



Adoption of Artificial Intelligence in Payments for Fraud Detection and Customer Experience

Presented By -

Rahul Dua (ESG1609012)

EMBA - Batch 12

Under Guidance Of -

Academic Mentor : Prof. Somashekhar N.S

Industry Mentor : Saurish Nandi



**S P Jain
School of Global
Management**

DUBAI • MUMBAI • SINGAPORE • SYDNEY

Topics

Artificial Intelligence (AI)

Digital Payments

Artificial Intelligence in Digital Payments

Research Objective

Research Methodology

Literature Review

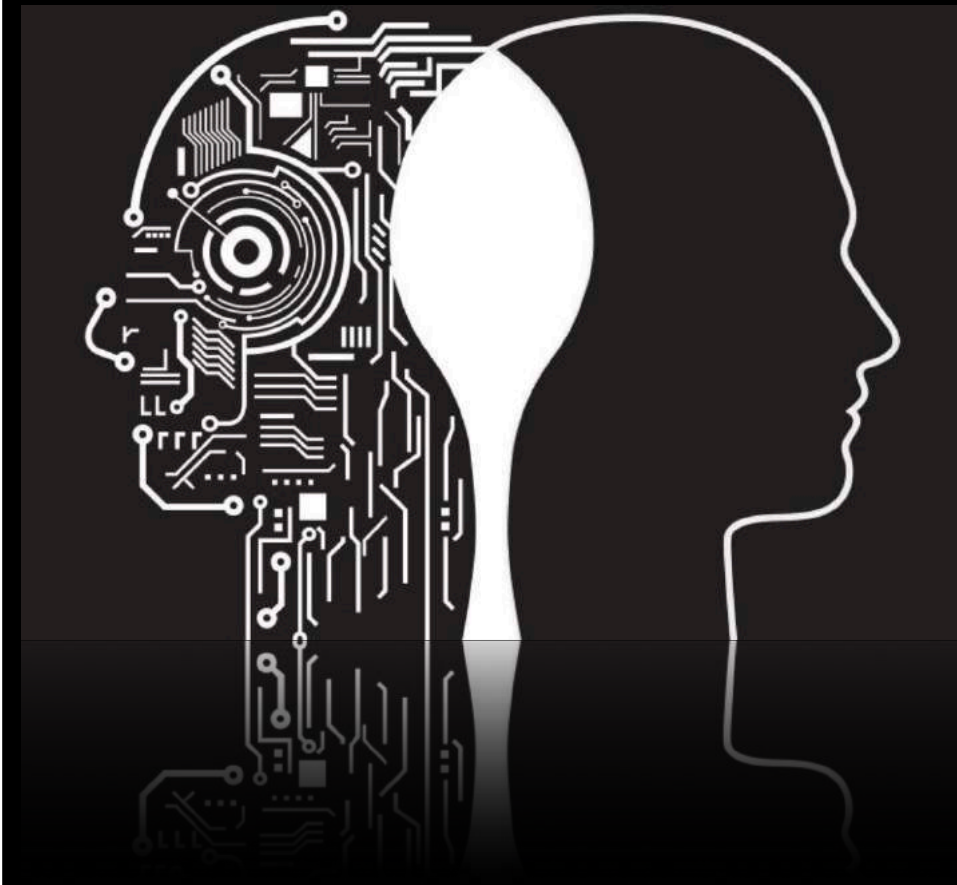
Current Adoption of AI in Payments

Research Findings

Recommendations

Limitations and Future Scope

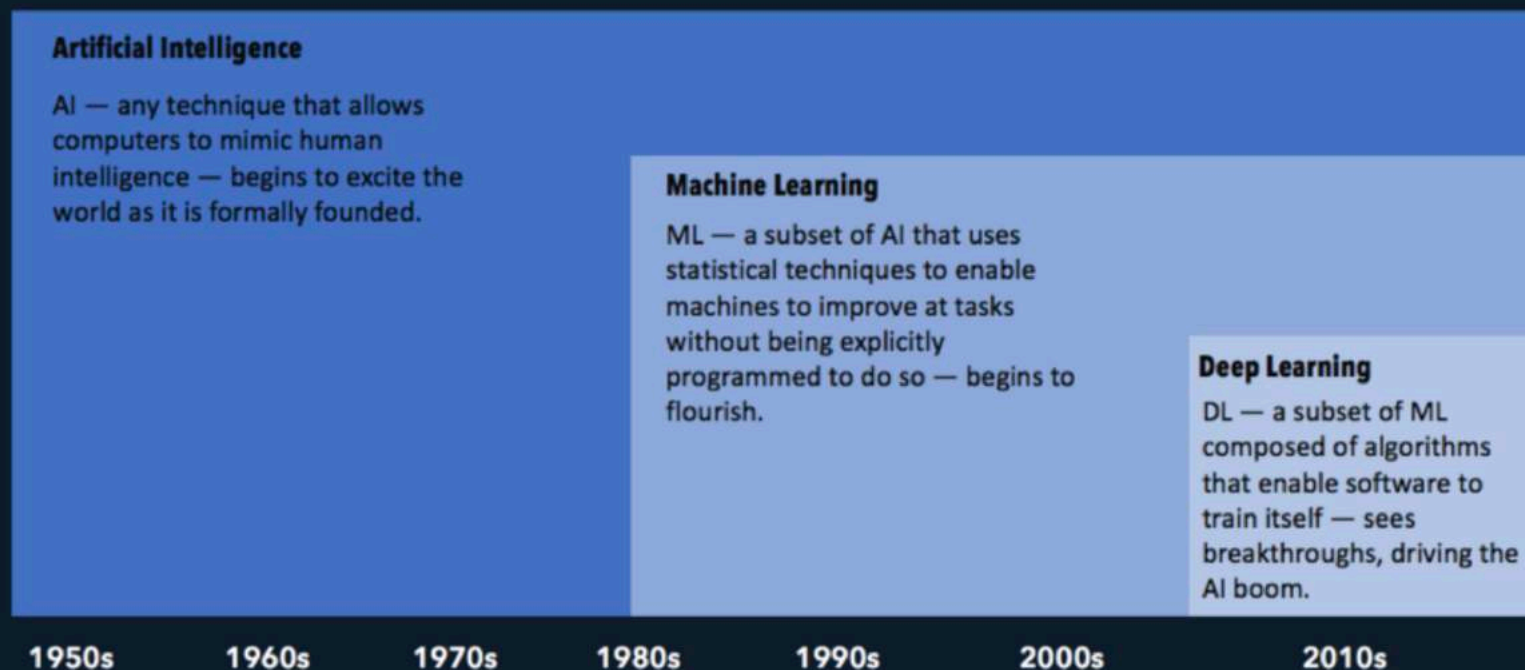
Conclusion



Artificial Intelligence (AI)

- ✦ Artificial Intelligence is everywhere - Amazon, Netflix, Alexa, Siri, Chatbots
- ✦ AI is broadly classified into three buckets of Big Data Analytics, Machine Learning and Neural Networks
- ✦ Conversational Agents, Threat Monitoring, Facial Recognition, Predictive Analytics are some of the current use cases
- ✦ AI talent with domain expertise are in high demand and academic institutions are working hard to bridge the gap

ARTIFICIAL INTELLIGENCE TIMELINE



Artificial Intelligence Trends in 2019

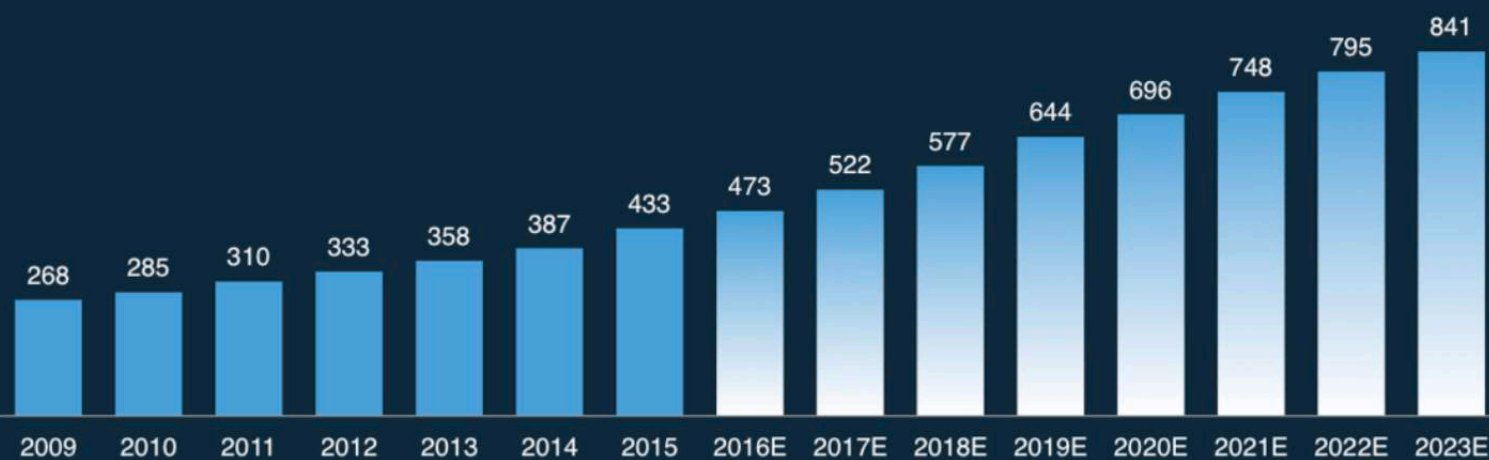


Digital Payments

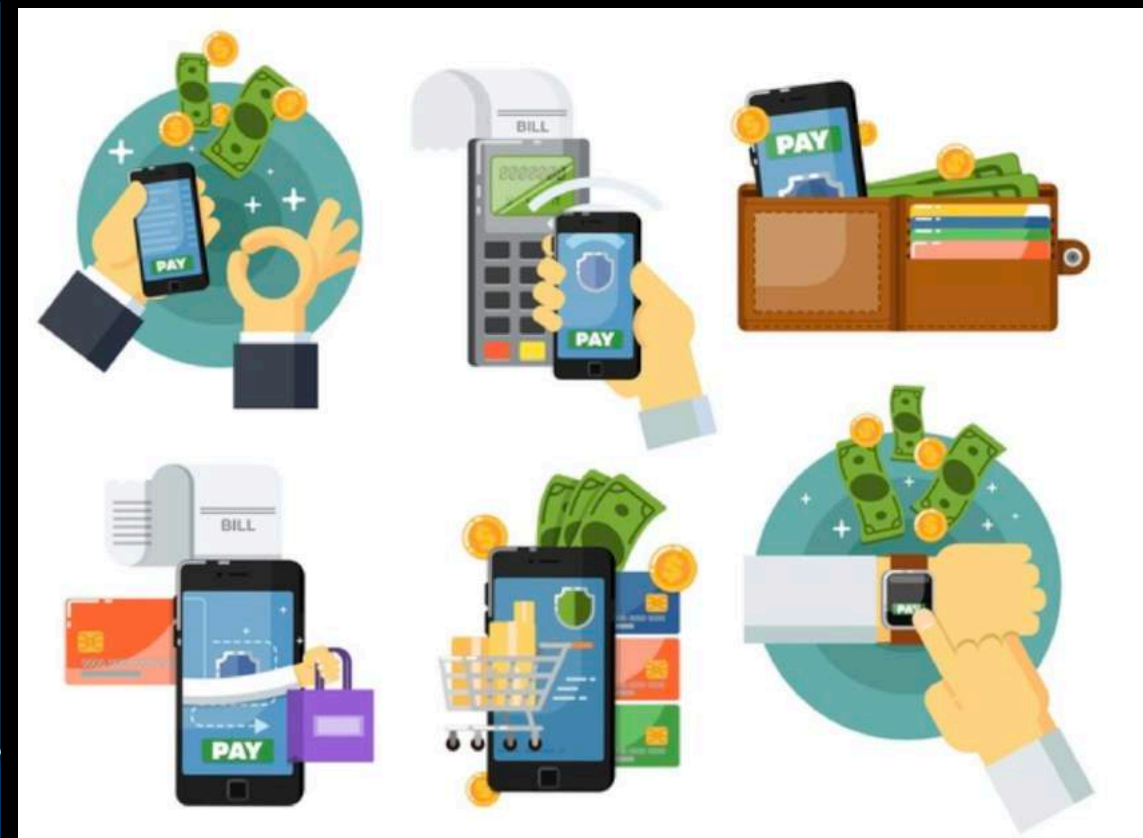
- ✦ Digital Payments industry is growing at around 15% year on year
- ✦ Growth of e-commerce and mobile technology are significant contributors to the rise of digital payments
- ✦ Payment companies required highest level of efficiency for payments processing, anomaly detection, customer on-boarding, user experience, anti money laundering and availability
- ✦ Front end and back end process need an overhaul as Fintech's continue to grow and eat on the profits of bigger players in the payment space

Digital payments are expected to swell through 2023 and beyond

Number of noncash transactions, billions



Source - BIS 2017



Artificial Intelligence in Digital Payments

- ✦ Payment companies are investing heavily in AI enabled technologies and platforms
- ✦ Based on Finextra survey, 45% industry leaders believe in the potential of AI to address inefficiencies in Payments
- ✦ Operational efficiencies through reduction and automation of payment processes are being explored
- ✦ Partnerships and acquisitions between AI and Payment companies is on the rise providing a faster way for companies to adopt AI
- ✦ 56% of respondents would like to use an AI enabled assistant for payments



Layered AI monitors both individual transactions and the entire network



Neural networks spot emerging patterns and new fraud types



Proactive intelligence resolves potential threats early

4 reasons to embrace AI's impact on the point of sale

PayPal Buys AI Prediction Platform

UOB taps Personetics to gain deeper customer insights

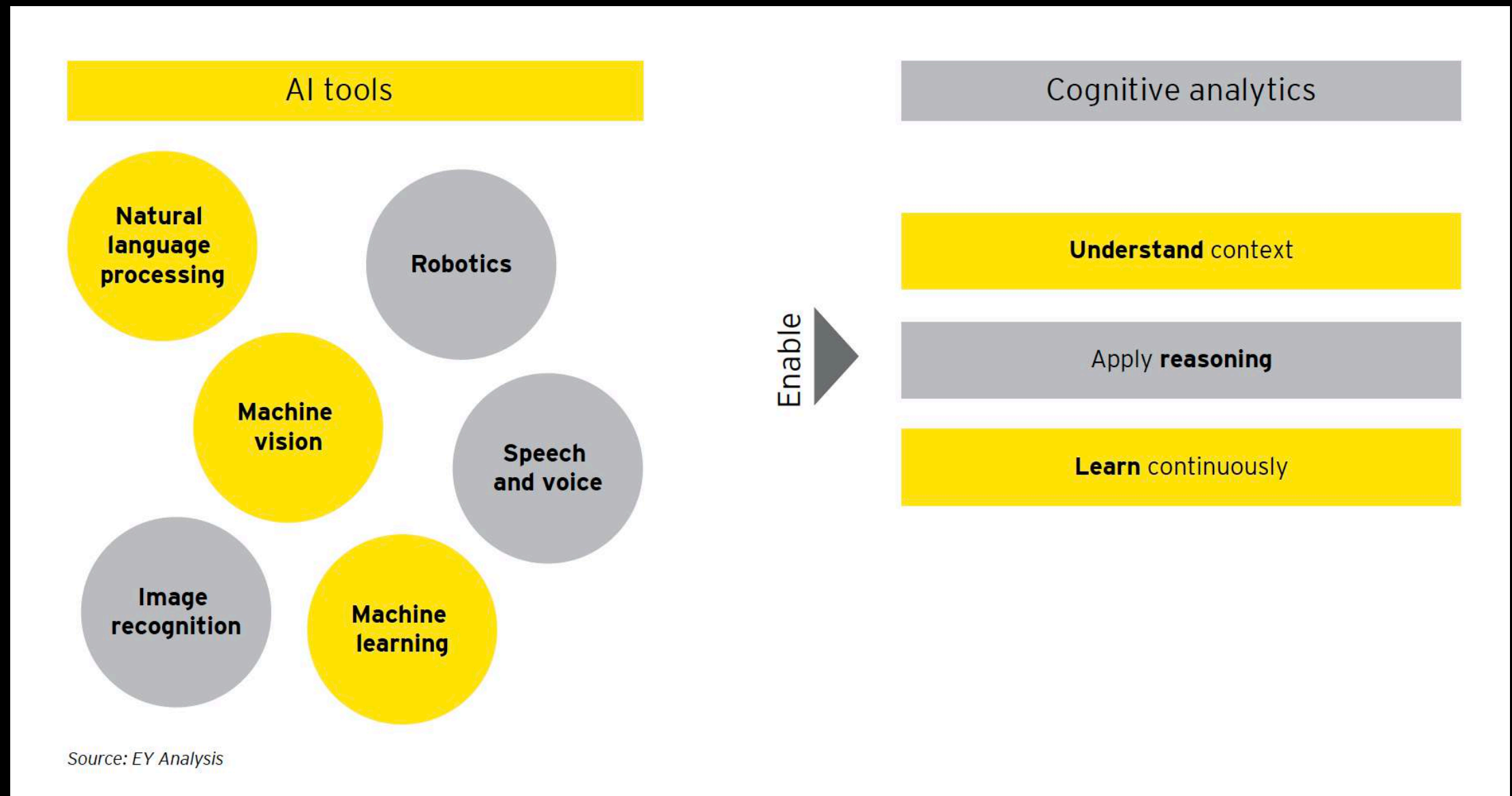
As AI grows more common in payments and banking

Worldpay unveils AuthMax to boost card approval rates for online sellers

Speedpay Now Leverages Artificial Intelligence to Offer an Improved Customer Experience

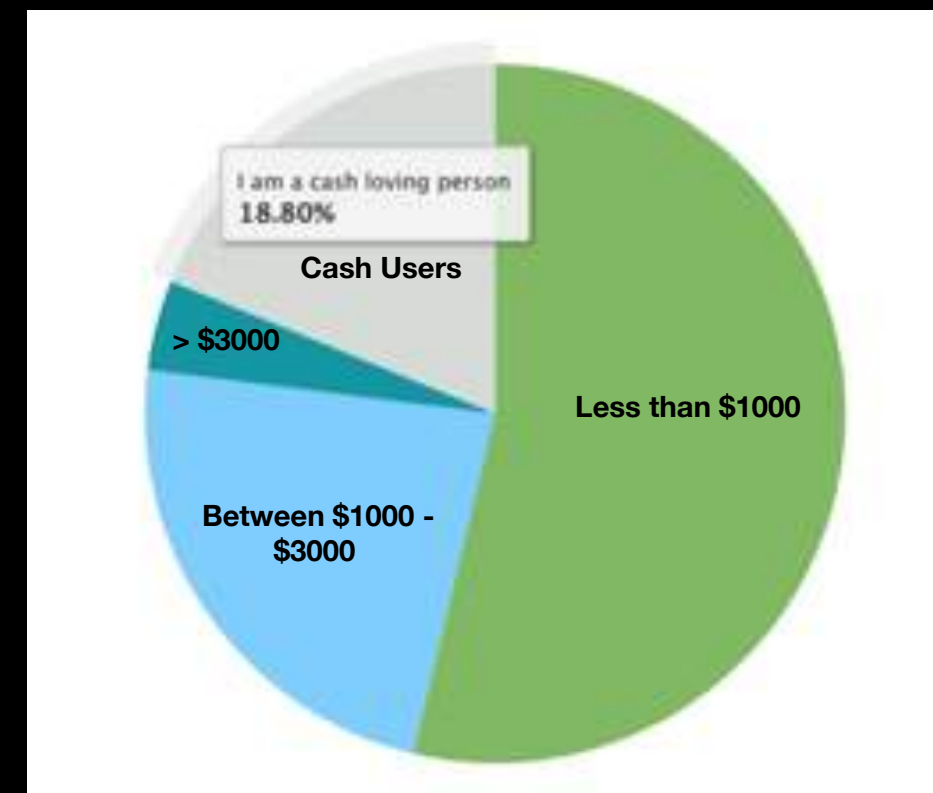
Research Objective

Identify how Artificial Intelligence tools and technologies can be adopted by Payment companies for Fraud Prevention and Customer Experience



Research Methodology

- ✦ **Qualitative and Quantitative research methods were used as part of the research**
 - Primary data in the form of survey questionnaire and expert interviews
 - Secondary data by doing an in-depth literature review of 28 payment industry reports and 34 internet articles
- ✦ **Survey questionnaire consisted of 25 questions focusing on**
 - Preferred digital payment method
 - General understanding of AI
 - Payment fraud understanding and experience
 - Payment experience preference across devices
 - Exposure of Chatbots and overall experience
- ✦ **Demographic representation of survey participants**
 - Total participants: 626
 - Region: India - 118, Singapore - 142 and, USA - 366
 - Education: Attended University - 482
 - Monthly spend on Digital Payments:
 - Less than \$1000 - 319
 - Between \$1000 and \$3000 - 167
 - Greater than \$3000 - 40
 - Cash Users - 100



Graphical representation of monthly spend on digital payments

Literature Review

- ✦ Payments fraud detection and prevention is one of the most strategic area for Payment companies
- ✦ Payments fraud is on rise globally with 2017 global fraud costs at \$27.7 billion
- ✦ Payments fraud has become an industry in itself with fraudsters coming up with sophisticated and cutting edge technologies to perform fraud
- ✦ Identity fraud (71%), Phishing (66%) are two of the most prevalent payment frauds
- ✦ Based on the report from Experian, 67% of fraudulent transactions went undetected and 33% of legitimate transactions were wrongly declined
- ✦ Payments fraud shall not be treated in isolation and a balance must be established with customer experience



According to McKinsey report, AI enabled fraud detection systems can reduce fraud losses by 3 to 5 percent



Literature Review (cont...)

- ✦ **Digital Payments in current era is all about customer experience, convenience and ease of use**
- ✦ **A customer whose legitimate transaction is declined tend not to shop with the same merchant or reduce usage of particular financial instrument**
- ✦ **With multiple touch points for customers to interact financial institutions need a holistic approach to customer experience**
- ✦ **Chatbots and Voice-based smart assistants powered by AI are currently dominating the customer experience landscape**
- ✦ **AI enabled assistants shall continuously learn and improve on the interaction it does with the customer**
- ✦ **Ability to draw relationships between unrelated requests and apply rules to make decisions is crucial for increase in adoption of AI assistants**
- ✦ **Strategies for better customer experience requires:**
 - **Omni Channel Presence**
 - **Payments Anytime, Anywhere and Anyhow**
 - **Fraud Protection**
 - **Loyalty and Rewards**
 - **Staying Current and Relevant**

Current Adoption of AI in Payments



Anti fraud detection system using predictive analytics on around 500 data points



Leverages Kasisto conversational AI for intelligent chatbots



In house AI engine using data mining, machine learning and human intelligence



Decision Intelligence using machine learning for better customer experience and reduce false positives



Chatbot for cross border payments using Facebook messenger platform



Erica from BOA works on cognitive messaging and predictive analytics



Rapid platform to monitor all transactions in real time using machine learning algorithms

Research Findings

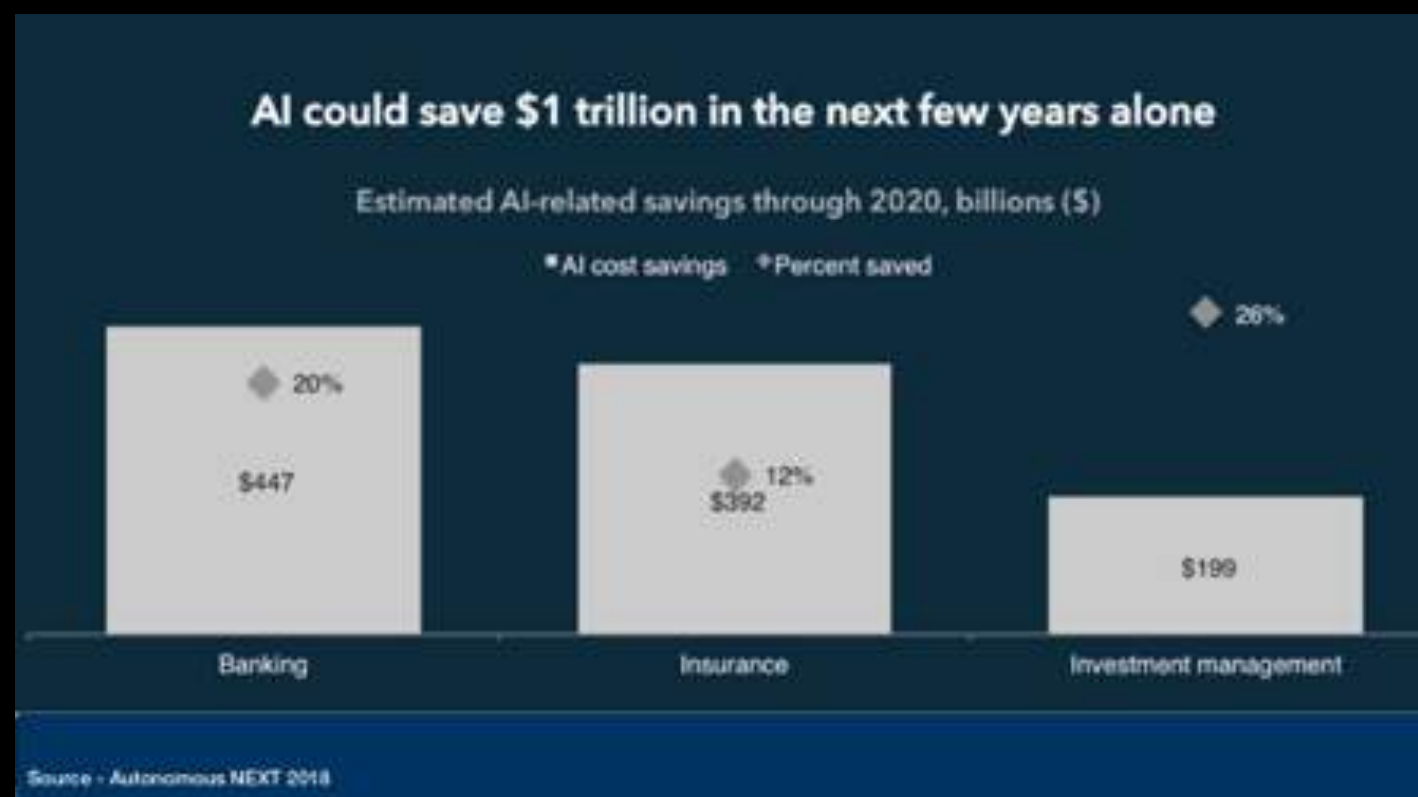
- ✦ **Debit Card is the highest used payment instrument with 60% using them along with other payment instruments like Credit Card, Digital Devices and Cash**
- ✦ **Convenience and Ease of Use hold the highest priority above Safety and Security for choosing a payment instrument**
- ✦ **55% of the respondents want to use AI enabled devices for digital payments in 1 to 3 years**
- ✦ **Almost all the respondents have used AI enabled technologies and have experienced payment fraud in some way or the other**
- ✦ **Links on social media websites are rated as most prone to payments fraud compared to Mobile App, Mobile Web, Desktop Web and Over the counter transaction.**

Research Findings (cont...)

- ✦ **Fraud Prevention followed by Real Time Payment capabilities are the two most preferred features which respondents want from Payment companies**
- ✦ **Human support representatives (80%) and Human augmented Intelligent bots (17%) as a preferred way to interact with a customer support representative**
- ✦ **60% of respondents have used the chatbot in the last year, and only 37% of the respondents were happy with the service provided by the bot**
- ✦ **More than 42% respondents believe in the potential of AI to detect and prevent payment fraud and provide better customer experience and are happy to use AI enabled technologies if it can predict their payment preferences and provide practical assistance**

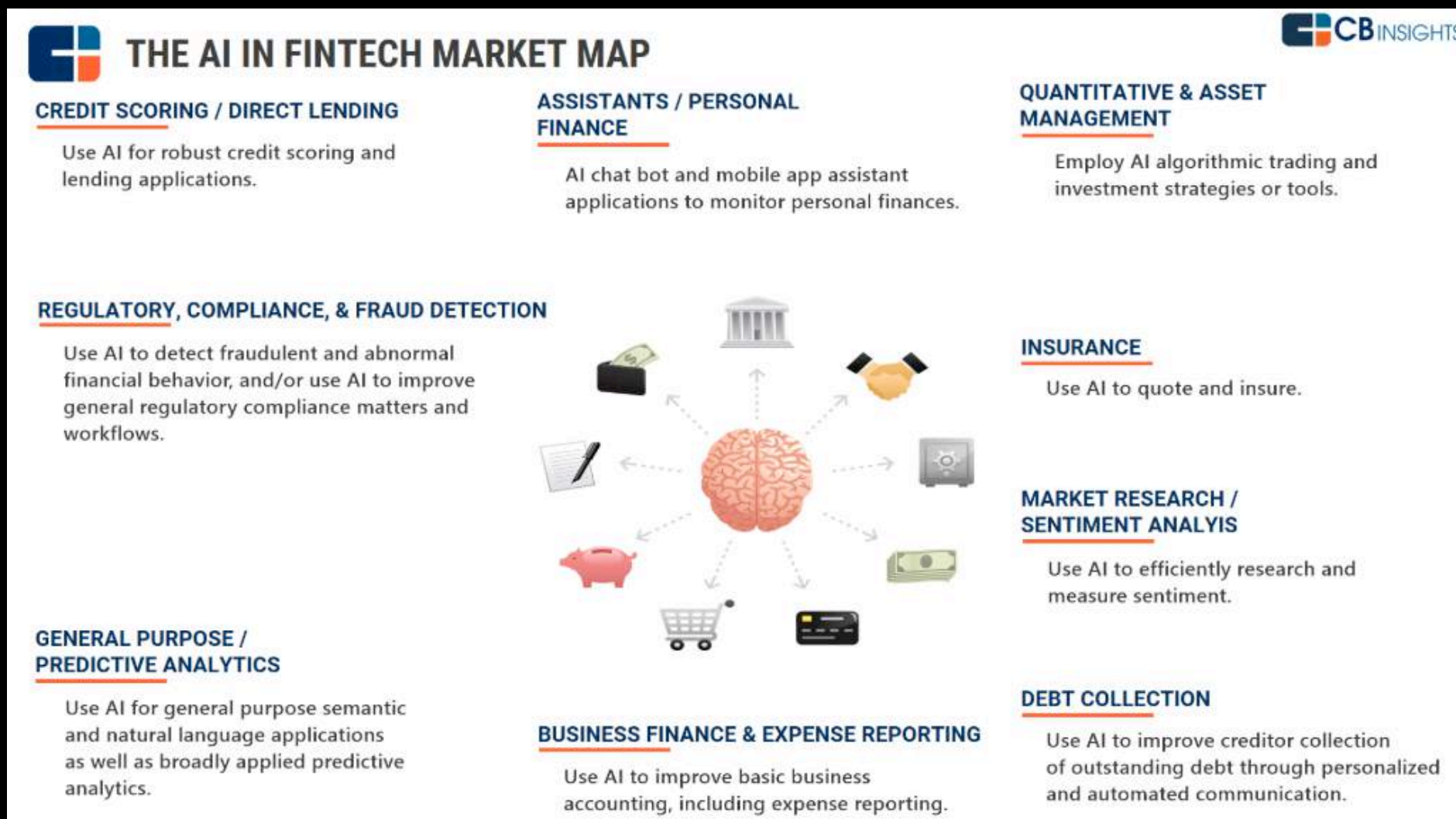
Recommendations

- ✦ Companies shall start adopting AI for real problems like
 - Preventing Fraud
 - Meeting Regulatory and Compliance obligations
 - Enhancing Customer Experience
- ✦ Establishing AI systems with the right talent is costly proposition, partnership and acquisitions is the best suited approach
- ✦ AI is at the peak of hype cycle and its critical for companies to define realistic expectations
- ✦ Existing databases and big data platforms shall be the first step allowing the use of existing infrastructure investments



Limitations and Future Scope

- ✦ Technical implementations and metrics to measure the success of AI programs
- ✦ Usage of AI for credit scoring and lending by Payment companies
- ✦ Authorization optimization using AI to proactively preempt and authorize the financial instrument
- ✦ Identity Authentication and Biometrics for payment transactions using AI systems



Conclusion

- ✦ **AI has the potential to change the online payment process significantly which can lead to better conversion rates and reduction of false positives**
- ✦ **Usage of cognitive technologies requires a careful analysis and companies shall do cost benefit analysis based on their need**
- ✦ **Customer experience improvement by using AI will gives flexibility for humans to be engaged in more productive activities**
- ✦ **Companies shall work to find the right balance between machines and humans to create a cohesive environment with higher productivity**



Thank You



*"AI should be about
**augmenting and
enhancing** humanity,
not replacing it."*

-Fei-Fei Li