DRIVING THE DATA DIVIDEND

Making use of analytics in risk management

Produced in collaboration with
Aon Risk Solutions for AIRMIC.

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1 Introduction

90% of the world's data didn't exist two years ago (Mckinsey Analytics, How to win in the age of analytics, 2017). Technological advances and the lowering cost of computing makes data available to businesses like never before. Successful businesses are using this data to review business models and drive transformation.

However, risk managers confirm that they aren't making the most of the information surge. Many use the same information sources and statistical techniques to assess risk and purchase insurance that they have adopted for several years. Over 50% of Airmic members state that their use of data is limited, but an equal amount recognise that analytical literacy is a key competency for the modern risk manager, believing they will make more of data in the future (Airmic, A Profession in transformation, 2017).

Data is vital for effective risk management. There is an unprecedented level of uncertainty in business, meaning that 50% risk managers expect their risks to change significantly in the next two years (Aon, Global risk management survey, 2017). New sources of intelligence must be manipulated to understand and manage these changing risks. Indeed, Aon report that analytical techniques would give new insights into all ten of the 'top risks' highlighted by the same risk managers, from supply chain modelling, to predictive analytics of profit streams.

SO WHY THE LACK OF USE?

Data seems to be placed in the 'too big to handle' box. Risk managers cite a number of challenges from poor quality to a lack of understanding on their own part.

This paper will address each of the challenges and propose a model for data-driven decision making for enterprise risk management purposes.

2 Data and analytics – an overview

Big Data

What is it?

- Large in volume
- Multiple source – including internally and externally collected data
- Large in variety – including structured (organised and categorised) and unstructured (unorganised) data
- Gathered at greater speed than traditional data sets
- Has the potential to add great value

The challenge

Businesses cannot immediately start using 'big data' to identify relationships and trends.

Time and resource must be invested into linking the multiple sets of data collected across separate areas of the business, and for separate purposes.

Data Science

What is it?

Data scientists study the data held by a business to provide new insights. Activities include:

- Collecting data
- Cleaning, categorising and organising data
- Modelling and mining data to spot patterns and relationships
- Building algorithms which allow large amounts of data to be interrogated by computer

The challenge

Data scientists struggle to integrate their skills and value into the business strategy.

Risk managers should act as a 'translator' that makes the value of data and analytics consumable to the organisation.

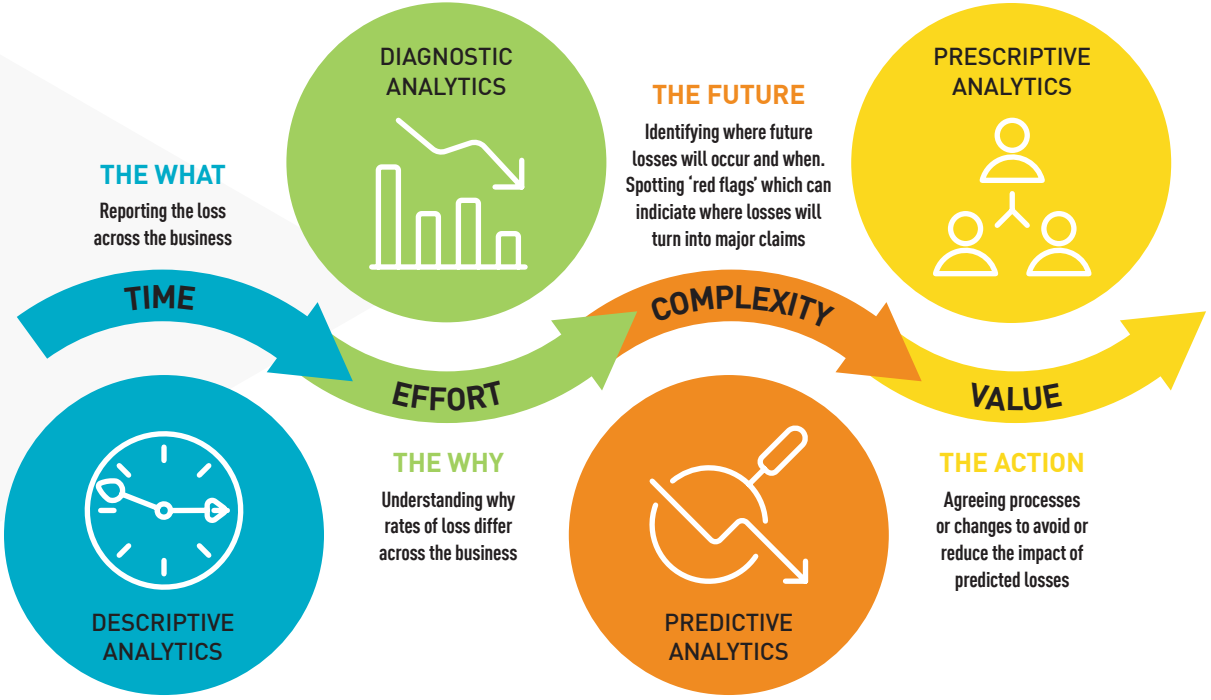
3 Data analytics – a maturing discipline

The four stages of analytical maturity describe where the business is in terms of harnessing data.

Most risk managers will be used to reporting on claims and business trends. However, mature risk managers will use the available data and apply analytics to it to gain a deeper understanding of their risks, predict when those risks will manifest and make data-driven proposals on how they can be managed.

Timely, well analysed data can make a persuasive argument for business model and process change.

There is no question that a mature approach to analytics takes time and resource. Businesses will need to initially focus on getting their existing data and data infrastructure in line, before they can move up the maturity model.

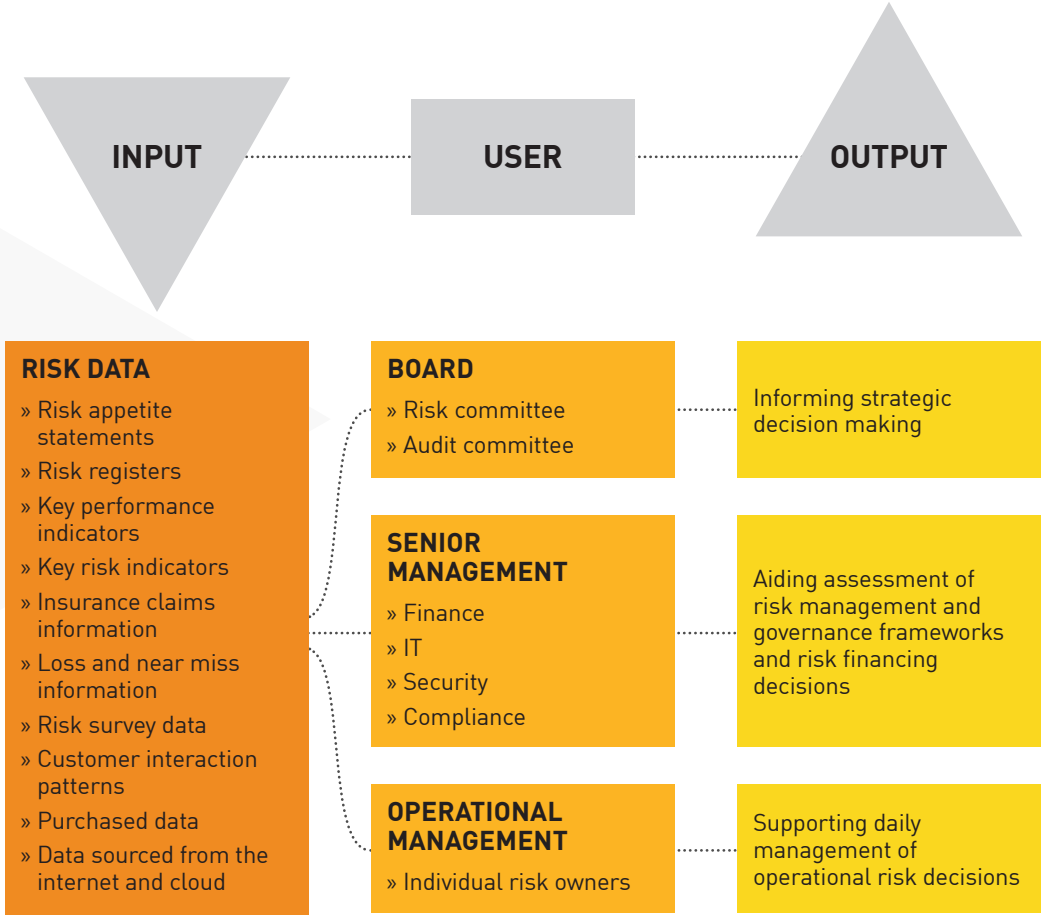


ANALYTICAL CAPABILITY MATURITY

4 Risk data and the business

Risk information can be used at all levels of the business as described to the right. Where data is used for business planning at the senior level, it must be visual, simple and tied to clear organisational priorities.

Data shared at business unit level can link to KPIs to support management in reaching their operational objectives and increasingefficiency.



RISK DATA AND THE BUSINESS

5 The barriers to data use

Despite the excitement for using data analytics Airmic members cite a number of barriers that must be overcome before the opportunities can be realised (Airmic, Transformation of the Profession, 2017) each of which are considered below.

Most critically, organisations must move away from a short term approach where specific data is used for discreet one-off purposes.

LACK OF BUDGET

Over a third of Airmic members lack the budget to enhance their approach to analytics. However, this can be a symptom of the 'too big to handle' view of data.

Risk managers are encouraged to start small. By considering a specific question and collecting the relevant data to investigate it time and budget will be spent more effectively than simply collecting vast amounts of information and hoping something interesting crops up.

"A common misconception surrounding analytics is that it will require a complete overhaul of how risk data is collected. We often find that businesses already have the information they need, or small changes need to be made to make it more consumable. It's about understanding the question you need to answer and the information required to do so."

PHILIP SONGHURST-THONET
HEAD OF RISK CONSULTING, AON RISK CONSULTING

DEFINING THE QUESTION

When assessing variations in operational resilience across a manufacturing firm, Inoni focused on improving data collection by building on the organisation's established 'resilience standard'.

This was used to develop a 70-question survey, where questions were based and weighted against the 12 risk indicators routinely measured by the business.

The 400 operating sites were benchmarked against the standard by the risk function and local operating managers completing the survey every 6 months.

Survey data was overlaid onto standard performance measures, allowing the business to spot risk management shortfalls and target improvement budgets.

INAPPROPRIATE INFRASTRUCTURE

Ventiv Technology conducted a poll of Airmic workshop attendees and estimated that only 10% of risk managers are using fully integrated data management systems whilst roughly 60% use spreadsheets.

Reliance on static databases restricts the opportunities presented by data. Effective data management systems must be able to keep up with the 'four Vs' of big data - volume, variety, velocity and veracity.

"Spreadsheets reduce data validity and quality. They prevent proper version control, audit trails and efficient data sharing. To innovate businesses must move away from the norm by capturing and storing structured and unstructured data on a singular platform that allows you to pull the signal from the noise."

JOHN IRVING
REGIONAL DIRECTOR, EMEA, VENTIV TECHNOLOGY

5 The barriers to data use

HARNESSING THE WEB

The Aon Data Centre had the task of consolidating information from 400 separate databases and applications onto one platform.

Aon moved from the 'tins and wires' of traditional databases to online cloud and amazon based servers.

Data became more accessible to customers, employees and key stakeholders as all information was held on the same infrastructure, ensuring common and consistent messaging across all parties.

The web-based platform allowed use of online computation models and reduced costs as storage capacity can be turned off and on to meet the peaks of data collection across the business.

DIFFICULTY ACCESSING DATA

The top reported reason for risk managers not using analytics is inability to access the required data. Firstly, they may struggle against business units limiting the information they share with the risk function or sanitising it beyond use.

Even where data is accessible many businesses fall foul of collecting data for single-purpose or single-function use. Data becomes locked within silos where each set has its own classification and taxology rules. A risk manager's first task will be bringing together the different pools and linking them by common themes and field names.

This facilitates analysis and ensures that when the business is discussing its information, everyone is talking the same language.

ACHIEVING CONSISTENCY

A transport provider is developing consistency in risk reporting across the business by taking a top-down and bottom-up approach.

The risk manager gained senior management support by collaborating to theme or 'bucket' the key risks of the business against publicised strategic priorities. This is creating risk data categories that should resonate at all levels and across all functions.

The risk manager is subsequently producing key risk indicators and scorecards linking the main activities of each unit to the established themes.

By linking risk data to the overall priorities and operational activities, consistent data collection will be built into all day-to-day processes.

POOR QUALITY DATA

A quarter of risk managers think the data they hold is of limited quality. Data needs to be of high quality in terms of the data producer, the person or system that inputs/generates the data and the data user, who will view or manipulate the data.

High quality data will be accurate, timely and appropriate in nature and volume to its use. Appropriate data verification and access checks will be key.

Risk managers must establish who collected the data, and why. Data is often collected with a specific theory in mind and there can be a tendency to make assumptions based on limited information. Risk managers should assess the data collected in terms of its relevance to the question being asked, and reflect on any confirmation bias that may have crept in.

5 The barriers to data use

AVOIDING ERRORS

A global FTSE 100 organisation collates security information from multiple sources to monitor its geopolitical risk. Information is gathered from external sources, e.g. security firms and linked to internal data from HR, finance, facilities etc. Ensuring this information remains accurate and timely is a major challenge.

The risk management team demonstrate the value of security risk data to the business through online visualisation tools and one-page summaries that support decision making.

This has ensured the necessary budget for data analysts who verify and test the reliability of information and ensure no data is being prioritised inappropriately.

A key task includes corroborating the qualitative information that may easily be dismissed, but can be invaluable when adding reasoning to statistical data.

INSUFFICIENT SUPPORT

Risk mangers find their stakeholders do not sufficiently value analytics to provide the necessary resource to increase analytical maturity.

This may be a consequence of data governance and processing often being owned by the IT function. Risk managers can provide the link between the IT function and the business so data is collected for tightly defined business needs and overlaid onto existing business processes that deliver practical insight.

Individuals are increasingly used to digital experiences on elegant systems and have the same expectations of workplace information. Data insights should be presented through clear visual methods that can be investigated intuitively rather than through spreadsheets and tables.

MAXIMISING THE VALUE

A financial services firm addressed its high volume and cost of motor fleet claims, compared to the industry standard.

Telematics were installed into all vehicles to provide a data feed of vehicle and driver performance to the business. The data was analysed and shared across the business at three points, to gain organisation-wide support;

1. Operations. Data was used to improve driver awareness and update Health & Safety policies and guidelines
2. Senior management. Data used to assess the cost benefit and associated risks of outsourcing the motor fleet
3. Board. Key risk indicators used to drive and monitor risk culture

6 Data driven-decision making

Data driven-decision making involves a risk manager gathering relevant data and using analysis and evaluation to inform risk management, risk financing and business strategy.

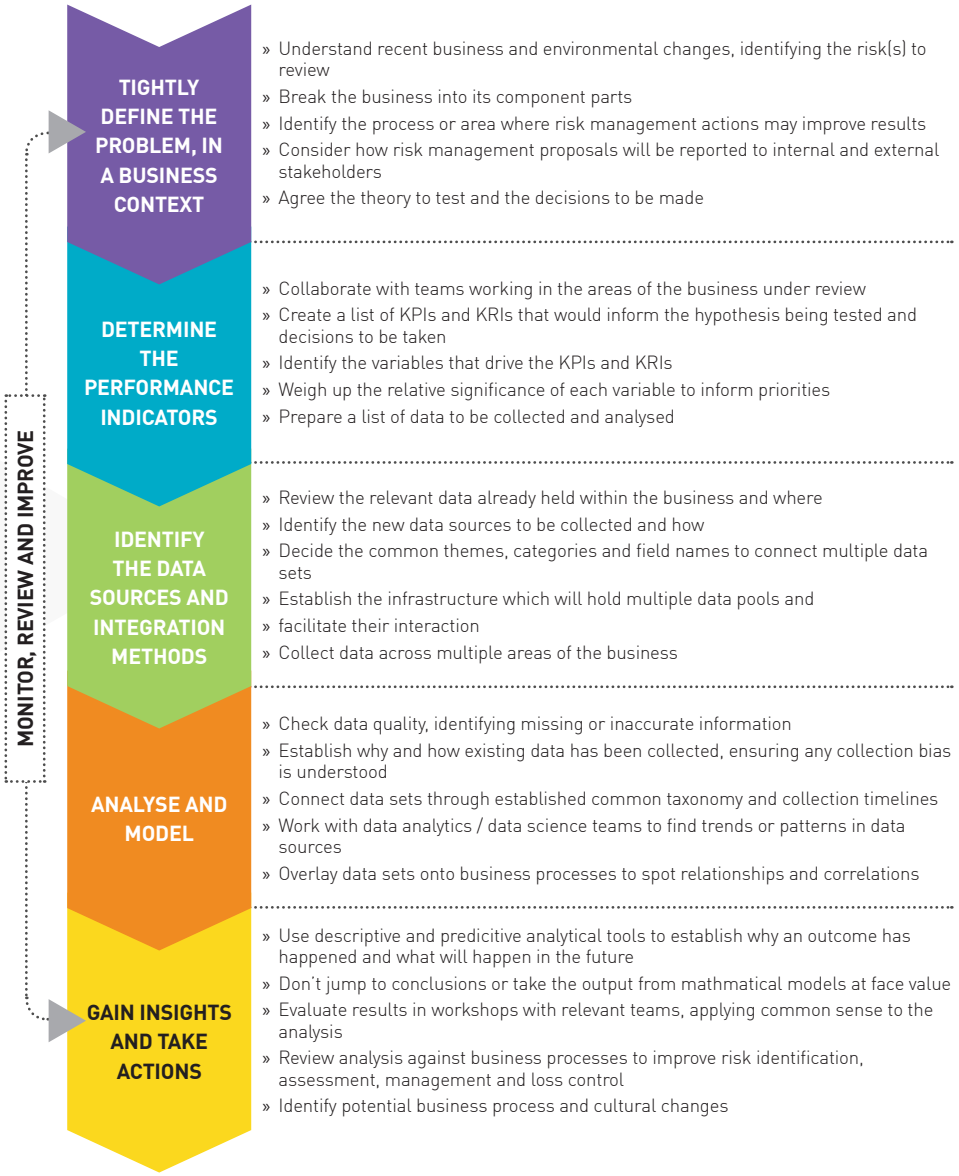
Insurers and brokers are beginning to take the leap by exploring new sources of data such as machinery sensors and telematics and using automated decision making when quoting to improve accuracy. Risk managers must follow these trends, e.g. by looking at the numerous sets of data available to them and discovering new relationships between sets if they want to keep up.

However, there is no doubt that there are internal challenges. the figure to the right summarises the actions and key questions risk managers should take to combat these obstacles.

"The key to using risk data effectively is to start small and keep it simple and focused. Big data should be used to highlight small changes that could enhance existing business processes, e.g. board risk reporting, resulting in measurable improvements to overall quality and insight. Risk managers will need to demonstrate the cost-benefit of any changes using interactive and visual messaging to get the support of senior leadership.

By starting small and building on success, the case for broader adoption and investment into analytics will become easier."

PHILIP SONGHURST-THONET
HEAD OF RISK CONSULTING, AON RISK SOLUTIONS



A DATA DRIVEN-DRIVEN DECISION-MAKING MODEL

7 The risks

Like all process changes, advancing data analytics does involve taking on risks. Risk managers should consider the following:

The EU General Data Protection Regulation (GDPR)
Any data processing or analysis that involves personal data will fall under the new General Data Protection Regulations, which will become law in the UK in May 2018. The law brings in mandatory reporting of data breaches, heavy fines and a recommendation for organisations to appoint a Data Protection Officer. Risk managers should address and control their organisation's response to this issue, considering the impact of any new data collection and analytics techniques. More information can be found in Airmic's The EU General Data Protection Regulations: What risk managers need to know.

The impact on cyber risk
Cyber risks continue to be quoted as top-of-mind concerns for risk managers. As organisations use increasing data sources and integrate data analytics into their processes, the cyber risk will change. Risk managers can provide the link between business strategy, data processing and IT infrastructure, assessing the cyber risk accordingly. More information can be found in Airmic's 'Understanding your cyber risk and purchasing insurance'.

The need for the human element
Computers and algorithms operate on logic, which cannot make sense of everything! All data analytics should include a step where business managers review and evaluate output, tempering the analytics with reality and common sense.

8 The future

Risk management can be considered the perfect mix of art and science, and it's quite possible that advances in big data collection and analytics will begin to govern the science element.

Risk managers will need to educate themselves not only on how to approach data-driven decision-making but also the technological developments that will increasingly dictate where data comes from and how it is used. The internet of things, where everyday objects including wearable technology and machinery fitted with computerlinked sensors will provide streams of information at an unforeseen rate. Artificial intelligence; where computers process in a way that stimulates human reasoning or knowledge will increase businesses reliance on automated analytics. Risk managers must fit into these new ways of working to remain relevant.

The key will be using risk management to link data science with the business. Risk managers should focus on using data to encourage good behaviours and processes, supporting the strategic direction of the business.

Contributors

Aon Risk Solutions

Aon plc (NYSE:AON) is a leading global professional services firm providing a broad range of risk, retirement and health solutions Our 50,000 colleagues in 120 countries empower results for clients by using proprietary data and analytics to deliver insights that reduce volatility and improve performance.

Aon's Global Risk Consulting (AGRC) business is core to delivering value and innovation to our customers by using data to better understand, quantify and manage both insurable and non-insurable risk AGRC provides clients with comprehensive and tailored risk solutions, through a consistent global approach With 1,500 staff globally at over 90 locations, AGRC is one of the largest risk consulting organisations in the world.

For more information, please visit www.aon.com.

Airmic

Airmic is the association for everyone who has a responsibility for risk management and insurance for their organisation.

Members include company secretaries, finance directors, internal auditors as well as risk and insurance managers. We support our members in a range of ways:

- Through training and research
- By sharing information
- Through our diverse special programme of events
- By encouraging best practise
- By lobbying on subjects that directly affect risk managers and insurance buyers

Above all, we provide a platform for professionals to stay in touch, to communicate with each other and share ideas and information. The more people who take part in our activities, the more valuable we become.

For more information, visit www.airmic.com.

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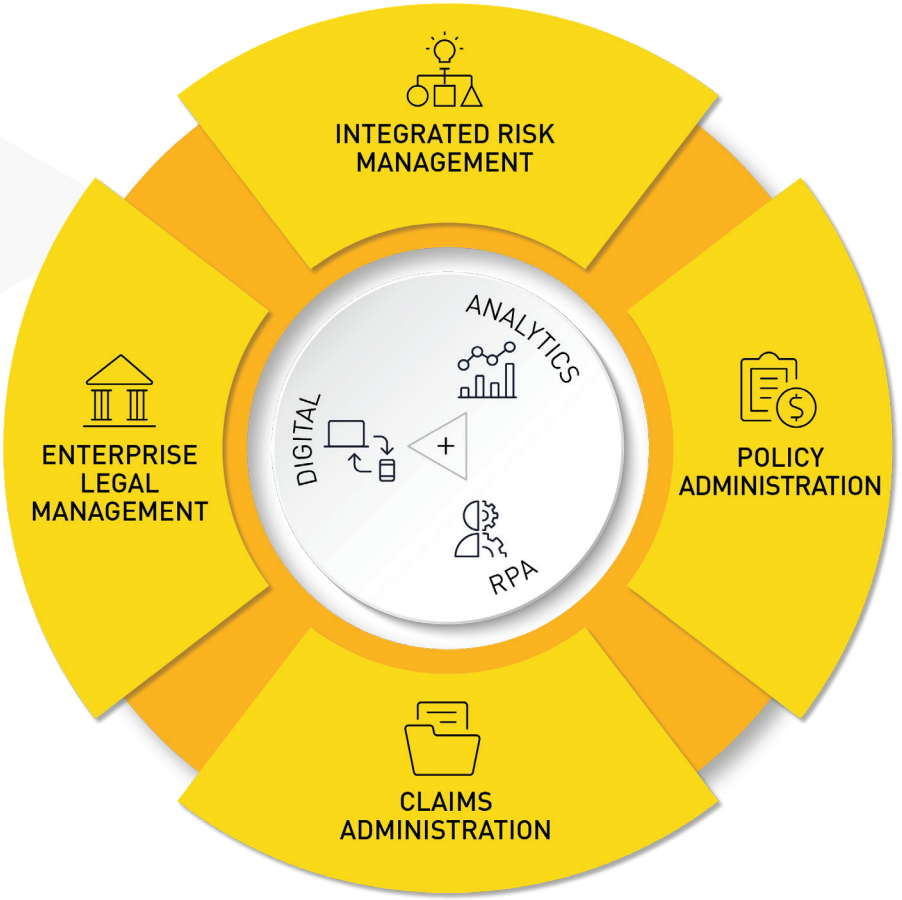

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