VIEW POINT

FROM TRADITIONAL TO AI-DRIVEN: CRITICAL MOVES TO DESIGN TECHNOLOGY OPERATING MODEL FOR INSURANCE

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The insurance industry is at an inflection point where traditional technology operating models built on rigid processes and siloed data are no longer sufficient to meet evolving customer expectations. Artificial Intelligence (AI) offers a transformative opportunity to reimagine the insurance value chain and harnessing the full potential of AI in the value chain requires fundamental shifts in the traditional operating model.

This thought leadership paper is written with the objective of keeping the CIO community informed on critical success factors of designing an AI – driven technology operating model.

AI has become pervasive across the value chain of Insurance. It augments market research processes to detect emerging needs and assists in accurate customer segmentation to deliver hyper-personalized coverage. Products can accordingly be positioned, and AI can be used to redefine product design, development, and launch. AI-based product analytics monitor the performance of products, make necessary enhancements, and retire products that do not align to the overall strategy and business plan of the insurer.

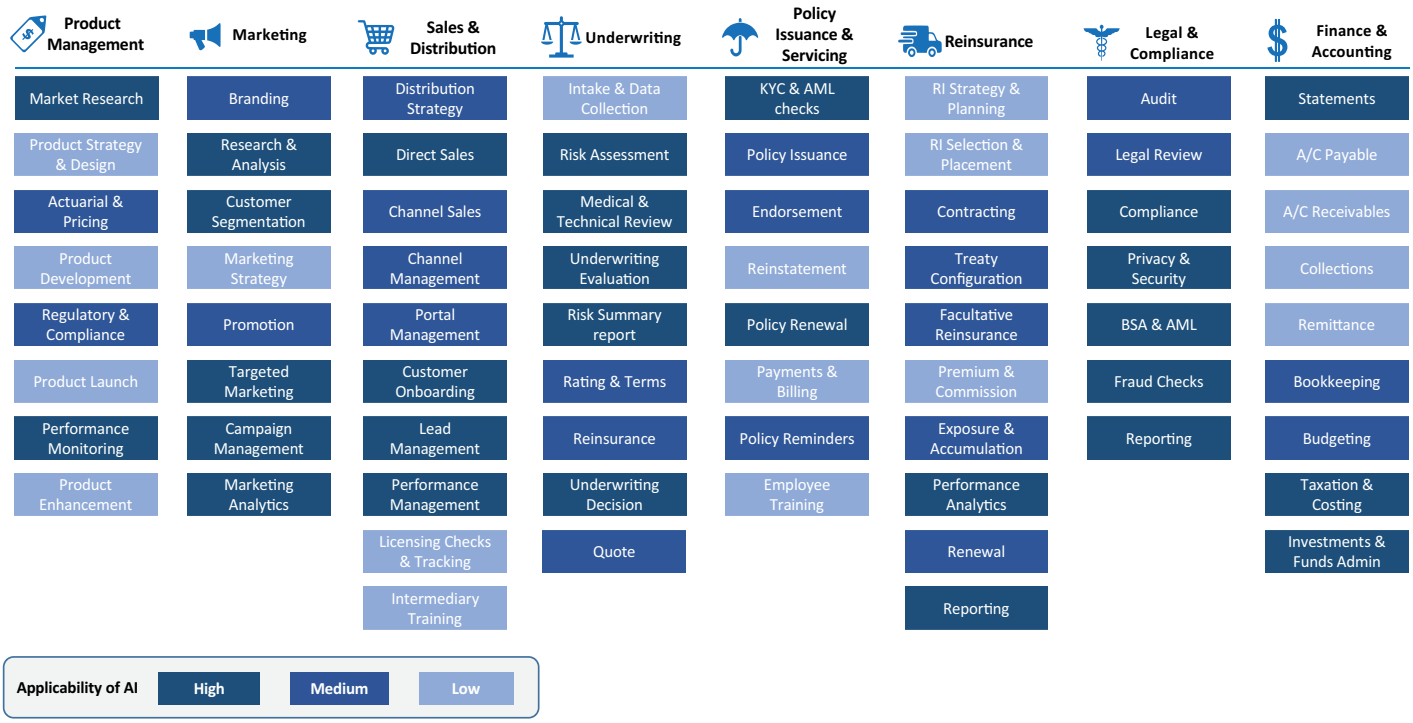

Fig 1: AI Applicability In The Value-Chain Of Insurance

Similarly, AI transforms sales and distribution of insurance to a data driven, customer centric, efficient, and scalable process. It helps enable smart lead management, personalized product recommendations, and benefit illustration for higher conversion rates.

AI is also enabling new age underwriting by analyzing large volumes of structured and unstructured data available from sources like phones, IoT, wearables, social media, satellite images, weather predictions, etc. It augments decision-making using historical and real-time data, thereby reducing adverse risk selection and claim related losses.

There is a rich set of such high-value use cases across both core and support value-chain activities. Examples include personalized renewal offers, straight-through endorsements, automated responses to routine customer queries and many more.

Of late there has been increasing AI investments in the Insurance industry. Insurers are looking forward to exploring value derived from AI investments for efficient processes, enhanced customer experience, and business agility.

Rising AI Trends In Insurance

Explosive AI Investments

- The global AI in insurance market was valued at USD 10.36 billion in 2025[1]
- Expected growth from USD 13.45 Bn in 2026 to USD 154.39 Bn by 2034, reflecting robust 35.7% CAGR[1]
- This surge reflects industry-wide recognition that AI is no longer optional - it is foundational

Strategic priority vs execution gap

- 82% of insurers consider AI a top strategic priority[2]
- Only 22% have AI in production yet[2]
- This gap underscores the urgency to move from pilots to scaled, AI-driven operating models

AI reshaping core processes

- Nearly 9 out of 10 insurers are exploring Generative AI tools[3]
- Over half (55%) of above have implemented in claims, underwriting, and customer experience workflows[3]
- AI is potentially reshaping core insurance processes from risk assessment, auto decisioning to policy issuance and service

Operational inefficiencies demand transformation

- Insurers are realizing the business benefits from integrating AI across the insurance value chain
  - 99% accuracy in risk assessments[3]
  - 70% faster processing of applications[4]
  - 20 to 40% improvement in fraud detection[4]
  - 20% cost savings through automation and predictive analytics[3]

Fig 2: Facts Demonstrating Growing Investment Of AI In Insurance

Although AI is one of the top strategic priorities for insurers, significant effort is required in bringing AI to production and at scale. This widening gap between AI ambition and realized value underscores the importance of reimagining an operating model to realize the value of AI investments.

The shift to AI driven operating model is just not incremental, it requires enterprise-wide change across the six dimensions to embed AI as a core capability, rather than a peripheral tool.

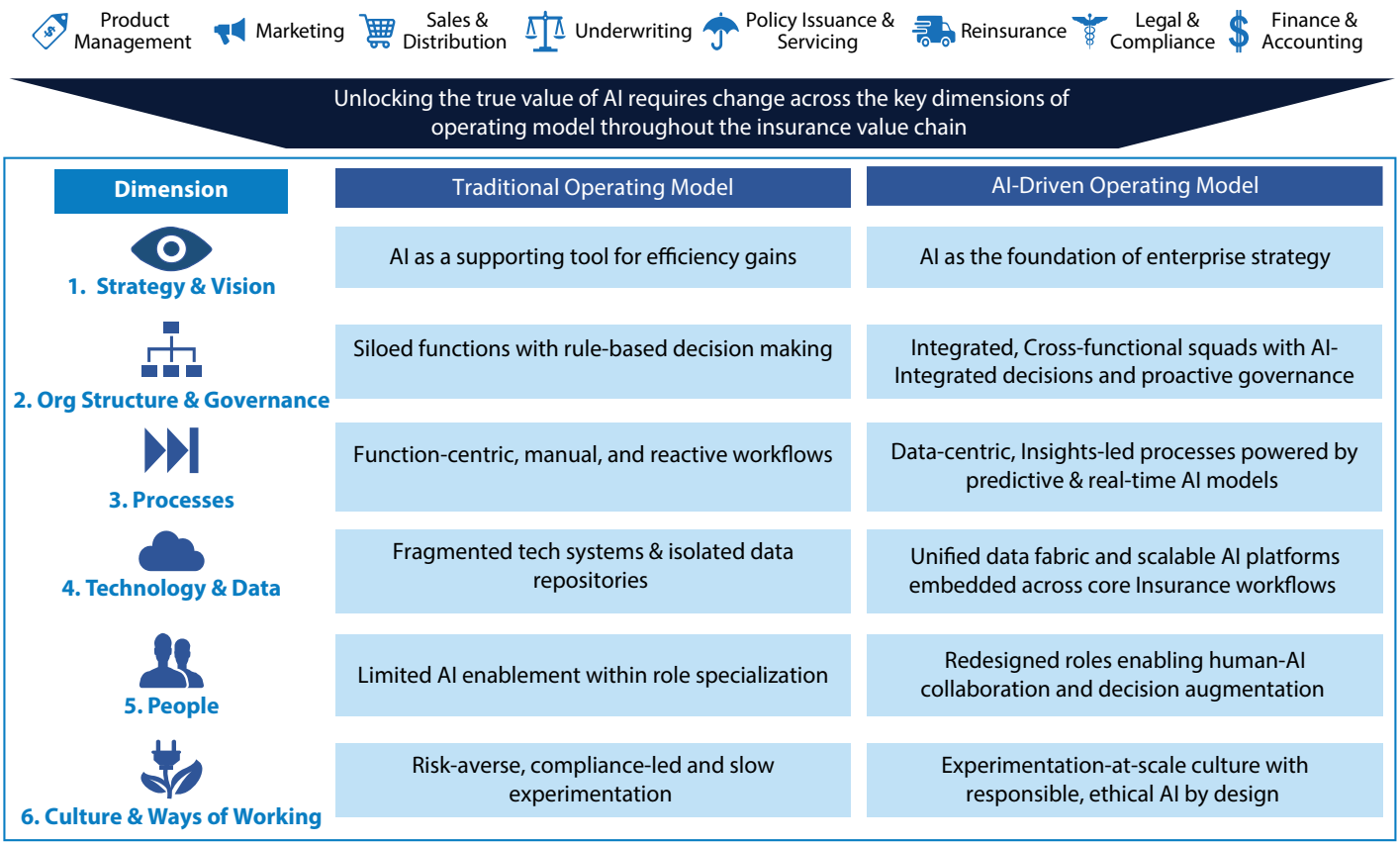

Fig 3: Key Shifts From Traditional To AI Driven Operating Model

Critical moves across these six dimensions outline practical design choices that enable insurers to operationalize AI responsibly, scale adoption, and sustain long-term business impact to achieve a "North Star".

Strategy & Vision

- Evolve from "**AI as a tool**" to "**AI as the foundation**" of enterprise strategy, redefining accountability and outcome measurement across the insurance lifecycle
- Mandate a **data-first strategy**, with executive ownership of data quality, governance, and AI-readiness
- Anchor AI initiatives to **measurable business outcomes**, including loss ratio improvement, faster time-to-quote, and superior customer experience

Organization Structure & Governance

- Replace functional silos with **cross-functional product value squads** spanning underwriting, claims, data science, and technology
- Institutionalize **AI-augmented decision models**, where algorithms drive scale and humans validate exceptions and high-risk outcomes
- Embed **proactive AI governance** by design, covering explainability, bias mitigation, model risk, and regulatory alignment

Processes

- Redesign **end-to-end insurance workflows** around data and predictive insights, not functional handoffs or static rules
- **Embed AI directly** into underwriting, claims, and distribution journeys, replacing manual and reactive processing
- Shift from **reactive execution to proactive** risk and event management, enabled by real-time decisioning

Technology & Data	• Build a **unified enterprise data fabric** integrating internal and external data across underwriting, claims, sales, and customer interactions • Standardize **scalable AI platforms and MLOps** capabilities to industrialize model deployment, monitoring, and continuous learning • **Modernize legacy systems selectively**, prioritizing AI enablement, resilience, and regulatory compliance
People	• Redesign insurance roles to **enable human–AI collaboration**, focusing human expertise on complex, high-value judgment • Institutionalize **AI fluency and data literacy as core capabilities** across underwriting, claims, and sales teams • Create **accountable AI** product and model risk ownership roles, aligned to measurable business outcomes
Culture & Ways of Working	• Institutionalize **experimentation-at-scale**, with rapid prototyping and clearly defined risk boundaries • Shift from **compliance-led adoption to responsible innovation**, embedding ethics, fairness, and transparency into daily decisions • Reward **AI-driven outcomes and adoption**, rather than adherence to legacy processes or hierarchies

As insurers navigate the shift from traditional operating models to AI driven, it is imperative to accept that achieving the AI-led "North Star" is not a single transformation event but a multi-year enterprise journey, unfolding over several months across progressive interim stages.

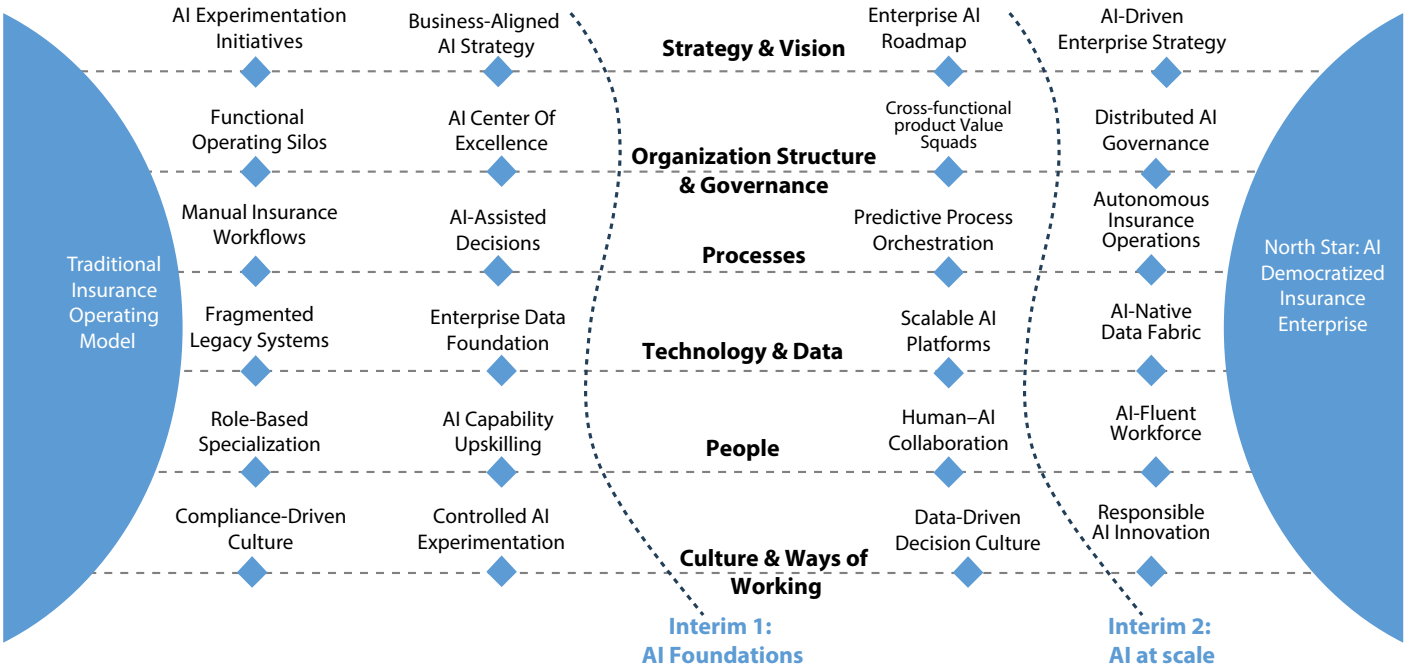

Fig 4: Journey To The North Star

As the journey progresses, decision authority increasingly shifts from static-rule based models to predictive intelligence embedded across the insurance value chain. Insurers that adopt this structured maturity-led journey spanning across these six dimensions will be best positioned to operationalize AI responsibly and realize their AI-led North star.

With a robust starting assessment and a well-defined roadmap toward the North Star, insurers can move forward with confidence. Each interim stage becomes an opportunity to refine direction, strengthen capabilities, and accelerate progress toward the "North Star".

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