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AI Assist System Acceptance and its impact on Call-handling efficiency in BPO Operations

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Abstract

Aim: This study examined the level of acceptance of Artificial Intelligence (AI) Assist Systems and their relationship with call-handling efficiency among agents in a voice-based Business Process Outsourcing (BPO) company in the Philippines.

Method: A descriptive-correlational quantitative research design was employed. Data were collected from fifty (50) call center agents using a validated researcher-developed questionnaire anchored on the Technology Acceptance Model (TAM). Descriptive statistics, including frequency, percentage, and weighted mean, were used to determine the levels of AI Assist System acceptance and call-handling performance, while Pearson Product-Moment Correlation was utilized to examine the relationship between the variables at a 0.05 level of significance.

Results: The findings revealed that agents demonstrated a high level of acceptance of AI Assist Systems in terms of perceived usefulness, perceived ease of use, and attitude toward use. Call-handling performance indicators, including Average Handling Time (AHT), First Call Resolution (FCR), and Customer Satisfaction Score (CSAT), also obtained positive ratings. Correlation analysis revealed a statistically significant positive relationship between the composite AI Assist Systems acceptance score and the composite call-handling performance score, indicating that higher acceptance of AI Assist Systems is associated with improved overall call-handling performance.

Conclusion: The findings suggest that higher levels of AI Assist System acceptance contribute to enhanced operational efficiency, service quality, and intelligent customer service delivery in call center environments. The study highlights the critical role of user acceptance in maximizing the benefits of AI-enabled support technologies and contributes to research on digital transformation, intelligent service systems, and AI integration in BPO operations.

Keywords: Artificial Intelligence Assist Systems; Technology Acceptance Model; Intelligent Service Systems; Digital Transformation; Call-Handling Efficiency

INTRODUCTION

Artificial Intelligence (AI) has rapidly evolved and significantly transformed service industries worldwide by improving operational efficiency, automating routine tasks, and enhancing customer experiences. Intelligent automation, Generative AI and AI assistance for decision-making have contributed to the rapid adoption of AI across the globe, helping organizations to optimize processes and enhance productivity. These innovations have also contributed to digital workforce transformation, where human employees and AI-driven collaborative systems work together to improve service delivery and operational efficiency. AI Assist Systems have become essential tools in the Business Process Outsourcing (BPO) sector, enabling customer service agents to manage high volumes of client interactions and complex concerns more efficiently. Although these strides have been made, there is a lack of research that explores the impact of the agents' acceptance of AI systems on key operational metrics like Average Handling Time (AHT), First Call Resolution (FCR), and Customer Satisfaction Score (CSAT) in the context of a BPO in the Philippines. This study fills this gap by exploring the acceptance of the AI Assist System and its impact on call-handling efficiency, which aligns with the research on AI-driven operations and digital transformation.

Artificial Intelligence (AI) has transformed customer service operations worldwide. The use of AI Assist Systems in call center operations has increased significantly due to their ability to improve operational efficiency, enhance customer experience, and reduce employee workload. These systems support agents by providing real-time recommendations, automating routine tasks, and improving decision-making during customer interactions.



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Cai et al. (2022) found that perceived usefulness and perceived ease of use positively influence users' intention to adopt AI-enabled voice assistants. Their study further revealed that privacy concerns and user anxiety may negatively affect acceptance, while human-like AI interaction enhances user engagement. These findings suggest that acceptance of AI systems may also influence call-handling performance in BPO environments.

The Business Process Outsourcing (BPO) industry is still a significant contributor to economic growth and employment in the Philippines. In order to stay competitive, BPO firms have incorporated the use of artificial intelligence technology in their operations to more efficiently deal with the high volume of calls and the complex issues raised by customers. AI Chatbots have proven to boost agent productivity, shorten response time, allow real-time resolutions, and cut operating expenses by handling repetitive customer queries and facilitating around-the-clock service (Inavolu, 2024).

In call center settings, AI applications have also been shown to influence customer behavior and performance outcomes. Research on voice-based AI systems found that while AI may initially increase interaction time and demand for human agents, it significantly reduces customer complaints over time, with effects varying based on task complexity and customer characteristics (Wang et al., 2023).

From a behavioral perspective, several studies extend the Technology Acceptance Model (TAM) to AI adoption. Research indicates that perceived usefulness, perceived ease of use, trust, and attitude significantly influence the intention to adopt AI-enabled customer service systems (Chatterjee et al., 2021). In other industries, organizational support and culture have also been identified as critical factors that enhance AI acceptance and effective use (Na et al., 2022).

Although these studies provide strong theoretical support for AI adoption, they do not directly examine how user acceptance influences specific call center performance metrics such as Average Handling Time (AHT), First Call Resolution (FCR), and Customer Satisfaction Score (CSAT). This suggests that higher acceptance of AI Assist Systems may be associated with better system utilization and, consequently, improved operational performance, but empirical validation remains limited.

Despite the growing integration of intelligent systems in BPO operations, limited studies have examined how AI Assist System acceptance affects measurable operational efficiency outcomes in real-world call center environments. Existing research often focuses on AI adoption behavior or system functionality independently, with limited integration of behavioral acceptance and operational performance metrics within a single framework. This creates a gap in understanding how AI-enabled technologies contribute to digital transformation and intelligent service optimization in BPO industries.

The study addresses this gap by examining the relationship between AI Assist System acceptance and call-handling efficiency using AHT, FCR, and CSAT as key performance indicators. By integrating technological and behavioral perspectives, the study contributes to both theoretical understanding and practical application in operations management.

The findings contribute to the growing body of knowledge on AI-driven decision support systems and demonstrate the potential benefits of user acceptance in improving operational efficiency in BPO environments. The findings also support the development of intelligent service platforms, where AI tools enhance real-time assistance, improve issue resolution, and strengthen customer interactions. The study further emphasizes the importance of AI in optimizing workflow efficiency and service delivery in digital operations management. In addition, the results highlight the significance of the human-AI collaboration model by demonstrating how effective AI integration into human-centered workflows can complement human agents and improve operational efficiency in BPO operations.

Review of Related Literature and Studies

Recent studies show that the integration of Artificial Intelligence (AI) improves operational efficiency and enhances agent performance in contact centers. AI-enabled systems reduce cognitive load, provide real-time guidance, and support faster and more accurate decision-making. When strategically implemented, AI also enhances customer experience, increases agent productivity, and optimizes operational costs through effective human-AI collaboration (Gopalakrishnan, 2025).

Moreover, real-time AI applications such as topic modeling and sentiment analysis enable agents to manage customer interactions more effectively by providing immediate feedback and support, thereby improving both performance and well-being (Pacella et al., 2024). AI-driven adaptive systems further enhance efficiency by monitoring cognitive states and adjusting task complexity, leading to improved accuracy in handling complex tasks (Gkintoni et al., 2025).

From a behavioral perspective, the Technology Acceptance Model (TAM) explains that user perceptions—particularly perceived usefulness and perceived ease of use—significantly influence technology adoption and actual system use (Zaineldeen et al., 2020). This suggests that the effectiveness of AI systems depends not only on their technical capabilities but also on how users perceive and accept them.

Average Handling Time (AHT), First Call Resolution (FCR), and Customer Satisfaction Score (CSAT) are consistently recognized as core performance indicators in call center operations rather than specialized or niche metrics (Andini, 2024). Empirical studies have shown that these indicators are closely associated with service quality outcomes and customer satisfaction. Faster response times and higher first call resolution rates are often linked to improved customer satisfaction, while operational inefficiencies may negatively affect service quality and overall service performance (Dogan, 2021). These indicators have also been identified as key benchmarks for monitoring service efficiency, service delivery, and customer experience management in contact center operations (Chicu et al., 2019).

Recent studies have highlighted the growing role of Artificial Intelligence (AI) in transforming customer service operations through intelligent automation and AI-assisted decision support systems. Large Language Model (LLM)-based real-time agent assist systems have been shown to improve customer service efficiency by reducing average handling time, accelerating knowledge retrieval, and maintaining conversational context during live customer interactions (Devaraj, 2026). Similarly, Uzoka et al. (2024) found that AI chatbots significantly improved response speed, customer satisfaction, and operational efficiency while reducing service costs, reinforcing their increasing role in automated customer support systems.

From a broader digital transformation perspective, Gopalakrishnan (2025) emphasized that AI integration in enterprise contact centers serves as a critical driver of operational efficiency and scalability. The study reported substantial improvements in agent productivity, reduced training time, and enhanced problem-solving efficiency through human-AI collaboration and real-time decision support. Supporting this, Mutia (2026) emphasized that successful digital workforce transformation depends on aligning user acceptance, institutional support, and technological resources to sustain digital innovation and strengthen AI-enabled decision support systems.

The literature demonstrates that Artificial Intelligence (AI) enhances operational efficiency, supports agent performance, and improves customer service outcomes in contact centers. However, the effectiveness of these systems depends not only on their technological capabilities but also on how users perceive and accept them, as explained by the Technology Acceptance Model (TAM). At the same time, key performance indicators such as Average Handling Time (AHT), First Call Resolution (FCR), and Customer Satisfaction Score (CSAT) remain essential measures of call-handling efficiency and service quality.

Despite these findings, there is limited empirical evidence that directly examines how AI Assist Systems acceptance influences these performance indicators within the same study, particularly in the context of Philippine BPO operations. This gap highlights the need to integrate both technological and behavioral perspectives in assessing operational outcomes.

Anchored on TAM, this study proposes that perceived usefulness and perceived ease of use influence agents' attitudes toward AI Assist Systems, which in turn affect call-handling performance. Specifically, the study examines whether higher levels of AI systems acceptance are associated with improvements in AHT, FCR, and CSAT.

In line with this framework, the study tests the hypothesis that there is no significant relationship between AI Assist Systems acceptance and call-handling performance indicators.

While previous studies emphasize either technological capabilities or user acceptance, limited research integrates both perspectives to assess operational performance outcomes. This gap is particularly evident in Philippine BPO settings, justifying the present study.

Theoretical Framework

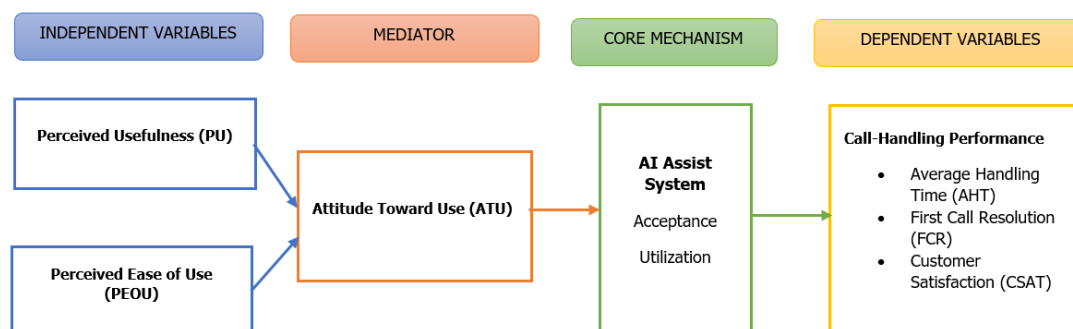
This study is anchored on the Technology Acceptance Model (TAM) developed by Davis (1989), which explains how users accept and utilize technology. According to TAM, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) influence users' Attitude Toward Use (ATU), which subsequently affects their intention to adopt and use the system. In the context of this study, PU and PEOU represent how call center agents evaluate the AI Assist System in terms of its effectiveness and ease of use. These perceptions shape their attitudes toward the system, which influence their level of acceptance and actual utilization during customer interactions.

As proposed by TAM, actual system use contributes to improved performance outcomes. In this study, these outcomes are reflected in enhanced call-handling performance, measured through Average Handling Time (AHT), First Call Resolution (FCR), and Customer Satisfaction Score (CSAT). Thus, the model supports the assumption that higher acceptance of AI Assist Systems is associated with improved operational performance in BPO settings.

Conceptual Framework

Figure 1

AI Assist System Acceptance–Performance Framework in BPO Operations



The conceptual framework is explicitly grounded in the Technology Acceptance Model (TAM) by Davis (1989), which posits that Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) are primary determinants of a user's Attitude Toward Use (ATU) and subsequent behavioral intention and actual system use.

In this study, PU and PEOU serve as the independent variables, representing agents' cognitive evaluations of the AI Assist System. Consistent with TAM, these perceptions shape Attitude Toward Use (ATU), which functions as a mediating variable translating perception into behavior. A more favorable attitude increases the likelihood of AI Assist System acceptance and utilization, corresponding to TAM's notion of actual system use.

Extending TAM to an operational context, the framework links actual use to performance outcomes. Specifically, effective utilization of the AI Assist System leads to improvements in call-handling performance, measured through Average Handling Time (AHT), First Call Resolution (FCR), and Customer Satisfaction (CSAT). This extension is consistent with TAM-based research, which demonstrates that higher perceived usefulness and ease of use not only increase adoption but also enhance task efficiency and effectiveness.

Statement of the Problem

Artificial Intelligence (AI) Assist Systems have become integral components of modern customer service operations, enabling intelligent decision support, workflow automation, real-time guidance, and enhanced service delivery. As Business Process Outsourcing (BPO) organizations continue to pursue digital transformation initiatives, AI-enabled technologies are increasingly deployed to improve operational efficiency, service quality, and customer experience. Despite these technological advancements, limited empirical evidence exists regarding how user acceptance of AI Assist Systems influences measurable call-handling performance outcomes in real-world contact center environments.

While previous studies have examined AI adoption and technology acceptance, few have directly investigated the relationship between AI Assist System acceptance and key operational performance indicators such as Average Handling Time (AHT), First Call Resolution (FCR), and Customer Satisfaction Score (CSAT). This gap limits understanding of how intelligent service systems contribute to operational excellence and digital innovation within BPO organizations.

Therefore, this study seeks to examine the relationship between AI Assist System acceptance and call-handling efficiency among call center agents. The findings are expected to contribute to the advancement of AI-enabled service operations, intelligent customer support systems, and digital transformation strategies in the BPO industry.

Research Objectives

General Objective

To examine the relationship between AI Assist System acceptance and call-handling efficiency among call center agents in a voice-based BPO environment.



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Specific Objectives

1. To determine the demographic profile of the respondents in terms of sex and length of service.
2. To assess the level of AI Assist System acceptance in terms of:
 - a. Perceived Usefulness (PU);
 - b. Perceived Ease of Use (PEOU); and
 - c. Attitude Toward Use (ATU).
3. To evaluate the level of call-handling performance in terms of:
 - a. Average Handling Time (AHT);
 - b. First Call Resolution (FCR); and
 - c. Customer Satisfaction Score (CSAT).
4. To determine the significant relationship between AI Assist System acceptance and composite call-handling performance score.
5. To develop an AI-Driven BPO Operations Enhancement Framework that may support intelligent service delivery, operational efficiency, and digital transformation initiatives.

Research Questions

1. What is the demographic profile of the respondents in terms of:
 - a. sex; and
 - b. length of service?
2. What is the level of AI Assist System acceptance in terms of:
 - a. perceived usefulness;
 - b. perceived ease of use; and
 - c. attitude toward use?
3. What is the level of call-handling performance in terms of:
 - a. Average Handling Time (AHT);
 - b. First Call Resolution (FCR); and
 - c. Customer Satisfaction Score (CSAT)?
4. Is there a significant relationship between AI Assist System acceptance and call-handling performance indicators?
5. What AI-driven operational enhancement framework may be developed to support intelligent service delivery and digital transformation in BPO operations?

Hypothesis (H₀):

There is no significant relationship between AI Assist System acceptance, as measured by perceived usefulness, perceived ease of use, and attitude toward use, and call-handling performance indicators, namely Average Handling Time (AHT), First Call Resolution (FCR), and Customer Satisfaction Score (CSAT).

METHODOLOGY

Research Design

The study employed a descriptive-correlational quantitative design to examine user acceptance of AI-enabled support systems and their association with operational performance indicators in a digital customer-service setting, an approach suited to describing phenomena and testing relationships among variables without manipulating them or establishing causality (Putri, 2025). It was applied to collect data from the respondents. This method involves administering structured questionnaires to a defined group of participants and analyzing their responses. Survey research is widely used due to its flexibility and applicability across various research contexts.

System Environment and AI Assist System Description

The AI Assist System used within the organization provides real-time knowledge retrieval, automated response recommendations, workflow guidance, and customer interaction support during live calls. The system operates as an intelligent decision-support tool integrated into the organization's customer service platform.

Population and Sampling

The population of this study consisted of fifty (50) call center agents from a BPO company in Ortigas Center, Philippines, which provides customer service for international clients using AI-assisted systems. Respondents were selected through simple random sampling, ensuring that each member of the population had an equal chance of being included. The participants were engaged in voice operations, including both male and female employees with work experience ranging from one month to more than five years. These respondents were chosen due to their direct experience in using AI Assist Systems in handling customer calls, making them appropriate sources of data for the study.

Research Instrument

The researchers utilized a self-constructed structured questionnaire based on the Technology Acceptance Model (TAM) to measure AI Assist System acceptance and call-handling performance. The instrument consisted of two major sections: (1) AI Assist System acceptance, measured through Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and Attitude Toward Use (ATU); and (2) call-handling performance indicators, measured through Average Handling Time (AHT), First Call Resolution (FCR), and Customer Satisfaction Score (CSAT).

The instrument underwent content validation by three experts composed of one information technology specialist, one industry practitioner, and one statistician to ensure clarity, relevance, and alignment with the study objectives. A pilot test was conducted with twenty-five (25) respondents who were excluded from the main study. Reliability testing using Cronbach's alpha yielded the following results: Perceived Usefulness ($\alpha = 0.82$), Perceived Ease of Use ($\alpha = 0.85$), Attitude Toward Use ($\alpha = 0.80$), and Call-Handling Performance Indicators ($\alpha = 0.78$), with an overall reliability coefficient of $\alpha = 0.81$, indicating acceptable to high internal consistency. These results confirmed that the instrument was reliable and appropriate for data collection.

Tools and Technologies

This study utilized several digital tools and technologies to support data collection, preparation, and analysis. Google Forms was used to distribute and collect survey responses, while Microsoft Excel was utilized for data encoding and organization. Statistical analysis, including weighted mean and Pearson Product-Moment Correlation, was conducted using the Statistical Package for the Social Sciences (SPSS).

The AI Assist System used within the organization provides real-time knowledge retrieval, automated response recommendations, workflow guidance, and customer interaction support during live calls. The system operates as an intelligent decision-support tool integrated into the organization's customer service platform. It enables agents to access relevant customer information and AI-generated recommendations within a cloud-based customer service environment, supporting efficient and accurate call-handling processes.

The study did not evaluate the technical performance of the AI Assist System itself. Instead, it assessed users' acceptance of the deployed AI technology and its relationship with operational performance outcomes.

Data Collection Procedures

Data collection was conducted in a systematic and ethical manner to ensure accuracy, reliability, and confidentiality. The researchers first secured approval from the thesis adviser and obtained a formal permission letter from the academic institution. This letter was submitted to the company management to request approval to conduct the study. The conduct of the study, including data gathering, validation, and analysis, was carried out during the Academic Year 2025–2026.

Data Analysis

To analyze the data and ensure reliable results, the researchers used percentage, and weighted mean. Percentage was applied to describe the demographic profile of the respondents by showing the proportion of each category. Weighted mean was used to determine the average responses on the level of AI Assist System acceptance and call-handling performance. Pearson correlation was used to test the relationship between AI Assist System acceptance and call-handling performance, measuring the strength and direction of the relationship between TAM variables (perceived usefulness, perceived ease of use, and attitude toward use) and performance indicators (AHT, FCR, and CSAT). All statistical analyses were conducted at a 0.05 level of significance.

Pearson correlation was employed to evaluate associations between user acceptance dimensions of the AI Assist System and operational performance indicators within a technology-enabled service environment.

Ethical Considerations and Responsible AI Practices

Participation was voluntary and anonymous. No personally identifying information was collected. Participants provided informed consent and retained the right to withdraw before submission. Data were stored securely and used solely for research purposes in accordance with institutional ethical guidelines. The study also considered responsible AI practices by focusing on ethical AI utilization, user acceptance, and system support without collecting sensitive operational or personal customer data.

The study acknowledges the importance of responsible AI deployment by emphasizing human oversight, transparency in AI-supported decision-making, and the protection of employee and customer data throughout the operational environment.

RESULTS AND DISCUSSION

This section presents the findings in the sequence of the research questions, integrating interpretation after each result. First, the respondents' profile is summarized to contextualize subsequent analyses. The findings demonstrate the operational value of AI-enabled support systems in improving intelligent service delivery within digitally transformed BPO environments. The results support the role of AI Assist Systems as strategic tools for enhancing workflow automation, service efficiency, and real-time decision support in customer service operations.

Profile of the Respondents

The demographic profile of the respondents shows that the majority were female, with 34 respondents (68%), while 16 respondents (32%) were male. In terms of length of service, most respondents had 1 to 3 years of experience, accounting for 21 respondents (42%). This was followed by those with 5 years and above at 11 respondents (22%), and 3 to 5 years at 10 respondents (20%). A smaller number had 6 months to 1 year of experience (7 respondents or 14%), while only 1 respondent (2%) had less than 6 months of experience. These results indicate that the sample is composed mainly of moderately experienced employees, which supports the reliability of their responses regarding AI Assist System usage.

Table 1

AI Assist System Acceptance Among Agents

AI Assist System Acceptance Dimensions	Overall Mean	Interpretation
1. Perceived Usefulness	3.21	Agree
2. Perceived Ease of Use	3.35	Agree
3. Attitude Toward Use	3.26	Agree

Note: 3.26–4.00 = Strongly Agree; 2.51–3.25 = Agree; 1.76–2.50 = Disagree; 1.00–1.75 = Strongly Disagree

Table 1 shows that agents generally agreed on all dimensions of AI Assist System acceptance. Perceived ease of use obtained the highest mean, followed by attitude toward use and perceived usefulness, indicating that agents find the system easy to use, beneficial, and supportive in their work. This aligns with the Technology Acceptance Model (TAM), which explains that ease of use and usefulness influence technology adoption (Kelly et al., 2022).

The findings suggest that the AI Assist System serves as an AI-enabled decision support tool, helping agents access information faster and improve decision-making during customer interactions. Its ease of use supports intelligent automation and digital workflow optimization, while the positive attitude toward use reflects effective human-AI collaboration in enhancing efficiency and service quality. These results are consistent with studies showing that user-friendly AI systems are more readily adopted in customer service operations (Babar et al., 2025).

Table 2

Call-Handling Performance Based on Key Indicators

Key Indicators	Overall Weighted Mean	Interpretation
1. Average Handling Time (AHT)	3.32	Agree
2. First Call Resolution (FCR)	3.13	Agree
3. Customer Satisfaction Score (CSAT)	3.31	Agree

Note: 3.26–4.00 = Strongly Agree; 2.51–3.25 = Agree; 1.76–2.50 = Disagree; 1.00–1.75 = Strongly Disagree

Table 2 shows that all three key performance indicators (KPIs)—Average Handling Time (AHT), Customer Satisfaction Score (CSAT), and First Call Resolution (FCR)—were rated "Agree," indicating positive call-handling performance. AHT obtained the highest mean, followed by CSAT and FCR, suggesting that the AI Assist System has the strongest impact on time efficiency. This may be attributed to its real-time AI recommendations, automated knowledge retrieval, and intelligent guidance features, which help agents access relevant information quickly and respond more efficiently during live calls. These technological functions support workflow automation by reducing delays, improving response accuracy, and enhancing service quality. This pattern is consistent with previous studies showing that AI assist tools contribute significantly to operational efficiency and customer service performance (Rangu, 2025).

Hypothesis Testing

Table 3

Relationship Between Composite AI Assist Systems Acceptance and Composite Call-Handling Performance Scores

Variables	r-value	P-value	Interpretation	Decision	Remarks
AI Assist System Acceptance (Composite Score) and Call-Handling Performance (Composite Score)	0.70	<0.000	Positive (Moderate to High)	Reject H_0	Significant

Note: **Significant at 0.05 alpha level

Table 3 presents the relationship between the composite AI Assist System acceptance score and the composite call-handling performance score. The correlation analysis yielded an r-value of 0.70 and a p-value of <0.001, indicating a statistically significant strong positive relationship. This suggests that higher levels of acceptance of AI Assist Systems, as reflected in perceived usefulness, perceived ease of use, and attitude toward use, are associated with better overall call-handling performance, as reflected in Average Handling Time (AHT), First Call Resolution (FCR), and Customer Satisfaction Score (CSAT).

The findings imply that when agents perceive AI Assist Systems as beneficial and easy to use, they are more likely to utilize these tools effectively in handling customer concerns. This supports improved workflow efficiency, faster response times, and better service outcomes. The results are consistent with the Technology Acceptance Model (TAM), which explains that positive perceptions of technology influence actual usage and performance outcomes.

Development of AI-Driven BPO Performance Enhancement Framework

Figure 2

AI-Driven BPO Operations Enhancement Framework (AI-BOEF)





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Figure 2 presents the AI-Driven BPO Operations Enhancement Framework (AI-BOEF), showing how AI improves call center performance step by step.

It starts with AI System Acceptance, where agents perceive the system as useful, easy to use, and develop a positive attitude. This leads to AI Utilization, where agents effectively use AI tools in daily operations. As a result, process efficiency improves, meaning calls are handled faster, issues are resolved more accurately, and service quality increases.

These improvements lead to better performance outcomes, specifically lower Average Handling Time (AHT), higher First Call Resolution (FCR), and higher Customer Satisfaction (CSAT). Ultimately, all these contribute to BPO operational excellence, including higher productivity, better service quality, and competitive advantage. The framework also highlights support systems like training, automation, dashboards, and quality monitoring, along with continuous improvement through feedback, upgrades, and ongoing training to sustain performance.

Conclusion

The study found that call center agents demonstrated a positive level of acceptance of AI Assist Systems, particularly in terms of perceived usefulness, perceived ease of use, and attitude toward use. Perceived ease of use obtained the highest rating, indicating that user-friendly AI technologies encourage greater acceptance and utilization within customer service operations. The results further revealed positive levels of call-handling performance across Average Handling Time (AHT), First Call Resolution (FCR), and Customer Satisfaction Score (CSAT), with the strongest impact observed in operational time efficiency.

Correlation analysis revealed a statistically significant positive relationship between the composite AI Assist System acceptance score and the composite call-handling performance score, indicating that greater acceptance of AI Assist Systems is associated with improved overall call-handling efficiency. These findings demonstrate the importance of human-centered AI adoption in maximizing the effectiveness of intelligent support systems. The study contributes to the growing body of knowledge on AI-enabled customer service technologies, intelligent decision-support systems, and digital transformation initiatives in the BPO industry. Furthermore, the proposed AI-Driven BPO Operations Enhancement Framework provides a practical model for integrating AI technologies into service operations to improve productivity, service quality, and operational excellence.

Recommendations

1. BPO companies may strengthen AI system training programs to improve intelligent system utilization and operational efficiency.
2. Organizations may enhance AI interface usability and real-time support features to improve user acceptance and workflow integration.
3. Companies may integrate AI-based analytics and performance dashboards for continuous monitoring of AHT, FCR, and CSAT.
4. Future studies may explore advanced AI technologies such as predictive analytics, machine learning, and conversational AI in BPO operations.
5. AI system developers may incorporate explainable AI features and user-centered interface designs to further enhance system acceptance and operational effectiveness.
6. Policymakers and technology managers may develop governance guidelines that promote responsible AI adoption, transparency, and ethical use of intelligent customer service systems.

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