

# AI BASED CUSTOMER JOURNEY AUTOMATION FOR CONTACT CENTER

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## **Abstract**

Artificial Intelligence has touched all spheres of businesses, technologies, and industries. By 2022, 70% of customer interactions will have some level of artificial intelligence involved [1]. In recent years, Digital service providers (DSP) have been rapidly engaging with automation and AI-based services [2]. Contact center plays a crucial part in DSPs and shows great potentials for AI solutions such as customer journey automation. During analysis, it was observed that the majority of the customer queries are repeated in nature such as network problems, [3] hardware limitations, software issues, billing challenges, and service unavailability. Solving such types of issues is knowledge-intensive and human agents handling these issues have shown huge disparity of the knowledge [4], which eventually leads to variance in the customer experience.

Instead of training and retraining many human resources for repeated tasks, businesses can train a machine learning model using the knowledge base of historical conversations. This approach provides better flexibility to business and results in better customer experience and significant savings to the organization by automating the customer journey.

This paper proposes an AI based customer journey automation for the contact center to resolve customer issues/trouble tickets for DSPs. The proposed solution can significantly enhance the customer experience and operational efficiency [5]. Proposed machine learning model utilizes the classification and clustering methods for tagging customer conversations, and provides a list of solutions. Also, the model allows us to do the sentimental analysis and track customer satisfaction, which helps in addressing customer churn issues.

## **Proposed Solution**

The paper proposes an end-to-end solution that covers the complete customer journey. The proposed solution has five major components and solves different problems at each component level:-

1. Automated tagging of the issue area/ categories
2. Solution Engine
3. Interpretability for models and feedback monitoring
4. Customer Sentiment Analysis
5. Customer Churn Model

## **Solution Approach**

1. Customer reports an issue using a chat-based contact center application
2. Text is processed and tagged based on the relevant category of the issue
3. Solution Engine provides the relevant solution and displays those solutions to the customer. (Solution engine is a machine learning model trained with issue and solutions)

4. Asks feedback to customer if the suggested solution helped, if not display another solution, repeat this process for all available solutions.
5. If the solution is not found, trigger human-agent interaction
6. Perform Sentiment Analysis at the end of the conversation.
7. If sentiment is below the negative threshold, the churn model is triggered for this customer,
8. Check if the customer is about to churn, if yes, assign the manager to discuss the issue in detail.
9. Build a customer experience dashboard using sentiment scores for the leadership team/marketing team.

### **Potential Benefits**

The proposed solution can bring multi-level benefits to DSP providers. Here are listed top benefits, DSP provider can observe:

- Reduced resolution time of tickets
- Automation of repeated tasks
- Centralization of Knowledge base
- Significant savings on operational costs
- Improved customer experience
- Faster response time
- Interpretability of the model helps in knowing what impacts the customer
- Identification of potential churn case and enables proactive actions
- Opportunity for upsell

**Keywords:** Artificial Intelligence, Text Analytics, Telecom, Contact Center Automation, Customer Journey Automation, NLP, Machine Learning.

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