Resolving Policy Challenges through Use of Artificial Intelligence

19th Legislative Drafting Conference, Canadian Institute for the Administration of Justice
Overcoming Policy Blockages: Helping Drafting Instructors with their Instructions

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Outline

1	Application of AI to policy challenges

2	Case Study from University of Ottawa – Semantic Analysis

3	Opportunities and considerations

AI and Policy

AI in its various forms (natural language processing, machine learning, deep learning) will impact policy development the practice of law and legal service

- Assess, compare, classify, search large volumes of text, predictive analysis

Growing application in private sector firms and private legal practice

- Contract due diligence, document review, research, factual and contextual analysis, find anomalies, continuously monitor changes in laws and regulations

Complex GoC environment (2,600+ Regulations enabled by 800 Acts)

- Obligation to continually review regulations (Cabinet Directive on Regulations) - Time pressures and demand for legal resources and expertise

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Confronting Policy Blockages

Complexity	Addressing readability and complexity challenges: identifying contributory factors (e.g., legalistic jargon, poor sentence structure)
Coherence	Due diligence and comparative analysis to ensure coherence and clarity with similar provisions in other legislative instruments or other jurisdictions
Choice	Decision-making on design of most effective tools and instruments for compliance and enforcement, flexibility and innovation

Case Example: Semantic Analysis

Identify

Select key-words / phrases as indicators of regulatory attributes

Assess

Complexity

Prescriptivity

Age

Results

Counts of occurrences in regulations

Identify patterns and trends, compare results

Opportunity to inform regulatory reviews

Case Example: Semantic Analysis

Complexity — Addressing readability and complexity challenges: identifying contributory factors (e.g., legalistic jargon, poor sentence structure)

Standard readability tests do not work with legislative text

- does not take account of paragraphed structure

Cross-references indicate greater complexity

- distinct elements that must be connected
- often requiring readers to jump around the text

Legalese also indicates unnecessary complexity

- outdated / obscure words

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Case Example: Semantic Analysis

Prescriptivity

Mandatory v. permissive provisions – impact on efficiency, flexibility and innovation:

must	is required to	(may)(?! not| only)
must not	not less than	not required
shall	no(t) later than	not be required
shall not	cannot be	not prohibited
must be	payable	entitled to
is due	necessary	has the right to
is payable	may only	
is prohibited		
is required to		

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Case Example: Semantic Analysis

Age | Outdated regulations

Date of last modification
- signals need for review

Outdated terminology
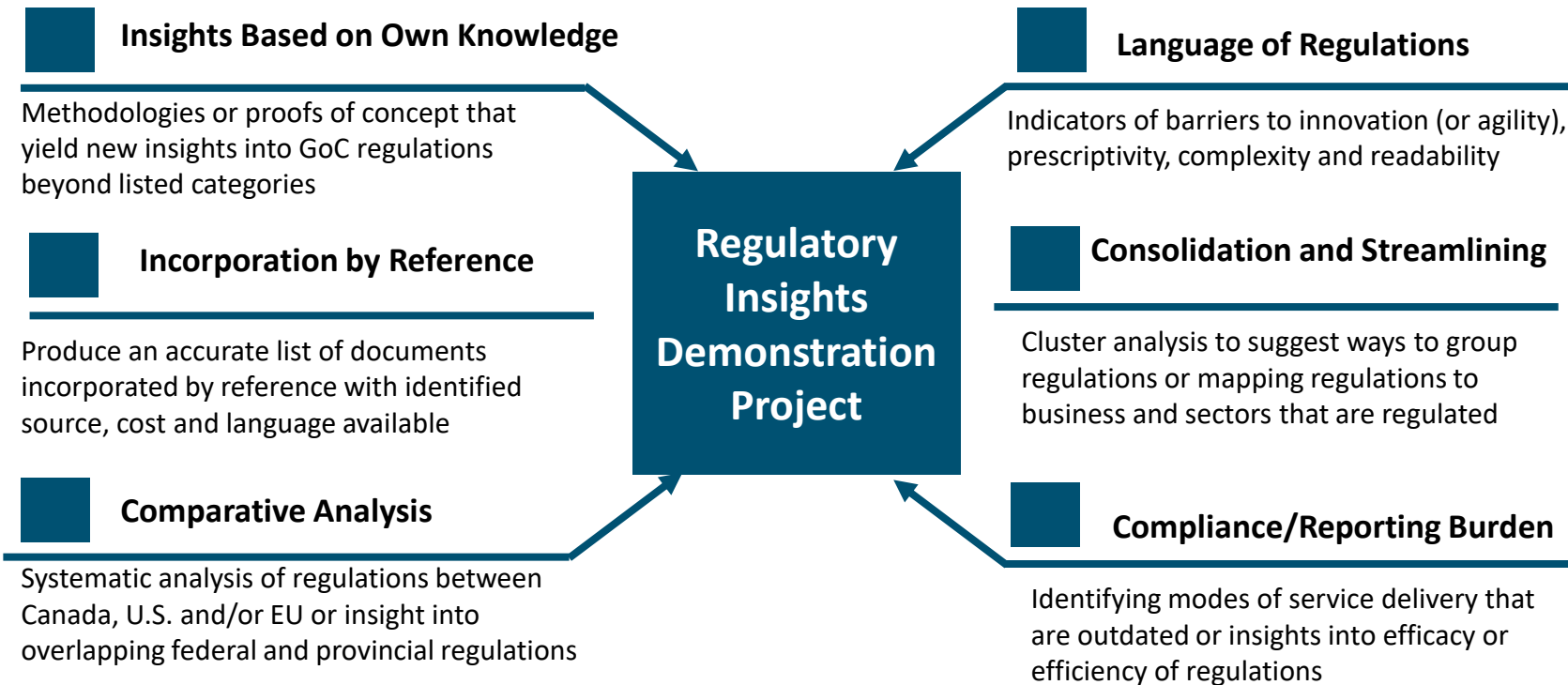- paper-based
- physical delivery / signature

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Potential Applications of AI

Regulatory Insights Demonstration Project

Insights Based on Own Knowledge

Methodologies or proofs of concept that yield new insights into GoC regulations beyond listed categories

Incorporation by Reference

Produce an accurate list of documents incorporated by reference with identified source, cost and language available

Comparative Analysis

Systematic analysis of regulations between Canada, U.S. and/or EU or insight into overlapping federal and provincial regulations

Language of Regulations

Indicators of barriers to innovation (or agility), prescriptivity, complexity and readability

Consolidation and Streamlining

Cluster analysis to suggest ways to group regulations or mapping regulations to business and sectors that are regulated

Compliance/Reporting Burden

Identifying modes of service delivery that are outdated or insights into efficacy or efficiency of regulations

Key Points to Consider

What is under the "hood?	Understanding methodologies/approach underlying algorithms, verifiability and data quality is important
AI augments - does not replace	Results add value if they are organized for human analysts to make the final decisions on what is important and irrelevant.
Carefully consider tools and providers	Consider experience (data scientists and legal expertise) and capability to work with regulatory and legislative data and information (e.g., demonstration projects and proposals)
Stay connected for new opportunites and best practice	Early days of application of AI to means many lessons to be learned, best practices to be shared and opportunities to build organizational and individual capacity.

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Questions and Comments?

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ANNEX

Regulatory Insights - Project Overview

Opportunity	Explore large and growing ecosystem of small, medium and large firms Assess applicability to regulatory and legislative challenges
Lead	Canada School of Public Service (CSPS) Supported by an advisory committee (Justice, TBS, regulatory and AI experts)
Deadlines	Demonstration projects and proposals due September 14, 2018
Results	Showcase to be held in Ottawa (Bayview Yards) on October 19, 2018 Successful projects promoted on-line and via social media
Access	Release of vendor list in Fall 2018 List can facilitate future procurement by Justice, departments and agencies

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