Intelligent Automation & Transformation with AI

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DISCOVER®

Who We Are

We strive to be the leading digital bank and payments services company. Our mission is to help people spend smarter, manage debt better, and save more to achieve a brighter financial future.

Award Winning Customer Service

Here for you to make a difference

Your Bank at Your Fingertips

Whenever and wherever you need us

Amazing People, Amazing Culture

A chance to make a real difference

DISCOVER®

Corporate Profile

Discover, a division of Capital One, N.A., is a digital banking and payment services company with one of the most recognized brands in U.S. financial services.

Since its inception in 1986, the company has become one of the largest card issuers in the United States.

The company issues the Discover card, America's cash rewards pioneer, and offers personal loans, home loans, checking and savings accounts and certificates of deposit through its banking business.

It operates the Discover Global Network comprised of Discover Network, with millions of merchant and cash access locations; PULSE, one of the nation's leading ATM/debit networks; and Diners Club International, a global payments network with acceptance around the world.

DISCOVER®

An Engineering Culture Like No Other

Discover is building amazing products through a focus on people, processes, and technology. This methodology is how we create a brighter financial future for our customers.

Small autonomous teams tasked with meaningful work

Projects that directly impact consumers and make a difference in people's lives

A focus on learning and innovation

Direct access to senior leadership at all levels

Agenda

- Automation at Discover

- Types of Automation

- GenAI Capabilities

- Automation via GenAI

- Governance and Oversight

- GenAI in the financial industry

- Conclusion

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Presenter

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Automation at Discover

"The first rule of any technology used in a business is that automation applied to an efficient operation will magnify the efficiency. The second is that automation applied to an inefficient operation will magnify the inefficiency." —Bill Gates

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5 factors to determine whether a process is a good candidate for automation:

- ✓ is repetitive
- ✓ is logic-based
- ✓ involves a significant amount of manual work hours
- ✓ has standard inputs and outputs requiring significant manual effort to design
- ✓ has high volume and high runtime frequency

Discover Process for Automation / Optimization

The ESSA (Eliminate, Simplify, Standardize, Automate) process suggests a structure for this analysis. ESSA stands for:

- **Eliminate** steps that are repetitive, redundant, not a value-add to business, or involve unnecessary handoffs

- **Simplify** steps that are overly complicated, combining steps where possible, and removing those that are unnecessary

- **Standardize** the steps that are uniform and consistent

- **Automate** the process at the end of the preceding steps, as it is now ready

Automation at Discover

Intelligent document processing applies machine learning (ML), deep learning, computer vision (e.g. OCR tools), and natural language technologies (NLT) to extract data from structured, semi-structured, or unstructured documents to read and process content.

High-volume bots perform business tasks using existing applications/interfaces like users, handling rules based, repeatable and high-volume tasks with ease

Process Mining is a technology that uses event logs and transactional data to reconstruct and visualize a business process.

We deliver Generative AI/LLM based solutions to meet the business needs using data, algorithms and platforms across Discover

BPM involves creating visual representations (process models) of business processes, allowing stakeholders to understand, analyze, and improve the flow of activities.

GenAI Capabilities

- Chatbot: General purpose conversation backed by LLMs

- Classification: Sentiment analysis and Complaint identification.

- Summarization: General text summarization and Domain-specific Summarization

- Topic Modeling: Multi Topic tagging from a predefined list and Open topic extraction with reasoning and summarization

- Document Search: LLM Enhanced information retrieval using internal data

- Speech to Text: Speech to text transcription for call interactions/audio files and Speaker diarization

- Text to Speech: Convert text to Natural Sounding audio with ability to customize voice, pace and tone

- Image to Text: Vision to text via OCP and vision model with enhanced image understanding and signature recognition

Automation via GenAI

- Problem – Servicing Agents have difficulty finding information on how to handle customer inquiries

  - ❑ Poor agent experience – convoluted information in documentation & hard to find answers

  - ❑ Poor customer experience – wrong information provided & long hold times

- Solution – "Ask Action"

  - ❑ Utilize Public Cloud's Search & Conversation' solution

  - ❑ Train model with Policy & Procedure documents used by Agents

    - ▪ Test

    - ▪ Tune

1. Defect Reduction
2. AHT Reduction
3. Customer Satisfaction
4. Agent Satisfaction

Ask Action

How can I help?

Ask a question, then please rate my response. Your feedback helps future responses.

Automation via GenAI Contd..

- Problem to Solve – Messaging conversations are time consuming to read through

  - ❑ Messaging is asynchronous so customers can come and go

  - ❑ Conversations are transferred to different agents (often leading to customers repeating themselves)

  - ❑ Requires a lot of scrolling to read through entire thread & agents can abandon reading

- Solution – Messaging Conversation Summary

  - ❑ Utilize Public Cloud's Vertex AI language model suite

  - ❑ Customize prompt

1. AHT Reduction
2. Customer Satisfaction
3. Agent Satisfaction

Automation via GenAI Contd..

- Problem to Solve – Customers need to be contacted within specified hours or via certain phone numbers.
  - ❑ With thousands of customer calls each day, the need to quickly classify customers, particularly on no-call lists, is imperative for staying compliant with financial regulations and for offering the world-class customer service Discover is known for.
  - ❑ There are numerous preferences that need to be classified. Customers could be on no-contact lists, while others only want to be contacted during specific hours or via certain phone numbers. There are even use cases for customers who are traveling or hospitalized who don't want to be contacted for certain amounts of time.

- Solution – No-Contact Model (customer contact preferences)
  - ❑ Deployed a generative AI model in production which can process transcripts daily to identify no-contact classifications.
  - ❑ Internal data classification
  - ❑ cloud-scale data warehousing with on-demand, scalable, and secure analytics capabilities.

- Customer satisfaction
- Accuracy and correct information
- Dataset coverage from 20% to 100%
- Reduce the time-to-market from 7 hours to 4 minutes

Automation via GenAI Contd..
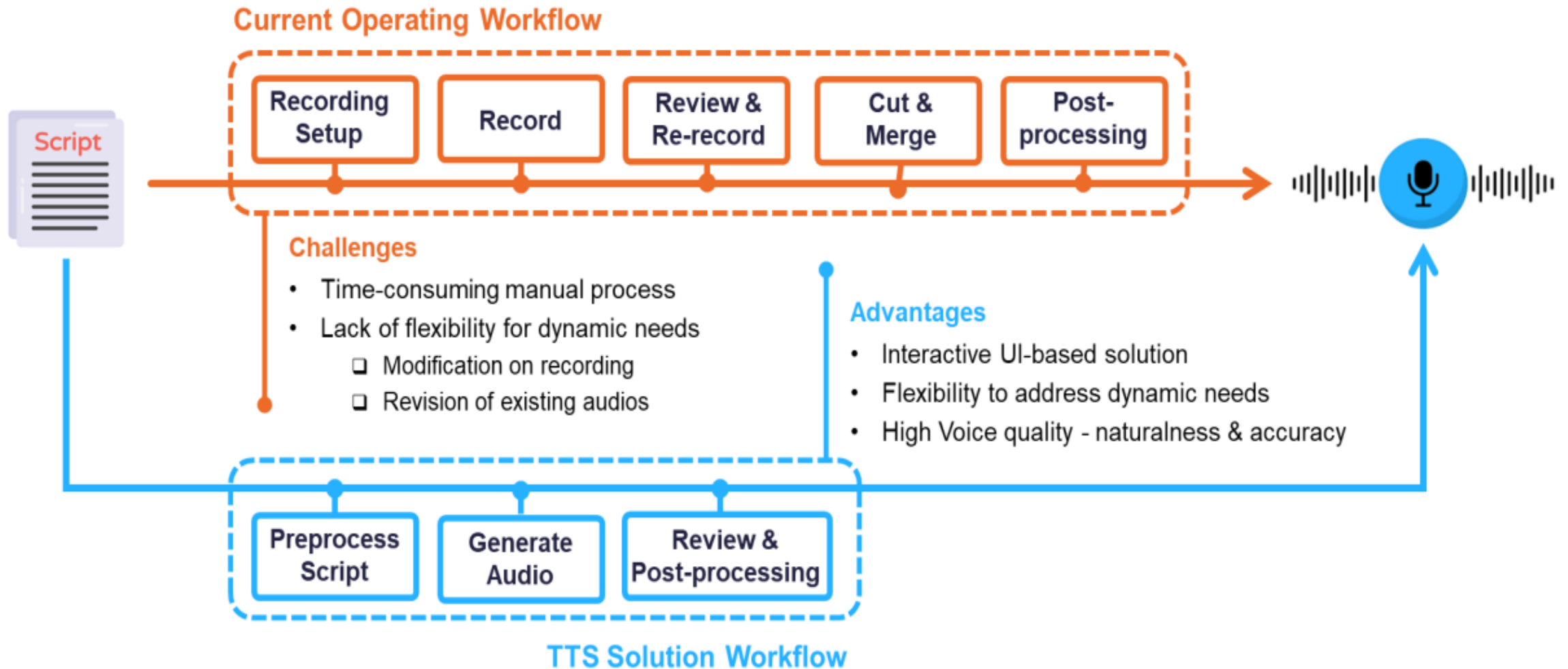
Governance and Oversight

Let's Use GenAI Responsibly

Generative AI use can lead to combinations of risks – whether new or enhanced – that may change over time (e.g., Cyber/Info, Data, Model, Operational, Compliance, Legal, Third-Party, and Reputational Risks)

- Responsible use (Risk Management) - key to unlocking more value from Generative AI @ Discover

- Want to use Gen. AI but don't know how to? We can help you navigate the evolving governance landscape for Gen. AI.

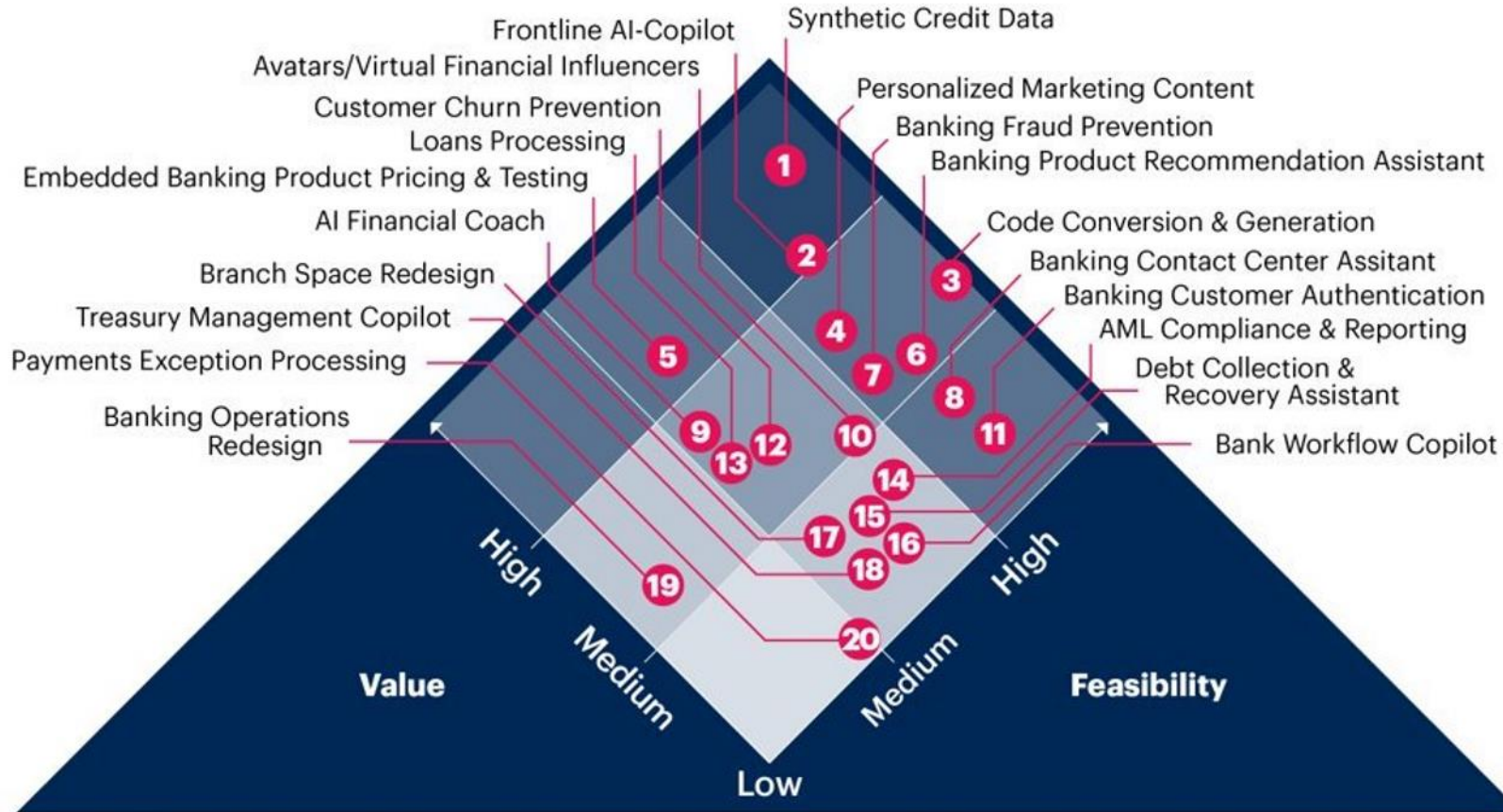Ideation & Sponsorship → Explore & Finalize Solution(s) → Governance (Proof-of-Concept & Production) → Implement, Monitor & Report

Conclusion

- The impact of automation across all industries has been significant and positive, with ease and smoothness being the features most highly regarded by those who have taken the step. Automation establishes a vision to which everyone can contribute.

- Utilizing an automation first approach, manual processes can be replaced with technology to help minimize risk and eliminate tedious tasks, freeing up employee's capacity to focus on higher-value work.

- With GenAI, automation becomes more easier to use but it comes with its own set of challenge of data privacy and data security which needs to be addressed by putting proper guardrails to keep the data private and secured.

- Proper timely scan needs to be done on the datasets as well as data models to avoid any kind of vulnerabilities or threat. Proper and frequent threat assessment need to be conducted on the models those are being used for specific use case.

- Overall GenAI need to be used carefully and responsibly.

Appendix: GenAI in the financial industry