

Advisory topic: **Machine Learning** Steve Anderson, Mark Kwiatkowski, & Ron Berg

Industry Maturity Index: *Now, and near-term*

Why this is important: Machine Learning has the ability to impact our distribution channel by providing a new way to communicate with prospects and clients. By supplementing staff with timely, on-demand guidance agencies, carriers, and vendors can improve service levels and drive customers more directly to their needs. As an example one aspect, Robotic Process Automation (RPA), has the potential to have a significant impact if integrated with agency management or carrier response systems.

What is it? Machine Learning is a branch of Artificial Intelligence and represents a wide variety of computer program algorithms and techniques that enable software to improve its performance over time as it obtains more data. Other terms commonly used includes neural networks, deep learning, cognitive computing, and guided conversations.

Within machine learning, there are two branches; Supervised and Unsupervised machine learning. Cognitive computing has the ability to understand structured and unstructured data such as pictures, videos, notepads, conversations, etc.

Broad Implications / Uses: This has applications across a wide variety of our lives. The application are almost limitless;

- Adaptive websites
- Direct Marketing – Tied to an individual’s life events linked by social media information
- Medical Diagnosis
- Online advertising
- Speech and handwriting recognition
- Robotic Process Automation (RPA)
- Analysis (i.e., stock market)

Much of the existing machine learning algorithms are Open Source, therefore not only the use, but also innovations have the potential to expand exponentially. There are also commercial software implementations across many leading companies such as Oracle, Microsoft, and IBM. Google, Amazon and others are also using ML to deliver customized marketing and products.

Economic Impact(s): Machine Learning may well have a huge impact in further reducing the needed workforce – While ML can improve the speed, quality, and cost of available goods and services, they may also displace large numbers of workers.

- Greater availability and falling costs to implement make automating tasks more competitive to human workers.
- ML can execute actions (diagnosis, trades) in fractions of a second.
- Recessions and downturns force companies to operate with less workers. As more automation is implemented, this will be relied upon as opposed to hiring additional workers.
- ML will allow humans to focus on complex tasks over repetitious tasks.

Insurance Industry Implications: Machine Learning can have positive and negative impacts to many areas of our industry;

- Positive Impacts
 - Improved compliance, cost structure, competitiveness.
 - Improved underwriting.
 - Improved claims handling – leakage, fraud, human error.
 - Improvement on accuracy, resulting in improved pricing.
 - Ability to optimize use of big data (volume, velocity and variety).
 - Fill the gaps left by the insurance industry’s retiring workforce.
- Negative Impacts
 - Reduces customer interaction (ML will generate new automated touch-points).
 - Could provide incentive to reduce agency, vendor and carrier workforce.
 - Will have to carefully monitor ML solutions to ensure algorithms are matching and producing intended results.
- Indeterminate Impacts (if required)

Recommended Actions:

Agents -

- Investigate and understand potential tools/resources available through agencies to customers & consumers.

Carriers -

- Investigate offering coverages across spectrum of impact.
- Hold discussions among strategic leadership on the impact of Machine Learning, and how it is making inroads into our industry. *(See KPMG resource linked below)*
- Ensure you are aware of potential industry implications when creating Machine Learning tools – to workflow, staffing, and productivity.

Vendors -

- Work to develop an updated understanding of Machine Learning; its impact and applications to our industry.
- Ensure you are aware of potential agency implications when creating Machine Learning tools – to agency workflow, staffing, and productivity.

Examples/Resources:

[The Rise of Chatbots in Insurance](#)

[The Key Areas Where Chatbots Fit in the Insurance Industry](#)

[SnatchBot](#) [Elafris](#)

<http://iireporter.com/using-machine-learning-to-curb-insurance-claims-leakage/>

[KPMG: How machine learning will change the game for insurance companies](#)

[Insurify replaces some human interaction with AI Bot ‘Evia’](#)

[Cognitive Computing Helps You Escape the Productivity Trap](#)

[4 Ways Artificial Intelligence Enables Smarter Claims Processing](#)

[SlideShare ML example: Building Emotion- and Context-Aware Real Time Applications](#)

[Chatbots, insurance and the death of the customer portal](#)

Evolving Technology Caution:

Machine learning applications are becoming more powerful and more pervasive, and as a result the risk of unintended consequences increases and must be carefully managed. Creating new applications that use machine learning is difficult work. And so it is understandable that when engineers and scientists make a

technological breakthrough and have an effective product they rush to market without carefully considering possible unintended consequences.

Call to Action:

1. Become educated about this topic – Develop an understanding of what Machine Learning is, and how it is being used, and possible future impacts.
2. Educate your staff and colleagues about this topic. Make Machine Learning a topic in your company's future strategic discussions.
3. Make sure your customers understand any insurance-related implications.

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