MERLYNN

Merlynn AI Insurance Solutions

Digitised Underwriting & Claims Expertise

Advancing the digital transformation journey of an industry founded upon uncertainty, and still largely reliant on human expertise to manage risk, requires a unique technology solution – one able to embrace human expertise.

Business Principle: - Fortuity:

The insurance industry is founded upon uncertainty or 'fortuity' - a legal principle required for a contract of insurance to exist. The presence of fortuity means that the precise outcome of a scenario must be unforeseen or unknown. The fortuity principle means uncertainty can never be eliminated from the insurance contract, but it could be managed more efficiently through the application of various technologies.

Uncertainty vs Risk

Risk – in risk scenarios all possible outcomes are known therefore via data analytics all permutations can be modelled and accurate predictions can be made. The business decision is simply how much risk the organisation can or wants to tolerate. This decision can be defined in rules and managed through mandates and delegated authority.

Uncertainty – in uncertain scenarios all possible outcomes are not known nor their probabilities. As outcomes cannot be guaranteed organisations place higher reliance on technologies and human expertise to manage uncertainty and make appropriate decisions which meet risk appetite.

Current AI Capabilities:

In the high frequency / low severity sectors of the market, current data-driven AI and "prediction" or "decision support" technologies have vastly reduced the extent of uncertainty by generating valuable statistics, predictions, alerts and flags which support and inform decisions. Data driven technologies enable insurers to more accurately assess, profile, classify, select or target risks that meet their defined appetite or tolerance and therefore better manage risk. Insurers are even able to influence outcomes through behavioural monitoring technologies.

Predictions that exhibit uncertainty which represents intolerable risk to the organisation, (high frequency / high severity) require human intervention to ratify the prediction, make decisions and inform actions that mitigate potential risk and achieve the most favourable outcome for the insurer.
As the frequency of events reduces so does the availability of data, prediction accuracy and confidence levels begin to decline and reliance on human expertise increases.

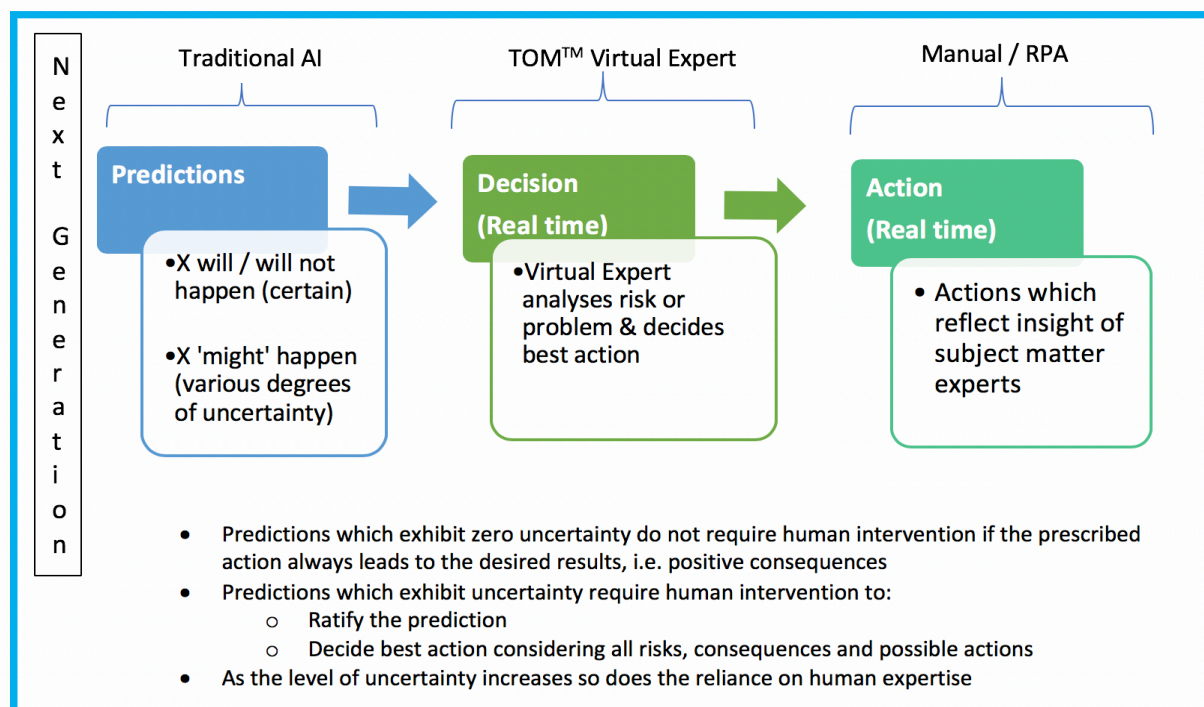## Next-Generation Capabilities:

Merlynn's Tacit Object Modeler - TOM™ replicates human decisions, enabling access to real-time, expertly informed decisions. Instant access to expert decisions, enables process automation in areas reliant on human expertise, or where human intervention is used to manage risk and organisational exposure. Decisions which typically require authorisation or judgement or are highly consequential.

The Tacit Object Modeler Technology, TOM™, capabilities enhance and complement existing technologies enabling insurers to responsibly automate their business.

TOM™ Decision technology

For organisations who have implemented advanced analytics and prediction technologies, TOM™ is positioned as adjacent and complementary technology.

Where no predictions are available or where no reliance is placed on predictions, TOM™ models will think as the experts do in these spaces. The technology is readily integrated into existing RPA systems.

Next Generation	Traditional AI	TOM™ Virtual Expert	Manual / RPA
	Predictions	**Decision (Real time)**	**Action (Real time)**
	• X will / will not happen (certain) • X 'might' happen (various degrees of uncertainty)	• Virtual Expert analyses risk or problem & decides best action	• Actions which reflect insight of subject matter experts

- Predictions which exhibit zero uncertainty do not require human intervention if the prescribed action always leads to the desired results, i.e. positive consequences
- Predictions which exhibit uncertainty require human intervention to:
  - Ratify the prediction
  - Decide best action considering all risks, consequences and possible actions
- As the level of uncertainty increases so does the reliance on human expertise

Expertise (Tacit Knowledge)

Human subject matter experts (SME) have the ability to rapidly process complex sets of information and make consequential decisions or judgements in situations where uncertainty exists. This ability is fostered through years of experience, nurtured by a deeper understanding of their field of expertise, an instinct around the correct diagnosis of the situation as well as the best action to take to mitigate the risk. Because this experiential or 'tacit' knowledge resides in their subconscious an expert cannot explain why or how they know something – it is often described as gut-feel. For this reason, tacit knowledge is confined to the human expert and access to it constrained.

By scaling expertise TOM™ removes the constraints, enabling organisations to combine unlimited access to digitised human insight with data-driven analytics and machine learning to make intelligent, real-time decisions enabling immediate and appropriate action

The value this capability brings to commercial organisations is a powerful competitive advantage both in managing risk, improving efficiencies and enhancing customer experience.

TOM™ has been successfully deployed in both underwriting and claims environments

"The Merlynn TOM technology allowed us to incorporate digitized expertise to more effectively managing risks at transaction level within the business. This has led to increased SLA levels across key areas within the business, an increase in the consistency of decision making as well as an increase in the capacity of key decision-makers."

Manager Business Process Optimisation

Underwriting

TOM™ digitises human underwriting expertise to create a Virtual Underwriter (VU) that responds exactly as the expert underwriter would, only faster, and without limitation to access.

TOM™ learns directly from the underwriter to capture both explicit as well as tacit knowledge - gut feel and instinct –the inexplicable element developed over many years, that experienced underwriters rely on to make discerning decisions about the extent and treatment of risks, which enables insurers to responsibly manage their exposure to risk.

TOM™ enables insurers to scale this expertise to automate underwriting decisions without compromising the quality of the underwriting across all business segments, from personal lines and micro SME to commercial, corporate, niche and specialty.

Digitised underwriting provides unlimited real-time access to decisions created by expert underwriters, relieving capacity constraints around the human underwriters. New business, renewals, amendments and endorsements can be monitored by the VU.

Every risk regardless of the frequency or potential severity is essentially analysed by an experienced underwriter improving the overall quality of the portfolio

The VU decisions are available 24/7 and process up to 20,000 queries per second, delivering decisions with speed and optimising efficiencies without compromising the quality of the underwriting.

Automated underwriting through Virtual Underwriters delivers:

- More consistent underwriting decisions
- Reduced turnaround times which empowers sales and enhances customer experience
- Reduced portfolio risk through expert analysis of the entire portfolio
- Optimised use of experienced underwriters time to focus on evolving risk, regulation, research, product development and training

Underwriting Use Cases

Single Query Use Cases

- **Underwriting referral models**
  - Models created to provide real-time decisions around individual enquiries which normally require authorisation from more experienced executives with higher mandates. Decisions are typically referred to manage risk to the organisation around, specified high-risk sectors or treaty exposure, regulatory or legal compliance, profitability, commercial relationships, risk complexity etc. In these decisions, expertise and experience, as well as business and commercial judgment, are required to make decisions which achieve the most favourable outcomes

- **Delegated authority models**
  - Decision models for issues which previously relied on delegated authority to facilitate business flow through 3rd party distribution channels. Access to the decision is available in real-time so models improve risk management by removing reliance on delegated authority without affecting service delivery, or negatively impacting relationships.

Batch or real-time processing Use Cases

- **Policy screening**
  - Models reflecting next best actions, renewal actions and remediation actions are run against entire books of business to screen all policies, not only those identified by poor performance rules. Real-time screening is now possible at policy level thus reducing portfolio risk by providing detailed, granular and specific reporting. Screening may be conducted as often as claims and policy details are updated to ensure the book is constantly monitored

Claims

By virtualizing key decision-makers, TOM™ enables insurers to make claims decisions which reflect the insight of experienced experts in real-time.

More consistent, efficient and fair claims decisions

Claims decisions, even low severity claims, are inherently complex. Explicit information such as incident-specific facts, compliance with policy terms and conditions, and disclosure details inform decisions. Determining outcomes that are fair and reasonable often requires the judgement and expertise of a panel of experts to provide opinion on more subjective matters such as what constitutes material non-disclosure.

Decisions are further complicated by commercial considerations, regulatory and legal compliance, empathy and ethics which require not only expertise but also decision authority and business acumen from more experienced executives

TOM™ allows insurers to simultaneously consider opinion from multiple experts in real-time, to assess and provide opinion on various issues that affect and influence claims decisions. This ensures that the best possible knowledge and judgement has been exercised in determining a final outcome.

Digitised claims affords insurers the peace of mind that each and every claim has been reviewed with consistency by its most experienced and trusted individuals.

The digital nature of these decisions enables insurers to delegate greater claims settlement authority to binder holders and outsourced claims processing hubs, further optimising efficiencies

More effective fraud risk management

Despite advancement in technology, fraudulent claims continue to cost the industry dearly.
Experienced claims professionals develop an instinct around claims that enables them to sense when something warrants attention or further investigation. This 'gut-instinct' is invaluable in detecting fraudulent claims but until now was housed within human experts. TOM captures and replicates this instinctual understanding of risk and enables insurers to scale this capability.

Human investigators and claims handlers are unable to deal with every case. Until now their time was best spent on only the most severe cases, allowing many to fall under the radar - costing the industry billions each year in fraudulent claims.

Digitized expertise enables insurers to create the capacity to have each and every claim assessed by the virtual claims expert regardless of the size of the claim. Each claim can also be examined by a panel of virtual experts, internal, external and third-party experts who specialise in different areas of fraud.

Working adjacent to technologies which monitor and flag potentially fraudulent claims TOM™ makes real-time decisions that enable insurers to take appropriate actions, faster.

Summarised Claims Use case
- **Real-time investigation focusing models**
  - A panel of experts internal, external and third party (Crime Bureau) were modelled to analyse claims as they are reported and make decisions about specific issues requiring investigation. Each expert's perspective is unique, ranging from specialist syndicated fraud expertise to microanalysis. The panel ensures that multiple eyes review every aspect of each claim. Scaled expertise means every claim regardless of size can receive the attention the best experts removing the loophole of "below the radar" claims. Identifying and eliminating specific risk issues is key to appointing field investigators in good time, resulting in a more optimal use of resources and focused investigations.

Visit www.Merlynn.co.za for further information.