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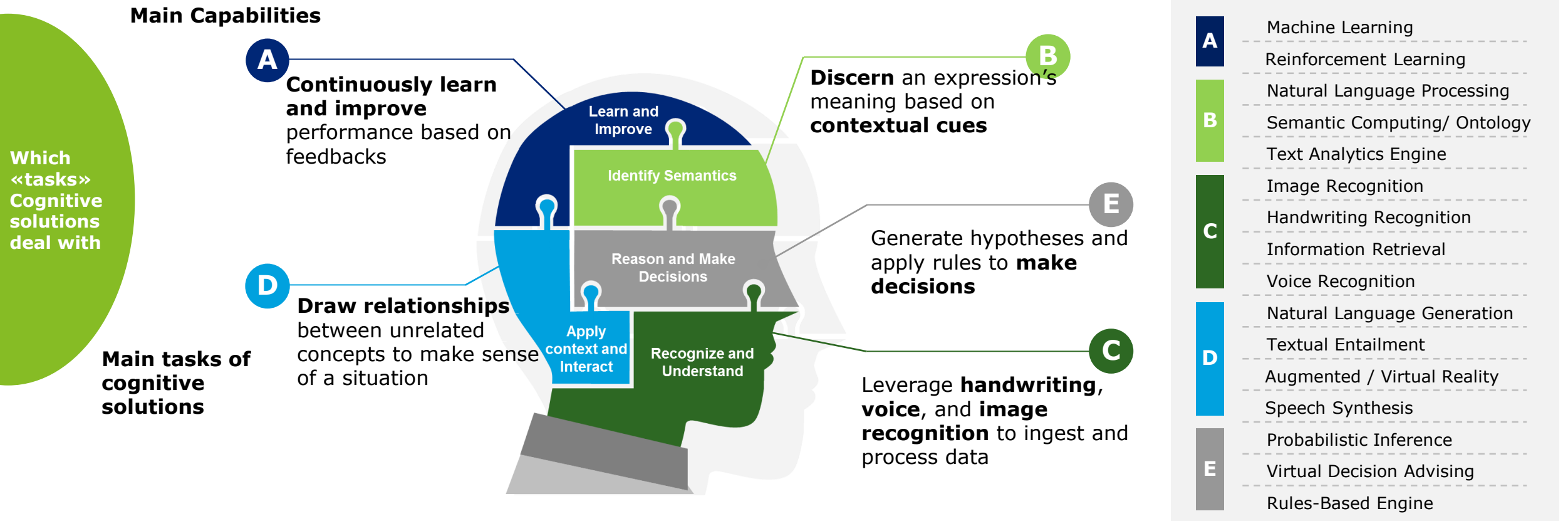
Point of View on AI & Cognitive

Deloitte Cognitive Lab



Cognitive technologies capabilities










“The art of creating machines that perform functions that require intelligence when performed by people” (Kurzweil, 1990)



Cognitive technologies **enhance human capabilities** by automatically **extracting concepts and relations** from data, **understanding the meaning**, independently **learning from patterns and experiences**

How is the Cognitive offering defined?

Deloitte's approach groups the cognitive technologies in three distinct solutions, with different strategic goals

Cognitive Technologies				
Solution	Description	Advantages	Business Goals	
			Cost Optimization	Revenue Generation
 Cognitive Automation	<ul style="list-style-type: none"> Enable machines to replicate human actions and judgement with robotics and cognitive technologies 	<ul style="list-style-type: none"> Automate repeatable tasks to improve efficiency Unchain profits from scale constraints to increase enterprise flexibility. Engage existing talent to focus on higher-value tasks 		
 Cognitive Insights	<ul style="list-style-type: none"> Identify opportunities for growth, diversification, and efficiencies by creating large-scale organizational intelligence with pattern detection and the ability to analyze multiple data sources 	<ul style="list-style-type: none"> Uncover hidden patterns to identify new opportunities for innovation Apply a science-based decision-making process informed by deeper insights Push real-time, contextual insights to decision makers at relevant moments. 		
 Cognitive Engagement	<ul style="list-style-type: none"> Use intelligent agents and avatars to deliver mass consumer personalization at scale and smarter, more relevant insights to amplify end-user experience 	<ul style="list-style-type: none"> Drive consumer behavior by delivering hyper-personalization at scale Deploy personalized digital assistants to interact with customers Generate personalized and contextual recommendations to consumers 		

○ Low Impact ● High Impact

Robotics & Cognitive Automation

Enable machines to replicate human actions and judgement with robotics and cognitive technologies



Advantage

- **Improve efficiency, quality, and accuracy** of process outcomes and **lower associated costs** by automating tasks that vary in complexity
- **Increase flexibility** across the enterprise by decoupling profits and revenues from scale constraints of manual labor
- **Develop new competencies** by engaging freed-up labor to focus on higher-value tasks

In action

Challenges with the prior authorization process resulted in costly manual oversight. Predictive solution automated triage of 1,200+ forms processed daily and corrected submission errors.



Improved operational efficiency by 35%



Reduced decision time from 72-96 hours to real-time



Continuously learned and improved

Use cases

- Intelligent HelpDesk
- Email operations automation
- Automation of claim management process
 - Cognitive OCR
 - Rules-based automation
- Prior authorization automation
- Supply chain risk monitoring
 - Digital front office
 - Labor law discovery
- Asset warranty processing

Cognitive Insights

Identify opportunities for growth, diversification, and efficiencies by creating large-scale organizational intelligence with pattern detection and the ability to analyze multiple data sources



Advantage

- **Extract concepts and relationships** from data streams, text sources, and social media
- **Generate new insights** including market threats and opportunities through cognitive analysis
- Deliver **applications that intelligently “understand”** the context and provide the right insight at the right time explaining why it is relevant and important

In action

Utilizing machine learning, visualization, and data federation, the SEMOSS platform enabled a US federal government agency to analyze disparate data sets on gene patterns to drive drug development.



Integrated data types in a single platform, SEMOSS (Semantic Open Source Software)



Accelerated scientific discovery from months to days



Rapid hypothesis generation and validation

Use cases

- Fraud Loss Models Evaluation
 - Risk Modeling
 - Route Optimization
- Fraud, waste, abuse detection and prevention
- Innovation success predictor
 - Market trend sensing

Cognitive Engagement

Use intelligent agents and avatars to deliver mass consumer personalization at scale and smarter, more relevant insights to amplify end-user experience



Advantage

- **Provide answers** from trusted information sources (e.g., medical journals) to end users to support decision-making and make intelligent decisions on behalf of consumers
- **Establish user engagement** using data from past experiences and behavior of similar profiles
- **Provide self-serve ability via question/answer**, personalized, and proactive recommendations that will help drive desired behaviors

In action

The SmartVideo solution leveraged patient data to generate personalized care videos, in real-time, delivering a positive consumer-centric experience and simplifying and personalizing engagement.



Personalized



Measurable



Real Time

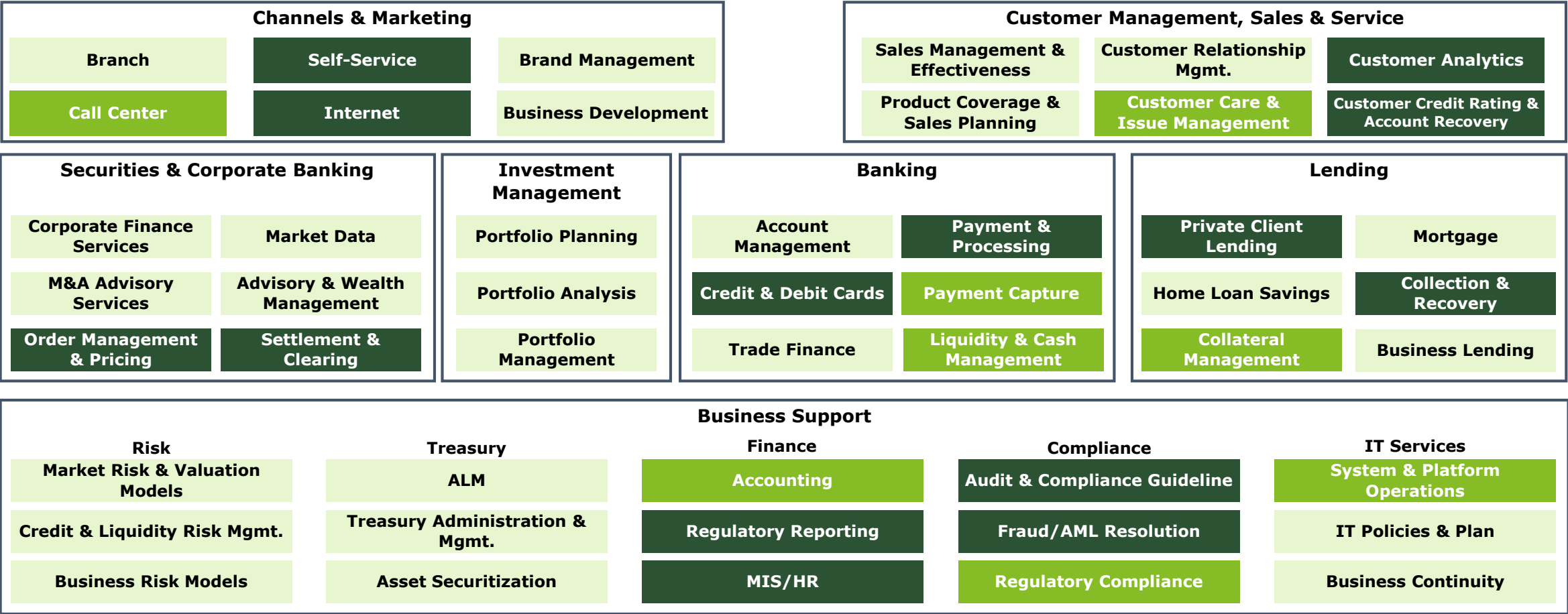


Secure

Use cases

- Customer Care Chatbot
 - Financial Advisor
- Entertainment concierge
- Personalized wealth management
- Customized online banking menu

Cognitive Technologies use cases in the Financial Sector Industries by level of opportunity

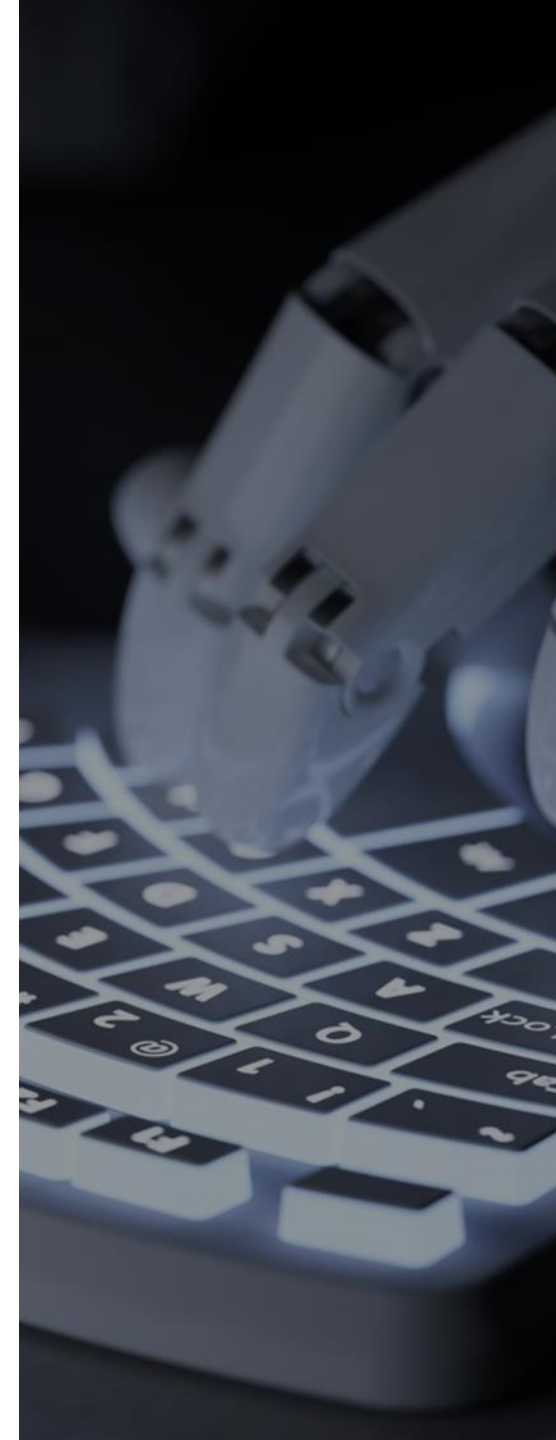


Opportunities
 low medium high

Cognitive Technologies in Action

A collection of selected use cases

<u>Industry</u>	<u>Description</u>	<u>Solution</u>
Insurance	Development of an intelligent helpdesk supporting salespeople	Automation (NLP)
Banking	Customer Care Chatbot based on users conversations	Engagement (Chatbot)
Consumer Finance	On-boarding chatbot to help customers in loan requests	Engagement (Chatbot)
Insurance	Chatbot supporting users facing login issues	Engagement (Chatbot)
Banking	Development of an intelligent helpdesk supporting bank branches	Automation (NLP)





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