

Predictive Analytics in life insurance

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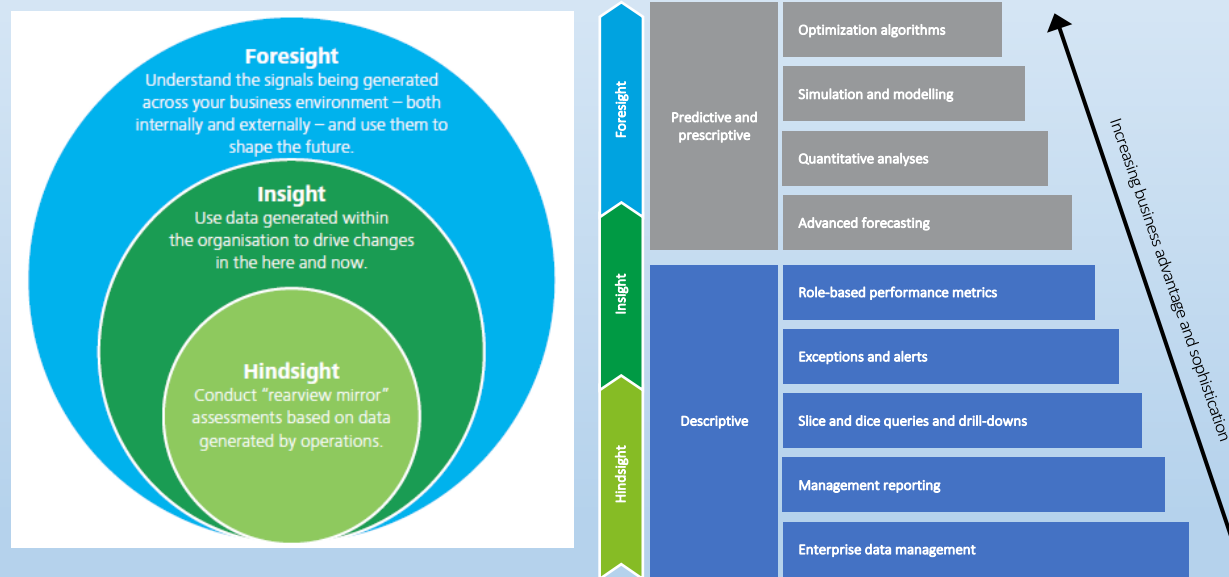
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Deloitte.

Evolution of the analytics process

Beyond descriptive statistics

- Predictive analytics is the use of data to generate predictive insights in order to make smarter decisions that improve performance of businesses and drive strategy to outlast the competition. Analytics should go beyond description of the past and should provide actionable insights about the future. This discussion will educate you on the full potential of the application of techniques.



Overall methodology

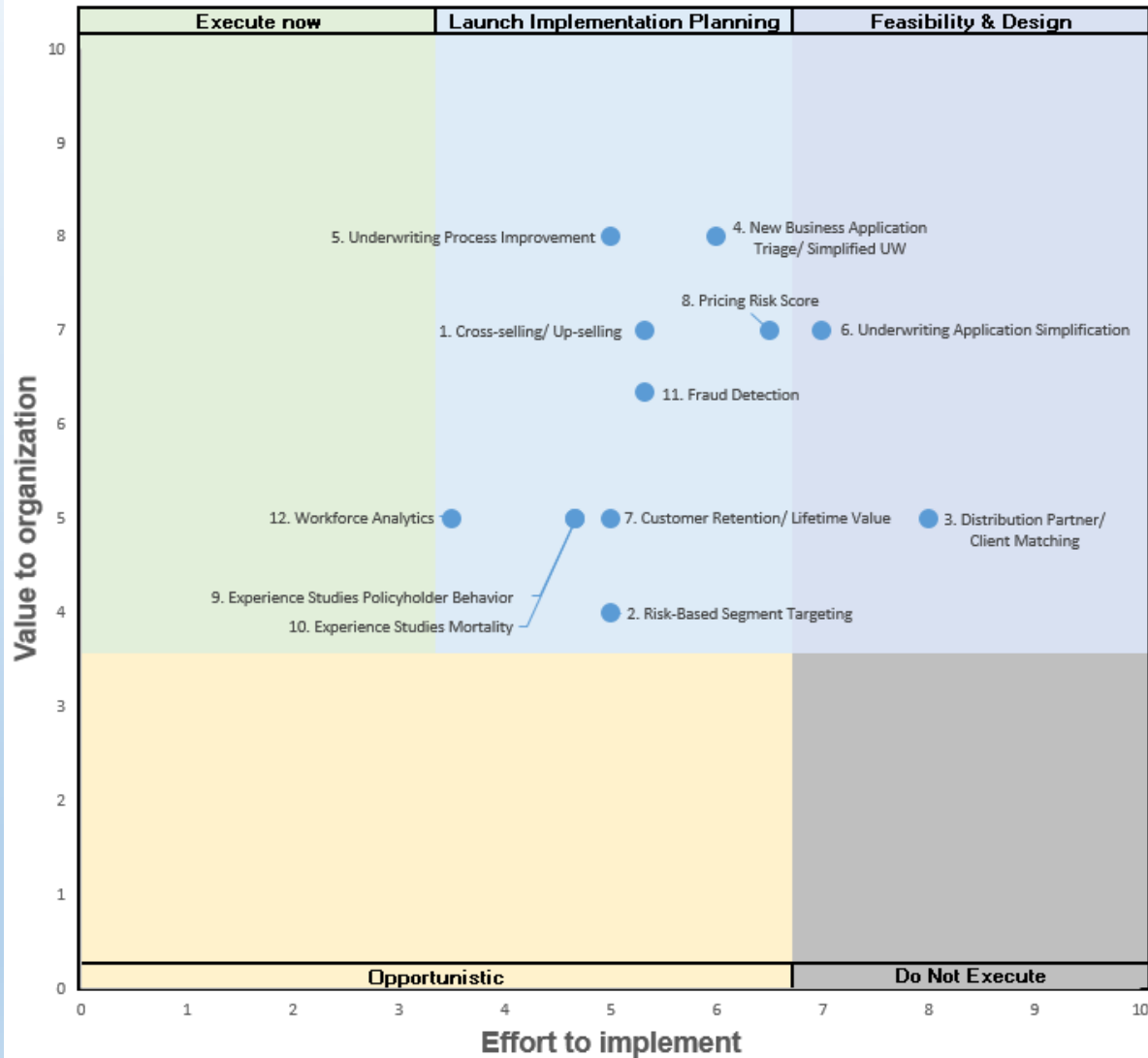
... and why researching/understanding analytics is complex

Phase	Understanding Business Problem	Data Collection	Data Cleansing	Analysis of Data	Model Selection	Variable Selection	Parameterization and Optimization	Results Presentation and Implementation
Description	Identify the key questions to answer, problems to solve, and business constraints	Collect and understand data and variable representations	Validate, standardize, and transform data	Analyze variables, distributions, correlations, and clustering	Identify appropriate modelling options based on business problem and data available	Identify preliminary variables that appear to be significant predictors	Train different models and variable combinations to determine the optimal model and parameters	Present results in a manner that can be understood by senior management of various technical backgrounds. Embed the predictive model into business processes

Predictive analytics applications



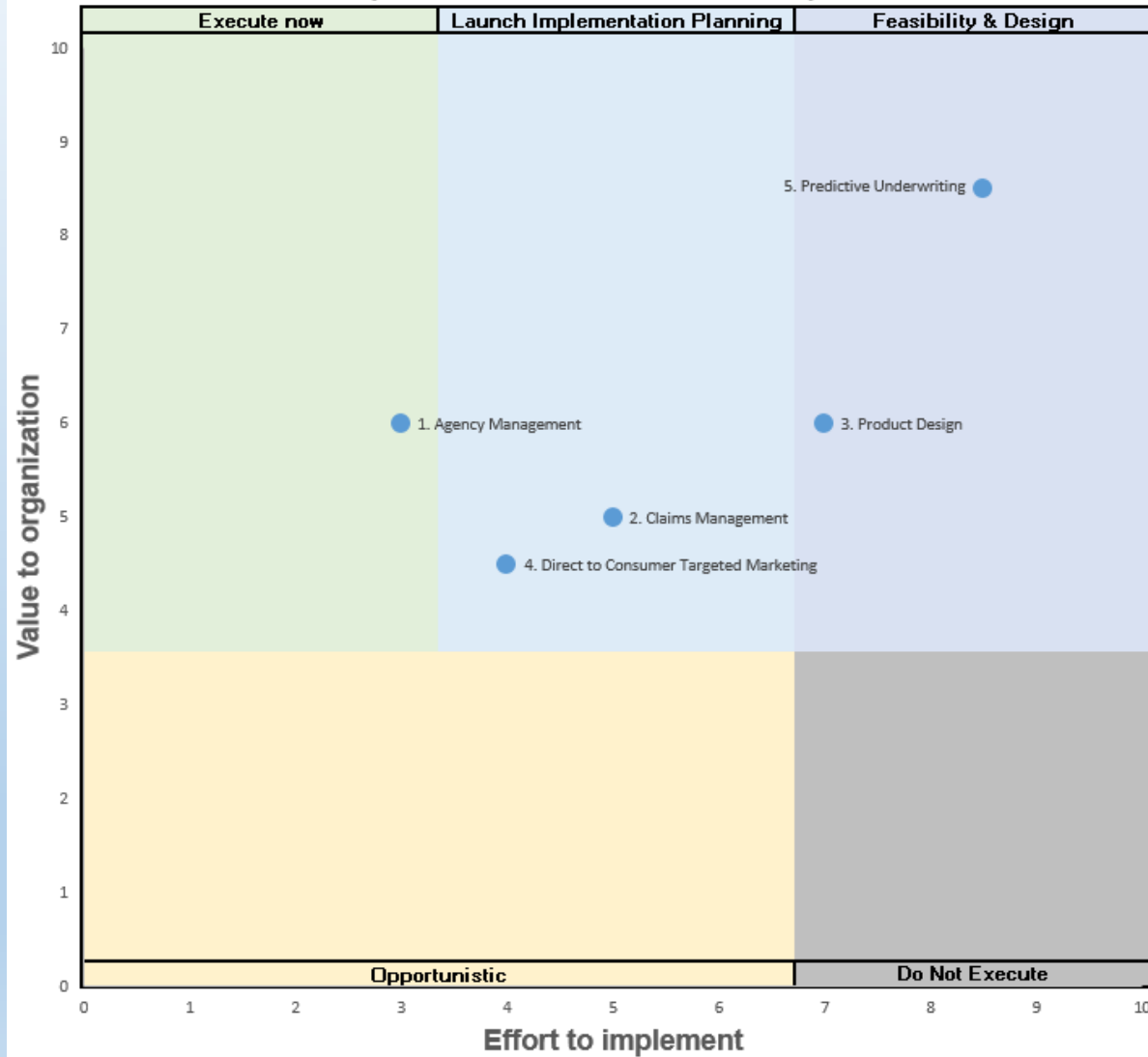
Canadian analytics application prioritization



Applications

1. Cross-selling/ Up-selling
2. Risk-Based Segment Targeting
3. Distribution Partner/ Client Matching
4. New Business Application Triage/ Simplified UW
5. Underwriting Process Improvement
6. Underwriting Application Simplification
7. Customer Retention/ Lifetime Value
8. Pricing Risk Score
9. Experience Studies Policyholder Behavior
10. Experience Studies Mortality
11. Fraud Detection
12. Workforce Analytics

US analytics application prioritization (not identified in Canada)



Applications

1. Agency Management
2. Claims Management
3. Product Design
4. Direct to Consumer Targeted Marketing
5. Predictive Underwriting

The efforts of the profession – Canadian Institute of Actuaries initiatives

- **CIA Predictive Modeling Committee’s** mission is to promote the application of the actuarial skillset to predictive modeling and to market actuaries as skilled experts in this field. More specifically the committee will:
 - a) Promote the role of actuaries in the predictive modeling field both within and outside the profession;
 - b) Identify needs for new research in the field of predictive modeling that will draw attention to the work of actuaries; and
 - c) Communicate existing research and case studies of work in the field through various media
 - d) Influence the Education Curriculum and CPD offering to include relevant predictive modeling techniques

- CIA Predictive Modeling Committee’s initiatives included:

Promotion within/outside	Needs for research	Communication/Dissemination	Influence curriculum	Collaboration/ Relationship
Profile Series in e-bulletin of Predictive Modelers (stories from actuaries and non-actuaries and their work in PM, start with committee members and then expand), target 3 within first year		Organize a webcast	Get on CPD sessions	(Ongoing) Connect with other organizations to coordinate/collaborate
Booklet about why and applications		Monitor CPD opportunities and inform the CIA for inclusion in the CPD opportunities e-mail	Provide input into the CIA curriculum in support of the alignment with the curriculum adopted by other organizations (CAS and SOA)	
		Organize a CIA event		
		Web-based index of strong reference documents relating to Techniques and Applications [completed]		
		Expand the Web-based index to include links to tools [completed]		