

# Case Study

Capital One recently implemented Eno, an intelligent multi-channel chatbot that helps customers answer common questions about their accounts.

We want Eno to continuously learn and get smarter to proactively propose inquiries relevant to the Customer in a personalized way.

Our challenge is to ensure Eno provides recommendations to the most likely question customers have.

Via a function called the Quick Reply Model, Eno will be able to use Capital One data to provide a personalized list of potential questions to the.

Discussion of Business Situation - Candidate Prompts

Measures Communication (CCO) and Conceptual Thinking.

Thinking about Eno and expanding the Quick Reply Model...

- What benefits and advantages for Capital One can you describe?
- What benefits would this bring to our customers?

How can we use data to better predict and answer customer questions?

What types of data could be useful in building Eno Quick Reply?

What challenges can you describe in leveraging these types of data?

Optional: What other capabilities can Capital One create with this data?

This is an interesting problem. In fact, I've implemented a custom chatbot on my portfolio website, though it was not fully automated like Eno. I understand the importance of delivering relevant, timely responses that feel human-like, especially in the financial space where clarity and trust matter.

Before diving deeper:

**What is the expected data retention policy or reliability level for customer interaction data?**

These impacts how we architect the storage layer for example, **AWS services like DynamoDB or S3** may be considered for fast access and cost-efficient retention of large-scale conversational logs.

- What benefits and advantages for Capital One can you describe?
  - **Increased Customer Engagement:** Proactively addressing questions keeps users engaged and builds trust.
  - **Reduced Support Costs:** Automating common queries reduces load on call centers and support agents.
  - **Cross-sell/Upsell Opportunities:** Insights from customer queries can suggest relevant products/services.
- What benefits would this bring to our customers?

- **Faster Issue Resolution:** Proactively answering common questions saves customers time and reduces friction.
- **Personalized Experience:** Tailored suggestions feel more relevant, boosting satisfaction.
- **24/7 Support:** Always-available digital assistant means help is never far away.

## How We Use Data to Predict Questions

1. **Natural Language Patterns:** Analyze historical chat logs to extract common phrases and intents.
2. **Behavioral Data:** Track app interactions, failed login attempts, pending payments, declined transactions.
3. **Contextual Cues:** Use time of day, transaction history, location (with consent), or account status to predict likely concerns.
4. **Feedback Loops:** Incorporate thumbs up/down or “Was this helpful?” to refine the model over time.

## Types of Useful Data

1. Past conversation logs (anonymized)
2. Transactional history
3. Customer profile metadata (products owned, tenure, preferences)
4. Session context (device type, last app feature used)
5. System events (e.g., payment declined, suspicious activity flagged)

## Challenges

1. **Data Privacy & Consent:** Strict adherence to compliance and opt-in for personalization is critical.
2. **Real-time Processing:** Needs low-latency model inference and fast retrieval from data stores.
3. **Data Silos:** Must unify data from CRM, transaction systems, and digital platforms.
4. **Bias & Fairness:** Ensure recommendations don’t favor one user segment disproportionately.

## Optional – Additional Capabilities

- **Proactive Fraud Alerts:** If spending behavior is unusual, Eno can flag it early.
- **Financial Coaching:** Use transaction trends to suggest budgeting tips or savings options.
- **Voice Integration:** Expand into voice assistants with NLP APIs for multi-channel support.