

Unlocking the possibilities of frictionless payment experiences with Generative AI

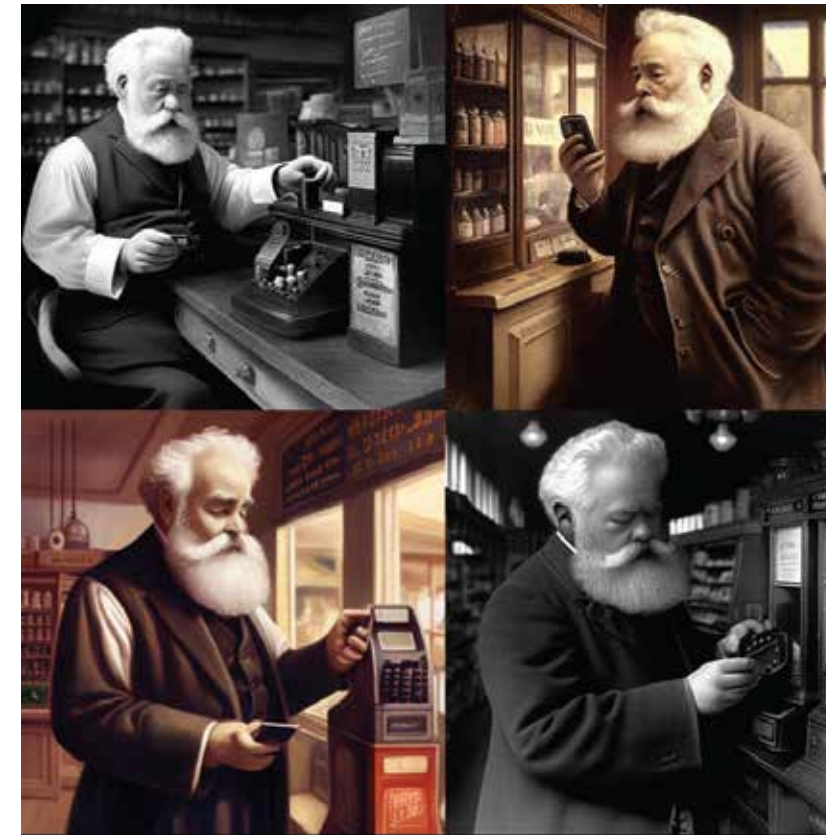


Figure 1: Alexander Graham Bell using a Smartphone to Pay at a store. (Created by Midjourney using Generative AI techniques)

AI (Artificial Intelligence) is a broad term that refers to the ability of machines to perform tasks that would typically require human intelligence, such as perception, learning, reasoning, problem-solving, and decision-making.

AI can be divided into two main categories: narrow or specific AI and generative AI. The main difference between the two lies in the type of tasks they are designed to perform. Specific AI is designed to perform specific tasks or solve specific problems, while generative AI is designed to generate new and original content. Another difference is the training process: AI is trained on specific datasets to perform specific tasks, while generative AI is trained on large datasets to learn patterns and structures within the data, which it can then use to generate new content.

GPT-3 & GPT-4 (Generative Pre-trained Transformer) are examples of a generative AI model. These are language models created by OpenAI and are capable of generating human-like text and images based on a given prompt or input. GPT-3 works with 175 billion parameters and only supports text, while GPT-4 works with 100 trillion parameters and supports both text and images.

Unravelling Frictionless Payment Experiences using Generative AI

Generative AI can have several applications in the world of payment processing

- **Fraud Detection:** One example is the use of generative adversarial networks (GANs) to detect fraudulent transactions. GANs consist of two neural networks:

a generator network that creates fake data, and a discriminator network that tries to distinguish between real and fake data. By training the discriminator network on real transaction data and then presenting it with fake transaction data from the generator network, the discriminator network can learn to identify and detect patterns of fraud and fraudulent transactions. Another example is the use of natural language processing (NLP) to analyze transaction data and detect anomalies. NLP algorithms can be trained to recognize patterns of language and behavior that are associated with fraudulent activity, such as unusual keywords or phrases in transaction descriptions.

- **Frictionless Payment Experiences:** Additionally, generative AI can also be used to create personalized payment experiences for customers, such as customized reminders or personalized discounts, or recommendations and offers based on their transaction history. This can improve customer satisfaction and loyalty, as well as increase revenue for merchants.
- **Engagement:** Generative AI can be used to analyze customer data such as transaction history, browsing behavior, and demographics to identify patterns and preferences. Based on these insights, AI can generate personalized payment reminders that consider the customer's preferred payment method, timing, and frequency. For instance, if a customer usually pays their bills at the end of the month, a reminder that suggests paying the bill a few days before the due date to avoid late payment fees is generated.
- **A Personalized Nudge:** Another way that generative AI can create

personalized payment experiences is by offering customized recommendations based on a customer's transaction history. For instance, if a customer frequently shops for groceries at a particular store, it can recommend a cashback offer for their next purchase at that store. This not only incentivizes the customer to make the purchase, but also encourages them to return to the store in the future. Generative AI can also be used to create personalized payment offers based on the customer's preferences and behavior.

Creating New-Age Frictionless User Journeys – The Building Blocks

For customized, on-the-spot discount offers and in-the-context payment experiences, the following steps can be taken:

- **Collect data:** Collect transaction data, browsing behavior, and customer demographics to identify patterns and preferences.
- **Analyze data:** Use generative AI algorithms to analyze the data and identify patterns in the customer behavior, such as their preferred products or services, purchase frequency, and average order value.
- **Generate personalized offers:** Based on the insights gained from the analysis, use generative AI models to generate personalized discount offers for the customer's next order. For instance, if the customer frequently orders pizza, AI can generate a discount on their next pizza order.
- **Deliver offers:** Deliver the personalized discounted offer to the customer through the appropriate channel, such as email, SMS, or push notification.
- **Monitor results:** Track the

effectiveness of the personalized discounted offer in increasing loyalty and driving revenue growth.

To leverage generative AI models for customized discount offers, businesses can use Deep Learning techniques such as Natural Language Processing (NLP) and image recognition to analyze customer data and identify patterns in their behavior. These insights can then be used to generate personalized offers for customers, thereby increasing customer loyalty and retention.

For example, a restaurant can use NLP to analyze customer review responses to identify dishes that are most popular. The restaurant can then use generative AI models to personalize discounted offers for popular dishes during the next order, enhancing the likelihood of customers ordering more often from the restaurant.

Conclusion

In summary, leveraging generative AI models to generate personalized discount offers can help businesses increase customer loyalty and retention by providing a more personalized experience for their customers.

Citations: This piece was co-written with GPT-3 to get a nice taste of human-computer co-creation – probably the next new normal. GPT-3 did not spit out the entire article, but it was responsible for combating writer's block, generating complete sentences and paragraphs of text, and brainstorming different use cases. To add some fun, the illustrations were generated through the Midjourney bot on Discord.

Glossary:

Narrow or specific AI is designed to perform specific tasks or solve problems, such as image or speech recognition, or language translation. These AI systems are trained on large

datasets and use machine learning algorithms, such as supervised or reinforcement learning to improve their performance over time.

Generative AI, on the other hand, is a specific type of AI designed to generate new and original content, such as images, text, music, or videos. Unlike traditional AI, which is designed to perform specific tasks or make decisions based on pre-existing rules and data, generative AI learns from large datasets and generates new content that is like the training data.

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