

## Review Article

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## Revolutionizing Customer Interaction: Implementing Next Best Action with PEGA Voice AI

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### ABSTRACT

In the era of digital transformation, businesses are increasingly leveraging artificial intelligence (AI) to enhance customer experiences and operational efficiency. PEGA Voice AI is one such innovation that combines natural language processing (NLP) and machine learning (ML) to optimize customer interactions. This research paper explores the configuration of Next Best Action (NBA) using PEGA Voice AI, detailing its implementation, benefits, and impact on customer engagement strategies. We delve into the technical architecture, integration processes, and case studies that highlight the practical applications and outcomes of this technology.

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### Introduction

Customer-centric approaches are fundamental to business success in today's competitive landscape. Next Best Action (NBA) strategies, driven by AI, enable organizations to offer personalized and timely responses to customer inquiries, enhancing satisfaction and loyalty. PEGA Voice AI stands at the forefront of this innovation, providing a robust platform for configuring NBA through advanced voice recognition and intelligent decision-making capabilities.

### Research Objective and Scope

This paper outlines the methodology for configuring NBA using PEGA Voice AI, its technical underpinnings, and the advantages it brings to customer relationship management (CRM). It aims to assess the influence of personalized customer experiences generated through NBA strategies on satisfaction and loyalty, while also examining the broader role of AI-driven technologies in transforming customer engagement and driving business growth.

### Understanding PEGA Voice AI

PEGA Voice AI is an advanced technology that combines voice recognition, NLP, and ML to analyze and respond to customer interactions in real-time. It operates by converting spoken language into text, interpreting the meaning and context of the text, and using predictive analytics to determine the most appropriate response or action. This powerful tool integrates seamlessly with customer relationship management (CRM) systems, ensuring that customer interactions are handled with a high degree of intelligence and personalization [1].

### Key Components of PEGA Voice AI

#### Voice AI Desktop App

This component picks up the audio stream from PEGA Interaction Portal and the Softphone and routes it to Speech Service for real

time transcription.

#### Speech Service

This component is part of PEGA Cloud which receives the two audio streams from both agent and customer and transcribes the audio into text providing the foundation for further analysis by PEGA NLP.

#### Natural Language Processing (NLP)

The NLP algorithms which resides within PEGA Server interpret the text, extracting meaning, sentiment, and context to understand the customer's intent and then pushes suggestion to CSR in real time in the Interaction Portal.

#### Machine Learning Models

These models predict customer needs and recommend actions based on historical data and real-time inputs.

#### PEGA Decision Hub

A centralized platform that manages decision-making processes and executes NBA strategies.

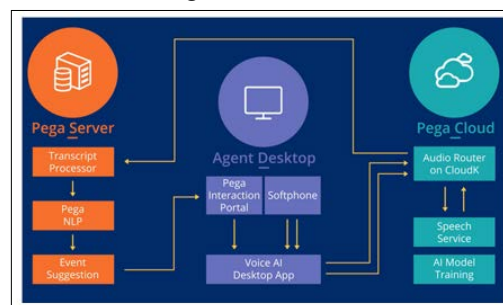


Figure 1: Key Components of PEGA Voice AI [2].

### Understanding Next Best Action (NBA)

Next Best Action (NBA) is a customer engagement strategy that leverages artificial intelligence and real-time interaction data to

deliver highly relevant customer experiences. By analyzing each consumer's unique needs, preferences, and context, brands can identify and execute the most appropriate and impactful actions to engage customers and prospects across any channel at any time.

With NBA, users develop an extensive repository of actions that remain continuously active, facilitating the AI's ability to identify the most pertinent action for each individual. Business rules specify the conditions under which customers qualify for certain actions, determine the appropriateness of these actions, and define the applicable contexts for their execution.

**Defining NBA Strategies**

The first step in configuring NBA is defining strategies that align with both business objectives and customer needs. This involves:

**Customer Segmentation**

Customer Segmentation is a vital strategy that involves categorizing customers into distinct groups based on various criteria such as behavior, preferences, and demographics. By segmenting customers effectively, businesses can tailor their interactions to meet the specific needs and preferences of each group. This allows for more personalized and targeted communication, leading to higher engagement and satisfaction among customers.

**Predictive Analytics**

Predictive Analytics is another essential NBA strategy that utilizes machine learning (ML) models to forecast customer needs and behaviors. By analyzing historical data and identifying patterns, predictive analytics can anticipate future actions or preferences of customers. This enables businesses to proactively engage with customers by offering relevant products or services before they even realize they need them. Predictive analytics empowers businesses to stay ahead of customer demands and deliver exceptional experiences.

**Decision Rules**

Decision Rules play a crucial role in guiding the selection of the best action to take based on real-time data and predictive insights. These rules are established to ensure that the recommended actions align with business objectives and customer preferences. By setting clear and actionable rules, businesses can automate decision-making processes and ensure consistency in their interactions with customers. Decision rules enable businesses to make informed decisions quickly, leading to improved efficiency and effectiveness in customer engagement strategies.

**Configuring Next Best Action with Voice AI**

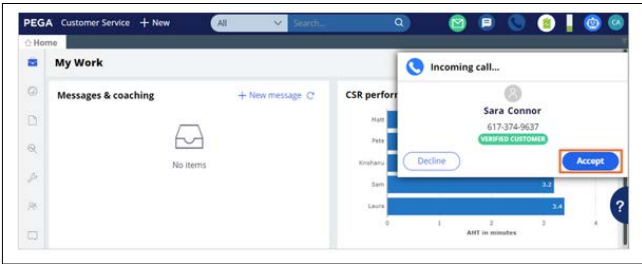
In the Voice AI channel configuration, users have the option to specify topics that trigger the system to suggest the most relevant next best action to sales representatives. Voice AI seamlessly integrates with Pega Customer Decision Hub™, offering intelligent suggestions based on the customer's past and present interactions. For example, if the word "smoke" is mentioned in a conversation, the Customer Decision Hub might recommend offering a smoke detection product. These next best actions aim to maximize revenue and enhance the customer experience by providing timely and relevant product suggestions [3].

Within the navigation pane of App Studio, users can access the Current channel interfaces section to select the Voice AI channel interface to which they want to add the case suggestion. On the Configuration tab, under the Suggested Next Best Actions section, users can click Add topic. In the Response topic configuration

dialog box, they can then choose a topic from the Associated topic list to utilize.

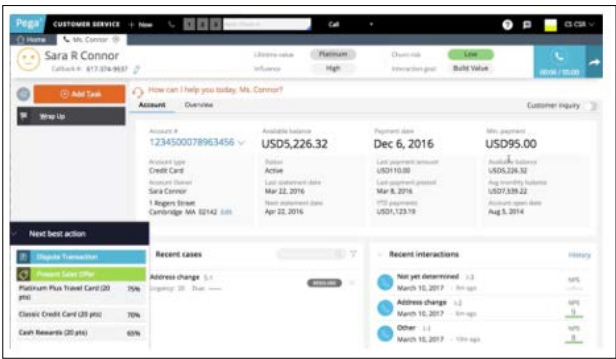
**Customer Service Representative Interface**

- The following figure (Figure 2) depicts a call coming into a Bank's service center from Sara Connor, one of the bank's customers. The system immediately routes the call to a CSR.



**Figure 2 : Incoming Call for a CSR [4].**

- The call details from the interactive voice response (IVR) system indicate that Sara wants to discuss recent credit card transactions.
- Once the CSR accepts the call, all relevant details about Sara are displayed on the main application window.
- The next-best-action recommendations then guide the CSR to take the next step with Sara. In the lower left corner of the below figure (Figure 3) shows the MBA recommendations by the Customer Decision Hub.



**Figure 3: Next Best Action Suggestion to CSR [5].**

**Benefits of Implementing PEGA Voice AI for Next Best Action**

- **Enhanced Customer Experience:** PEGA Voice AI significantly enhances customer experience by providing timely, accurate, and personalized responses to inquiries. This leads to higher satisfaction, increased loyalty, and a stronger overall relationship between the customer and the business.
- **Operational Efficiency:** Automating decision-making processes reduces the workload on customer service representatives, allowing them to focus on more complex issues that require human intervention. This boosts productivity and results in cost savings for the organization.
- **Data-Driven Insights:** AI and ML provide deep insights into customer behavior and preferences, enabling businesses to continuously refine and improve their NBA strategies. These insights are invaluable for making informed decisions and staying ahead of the competition.

**Case Studies**

**Financial Services**

A leading bank implemented PEGA Voice AI to enhance its customer service operations. By configuring NBA, the bank

reduced call resolution times by 30% and saw a significant increase in customer satisfaction scores. This transformation not only improved customer experience but also enhanced the efficiency of the bank's customer service team.

### Retail

A major retailer utilized PEGA Voice AI to personalize customer interactions in their call centers. The NBA strategies led to a 20% increase in sales conversions and a 15% improvement in customer retention. This success highlights the power of AI-driven personalization in driving business growth.

### Healthcare

Major Healthcare customers have implanted PEGA Voice AI together with Next Best Action strategies to increase their customer satisfaction and the efficiency of their Customer Service representatives.

### Conclusion

- Configuring Next Best Action with PEGA Voice AI involves a comprehensive approach to understanding and predicting customer needs, leveraging advanced technologies to optimize interactions.
- By defining NBA strategies through customer segmentation, predictive analytics, and decision rules, businesses can create highly personalized and relevant customer experiences. Implementing these strategies with careful data preparation, model training, and rigorous testing ensures that the system delivers accurate and timely recommendations, enhancing customer satisfaction and loyalty.
- Through continuous monitoring and improvement, businesses can maintain the effectiveness of their NBA strategies and stay ahead in the competitive market.

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