



The Role of an Actuary in Policy Administration System (PAS) Implementation

Speakers:

Lyn-Ellen Maass (Accenture Duck Creek)

Nicholas Frank (Deloitte Consulting)

Catherine Pallivathuckal, ACAS, MAAA (Deloitte Consulting)

Moderator:

Anita Sathe, FCAS, FSA, MAAA (Deloitte Consulting)



Agenda

Topic	Content	Person responsible	Timing
Opening	<ul style="list-style-type: none">• Speaker Bios• Polling Questions	Anita Sathe	10 minutes
Introduction to Policy Administration Systems	<ul style="list-style-type: none">• Common Business Challenges• Strategic Value	Lyn-Ellen Maass	20 minutes
Modernization Journey	<ul style="list-style-type: none">• Functionality and Best Practices• Integration Points• Challenges/Pitfalls	Nicholas Frank	20 minutes
The Role of an Actuary in PAS Implementation	<ul style="list-style-type: none">• Evolving Business-Focused Role• Case Study	Catherine Pallivathuckal	20 minutes
Questions		All	10 minutes

Opening

Meeting with you today

Speakers



Lyn – Ellen Maass
Global Business
Architect Lead
Accenture

Lyn-Ellen has over 30 years experience in the insurance industry. She has worked for leading software vendors, as well as serving as a Vice President of IT for a insurance carrier. She most recently holds the position of Global Business Architect for Accenture and is responsible for numerous system implementations (Policy, Billing and Claims). She holds a degree from University of Virginia, as well as professional designations of CIOP and AAI.



Nick Frank
Specialist Leader
Deloitte Consulting

Nick is a Specialist Leader in the Core System Transformation Group for P&C Insurance with over 17 years of experience as a technical and business architect:

At both Guidewire Software and Accenture Duck Creek, he gained deep strategic industry insights delivering solutions for policy, rating, billing and claims for most P&C LOBs from personal to commercial over channels including: direct, web, agent and MGA



Catherine Pallivathuckal
Senior Consultant
Deloitte Consulting

Catherine's P&C industry experience includes designing a policy administration system for an insurance software client for US admitted insurance carriers, current state assessment and future state design for underwriting processes for P&C commercial lines, pricing model development / enhancement, pricing analyses, and performing reserve analyses for insurance and reinsurance companies.

Moderator



Anita Sathe
Senior Manager
Deloitte Consulting

Anita is a Senior Manager in the Actuarial, Rewards & Analytics service area of Deloitte Consulting LLP's Human Capital practice with 11 years of experience in the insurance industry. Her experience includes actuarial modernization for mid sized and large insurance companies, reserving, pricing reviews, M&A due diligence, and developing pricing models.

Poll Question #1

How would you describe the current state of your policy administration system?

- A. Selecting or implementing a new one
- B. Thinking about a new one
- C. Fine with the current solution
- D. Would consider a new one, but worried about cost and risk
- E. Don't know/Not Applicable

Poll Question #2

Is your company currently implementing a new policy administration system?

- A. Yes – implementation already completed
- B. Yes – implementation currently in progress
- C. No
- D. Unsure
- E. Not applicable

Poll Question #3

What is your organization's biggest hurdle to taking a significant step forward in underwriting, pricing, and/or product related analytics?

- A. Data capture
- B. Data accessibility
- C. Data quality
- D. Lack of analytics tools/support
- E. Resistance to use analytics insights
- F. Don't know/Not applicable

Introduction to Policy Administration Systems

Policy Administration Systems

- Why it is imperative that carriers have a modern, flexible, connected PAS system
 - Insurance Industry is changing at a pace that would have been unimaginable just a few years ago
 - At the center of the change is the CUSTOMER who has become accustomed to dealing with sophisticated providers such as Google and Amazon.com
 - Customer is no longer satisfied with a “one size fits all” product offering
 - Disruptive technology – the “Internet of Things” or IoT and the “Internet of Me”

The Internet of Me

The Internet of Me:

Our world, personalized.

- Insurance customer experiences are going online
- Carriers are changing the way they build new apps, products & services
- They are creating personalized experiences that meet customer needs at higher levels than before
- In a connected world, insurance will be assessed, priced & sold very differently
- Shared data will be a powerful asset – if insurers can build consumer trust
- Insurers will have the option of becoming a more regular, proactive & positive part of people's daily lives

73%
of insurers say
providing
personalized
customer
experiences is a
top-three priority

The Internet of Me:

The trend in action

- Esurance's "Sorta You Isn't You" campaign
- Positions the insurer as tailoring services for each customer
- Customizable auto insurance using telematics, big data & complex algorithms
- TV ad starred Lindsay Lohan as "Sorta Mom"

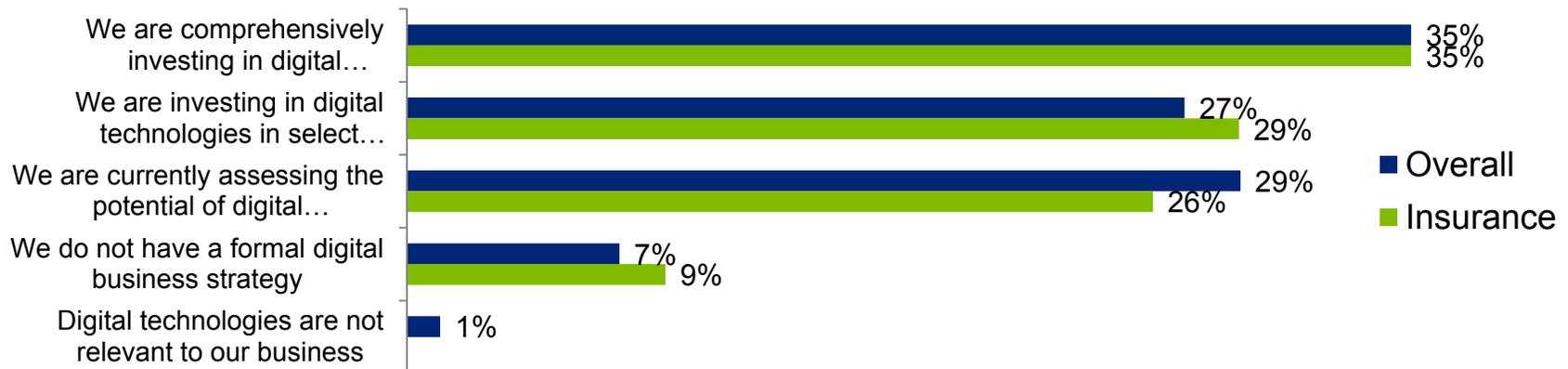


The Internet of Me

Those who **Dedicate to Digital**, invest as part of an overall business strategy

- The pace of technology adoption has increased over the past two years, and most executives believe it will speed up in the next two years; Compared to Overall, more in Insurance both experience and expect technology adoption at an unprecedented rate
- 35% are investing in a comprehensive digital technology program as part of their business strategy

Q: How important is digital to your organization's strategy?



The Case for Modern System

New competitors

- Walmart, Overstock.com, Google Compare are offering automobile insurance services.
- Accenture survey of more than 6,000 policyholders indicated that 73% would consider a “non-traditional” carrier such as Walmart or Google
- In the UK – two non-traditional carriers with telematics
 - “Insure the Box” and “Drive Like a Girl” – use of telematics and rewards and bases pricing on appropriate speeds, etc.

Pace of change means that insurers must be able to identify and respond quickly to rapidly emerging risks.

The Case for Modern System

This changing environment favors carriers that can conceptualize, develop, test and deploy new products at a high speed. The ability to do this quickly can be learned, but it is imperative that a carrier have a modern platform that can support product development.

System Architecture to support Re-Use, Standardization, and Comprehensiveness – all product details and information in one place.

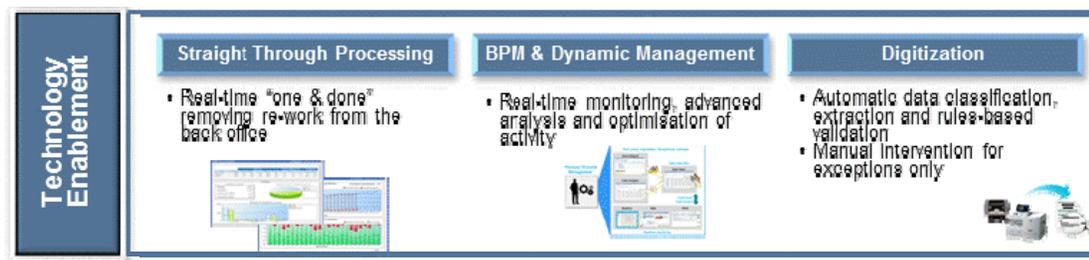
Product that can support configuration and track adoption and performance; product configuration that can easily integrate with existing legacy systems

Technology Enablement

Technology Enablement can drive further benefits from automation and performance support, but it can also serve to sustain process and operating model benefits that can deteriorate over time.

Common Technology Opportunity Areas:

- Lack of integration of existing tools
- Expansion of automated underwriting (Includes steps and end to end)
- New or improved self-service capabilities
- Improved operational metric tracking and reporting
- Improved UW Support tools (Knowledge Management, collaboration, analytics, etc.)
- Workflow enablement



But it isn't just the new system

Changes in workforce – from skill sets to support the new technologies that are not currently in the IT department

Intelligent Enterprise that uses the data in new ways to hone product offerings

Workforce Reimagined:

Collaboration at the intersection of humans and machines.

- Natural interfaces, wearables & smart machines present new opportunities for insurers to empower workers through technology
- Machines are better at routine processes; people at strategy, context, communication & creativity
- Need to train employees to collaborate effectively with technology
- Also teach & guide technology like an apprentice – machines can interact with & learn from people, improving over time
- Collaboration can dramatically improve the outputs of both
- Reimagined workforce poses many management challenges, but the benefits will be huge

76%
Insurers who believe successful businesses will soon manage employees alongside intelligent machines, ensuring collaboration between the two

Workforce Reimagined:

The trend in action

- USAA the first insurer to seek the FAA permission to test drones
- Aims to examine damage & evaluate claims before sending in assessors
- Drone visuals could be combined with reports from employees on the ground
- Faster and more accurate claims assessment after a catastrophe



Intelligent Enterprise:

The trend in action

- Climate Corp. offers farmers crop insurance & advisory services for optimal decisions
- Uses precision-agriculture sensors & systems, data analytics software
- Machine learning digs through >50 terabytes of data on weather, soil & other sources to predict crop performance
- Recommends most profitable crops to plant, seed to buy, when to plant, how to tend crops, when to harvest, yields to expect, etc.
- Field-specific weather-related crop insurance guarantees financial outcomes



Intelligent Enterprise:

The trend in action

- Improved software intelligence is helping machines make better decisions
- Insurers have more data than they can keep up with – machines can capitalize fully on the scale of big data
- Insurers should use software intelligence to drive operational excellence & innovation throughout the enterprise
- Machines today have the scale, speed & intelligence to make vital business decisions
- They can decide, self-evolve and discover
- Automation of manual processes is just the beginning – the intelligent enterprise will answer questions that once were unanswerable

56%

Insurers who say managing data is “extremely” or “very” challenging, considering changes in its volume, variety and velocity.

Platform (R)evolution: Defining Systems

Platform (R)evolution:

Defining systems

- Digital industry platforms & ecosystems are fueling innovation & disruption, and capturing growth & profit opportunities
- Non-tech companies are joining internet-born pioneers with major platform-based initiatives
- Platforms build on cross-industry ecosystems to deliver innovative products & services
- Participation in these ecosystems poses fundamental questions for insurers
- Tools, techniques & data sources are all coming together
- Insurers that define their platforms & ecosystems ahead of the pack will gain a decisive competitive advantage

77%
Insurers who agree that companies will move toward real-time platforms & systems as enterprises adopt mobility & IoT solutions

Platform (R)evolution:

The trend in action

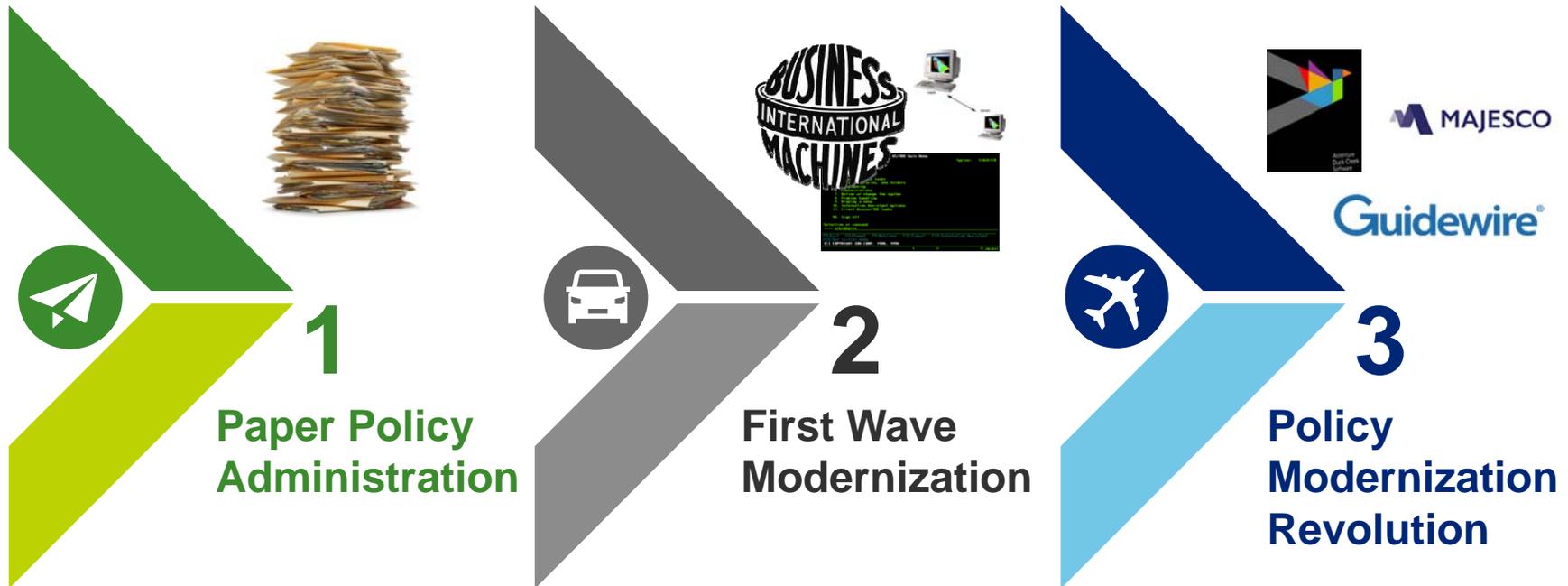
- General Motors' OnStar has grown from a safety and concierge service to a connected-car platform
- Real-time diagnostics, safety/emergency, infotainment, navigation, insurance modules, third-party apps, mobile connectivity
- Will offer to tell customers how well they drive, capture other driving data
- Option to share data with Progressive Insurance in exchange for discounted premiums



Modernization Journey

Evolution of Policy Administration

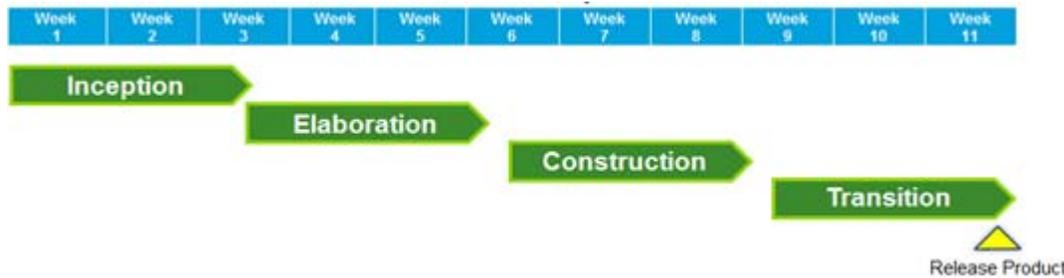
Our industry has evolved from paper based policy administration to a ridged electronic automation. Now we are in the modernization revolution.



Detailed Comparison of Methodologies

Agile is focused on flexibility and speed, while Waterfall prefers planning and predictability.

Waterfall development



- Is linear & sequential; favors predictability
- Prioritizes processes & tools
- Spans months from planning to final product
- Defines comprehensive list of requirements at outset of development lifecycle
- Prefers comprehensive documentation
- Creates static requirements documentation at beginning of project

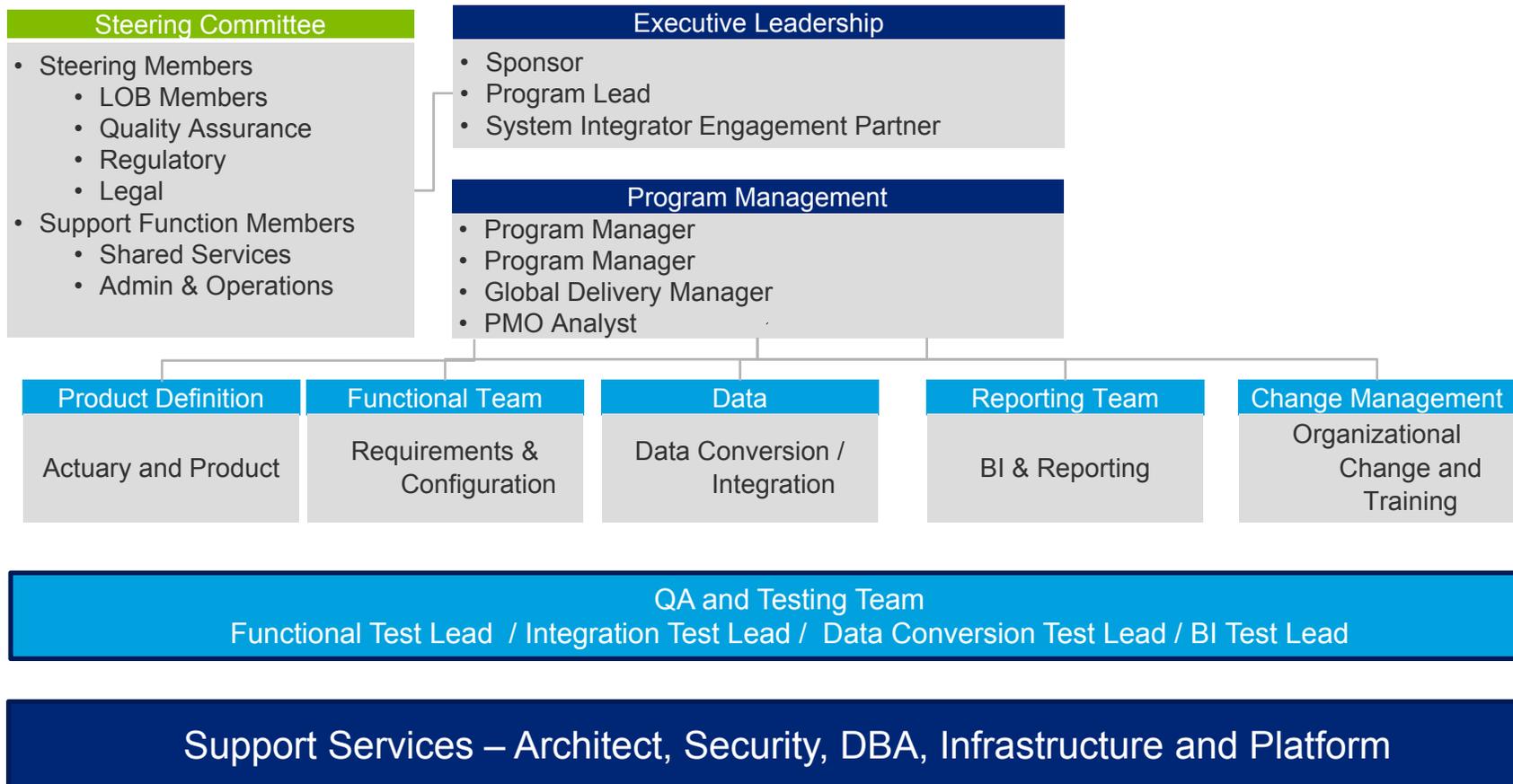
Agile development



- Is iterative; favors adaptability
- Prioritizes individuals & interactions
- Produces working software in increments over 3 week “sprints”
- Defines high-level requirements or “Epics” in product & release plans
- Defines and refines “User Stories” at sprint planning for each Sprint
- Prefers working software
- Creates and iterate living, breathing user stories

Team

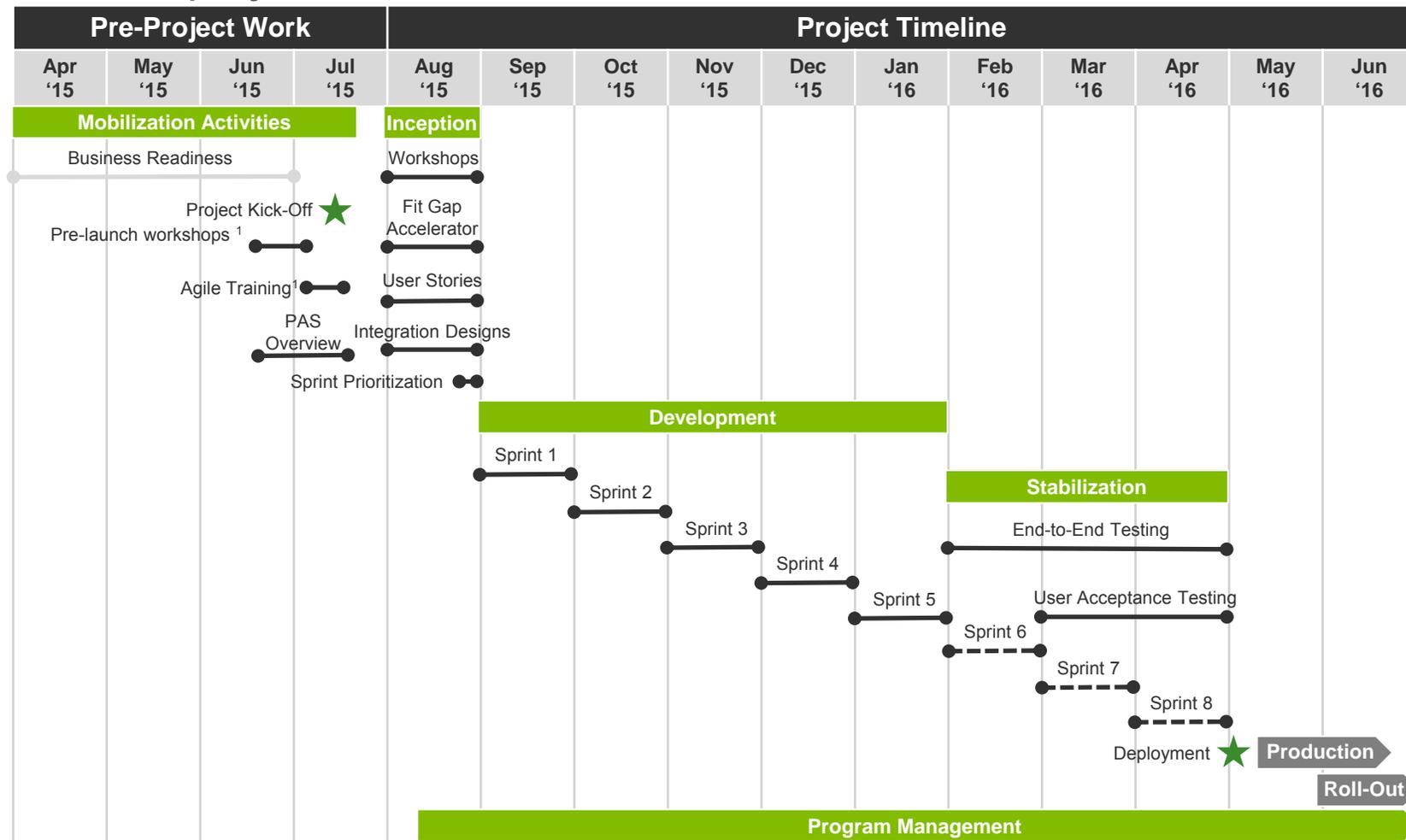
Agile is focused on flexibility and speed, while Waterfall prefers planning and predictability.





Approach | Agile Timeline

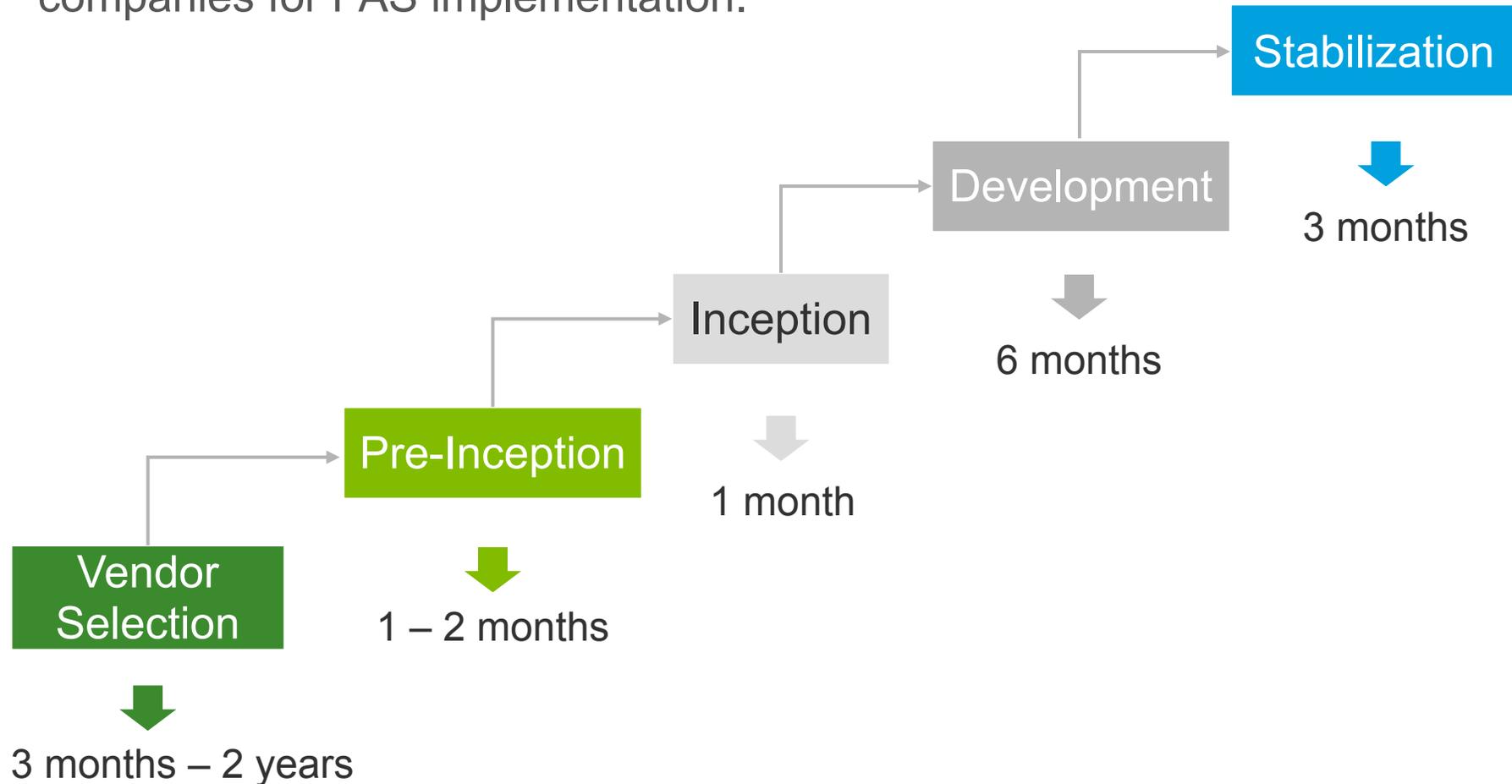
While the actual roadmap is created during inception, below lays out an illustrative project timeline. This effort can be achieved in nine months



The Role of an Actuary in PAS Implementation

Stages of Agile PAS Implementation

The agile approach is the mostly commonly used approach among companies for PAS implementation.



Stage 0: Business Case and Vendor Selection

Actuaries can provide functional support to this initial discovery phase

Recommended Activities

- Develop and present business case for upgraded PAS
- Identify and screen vendors
- Request for Information (RFI) design:
 - Operational experience
 - Functional capabilities
 - Technical capabilities
- Hold discovery calls and preliminary screenings with vendors
- Facilitate vendor demonstrations

Actuarial Impact

- Quantify costs and benefits of an updated PAS
- Define required Functional Capabilities for the new PAS
- Participate in vendor screenings
- Participate in scoring criteria design
- Participate in vendor demonstrations and scoring

Stage 1: Pre-Inception

Actuaries' product and rating knowledge are valuable resources in the planning stage of PAS implementation

Recommended Activities

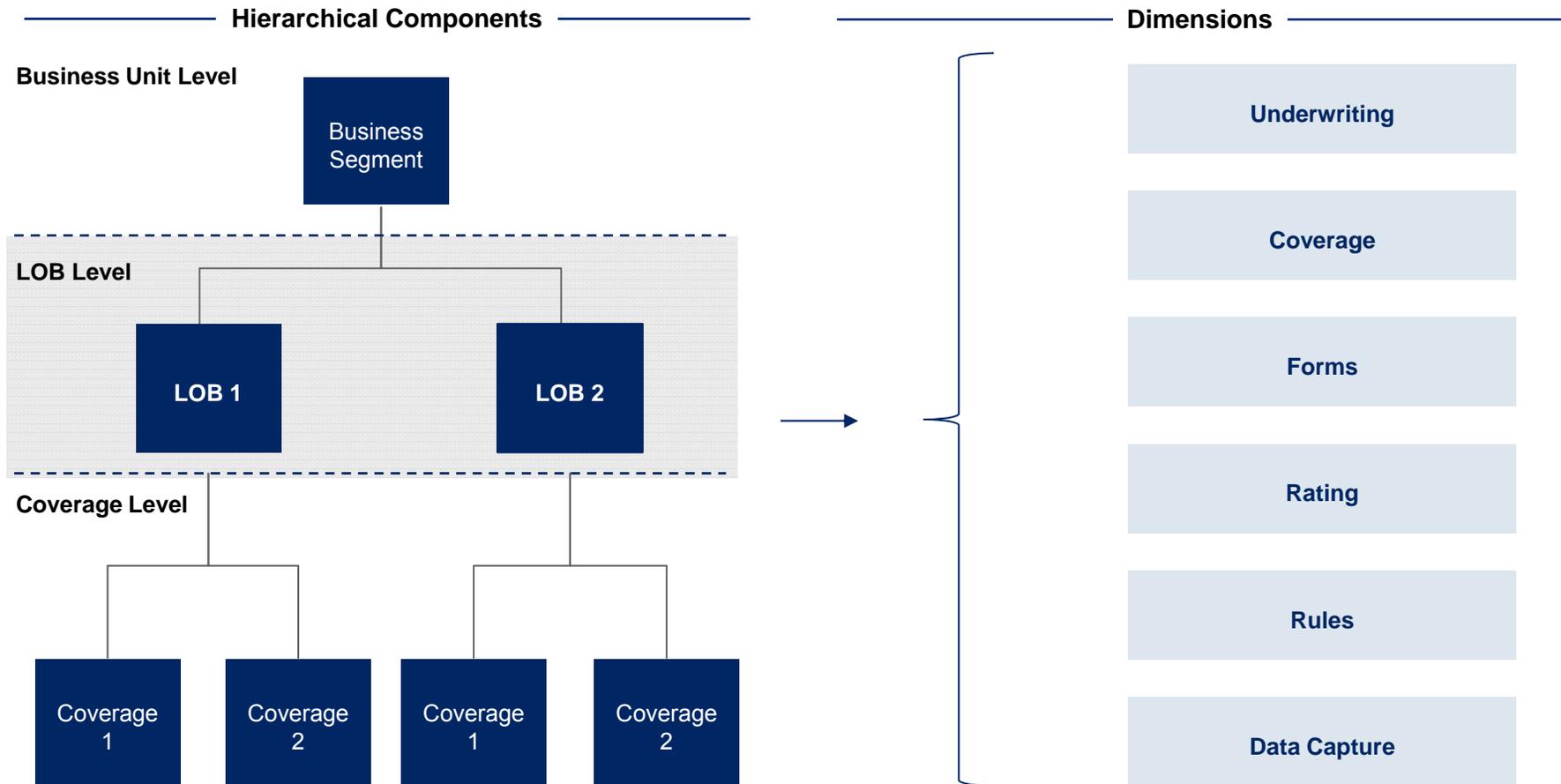
- Define products
 - Develop a new product
 - Refresh/enhance an existing product
- Develop product architecture
- Develop product specifications
- Filings for new product
- Conduct market analysis

Actuarial Impact

- Develop product architecture
- Develop product specifications
 - Define rating algorithm
 - Identify rating required fields
 - Determine the dependencies between the rating fields
 - Define form attachment logic
 - Define business rules and logic

Stage 1: Pre-Inception

Product architecture enables a comprehensive mapping of the coverage components and dimensions for products



Component *Line of business and coverage components can be assembled to create products and market offerings*

Dimension *Dimensions are items mapped to a line of business or coverage component, which can be re-used when assembling products and market offerings*

Stage 1: Pre-Inception

Product specifications for each dimension category are used to configure the system for a particular product or market offering.

	Dimension Categories	Purpose of Specifications for Product Configuration
Underwriting	<ul style="list-style-type: none"> Underwriting questions Underwriting rules Automated alerts / guidance 	<ul style="list-style-type: none"> Provides system-driven guidance to UW and support staff related to eligibility, UW authority and approvals, considerations for decisions Drives the logic for the UW workup supporting the electronic UW file
Coverage	<ul style="list-style-type: none"> LOB / coverage mapping Coverage attachment rules Limits / deductibles / attachment points Terms and conditions Terms and conditions rules 	<ul style="list-style-type: none"> Informs system of the default LOB and coverage offerings for the product selected by the UW Drives logic for the selection of optional coverage extensions or exclusions for the policy Drives logic for the input or selection of limits, deductibles, attachment points, and similar policy parameters Drives logic for the selection of policy terms and conditions that can be modified by UW, such as length of discovery period
Forms	<ul style="list-style-type: none"> Forms list and categorization (dec. pages, policy forms, endorsements, notices, etc.) Forms attachment rules Fill-in information for variable forms 	<ul style="list-style-type: none"> Informs system of the available forms for a product Attaches or removes default forms based on selected coverage extensions or exclusions Attaches or removes forms based on jurisdictional requirements Drives logic for the input, selection, or population of fill-ins for forms with variable data components Triggers AP/RP calculations
Rating	<ul style="list-style-type: none"> Rating algorithms Rate and factor tables Pricing modifications Rating rules 	<ul style="list-style-type: none"> Informs system of the applicable rate plan(s) for a product Drives the logic for the calculation of premiums for the policy Drives the logic for the calculation of rating and pricing metrics for UW analysis, such as actual vs. technical price or benchmark premium
Data Capture	<ul style="list-style-type: none"> Customer / Broker data Underwriting data Coverage data Exposure data Rating and Pricing data 	<ul style="list-style-type: none"> Defines data needed to trigger rules, execute system logic, or perform calculations Defines data needed for the UW file Defines data needed for performance analysis or other management reporting Defines data needed for predictive modeling and advanced analytics

Stage 2: Inception

Actuaries' expertise in rating and analytics are crucial to PAS design

Recommended Activities

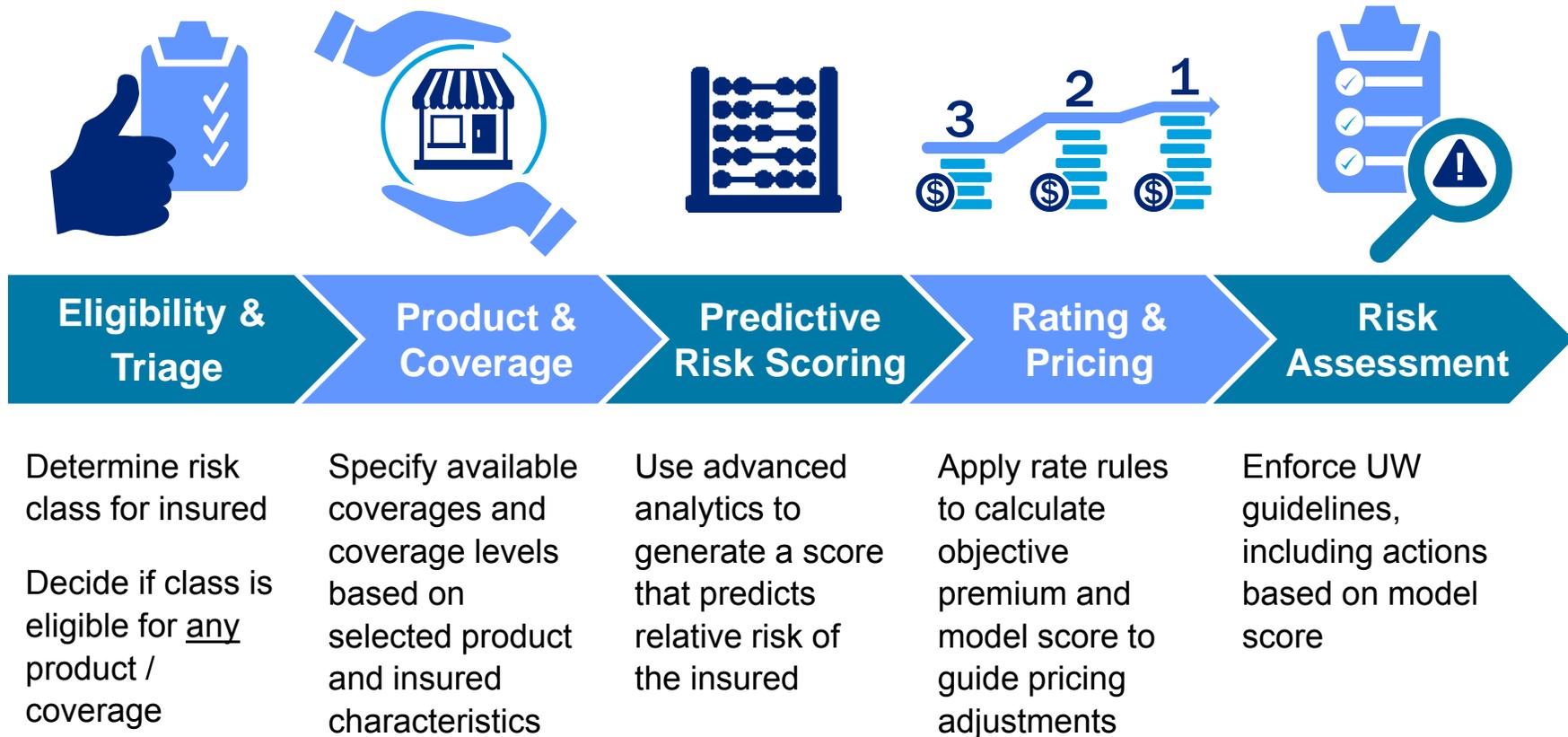
- Translation of product specifications
- Develop functional specifications
- Design user interface and screen flow
- Understand integration points, e.g. consider billing and commission integration

Actuarial Impact

- Refine or optimize rating algorithms
- Investigate where streamlined processes and straight through processing (STP) can bring efficiency
- Provide insights for analytics and business intelligence
 - Leverage analytics platform within PAS
 - Design data extracts for analysis outside of PAS
- Define business rules & validation logic
- Incorporate reporting requirements of statistical bureaus and the state DOIs

Stage 2: Inception

Automated underwriting processes can shorten turnaround times and increase consistency in underwriting outcomes



Supported with third party data, predictive models, and rules engines

Stage 2: Inception

Help improve performance and drive strategy by asserting need for advanced analytics

New policy system creates analytics opportunities

- Data and analytics is the “life blood” of the P&C insurance industry
- Competition is driving analytics advancements
- Investment in a new policy system is a unique opportunity to address analytics

Focus on the three “A’s” for success:

Accumulate

- What are third party data needs today? In the future?
- How do I maximize the data capture of underwriting information?

Analyze

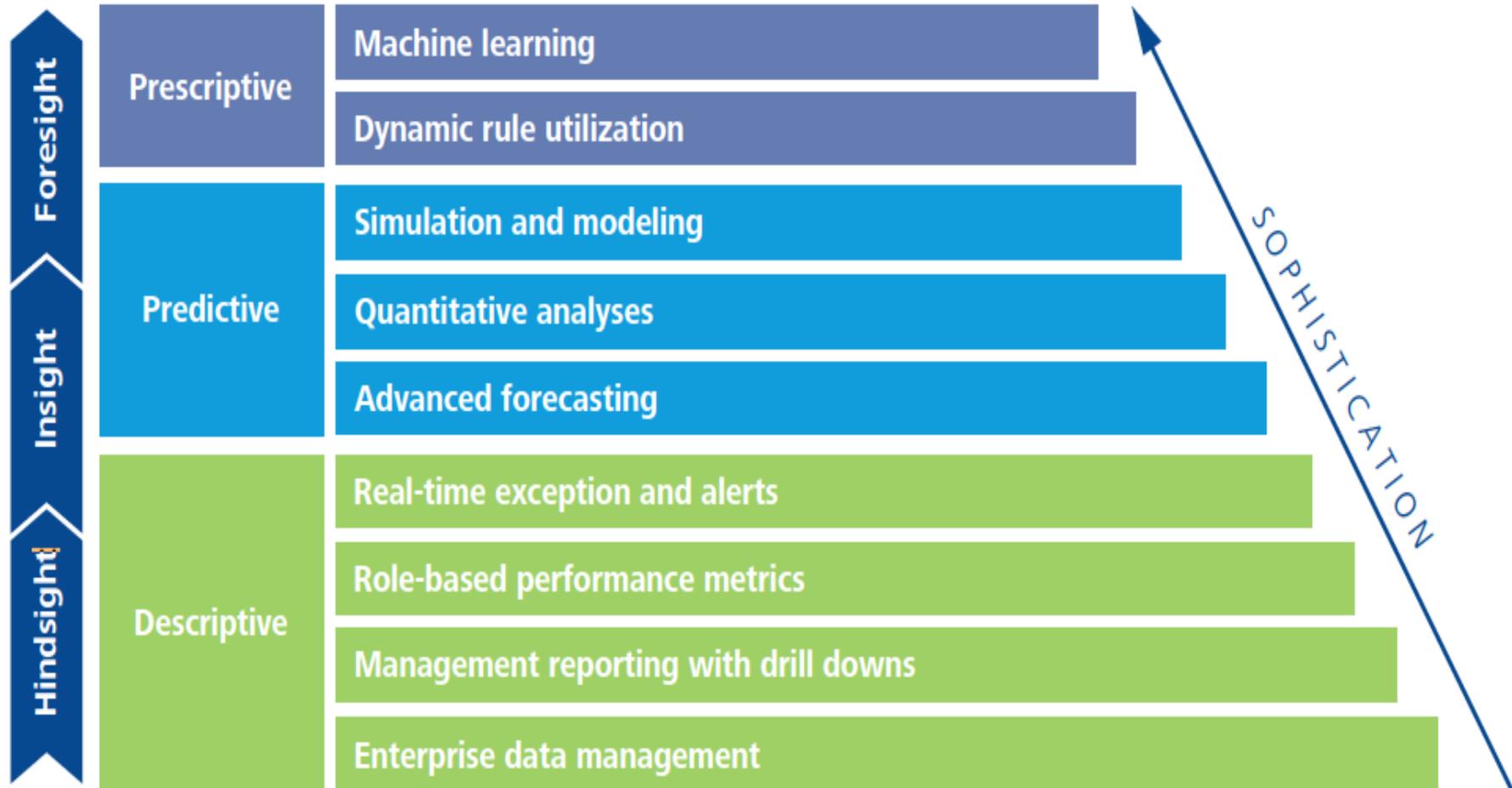
- What tools are required by underwriters? Actuaries? Management?
- How do we transform data into information?

Actionable

- What are the predictive model requirements today? In the future?
- How can I enable rapid changes to product, pricing, etc.?

Stage 2: Inception

Gain insights from data and make it actionable



Stage 2: Inception

Harnessing the ability to generate and utilize risk insights is a competitive advantage

Gather & Understand New and Existing Data

Mine the benefits of all available data sources, including unstructured data



Synthesize & Report

Bring the right tools and talent to build robust, sustainable analytics capabilities



Continuous Analysis & Monitoring

Communicate & Educate

Deliver insights through collaboration and knowledge management portals

Package insights to develop thought leadership for customers and producers



Assess UW & Product Impact

Make proactive adjustments to underwriting appetite, coverage offerings, and pricing

Provide a fact base to enhance and support risk selection and pricing decisions



Stage 3: Development

Actuaries are key advisors to product configuration and development activities, and may have the skill sets to participate directly

Recommended Activities

- Product configuration and development
- Implementation of rating algorithm

Actuarial Impact

- Interact with developers to ensure that build follows functional specs
- Prioritize development needs – keep perspective on what's important
- Keep an open mind on process to get to end state
- In some cases, actuaries build and implement the rating engine themselves

Stage 4: Stabilization

Actuaries are an important resource for the Testing team and the Development team in identifying and prioritizing defects

Recommended Activities

- Four Phases of Testing
 - Unit testing – Developers test the functionality they have built
 - Component testing – Testing team tests the system based on functional specifications
 - End to End testing – Testing team tests full system with all integrations built in
 - User Acceptance Testing (UAT) – stakeholders and end users test the new system

Actuarial Impact

- Work with testing team to design and validate test scripts
- Provide pre-existing pricing tools (e.g., in Excel) to developers and testing team as means to test PAS output
- Actuaries should not do comprehensive testing themselves
- However, hunter testing by actuaries can provide valuable feedback to the Testing team and help them prioritize system issues and defects to be fixed

Case Study

Client Overview

A global firm that provides insurance technology solutions to insurers, reinsurers, brokers, Lloyd's syndicates and managing general agents.

Issue	Solution	Impact
<ul style="list-style-type: none">Entrance into the US Admitted Market - While the client has a portfolio of products currently in the global insurance marketplace, they had targeted entry into the US Admitted market with an ISO Commercial Property product.	<p>Actuaries provided subject matter expertise and knowledge in the following areas:</p> <ul style="list-style-type: none">ISO rating, including the ISO Electronic Rating Content (ERC) and algorithmISO forms library, including understanding all fields and components included within hundreds of dynamic forms and linking them back to the fields within the ERC rating tablesISO reporting, including premium and loss requirements, specifications and logical mapping tables	<ul style="list-style-type: none">Actuaries were heavily involved in the Functional Design, Configuration and Testing of the Commercial Property product.Delivered a product that demonstrated policy and rating capability.

Questions?