



2019 DMEC ANNUAL CONFERENCE
WASHINGTON, D.C. | AUGUST 5-8

Predictive Modeling: Leveraging Data Science to Improve Customer Experience


Speakers
John Aschenbrenner, PgMP, Vice President, Data Science Program Management, Prudential
Douglas Elfers, Senior Manager, Data Scientist, Prudential
Kenneth Hallden, Vice President, Long Term Disability Claims, Prudential

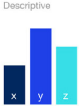

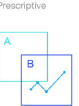
Moderator
Evan Scarponi, Vice President, Disability and Absence Claims, Prudential


 

What Is Predictive Modeling?

- Artificial Intelligence
 - Ability of a machine to perform "Human-like" behavior
- Machine Learning (AKA Predictive Modeling)
 - Ability of a machine to detect patterns and learn how to make predictions










 <p>Descriptive What happened?</p>	 <p>Predictive What will happen?</p>	 <p>Prescriptive What to do?</p>
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Why Is Predictive Modeling So Popular Right Now?


90% of all data available today are estimated to have been generated in the past 2 years!¹

 <p>7+ billion cell phones in use in the world!²</p>	 <p>\$600 to buy a disk drive that can store all of the world's music!³</p>
 <p>30 billion pieces of content share on Facebook every month!⁴</p>	 <p>Netflix users collectively watched 1 billion hours of content per week in 2017!⁵</p>
 <p>There has been about a 10-million fold increase in data capture in the baseball industry in the last few years!⁶</p>	 <p>By 2020, 50 billion devices will be connected online through the Internet of Things!⁷</p>



How Are Predictive Models Being Used Today?


Image & Speech Recognition 	Movie Preference Prediction 	Shopping Predictions 	Google's DeepMind 
Stock Trading Algorithms 	Predictive Maintenance 	Medical Diagnosis 	Credit Card Companies 




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What Are the Key Roles Supporting Predictive Modeling Initiatives?

Project Manager:	Manage end-to-end execution
Business Product Owner:	Articulating problem and domain knowledge
Business Stakeholder:	Business SME, liaison, and prioritization
Data Manager:	Acquire and connect data
Data Scientist:	Deliver insights and develop models
Data Engineer:	Build data pipelines and deploy models

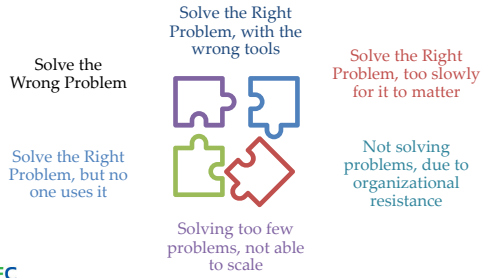


How Do We Decide What to Do?

 <p>“Sweet Spot”</p> <ul style="list-style-type: none"> • Improve decision making • Solve strategic goals • Leverage existing operations & tech • Minimize change management 	<p>“Transformational”</p> <ul style="list-style-type: none"> • Reshape entire businesses • Implement organization-wide • Shift resource strategy • Manage impact to roles & responsibilities
<p>“Quick Wins”</p> <ul style="list-style-type: none"> • Leverage existing data • Ad-hoc analysis • Limited stakeholders 	<p>“Don’t just don’t”</p> <ul style="list-style-type: none"> • Vague business value • Unknown change management needs • Lack of sponsorship • Unbounded problems



What Are the Typical Challenges With Data Science Initiatives?

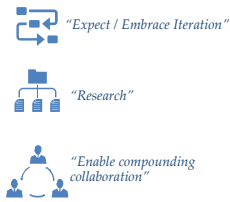


How Does Developing a Predictive Model Differ From the Software Development SDLC?



Software Engineering SDLC is ideal for building things where you know what you are building.

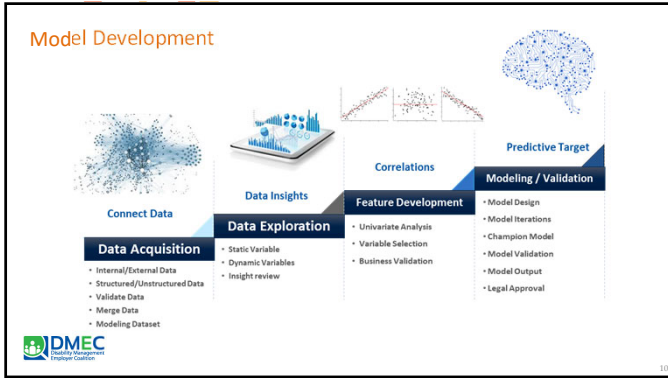
Data Science is fundamentally a research process. Teams may try 99 experiments before the 100th yields the desired outcome. Research is inherently iterative building on prior learnings.

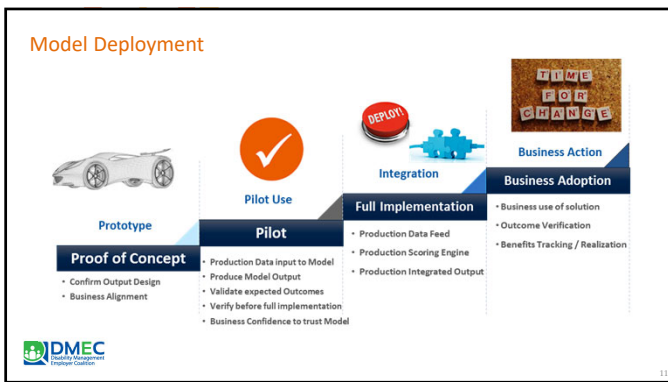


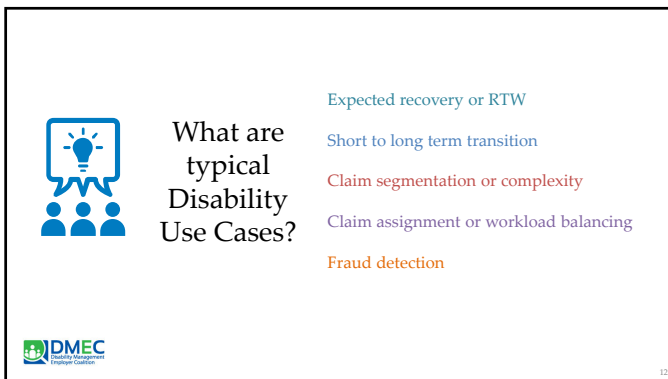
What Does the Predictive Modeling Lifecycle Look Like?

Initiation / Planning









How can we impact **Customer EXPERIENCE**?

These models are designed to provide great outcomes and high satisfaction for customers and claimants by delivering timely claim decisions and payments

- Claimant Satisfaction
 - Initial LTD decisions made by benefit effective date
 - Quality Review comprehensive results
- Better data-driven outcomes
 - Decreased durations
 - Earlier and more informed RTW assistance
 - Advanced payment for LTD
- Fraud identification and prevention

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Questions From the Audience?

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