

# Conversational AI chatbot for HR payroll questions



Industry : HR/Payroll technology  
Solution type : Conversational AI

## Key features & capabilities

**Natural language processing:** Users can ask questions in conversational English without technical jargon. **Dynamic visualization:** Automatic generation of charts and visual reports.

**Real-time insights:** Instant access to payroll metrics and trends

## Summary

This case study examines the successful implementation of a conversational AI chatbot solution designed for insight generation, reporting and data visualization. The solution transforms complex technical data queries into natural language interactions, significantly improving operational efficiency and user experience for HR professionals and key stakeholders.

## Business problem

The organization's HR & payroll system relied on a complex reporting interface that required users to manually select technical fields, apply filters, and generate reports – often demanding deep domain knowledge. Key challenges included:



**Manual workflow :** One report at a time, understand technical filters, needed extensive domain understanding



**Tabular-only output:** No built-in charts or summaries



**No advanced insights:** Couldn't answer key questions like "Are there gender-based salary gaps?"



**Third-party tools needed:** Users had to export to Excel for pivoting or visualization



**Steep learning curve:** New users struggled to generate meaningful reports quickly

## The opportunity

The need for an intuitive, conversational interface that could:

- Accept natural language queries
- Eliminate requirements for knowledge of domain and technical fields
- Generate dynamic visualizations and insights
- Provide instant summarization of data
- Highly scalable

## Solution architecture

We implemented an advanced conversational AI solution using an agentic RAG (Retrieval-augmented generation) approach. The system intelligently interprets user questions, retrieves relevant data fields from a vector database, and generates appropriate API requests to deliver comprehensive responses, generate insights and visualize the same.

## Business impact & results

### Estimated **85%** time reduction

Report generation time decreased from 5 minutes on average to 40 seconds maximum through automated query processing

### Increase in **data queries**

Increase in data exploration and insights generation powered by natural-language queries

### Enhanced **decision making**

Real-time access to insights would enable faster, data-driven decisions by key stakeholders

## Technology stack

