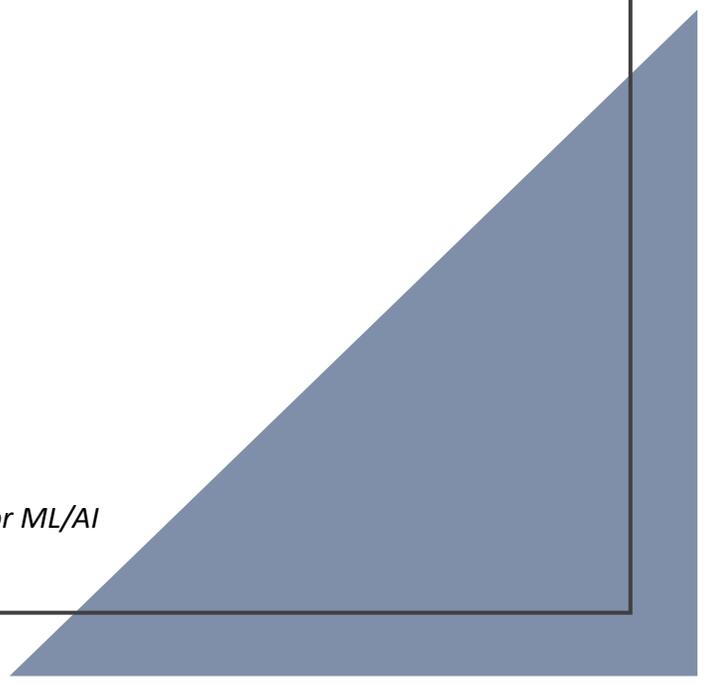


Cloud and Data Strategy for Machine Learning and Artificial Intelligence –Financial Services

*Dimple Thakkar- Head of Data for ML/AI
JPMorgan Chase*



Current Machine Learning (ML) and Artificial Intelligence (AI) Landscape –Financial Services

- Growth in AI in Banking
 - 2020- \$4 B
 - 2030-\$65 B
- Investments in ML, AI overall within Financial Services
 - 2022- \$20B
 - 2023-\$100 B

Overall size of AI market \$197B in 2023, CAGR 40% across North America, Europe, APAC and Middle East & Latin America to \$210 B in 2030

Top 5 use-cases in North America, Europe, APAC by Investments



*Fraud & Anomaly Detection
Retail & Institutional Banking,
Investment Banking*



*ML, Conversational AI, Text processing
Retail Banking, Investment
Operations, Trading*



*ML, AI Trading- Robo-Advisors,
Digital Assets
Trading, Wealth Management,
Investment Banking*



*Compliance, risk automation,
document processing, Blockchain
Retail Banking-Lending, Cards,
Compliance*



Return On Investments(ROI) on AI/ML for Financial Services

- *By 2030, net savings via AI to account for 22%.Share of AI within financial services to represent upward of \$1 Trillion in projected savings , per Bain and McKinsey. Overall chatbots savings- \$7.3B*
- Front Office- \$490 B in savings- 50% → reductions in scale of retail branches, security tellers, cashiers
- Middle Office -\$350 B in savings--→ AI,ML in compliance, KYC use-cases, authentication, data processing
- Back Office - \$200 B in savings→ underwriting and collections systems.

*AI Adaption
100% growth
from 2017*

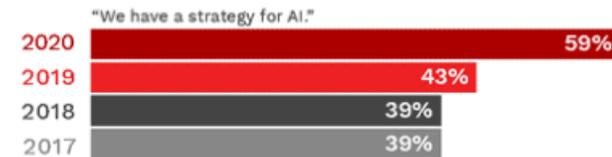
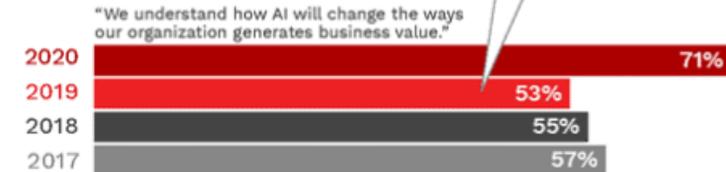
*North America
Market Share
CAGR 38% from
2022-2030
45% in 2022*

*Europe Market
Share
CAGR 26% from
2022-2030*

*Market Share
APAC
CAGR 42% from
2022- 2030*

Benefits of artificial intelligence lag understanding and deployment

Percentage of respondents who agree or strongly agree



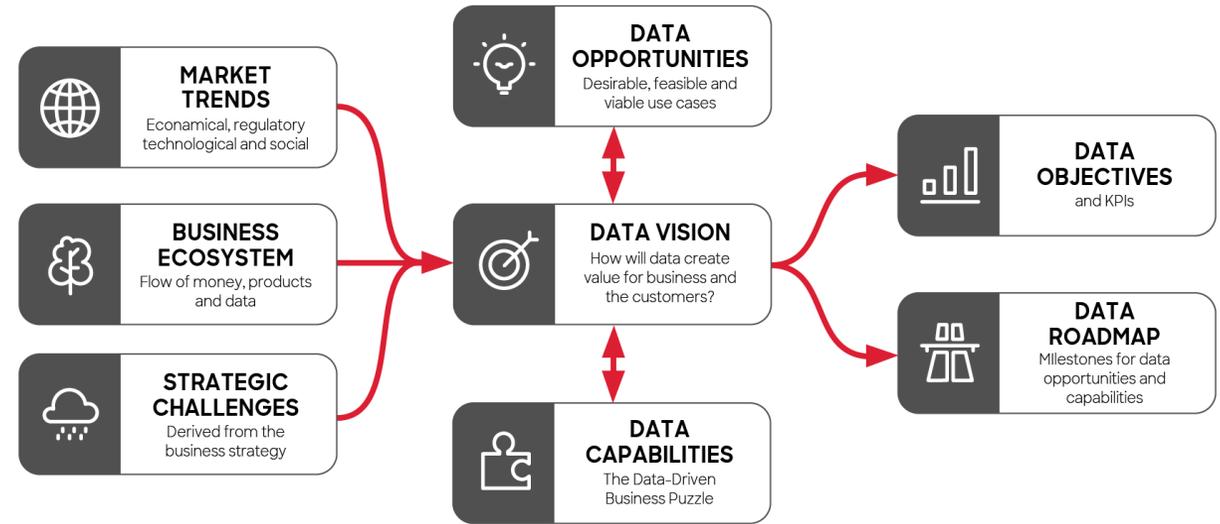
... But only **11%** of organizations report significant financial benefits in 2020 

SOURCE: MIT Sloan Management Review © November 2020 The Financial Brand

* Source- The Financial Brand and MIT Sloan

Intersection of Data Strategies with Innovation & Challenges

- Multiple initiatives intersecting data strategies with Cloud movement
- Digital Innovation with Cloud migration
- Data being recognized as a critical component in innovation
- Success of ML, AI critically based on data movement strategy to Cloud, data quality, consumption and production of data for Business.
- Global compliance rules impacting data strategies for cloud



Digital capabilities at the fore-front of Data Strategy

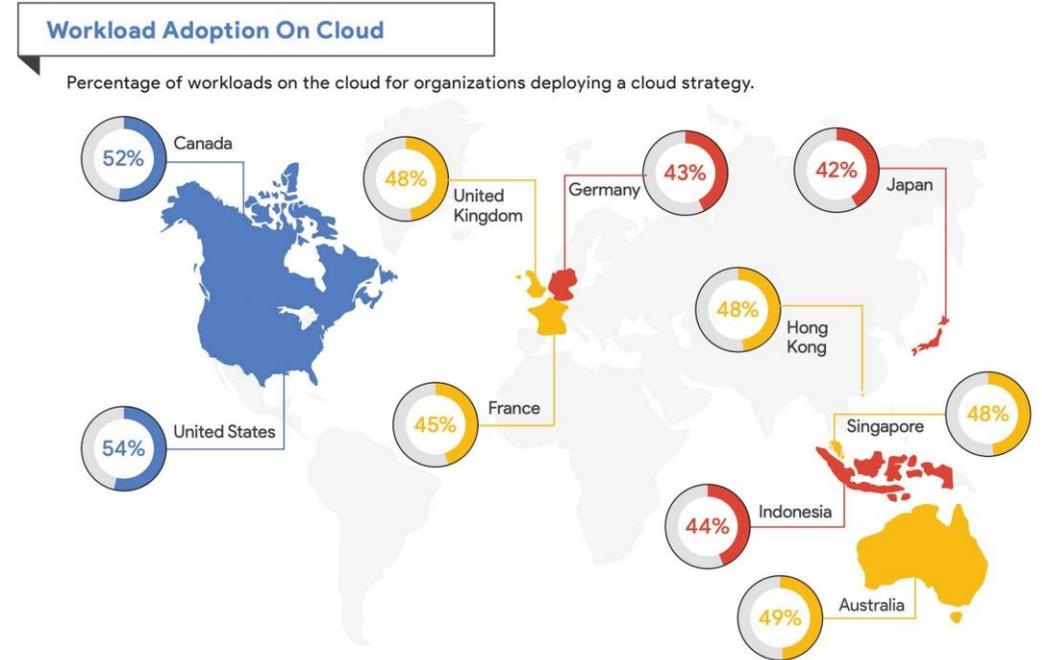
End to end capabilities to be driven for Data and Analytics to derive most ROI on use-cases

Are we on 'Cloud 9' for Cloud Implementations?

- *Why is Cloud so complicated?*

- Older systems- on-premise software and systems
- All new tools on Cloud for breadth of innovation and scalability
- New data movement patterns, technology, new challenges
- Data taxonomy harder to achieve on Cloud
- Too many Cloud environments based on types of businesses-
 - Investment Banking
 - Wealth Management
 - Retail, Commercial banking

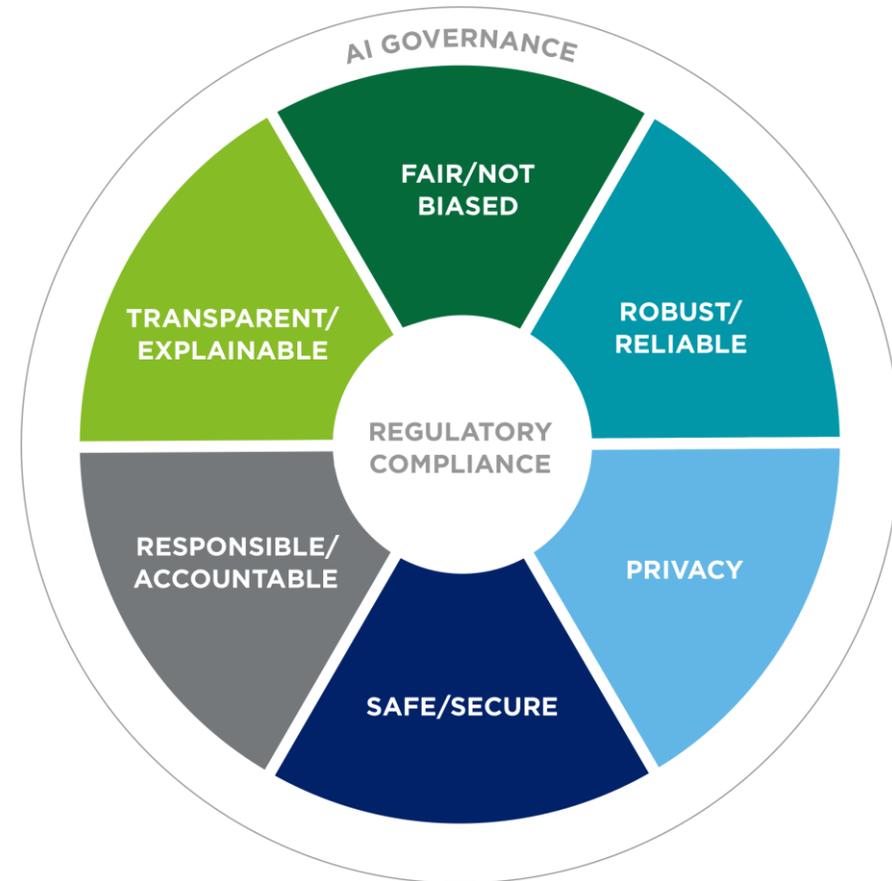
92% of the Financial Services organizations working towards Cloud migration/s in the next 6-9 months



- AI initiatives on Cloud: 23%
- Hybrid-42%
- On-Prem-36%

Can we balance Governance, Policies and Progress in AI?

- AI Governance- 'Soft Law' established in 2020-2021. 'AlgorithmWatch' maintains guidelines. EU first legislative approach for AI Governance- EU's AI act passed on 2021
- ML, AI policies- regulations being worked upon. Institutionalization of policies for ML, AI
- Retail & Institutional Banking sector challenges with governance on data usage, data sharing
- Slower adaption of innovation AND Governance
- Ethical AI and scalability



+

○

Financial Services look in the next 5 years

- Innovation won't be a buzz-word- it will be the way of life –day to day- Financial Services a pioneer, Healthcare, Manufacturing following suit
 - Software- Hardware integration- banking, services, cars- TESLA
 - Investments, advisory, banking, cards, customer 360
 - Digital Assets in Institutional income, fund management
 - Academia, talent- towards innovative technologies
- Relaxing of policies as they increase for Digital Assets in Asset and Fund Management, Crypto currencies and trading and Blockchain
- Complete transformation observed in ASIAPAC . Transactions and Payments arena end to end – digital- cities and rural areas.
- Shortage of talent in Innovative technologies. Transformation of curriculum to address shortages in developed nations

