TIN THE INSURANCE NETWORK

AI in insurance

Sponsored by

SAPIENS
Partnering for Success

Introduction

Artificial Intelligence (AI) is poised to revolutionise the insurance industry in the UK. Failing to leverage the transformative potential that AI holds for claims processing and underwriting (for example) could mean slow adopters can no longer compete. However, despite the array of benefits and opportunities this technology offers, careful consideration of the implications of AI, and an understanding of potential obstacles and barriers to implementation - be they technical, operational, cultural, regulatory or ethical – is essential before embarking on deployment.

In August and September 2023, Sapiens and The Insurance Network (TIN) surveyed senior executives from IT, operations, claims, underwriting, data and digital from across general insurance and the Lloyd's and London markets to identify the opportunities that AI in insurance represents, as well as some of the implications and obstacles to successful implementation. This report summarises the results of that survey.

Before going any further, it is sensible to define terms and distinguish between traditional AI and generative AI.

Traditional AI, often referred to as Narrow or Weak AI, specialises in performing specific tasks intelligently. It operates within a predefined framework, responding to a specific set of inputs, and leverages data to make informed decisions - but operates within predefined rules and algorithms. These systems, that include voice assistants and recommendation engines, excel in their designated roles but lack the capacity to generate entirely novel content or solutions. Generative AI, however, represents a significant leap forward, with systems capable of learning patterns from vast datasets and then using this knowledge to generate new, previously unseen data. In insurance, this has the potential to revolutionise the entire product lifecycle and insurance value chain, including product development, risk assessment, claims and fraud management and customer engagement.

Opportunities for AI in insurance

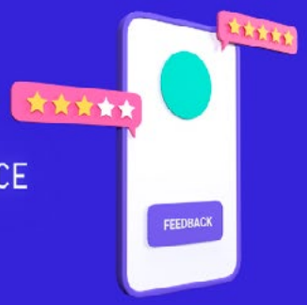
The first question asked respondents to rank areas where they see the most opportunities for AI in insurance.

Here's how they ranked the 4 options given:

1 ENHANCED PROCESS EFFICIENCY

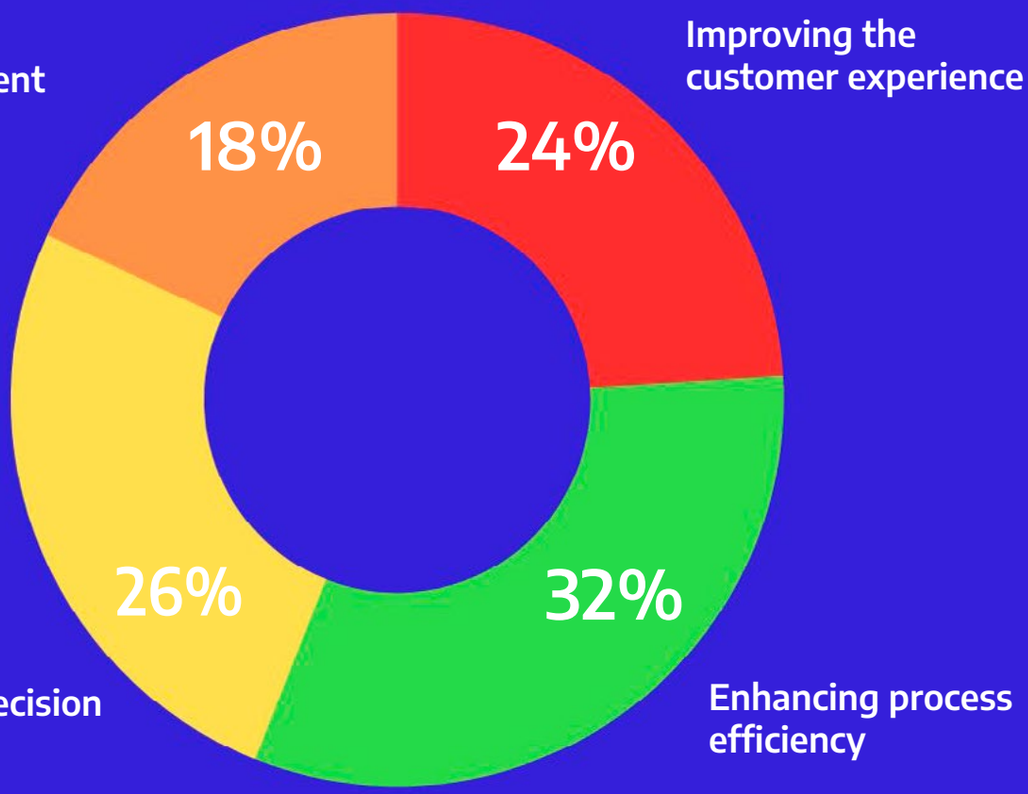
2 IMPROVED DECISION MAKING

3 IMPROVING THE CUSTOMER EXPERIENCE



4 PRODUCT DEVELOPMENT

Where do you see the most opportunities for AI in insurance?



Respondents identified **enhancing process efficiency** as the top opportunity, citing processes across the product lifecycle that AI can standardise and streamline, often reducing the need for inefficient and inaccurate manual input, by (for example) enabling quicker document retrieval, and data retrieval from documents.

"(AI) enhances the ability to review and extract data, removing manual tasks and automating decisions based on data extracted (assuming we have a high confidence in the data extraction)."

The second-ranked opportunity was **improved decision making**. Survey participants highlighted that AI can support data analysis and validate modeling, providing insurers with the intelligence needed to make better-informed decisions.

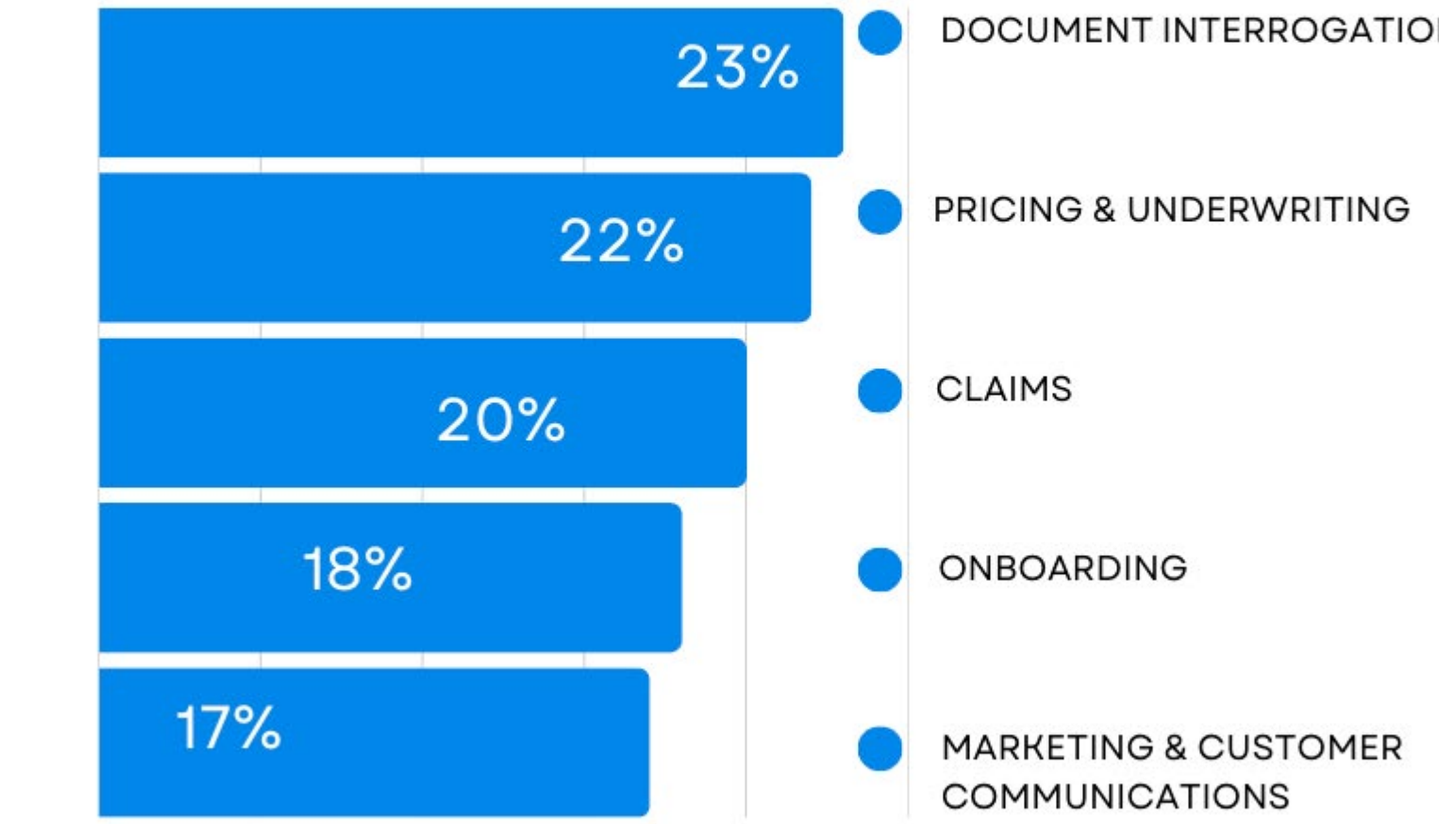
"AI will help us to sort through, classify and summarise a huge volume of data, giving us the information intelligence to make better decisions."

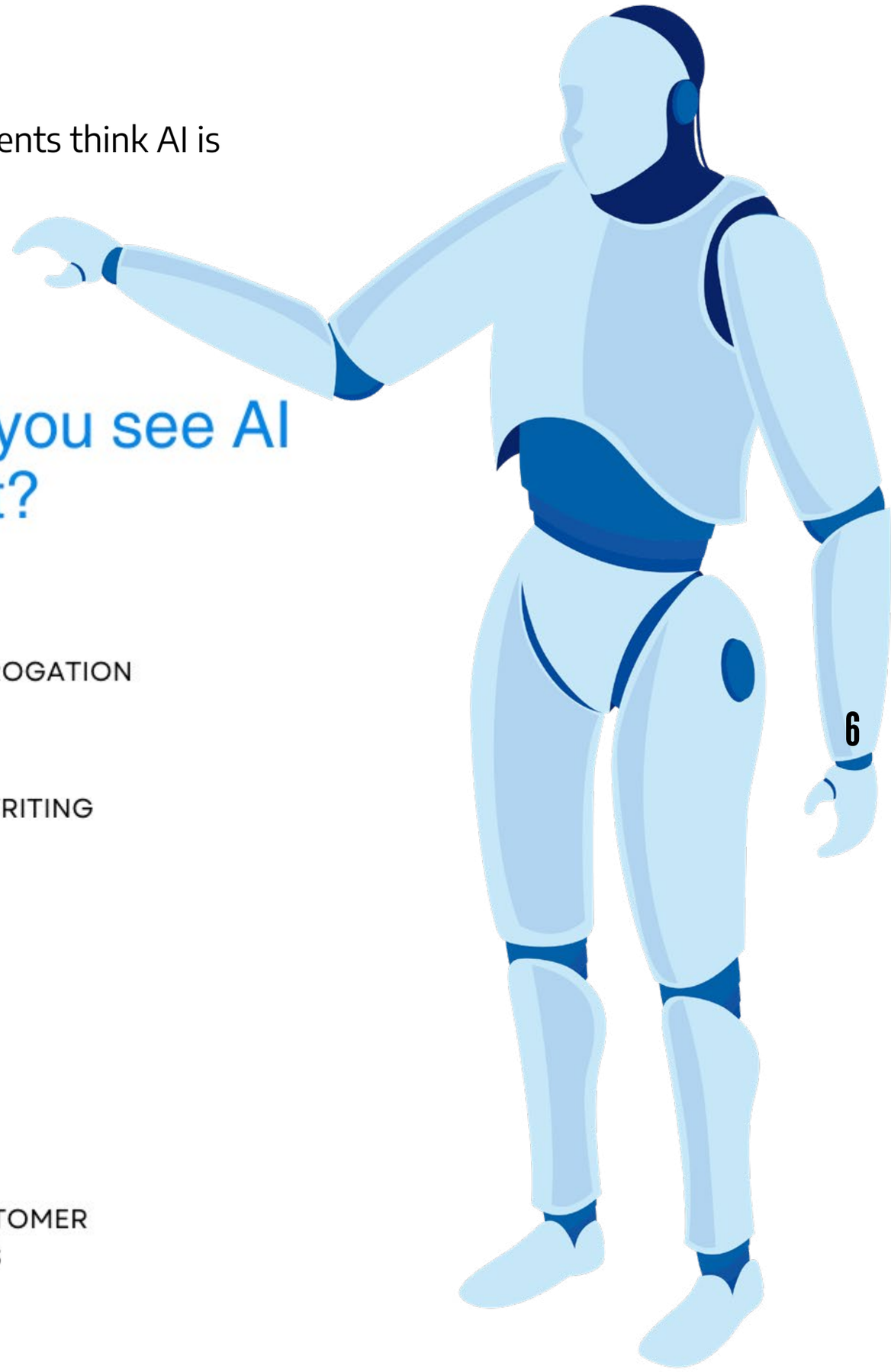
It may alarm (but not surprise) marketing directors that **improving the customer experience** ranked after both enhancing process efficiency and improved decision making. Respondents emphasised that AI can enable self-service options and reduce the need for human touchpoints, with (for example) Chatbots and other AI-driven technologies enhancing user experiences by providing timely and efficient support.

While **product development** ranked fourth, respondents still recognised the potential of AI for enabling future innovation. For example, AI's ability to sift through, classify, and summarise vast volumes of data can aid the designing of innovative insurance products.

The second question asked which areas of the business respondents think AI is having or will have the biggest impact.

Here's how they ranked their answers:





Document Interrogation (e.g., Cover Verification) came top, with many respondents recognising the immense potential of AI in summarising and extracting information from lengthy documents, including internet / social media and other structured and unstructured sources. This is particularly relevant in the London market where large, complex legal contracts and claims files can be rapidly interrogated to speed up the client outcomes. These initiatives are already live in many organisations and helping free up expensive, human insurance experts to do more value-add activities.

Pricing & Underwriting came second and is clearly an area that is widely seen as ripe for AI driven automation. Respondents emphasised that AI could streamline complex processes and enhance predictive accuracy, whilst reducing the amount of underwriter time spent collating data: allowing more time for decision making beyond the parameters of the AI.

AI is adept at handling vast datasets, making it a valuable tool for risk assessment. By analysing a myriad of data sources, AI can create more granular and personalised risk profiles for the insured (examples shared included property information, historical claims, weather patterns and historical customer data). This enables insurers to make more precise underwriting decisions and offer tailored policies that align with individual risk profiles, resulting in both increased profitability and enhanced customer satisfaction through more tailored coverage and pricing.

Next came **claims**, with respondents listing many applications of AI in claims processing, including automating queries and payments using bots, leveraging the advanced pattern recognition capabilities of generative AI to quickly analyse incoming claims and compare them to historical data, predict potential disputes, and even recommend optimal settlement amounts. Such accelerated processing not only expedites claims handling but also drives customer satisfaction.

Participants recognised that AI could significantly reduce **onboarding** time by automating lengthy processes, including data gathering, screening and document processing.

The fact that **marketing & customer communications** ranked 5th may reflect the profile of the TIN audience for this survey, but respondents acknowledged AI's role in enhancing marketing, research, and customer communications across the policy lifecycle.

Use cases for AI

52% of respondents have a current use case of AI in their organisation.

The survey asked respondents to share current use cases of AI and their diverse scope reflects the emergence of AI integration across insurance operations.

The use cases included:

Better Analytics for Pricing & Underwriting: Respondents highlighted the transformative impact of AI on improving data analytics for underwriting processes, and the potential for AI Algorithms to improve pricing and assisting with pricing strategies.

Broker Efficiency: AI's role in enhancing broker efficiency was repeatedly acknowledged, showcasing the technology's ability to streamline processes and facilitate smoother interactions between brokers and clients.

Document Ingestion: The adoption of AI for document ingestion enables a reduced reliance on manual document handling and therefore huge potential for efficiency gains in this area.

Complex Data Validation and Digitisation: several respondents highlighted AI's role in enabling the migration from Word-based to fully digital policies, allowing complex data validation and document digitisation during policy inception and renewal.

Digitisation of Placement: a number of London market participants focused on AI's involvement in digitising placement processes – indicative of the London market's move toward a digital marketplace.

Natural Language Understanding (NLU) and **Machine Learning** (ML) that enable automation in voice and online channels were two examples of AI's potential to enhance customer interactions.

Support for Software Development: AI's role in supporting software development, particularly in assisting developers with writing code, IDEs and security issue remediation.

In addition to current use cases, we asked where the potential *future* applications / use cases for AI were likely to be. The following 5 areas were cited:

1) Claims
In claims, use cases included the potential to automate payments for straightforward property and liability claims promptly, the ability to categorise and triage claims requests, differentiating between plausible and potentially fraudulent claims, and damage interpretation and assessment.

2) Pricing & Underwriting
Within pricing and underwriting future use cases focused around enhancing decision-making through automated data gathering, enrichment and storage, personalised pricing models (parametric and otherwise), and enhanced competitor pricing analysis.

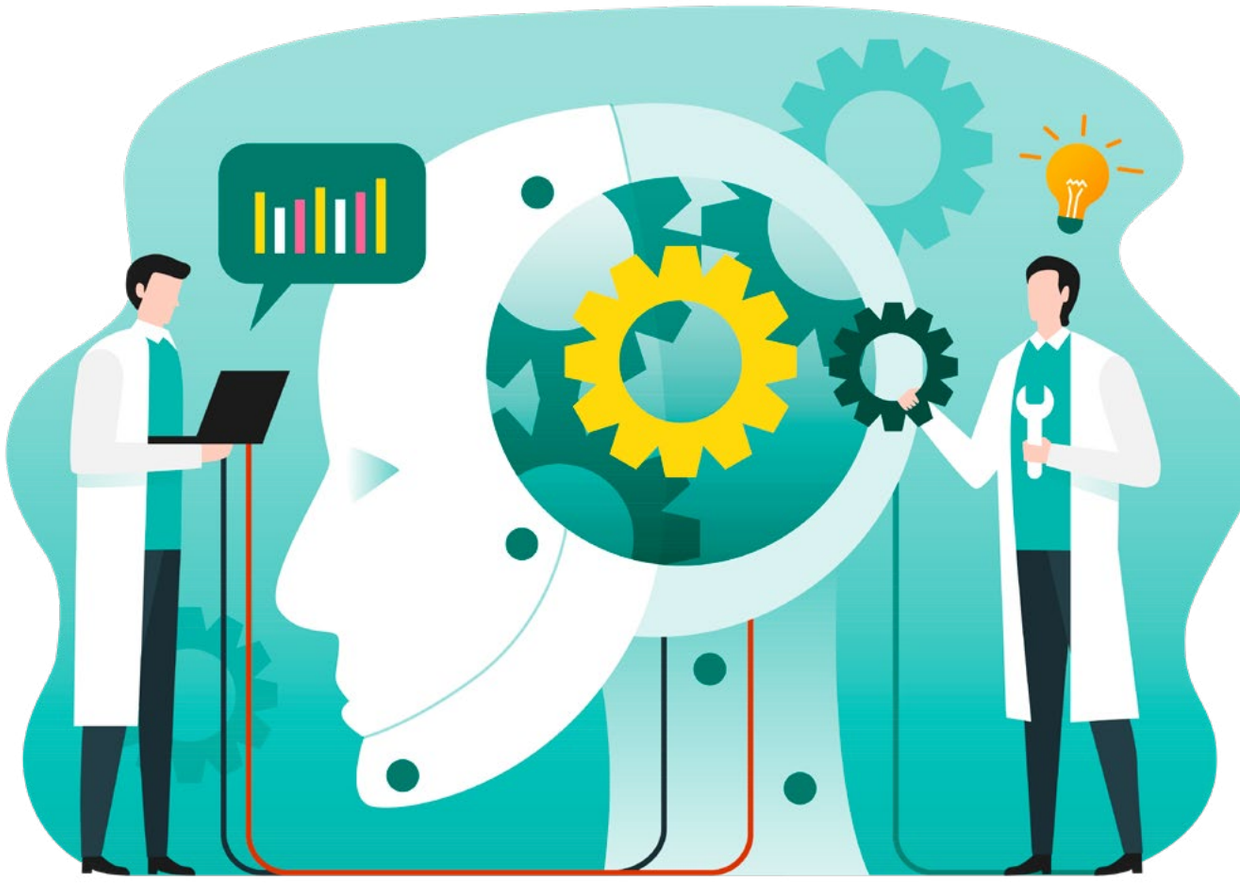
> *"Pricing is generally based on a set of sensitive factors that can all be fed to an ML model and used to be more predictive automatically rather than having humans do the research to then feed in variables that the model calculates."*

3) Document interrogation – for example, cover verification (2)
Document interrogation is another hot area with AI-driven natural language processing enabling the comparison of claims documents with policy wording to determine coverage, aiding compliance checks, and validating compliance requirements and various instances of streamlining document-related tasks.
An example from a broker:

> *"We machine read existing policy documents (uploaded by potential customers) to complete underwriting forms which are then passed to insurers via their portals, so we can automatically generate renewal quotes for business where we were not the new business broker."*

4) Marketing & customer communications
In marketing and customer communications future use cases focused on the potential of AI to enhance customer interactions and enable personalisation, as well as automating reports and customer communications, with use cases cited including enabling chatbots, content creation, automated and/or real time customer sentiment analysis, the generation of marketing materials.

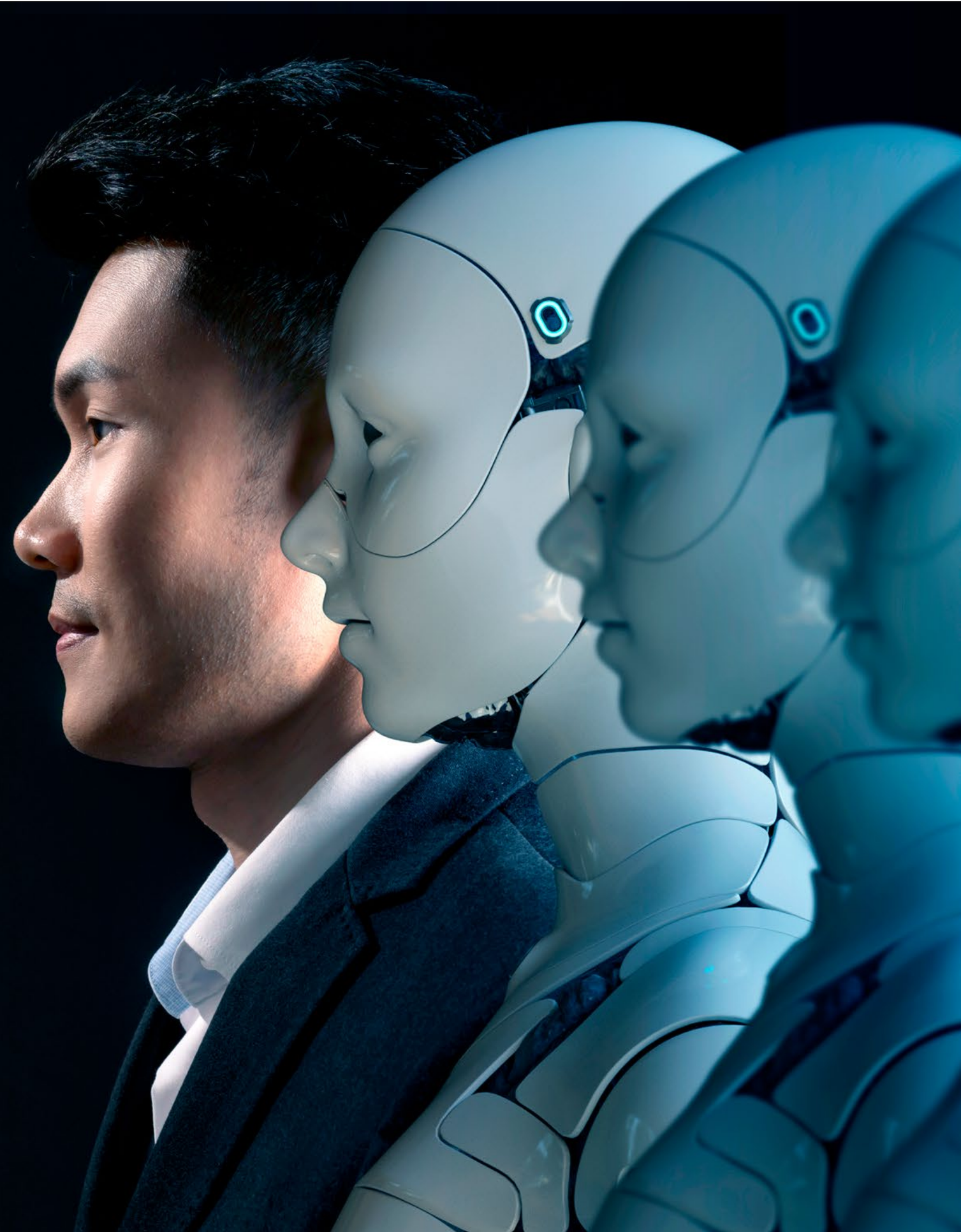
5) Onboarding
In the onboarding process, AI use cases included automated data extraction from documents, supporting new staff by providing quick answers to questions, centralising key documents and user guides, and facilitating inductions and on the job learning.



Early adopters of the technology are leveraging AI in all these areas. Graham Gordon, Director of Product Strategy, P&C, at Sapiens described how they are working with clients across the business:

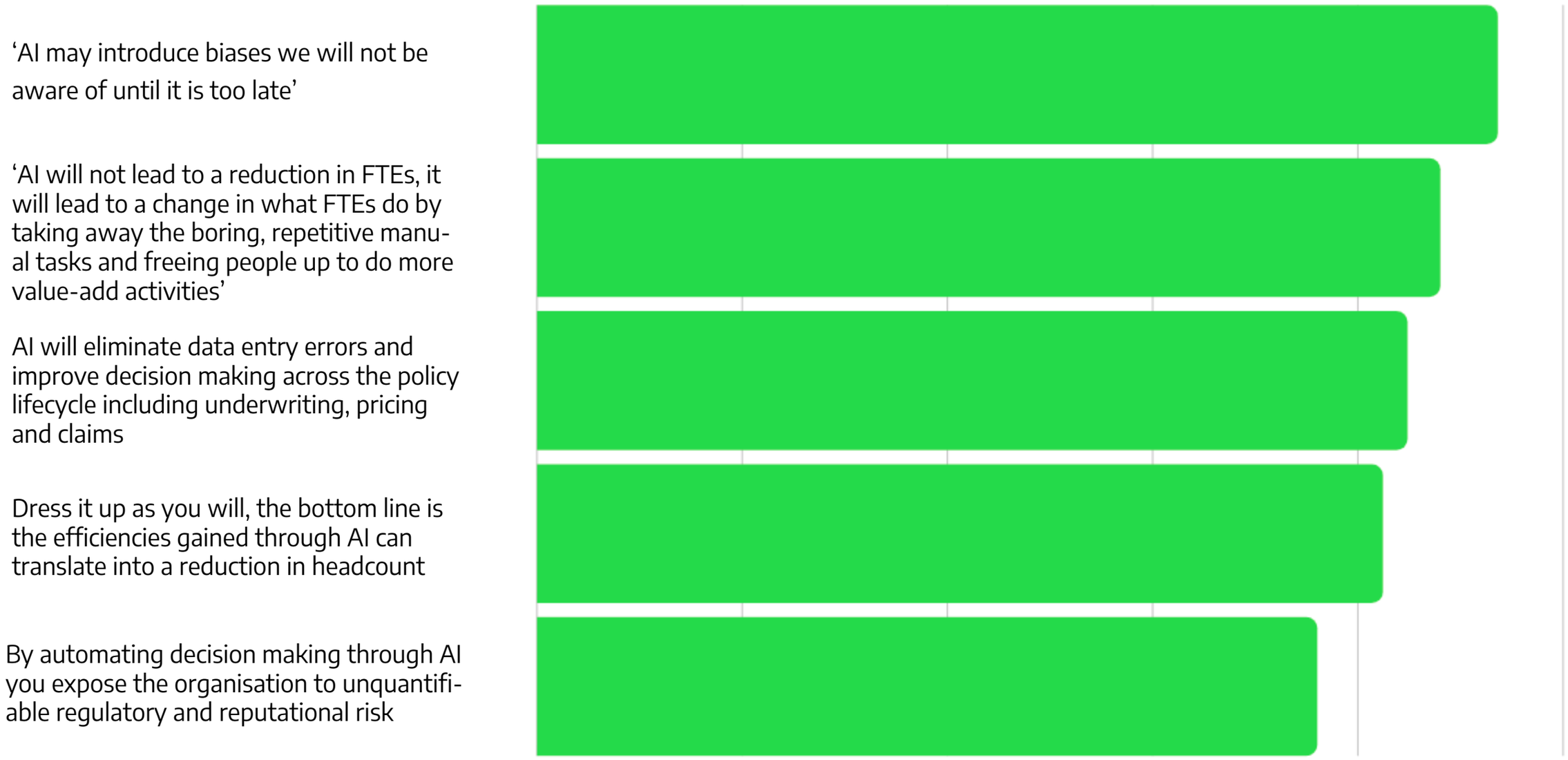
In recent times, we have taken a significant leap forward by developing 16 machine learning models that focus on understanding behaviour, consumer sentiment, and aggregating vast datasets to support underwriting, loss reserving, and rate analysis. We also have worked side-by-side with many of the insurtech's that have deep vertical capabilities. The introduction of ChatGPT has further accelerated our innovation, amplifying our capabilities.

The most substantial opportunity that lies ahead of us revolves around the exposure of these models to extensive sets of ringfenced insurance data. We're in execution mode. The insurance industry has historically been synonymous with 'big data,' and we have access to the most extensive and compliant datasets worldwide. We can harmonise this data, and what truly excites us is the prospect of opening this treasure trove to a new breed of data scientists, often referred to as 'prompt engineers' – individuals like you and me.



The implications of AI for current insurance operating models

The next section asked respondents the extent to which they agreed with the following 5 statements:



A majority of respondents agreed or strongly agree with the first 4 statements regarding AI’s impact on efficiency, job roles, error reduction, and potential biases - indicating a significant shift in the industry’s perception and understanding of AI technology.

Efficiency Gains and Headcount Reduction

The consensus among survey respondents that AI can lead to efficiency gains translating into a reduction in headcount reflects a pragmatism on behalf of respondents, but one that is balanced by the equally strong consensus that instead of leading to a reduction in FTEs, AI will lead to a change in the *nature* of work: respondents generally view AI as a tool to enhance human capabilities rather than replace them. AI can handle repetitive tasks, freeing up employees to engage in higher-value activities such as complex problem-solving, customer interaction, and strategic decision-making, a shift that has the potential to enhance job satisfaction and employee engagement (although several respondents did point out that some individuals may still prefer traditional administrative tasks!). Many made the point that it's crucial to address this transition by upskilling and reskilling employees to ensure a smooth shift towards more value-added tasks.

> *"I believe that AI has the potential to have both impacts: by reducing the manual repetitive burden inherent in the current UW process it will potentially lead to FTE reduction, but equally empower those that remain to use their time more meaningfully. AI (if used well) will drive better decision making and (by nature of automation and data first processes) eliminate errors in data management, entry and manipulation. However, AI does introduce increased data reliance making it more susceptible to errors and poor decision-making arising from poor data or bad governance and monitoring."*

Error Reduction and Decision-Making

The consensus that AI can eliminate data entry errors and improve decision-making across the policy lifecycle highlights the benefits of AI's ability to process vast amounts of data quickly and accurately, leading to more precise underwriting, pricing, and claims processing, ultimately benefiting both insurers and policyholders.

AI-Induced Biases

There is a widely held concern that AI can potentially introduce biases in decision making that may go unnoticed until it's too late: given the sensitivity of insurance decisions and the importance of fairness and transparency, this awareness of potential bias is crucial. It underscores the need for rigorous testing, oversight, and ongoing monitoring of AI systems to ensure they align with regulatory and ethical standards. Whilst many respondents acknowledge the risk, several also highlighted the fact that humans are not immune to biases. More pragmatism from the TIN audience! However, all seem to emphasise the importance of transparent and accountable AI systems, especially the need for "explainability" and a "decision audit trail" in pricing, underwriting and claims. On the question of auditable AI, several respondents expressed concern about auditing and signing off on evolving AI models. They questioned who should be held accountable once AI systems are in use, highlighting the need for robust AI governance and oversight mechanisms.

> *"Neither AI nor humans can be perfect. That's why we shouldn't 100% automate decision making but leave it in the realm of 'recommended options with confidence indicators and peer review."*

Respondents were less unanimous about the challenges regulation represents. Respondents acknowledge that AI will create new regulatory challenges, but also argue that regulators need to keep pace with technological advancements to ensure meaningful oversight and customer protection. In other words, they seem happy to wait for external regulation rather than grasp the nettle of self-regulation.

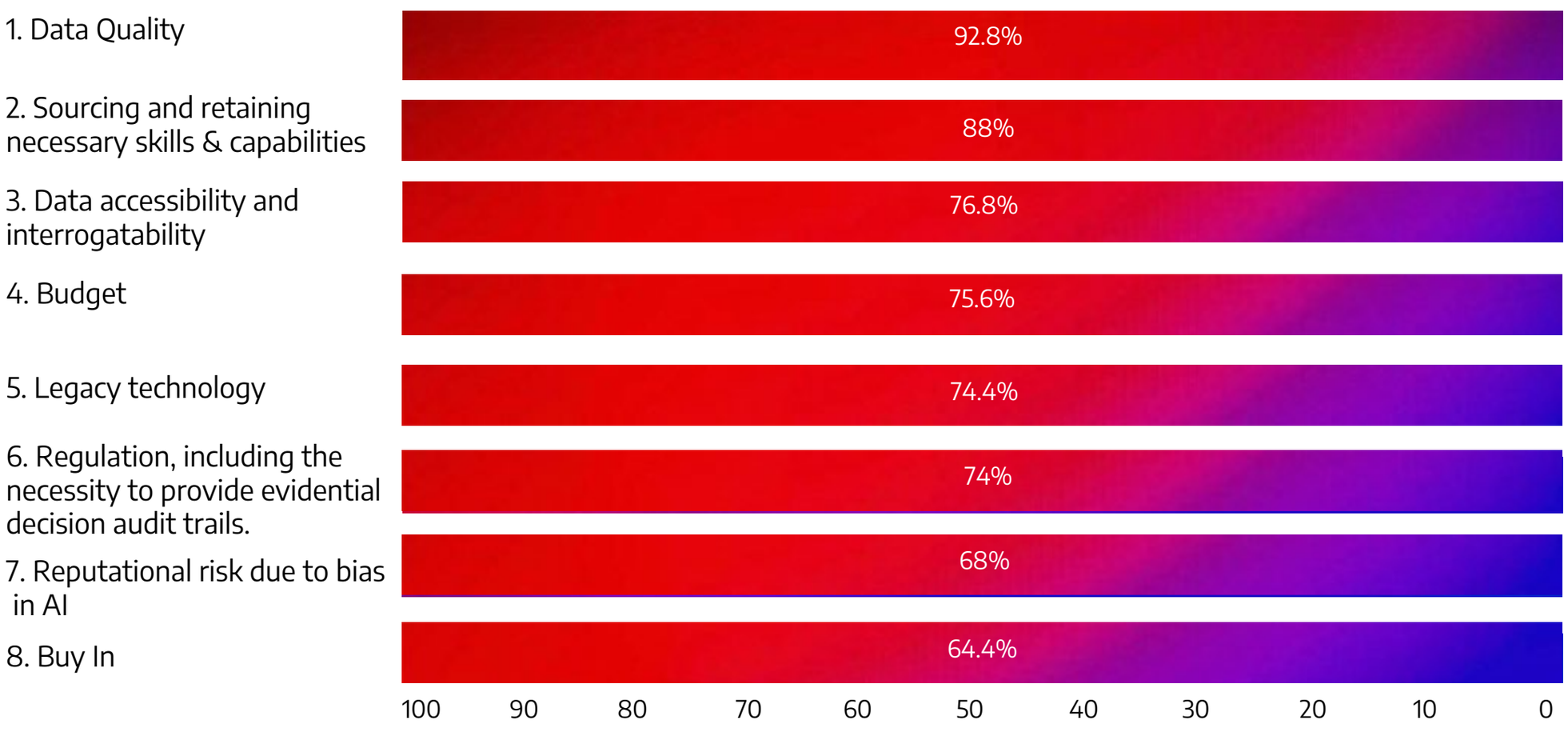
There's a consensus that complete automation of decision-making processes is risky. Respondents suggest a hybrid approach where AI provides recommendations with confidence indicators, subject to peer review: many respondents stress the necessity of maintaining human oversight of AI systems and see AI as a tool to be managed and controlled rather than something to replace humans entirely.

> *"AI's ability to summarise and provide information from long documents, or other sources (e.g. internet) has massive potential to support decision making across various areas (incl. underwriting, claims etc.). For each of these areas, however, it still remains important that a human is in the loop."*

Challenges to the adoption of AI

The final section of the survey asked respondents to rate various obstacles or barriers to the successful implementation of AI in order of severity, and to share their thoughts on obstacles and barriers to AI.

Here's how they ranked:



Respondents identified **data quality** as the most severe obstacle, highlighting the critical role of high-quality data in AI implementation. Ensuring data accuracy and reliability will be pivotal in building trust in AI systems, particularly when it comes to avoiding biases.

> "Data will always be the biggest hurdle for any AI programmes, both from the perspective of initial learning and growth phase to future storage, recall (rates) and access (times). Speed and concurrency will become more important than ever in data warehousing and lake solutions."

Sourcing and retaining the necessary skills and capabilities ranked second, underscoring the industry's recognition of the expertise required for successful AI deployment, and the competitive nature of talent acquisition in the AI domain.

Data accessibility and interrogatability came in third, as it is perceived as an essential foundation for AI-driven decision-making. Concerns regarding storage, recall, and access speed, underscored the need for a robust data infrastructure and policies that ensure data is entered accurately and stored correctly.

Budget constraints, noted as a significant concern, are unsurprising. While some respondents believe that budget requirements for AI initiatives are generally low, others emphasise that time and buy-in from stakeholders can be equally challenging.

Legacy technology and regulation were also recognised as obstacles. Legacy systems can impede the complete integration of AI across the business, while regulatory requirements, including the need for evidential decision audit trails, add a layer of complexity to AI adoption.

Reputational risk due to bias in AI ranked seventh, highlighting the importance of ethical considerations and setting ethical and cultural parameters to prevent bias. In this context, transparency becomes imperative: ensuring the inner workings of AI systems are comprehensible and accountable avoids the risks of "black box" AI systems, where decision-making processes are opaque and there is no decision audit trail.

With the current hype surrounding AI it's probably no surprise that **buy-in** was not ranked as severely as other obstacles, but it remains a persistent concern, especially when it comes to garnering support from very senior management.

This cautionary approach was echoed by Graham Gordon, Director of Product Strategy, P&C, at Sapiens who feels its important to see this technology as an evolution rather than a big scary revolution, and advocates a measured 'step by step' approach:

Sapiens views this as a natural progression in our AI and ML journey, not merely a 'big-bang' event. It's a step forward, building on our existing expertise and expanding the horizons of AI and ML within the insurance domain.

We've encouraged our customers to engage with us from the outset. Building trust and confidence takes time, as we collectively navigate the landscape AL/ML and ChatGPT. This is because we collectively need to understand the risks and ultimately demonstrate to regulators that the outcomes prioritise fairness for the end-customer. There are, and there will be hundreds more of use-cases. It's essential to identify areas to enhance with AL/ML that are not only equitable but also justifiable and genuinely valuable to our customers' customers.

Conclusion

AI has the power to reshape the insurance industry, with applications and opportunities at all stages of the product lifecycle, and across the value chain, including claims processing, underwriting, fraud detection and at any point where data-driven decision making takes place, ultimately offering enhanced customer experiences and operational efficiencies. However, ethical considerations, transparency, and regulatory compliance must remain front of mind as AI is adopted in our sector: this dynamic and evolving technology presents both challenges and unparalleled opportunities for those who navigate it thoughtfully and strategically.

Many survey participants highlighted the role of AI in automating manual processes, extracting data, and automating decisions, as well as the potential of AI in augmenting existing practices and facilitating data analysis. Overall, this survey reflects a strong consensus within the UK insurance sector regarding the potential of AI to play a transformative role in enhancing efficiency, decision-making, customer experience and product development within the industry.

Sapiens and AI:

TIN asked Graham Gordon, Director of Product Strategy, P&C at Sapiens, to explain how Sapiens has integrated AI into its offering:

Sapiens was among the pioneers in seamlessly integrating ChatGPT into our software shortly after its global launch, serving as a compelling proof of concept. This achievement owes much to the expansive scope of our organisation, and our 600 insurance clients. What is interesting is Microsoft's substantial $4 billion investment in ChatGPT. This is often left unspoken, but ultimately they will seek a return on investment.

The potential applications of this technology are as boundless as the realms of human imagination (or, more accurately, as limitless as AI's creative capabilities!). However, it is important to acknowledge that utilising this technology will come at a cost. What distinguises our approach is our collaboration with Microsoft, not only in refining the technology itself but also understanding and delivering value it offers to our clients, the industry and consumers.

Sapiens has consistently been at the forefront of Artificial Intelligence (AI) and Machine Learning (ML) in their conventional forms. Our journey began with the automation of software testing, evolving into significant advancements such as streamlining claims processing with Straight Through Processing (STP), harnessing image recognition, and converting them into actionable triggers for business rules across various insurance domains, including motor, home, and commercial lines.

www.TIN.events

SAPIENS
Partnering for Success

Sapiens International Corporation (NASDAQ and TASE: SPNS) empowers the financial sector, with a focus on insurance, to transform and become digital, innovative, and agile. With more than 40 years of industry expertise, Sapiens' cloud-based SaaS insurance platform offers pre-integrated, low-code capabilities across core, data and digital domains to accelerate our customers' digital transformation. Serving over 600 customers in 30 countries, Sapiens offers insurers across Property & Casualty, Workers' Compensation and Life Insurance markets the most comprehensive set of solutions, from core to complementary, including Reinsurance, Financial & Compliance, Data & Analytics, Digital, and Decision Management. Sapiens' team of more than 5,000 employees operates through our offices in North America, the UK, EMEA and Asia Pacific.

Contact details: info.sapiens@sapiens.com

For more information: www.sapiens.com