Key Customers

Health Canada
Cadillac Fairview
OXFORD
WORLDCOM
WWF
Fidelity Investments
TOYOTA
GREENPEACE
Loblaws
aeroplan
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Artificial Intelligence (AI)

What it is:

The capability of a machine to imitate intelligent human behaviour

What it does well:

- Identifies patterns
- Predicts actions and behaviour
- Processes information
- Expedites routines and repetitive tasks
- Improves accuracy and reduces human errors
- Inventory control
- Logistical planning
- Data mining
- Identifies fraud risk factors
- Image recognition
Why AI is the Desired Tool for Business

1. Versatile technology that benefits the business operations of any organization in any industry

2. Mines vast amounts of data quicker and more accurately than humans

3. Saves time and money by automating routine tasks and eliminating human errors

4. Learns and predicts customer actions and preferences to improve customer experience and loyalty

5. Helps increase revenue by identifying sales opportunities

6. Uniquely measures finance, operations and “creative” sections of an organization
Inside AI’s Black Box
How it Works

Samples -> Classifiers -> Data Lake

<table>
<thead>
<tr>
<th>Person 1</th>
<th>Person 2</th>
<th>Person 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMS 1</td>
<td>SMS 1</td>
<td>SMS 1</td>
</tr>
<tr>
<td>SMS 2</td>
<td>SMS 2</td>
<td>SMS 2</td>
</tr>
<tr>
<td>SMS 3</td>
<td>SMS 3</td>
<td>SMS 3</td>
</tr>
</tbody>
</table>

Data Output

SMS = Short Social Message

Statistics
To Illustrate AI’s Capabilities...
President’s Choice
Advertising Effectiveness
Measuring Effectiveness of *Eat Together* Campaign

Successful over time:
Canadians have consistently engaged positively on the Eating Together topic with new positives voices entering the conversation.

**Successful over time:**
Engagement with Eat Together campaign began rising dramatically in Fall 2017, continues to trend upward.
Toyota

Advertising Effectiveness + Competitor Analysis
Expensive Advertising Campaigns Don’t Always Drive Engagement

- Three campaigns were active during the Olympics, but saw little engagement
Toyota Being Beat on Price and Included Features by Hyundai

<table>
<thead>
<tr>
<th></th>
<th>Engagement</th>
<th>Negative</th>
<th>Neutral</th>
<th>Positive</th>
<th>Net positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Looking to buy a car</td>
<td>4,733,400</td>
<td>26%</td>
<td>17%</td>
<td>57%</td>
<td>31%</td>
</tr>
<tr>
<td>Talking about Toyota</td>
<td>241,100</td>
<td>24%</td>
<td>21%</td>
<td>55%</td>
<td>31%</td>
</tr>
<tr>
<td>Talking about buying Toyota</td>
<td>17,600</td>
<td>5%</td>
<td>21%</td>
<td>74%</td>
<td>69%</td>
</tr>
<tr>
<td>Talking about Honda</td>
<td>240,200</td>
<td>19%</td>
<td>14%</td>
<td>66%</td>
<td>47%</td>
</tr>
<tr>
<td>Talking about buying Honda</td>
<td>20,000</td>
<td>13%</td>
<td>14%</td>
<td>73%</td>
<td>60%</td>
</tr>
<tr>
<td>Talking about Ford</td>
<td>636,000</td>
<td>25%</td>
<td>21%</td>
<td>54%</td>
<td>29%</td>
</tr>
<tr>
<td>Talking about buying Ford</td>
<td>44,900</td>
<td>21%</td>
<td>29%</td>
<td>50%</td>
<td>29%</td>
</tr>
<tr>
<td>Talking about Hyundai</td>
<td>99,100</td>
<td>26%</td>
<td>24%</td>
<td>50%</td>
<td>24%</td>
</tr>
<tr>
<td>Talking about buying Hyundai</td>
<td>26,400</td>
<td>5%</td>
<td>1%</td>
<td>95%</td>
<td>90%</td>
</tr>
</tbody>
</table>

- Originally only compared 2 manufacturers, but ASI suggested looking at other brands
- People talking about buying a Hyundai are overwhelmingly positive because of the Price and Included Features
And of course AI can be used for financial auditing to tackle those tough issues thanks to:

Natural Language Processing
Most studies focus on intentional vs. unintentional restatements.

Unintentional restatements are 31x more prevalent than intentional.

Lack of focus can cause relaxed internal controls and lessen efforts to curb oversights + misreporting.
Finding Financial Restatements with Predictive Models

- AI enables the use of predictive models to identify both intentional and unintentional financial restatements

- Early detection of restatements beneficial for accountants, investors, and regulators

- Predictive model based on widely-used data mining techniques, including:
  
  I. Decision Tree (DT)
  II. Artificial Neural Network (ANN)
  III. Naïve Bayes (NB)
  IV. Support Vector Machine (SVM)
  V. Bayesian Belief Network (BBN)
Detecting Potential Fraud with AI

A single, unspectacular greasy spoon restaurant claims $1,000,000 in revenue.
Are those earnings legitimate?

AI like Polly looks for who (if anyone) is talking about the restaurant and where they are posting from. Low engagement on social media should bring up red flags for a supposedly popular and successful business.
How AI can Detect and Prevent Cryptocurrency Fraud

AI can detect online discussions and mentions of cryptocurrency fraud.

Crypto-fraud needs large volumes of potential investors. Some of these people—even unwitting victims—will discuss fraudulent cryptocurrency activities online.

**Common Types of Cryptocurrency Fraud**
- Fraudulent Initial Coin Offering (ICO)
- Illegitimate Exchanges
- Fake Digital Wallets
- Phishing Scams

**Detecting Fraud with AI**
Once trained to understand cryptocurrency and examples of fraud, the AI will monitor online discussions for potential cryptocurrency fraud. When an action matches flagged fraudulent behaviour, authorities can be notified for follow-up and investigation.