	24	4.04	11.49

(Strongly agree = 5, Agree = 4, No response = 3, Disagree = 2, Strongly Disagree = 1)

N=405

The mean of all the statements are greater than 3.5 which indicate positive attitude towards customer care service. Standard deviation of all the statements are greater than 10, which indicate high disagreement among the answers.

Table 9: Customer's Intention towards Customer Care Service

Statement Scale (5-1)	Strongly Agree	Agreed	No Response	Disagree	Strongly Disagree	Mean	Standard Deviation
I intend to use customer care service to perform various banking service.	164	167	29	23	22	4.06	11.49
I intend to contact with customer care service as frequently as need.	162	166	26	27	24	4.02	11.41
I would encourage my friends to use customer care service as any banking transaction.	169	167	27	22	20	4.11	11.63

I would choose the customer care service to be part of the banking transaction I do.	166	169	23	25	22	4.07	11.60
I would encourage my friends to use customer care service to as any banking service.	168	171	25	23	18	4.11	11.73

(Strongly agree = 5, Agree = 4, No response = 3, Disagree = 2, Strongly Disagree = 1)

N=405

The mean of all the statements are greater than 3.5 which indicate positive attitude of intention towards customer care service .Standard deviation of all the statements are greater than 10, which indicate high disagreement among the answers.

Test of Hypothesis:

Ho1: There is no significant relationship between perceived ease of use and attitude of customers towards using customer care service of a bank.

Table 10(a)

Model	Unstandardized Coefficient		Standardized Coefficient	t	Significance
	B	Std. Error	Beta		
Constant	4.61	17.45		1.69	0.000
Perceived ease of use	4.45	18.11	0.999943652		0.000

Table 10(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.999943652	0.999887307	0.999885894	26.75

a Predictors: (Constant), Perceived ease of use; b Dependent Variable: attitude

Results in table 10(b) expressed that there is a significant relationship exists between perceived ease of use and attitude of customer's towards customer care service, which is to say, the P-value of 0.000 in this relationship is less than the pre-set level of significance in this research which is 0.05 ($P=0.00<0.05$). The Beta value ($r=0.999943652$) indicate that there is a strong positive correlation between attitude and perceived ease of use. The R Square express that 0.999887307of the total variation of attitude is being explained by perceived ease of use. On that basis the null hypothesis is accepted, and the alternative rejected.

Ho2: There is no significant relationship between perceived usefulness and attitude of Customers towards using customer care service of a bank.

Table 11(a)

Model	Unstandardized Coefficient		Standardized Coefficient	t	Significance
	B	Std. Error	Beta		
Constant	4.61	17.45		1.75	0.000
Perceived Usefulness	4.48	17.96	0.999976202		0.000

Table 11(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.999976202	0.999952405	0.999951808	26.69

a Predictors: (Constant), Perceived usefulness; b Dependent Variable: attitudes

Results in table 11(a) indicate that there is a significant relationship between perceived Usefulness and attitude of customer's towards the use of customer care service, specially, the P-value of 0.00 in this relationship is less than the pre-set level of significance in this research which is 0.05($P=0.00<0.05$). The beta value ($r=0.999976202$) also reveals that there is a strong relationship between attitude and perceived usefulness. The R Square values prove that 99.99% of the total variation of attitude is being explained by perceived ease of use. So, it can be settled that there is a positive relationship between Attitude of respondents and their perceived usefulness of customer care service. On theat basis, the null hypothesis is accepted and the alternative rejected.

Ho3: There is no significant relationship between customer's attitude towards using customer care service of a bank and their intention to use it.

Table 12(a)

Model	Unstandardized Coefficient		Standardized Coefficient	t	Significance
	B	Std. Error	Beta		
Constant	4.61	17.45		1.69	0.000
Intention to use	4.62	17.43	0.999942172		0.000

Table 12(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.999942172	0.999884348	0.999882898	26.49

a Predictors: (Constant), Intention to use

b Dependent Variable: attitude

The results presented in table 12(a) express that there is a significant relationship between attitude and the intention to use online customer care service. Particularly, the P-value of 0.00 in this relationship is less than the pre-set level of significance in this research which is 0.05 ($P=0.00<0.05$). The beta value ($r=0.999942172$) prove that there is a strong positive relationship between attitude and the intention to use ride sharing app. The R Square value indicates that 99.98 % of the total variation of attitude is explained on the intention to use customer care service. So, the null hypothesis is accepted and the alternative rejected.

Ho4: There is no significant impact of AI in customer care service of IBB PLC.

Here the author used independent t test;

Calculated t value = 0.069696278

Table value t = 0.00000

If the absolute value of the t-value is greater than the critical value, we reject the null hypothesis. So the null hypothesis, there is no significant impact of AI in customer care service of IBB PLC is rejected or not true. So there is a significant impact of AI in customer care service of IBB PLC.

Ho5: There is no significant impact of AI on making emotional bond with customers.

Here the author used independent t test;

Calculated t value = 0.031740947

Table value t= 0.00000

If the absolute value of the t-value is greater than the critical value, we reject the null hypothesis. So the null hypothesis, there is no significant impact of AI on making emotional bond with customers is rejected or not true.

Ho6: There is no significant impact of role of Artificial Intelligence on the function of customer care service of a bank.

Here the author used independent t test;

Calculated t value = 0.065830235

Table value t = 0.00000

If the absolute value of the t-value is greater than the critical value, we reject the null hypothesis. So the null hypothesis, there is no significant impact of role of Artificial Intelligence on the function of customer care service of a bank, is rejected or not true.

Ho7: There is no significant impact of AI of customer care service on bank business.

Here the author used independent t test;

Calculated t value=0.031740947

Table value t= 0.00000

If the absolute value of the t-value is greater than the critical value, we reject the null hypothesis. So the null hypothesis, there is no significant impact of AI of customer care service on bank business, is rejected or not true.

Ho8: There is no significant impact of natural language processing on the customer care service of IBB PLC.

Here the author used independent t test;

Calculated t value=0.02786242

Table value t= 0.00000

If the absolute value of the t-value is greater than the critical value, we reject the null hypothesis. So the null hypothesis, there is no significant impact of natural language processing on the customer care service of IBB PLC is rejected.

Ho 9: Customer care service of a has no significant impact on business development of the bank.

Here the author used independent t test;

Calculated t value = 0.028866083

Table value t = 0.00000

If the absolute value of the t-value is greater than the critical value, we reject the null hypothesis. So the null hypothesis, customer care service of a has no significant impact on business development of the bank is rejected or not true.

Discussion & Analysis:

In this research the author found that there is a positive relationship between perceived ease of use and attitude of customers towards customer care service. The respondents agreed that they found customer care service of Islami bank Bangladesh PLC is very easy to use. The customers also confess that they feel easiness and promptness to use the customer care service of IBB PLC. Which indicate perceived ease of use has an optimistic effect on attitude of customers towards customer care service of IBB PLC?

The researcher upholds Davies Technology acceptance Model that perceived ease of use affect the attitude and the intention to use online customer care service of IBB PLC. Perceived usefulness is the benefit of using a particular system by its consumer which enhance his/her satisfaction. This implies that online customer care service of a bank has a high level of perceived usefulness which indicate favourable user performance relationship. The research found that there is a strong auspicious relationship between perceived usefulness and attitude of customers towards the online customer care service of IBB PLC.

The research also express that customers attitude towards using the online customer care service has a positive impact on their intention to use customer care service. The research also describe that customers care service have positive impact of attitude and intention to use the customer care service.

The research also found that there is a significant impact of Artificial Intelligence on customer care service of IBB PLC. The research proves that the integration of customer service and AI provides huge facilities to enhance the customer satisfaction which also promote bank business.

The research found that there is a significant impact of AI on making emotional bond with customers .The research discuss that an AI-powered customer service system able to identify the emotions of bank customers and deliver service that immediately lowers their frustration levels .Used of AI in bank customer care service is able to emotion analysis of a customers.

The research proves that there is a significant impact of natural language processing on the customer care service of IBB PLC. Natural language processing (NLP) is a subset of AI understands language structure .The NLP of customer care service breaking down language into smaller elements to understand how they collectively convey meaning.

The research shows that there is a significant impact of role of Artificial Intelligence on the function of customer care service of a bank.

The research shows that there is a significant impact of AI of customer care service on the development of bank business. The use of AI in the customer care service of IBB PLC delivers service fast and make ensure consistent support. Which enhance the number of customers and bank earns more. Use of AI in customer care service boost customer satisfaction and customer retention of IBB PLC.

The paper explain that there is a significant impact of natural language processing on the customer care service of IBB PLC. The paper found that customer care service of a has a significant impact on business development of the bank. The role of customer care service of IBB PLC enhance the positive customer experience. The use of AI in customer care service is fostering a trust and loyal relationship with customers.

Conclusion:

The customer care service or call centre of a bank play a vital role to enhance the performance of a bank. Today all modern banks have online customer care service or call centre. These call centre provide 24/7 banking service to its customers. Islami bank Bangladesh PLC the number one bank of Bangladesh has a modern developed customer care service. IBB PLC implementing AI in it's online customer care service. By implementing AI, including chatbots and voice bio metrics IBB PLC streamlines customer interactions and reduces its average handling time (AHT) per customer. Customer care service provide immediate response by the implementation of AI . Again the use of voice bio metrics of AI prominently reduce user verification time. Utilization of AI in the bank customer care service ensuring swift issue resolution.

In this research the author showed that customer care service of Islami bank Bangladesh PLC is very easy to use. This research also showed that online customer care service of IBB PLC is very useful to its customers. This paper also discussed that there is strong positive relationship exists between perceived usefulness and attitude of customers towards the online customer care service of IBB PLC.

This paper also proved that Artificial Intelligence play a significant role on the development of customer care service of IBB PLC. By using Conversation Analytics and Agent ID together IBB PLC can make its contact centre run more smoother. BY applying AI IBB PLC uncover the best calls to use for training, rapidly up skill its employees, and decrease average handling time day by day. As a result IBB PLC guaranteed to make happier customers, higher conversion rates, and better revenues.

Reference:

1. Lewis, R., & Dart, M. (2010), The new rules of retail: Competing in the world's toughest marketplace. Palgrave Macmillan.
2. Alsajjan, B., & Dennis, C. (2010), Internet banking acceptance model: Cross-market examination. Journal of business research, 63(9-10), 957-963.
3. Özkan, S., Bindusara, G., & Hackney, R. (2010), Facilitating the adoption of e-payment systems: theoretical constructs and empirical analysis, Journal of enterprise information management, 23(3), 305-325.
4. Aziz, M. N. A., & Kamaruddin, N. (2020). The Evolution of the Technology Acceptance Model (TAM). The Interdisciplinary of Management, Economic and Social Research, 242.
5. Gupta, S., & Abbas, A. (2022). Technology Acceptance Model (TAM): A Bibliometric Analysis from Inception. Journal of Telecommunications and the Digital Economy, October.

6. Hadiano, A. (2008). Kajian Tentang Perilaku Pengguna Sistem Informasi Dengan Pendekatan Technology Acceptance Model (TAM). In Academia.
7. Herlina, & Widyaningrum, D. (2022). Menakar Kecenderungan Perilaku Impulse Buying Belanja Online Generasi Millenial pada Masa Covid-19. *Formosa Journal of Multidisciplinary Research (FJMR)*, 1(3), 481-492.
8. Pamoro, G. J. (2022). The Principle of Balance E-Contracts in Paylater features in E Commerce. *Notaire*, 5(3), 377 394.