

CASE STUDY

Implementing Digital Self-Service Using AI for a Global Energy & Utility Company



Overview

A global energy and utility enterprise embarked on a transformation journey to modernize its end-user support ecosystem in response to growing digital expectations, increasing support demand, and the need to improve operational efficiency.

Tech Mahindra designed and implemented a scalable, AI-powered support model combining self-service, intelligent automation, conversational AI, knowledge management, and analytics. The transformation shifted support from a reactive, voice dependent model to a digital first, proactive support ecosystem, improving service quality, user experience, and operational efficiency while establishing a future ready Agentless Service Desk.



Client Challenge

The client is a global energy infrastructure enterprise supporting the transportation and distribution of oil, natural gas, and renewable energy. Its geographically dispersed workforce and heavy reliance on voice-based support created challenges in maintaining consistent, efficient, and scalable service.

With over 25,000 monthly support contacts, lack of automation, fragmented support channels, and limited multilingual capabilities, the organization faced increasing pressure to improve responsiveness while maintaining a high-quality end user experience.

Key challenges included:

- High volumes of repetitive and transactional support requests
- Heavy dependency on voice-based support, little digitization
- Rising support costs and increased effort for users and Service Desk teams
- Fragmented knowledge management practices
- Support delays and inconsistent resolution experiences
- Limited opportunities for proactive and automated support
- Inconsistent end user experience



Our Solution and Approach

We transformed the support ecosystem through a digital-first operating model, leveraging AI, intelligent automation, analytics, and knowledge engineering to increase self-service and reduce dependency on traditional support channels.

The transformation focused on six key areas:

01 Digital Self-Service

Transitioned from a predominantly voice-led support model to a self-service and digital assistant ecosystem, enabling users to resolve common issues quickly and independently.

04 Agentic AI and Knowledge Management

Established an intelligent knowledge ecosystem capable of generating, enriching, and delivering contextual knowledge. Agentic AI was leveraged to continuously improve the knowledge base and enable more accurate self-service responses.

02 AI-Powered Multilingual Conversational Support

Implemented intelligent, real-time multilingual conversational assistants to handle high-volume and high-impact use cases, providing contextual responses and guiding users through resolution.

05 Digital Experience Monitoring

Implemented end-user experience monitoring to identify potential issues proactively, enabling faster remediation and reducing business disruption.

03 Intelligent Service Desk Automation

Automated key Service Desk processes, including incident logging, categorization, routing, and resolution, reducing manual effort and accelerating ticket fulfilment.

06 Continuous Optimization

Established a continuous improvement framework to identify new automation and self-service opportunities, optimize existing use cases, and sustain measurable business value.



Business Impact

The transformation delivered significant improvements and outcomes across digital adoption, user experience, operational efficiency, and service performance:

More than **65%** of support interactions were digitalized.

End-user downtime was reduced by **54%** which improved the experience score by over **98%**.

Business escalations were reduced by **70%**.

Voice support dependency was reduced to less than **10%**.

56% reduction in support ticket frequency.

98% SLA Compliance for ticket resolution.

Over **96%** utilization of knowledge base.

More than **300** new/updated knowledge articles.



"A very happy customer, the strong responsive team came together from tech and perspective and delivered transformed SD for us."

About Tech Mahindra

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