Sravan Kasarla
Chief Data Officer, Thrivent
Financial

Power of

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Responsive Intelligence

Data, DATA, Data....

Financial Services

Digital Experiences

To Drive

Artificial Intelligence

Knowledge

Reasoning

Science

Learning
OUR DISCUSSION FRAMEWORK TODAY

➢ Let’s start with - History and definition of AI

➢ What makes Al Responsive?

➢ Financial Services and need for Responsive AI

➢ Responsive Intelligence – what and how it powers experiences

➢ Power of Data Liquidity for enabling RI
**WHAT IS ARTIFICIAL INTELLIGENCE?**

Artificial intelligence (AI) is the simulation of human intelligence processes by machines, more specifically, computer systems. This includes learning (the acquisition of information and rules for using the information), reasoning (using the rules to reach conclusions), and self-correction.
Artificial Intelligence

What is in AI anyway?

Artificial Intelligence
- Computational methods allowing a computer to mimic human intelligence.

Machine Learning
- Algorithms able to learn without being explicitly programmed to do so.

Deep Learning
- A subset of ML which makes the computation of multi-layer neural networks feasible.

AI = ML + TD + HITL

Artificial Intelligence: in contrast to natural intelligence, it is the ability of computer systems to perform tasks or actions that would normally require a human.

Machine Learning: the ability of computer systems to use algorithms and statistical models to perform tasks without explicit instruction, through patterns and inferences.

Training Data: the data used to train a machine learning algorithm to perform a task in supervised machine learning.

Human in the Loop: the involvement of a human in training a machine learning algorithm.

Machine Learning is a subset of AI

Examples:
- Fraud detection
- Making a next best offer to a consumer
- Uber estimating your fare
- Spotify/Netflix suggests songs and movies

Deep Learning is an advanced and deeper a subset of Machine Learning

Examples:
- Colorization of black and white movies
- X-ray machines that read your x-ray
- Object classification in photos
- Used in chatbots for customer service
- Self driving car
- Digital Assistants (Alexa, Siri, Google)
Artificial intelligence can deliver on industry expectations through machine learning and deep learning.

Artificial intelligence (AI)
Intelligence exhibited by machines, whereby machines mimic cognitive functions associated with human minds: cognitive functions include all aspects of learning, perceiving, problem solving, and reasoning.

Machine learning (ML)
Major approach to making AI by learning from, and making data-driven predictions based on, data and learned experiences. ML comprises several categories, including reinforcement learning, supervised learning, and unsupervised learning.

Deep learning (DL)
Branch of ML in which algorithms attempt to model high-level abstractions of data. DL connects artificial, software-based calculators that approximate the function of brain neurons. Neural networks, formed by these calculators, receive, analyze, and determine inputs and are informed if determination is correct.


Evolving Techniques
HOW DOES AI BECOME “RESPONSIVE” IN A DIGITALLY ENABLED WORLD?

Leveraging lots of Data generated and needed to deliver Digital Experiences

- Conversational Intelligence
- Transactional Intelligence
- Social Intelligence
- Interaction/activity Intelligence
- Behavioral Intelligence
- Business Intelligence
- Device Intelligence (IoT)
- Augment Human Cognitive Abilities (Judgement)
AI IS CHANGING THE WORLD WE LIVE IN

AI Use cases

- Financial
  - Recommendations
  - Customer service
  - Chatbots
  - Digital Marketing
- Retail & Consumer
- Banking
- Smart Homes
- Research
- Automotive
- Pharma
- Energy
- Insurance
  - Self-driving car
  - Computer Vision
  - Preventive maintenance
- Management
- Internet, IT
  - Inventory tracking and optimization
- Supply Chain
  - Automated testing
  - Self-healing apps
- Industrial
  - Forecasting
  - Remote triage
  - Preventive maintenance
- Legal
  - Customer Experience
  - Fraud detection
  - Next Best Offers
  - Financial Advice
  - Digital Enablement
  - Digital products & Services
  - Recommendations/Suitability
  - Data Monetization
- Product Models
  - Insight
  - Product
  - Models
  - AI Use cases

Digital Enablement
- Customer Engagement
- Operational Efficiency
AI is altering the attributes necessary to build a successful business in financial services

The resolution of previous trade-offs will create a new wave of transformation across the global financial services industry...

### Dominant institutions in the past were built on...

- **Scale of assets**
  - Economies of scale presented a cost advantage

- **Mass production**
  - Physical footprint and standardized products drove cost-effective revenue growth

- **Exclusivity of relationships**
  - Ability to have direct access to many markets and connections to investors was a critical differentiator

- **High switching costs**
  - High barriers to switching providers drove customer retention

- **Dependence on human ingenuity**
  - Processes scaled through additional labour and functional training

### In the future, these institutions will be built on...

- **Scale of data**
  - As AI drives operational efficiency, economies of scale alone will not sustain cost advantages

- **Tailored experiences**
  - AI allows the scaled distribution of highly customized products and personalized interactions

- **Optimization and matching**
  - Connections are digitized, increasing the importance of optimizing the best fit between parties

- **High retention benefits**
  - Continuously improving product performance to offer superior customer outcomes and new value will keep clients engaged

- **Value of augmented performance**
  - The interplay of strengths across technology and talent amplifies performance

This shift will have far-reaching consequences for the make-up of financial services, placing legacy business models under pressure from those whose businesses are built around these new attributes
WHAT IS RESPONSIVE INTELLIGENCE?

Why Not simply AI
(It's Personal to me !!)
Financial services of the future (even today) need to be more responsive and apply responsible AI ➔ "Responsive Intelligence"

“Actionable Insights delivered right at the point of (digital) interaction powered by frictionless data flow bringing Customer Interactions, Life Events, behaviors and tempering them with Life Stages, Regulations and Privacy Laws to recommend “Suitable” Next Best Actions to deliver financial clarity”
Financial Services firms are pivoting to more “relationship” partners from “Transactional” and “Accounts” providers.

Many financial services firms are trying to create a more holistic financial advice solution and “One stop shop” offerings to become a significant part of Customer Financial Journey.

Digital Transformation led by retail is driving banks and financial services firms from “transactional” channels to “Engagement and Relationship” touchpoints.

Every Digital Experience is Powered by Data and AI. Digital Transformation ➔ Responsive Intelligence.

Financial services predictions have been mostly batch inferenced; moving to real-time inference using customer engagement interactions, behaviors as post processing tasks to respond with recommendations/actions at the point of interaction is an example of Responsive Intelligence.
➢ **Stronger customer acquisition**: BFS gain an edge by creating superior customer experiences with end-to-end automation and using advanced analytics to craft highly personalized messages at each step of the customer-acquisition journey.

➢ **Higher customer lifetime value**: BFS can increase the lifetime value of customers by engaging with them continuously and intelligently to strengthen each relationship across diverse products and services.

➢ **Lower operating costs**: BFS can lower costs by automating as fully as possible document processing, review, and decision making, particularly in acquisition and servicing.

➢ **Lower credit risk**: To lower credit risks, BFS can adopt more sophisticated screening of prospective customers and early detection of behaviors that signal higher risk of default and fraud.
Impactful Opportunity of Responsive Intelligence in Financial Services .....
Customer Intent Prediction and Next Best Action(s):
- Predicting Customer Intent based on Interaction data and RI
- Relevant and Personalized Offers presented based on trail created by the customer interactions – ex: Beneficiary update to College savings account.

AI Bank of the Future:
- Voice enabled banking
- Text-Speech transcription and Sentiment Analysis

Future of Insurance:
- “Pay-as-you-live” Life Insurance Policy
- Usage and behavior-based Mobility Insurance Policy
- Personalized Financial Advice
What Powers RI?
Data is the Rocket Fuel for the Responsive Intelligence

- We have an abundance of data, signals, clues created by sensors, smart devices, digital interfaces every day.
- We are in the “Information powered digital age” to take actions with data – Not just be informed.
Know Your Customers/Prospects Beyond “KYC”

In Financial Services - Investments, Insurance and Banking

➢ It pays to know more about Customers and Insights help Grow (with) them
➢ Customers leave a lot of signals and clues in every interaction with the firms
➢ Comprehensive Client Data 360 is the Secret sauce to serve them better
➢ Customers want you to know them, show them and help them achieve their goals

Henry Ford said, “If I have asked people what they wanted, they would have said faster horses” He built Automobile by observing how people get around

We have the data and power of Insights to delight and help customers by anticipating needs that they have yet to realize
Frictionless Data Flow is the driving force of **Responsive Intelligence**
AI/RI POWERED DIGITAL CUSTOMER ENGAGEMENT

➢ Advanced Analytics and Responsive Intelligence/AI are key elements in powering delivery of engaging Customer Experiences

➢ Marketing 5.0 is enabled by Responsive and human centric AI especially in Service Businesses
ELEMENTS OF SUCCESSFUL RESPONSIVE INTELLIGENCE STRATEGY
Key Considerations

- Given the profound impact that AI can have on an organization’s customers, employees, operations, and cost structure, identifying the right opportunities and approach needs C-level support of Analytics Strategy.
- Look for two necessary conditions to decide whether something is ripe for AI: “If you have a lot of data, and you are making lots of daily decisions with that data, then the impact of AI is huge,”
- Where the company could see the biggest measurable outcomes and where Customer experience can be positively impacted.
- Where friction can be taken out the business and just make things work better – Automation and RPA.
Key Considerations

- Assess Executive alignment and readiness to change the business
- Catalysts for change - like transformative initiatives or market disruption
- Talent assessment and acquisition – Availability, upskilling and training
- Change Management capability
Key Considerations

- Position algorithms/insights right near the point of interaction
- Microservices/APIs (digital and analytical)
- Frictionless Data Exchange and right sized data architecture
- Consider AI Tools which can accelerate model development vs. coding
- Decision on Compute options for training and Operationalization
Key Considerations

- Algorithms, models and compute power won't get you to AI in itself.
- Data, More Data and lots of data – models and algorithms need “tons” of data to train and be effective.
- Let Transactional data, business data and streams of unstructured customer interactions, behaviors and logs and preferences Flow to and from Systems of Engagement to systems of Record to Systems of Insights.
- Identify and acquire public and proprietary external data for enrichment and completeness.
- Consider light data prep enough for ready use by range of Analytical use cases.
Key Considerations

- You will need a well architected Data eco-system to harness the power of data, signals and interactions Customers are leaving behind
- Ideally Cloud deployed Data Lake, Streaming Data platforms, elastic containerized compute environments will be needed
- Machine learning, model development tools, training environments, data prep tools and advanced visualization tools will be needed
Key Considerations

- Model development and management process for successful and consistent deployment
- Establish clear approach, tools and training data sets
- Policies for acceptable use, monitoring and refinement of models
- Automation & DevOps discipline applied to AI development
STEPS IN THE RI JOURNEY

Key Considerations

- Model development and management process for successful and consistent deployment
- Establish clear approach, tools and training data sets
- Policies for acceptable use, monitoring and refinement of models
- Automation & Model Ops discipline applied to AI development
- Explainable AI is critical for regulated industries like Financial Services (Banking, Insurance, Investments etc.)
IN CONCLUSION
DATA, DIGITAL & RI ARE CHANGING THE WORLD

➢ Connecting People and Societies
➢ New Ways to Measure, Manage, and Control
➢ A Profound Way to Search
➢ Predictions and Recommendations
➢ Expedite the way we deliver Services
➢ Smart Homes, Communities and Cities
➢ Enabling New Discoveries
➢ Finding new medicines and help patients
➢ Activity Automation by Machines
Q & A
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