



AI's Transformative Impact in Insurance

Author: Dr Gao Maribe



ACTUARIAL SOCIETY
OF SOUTH AFRICA

Advancing Actuarial Excellence

Educate • Develop • Uphold



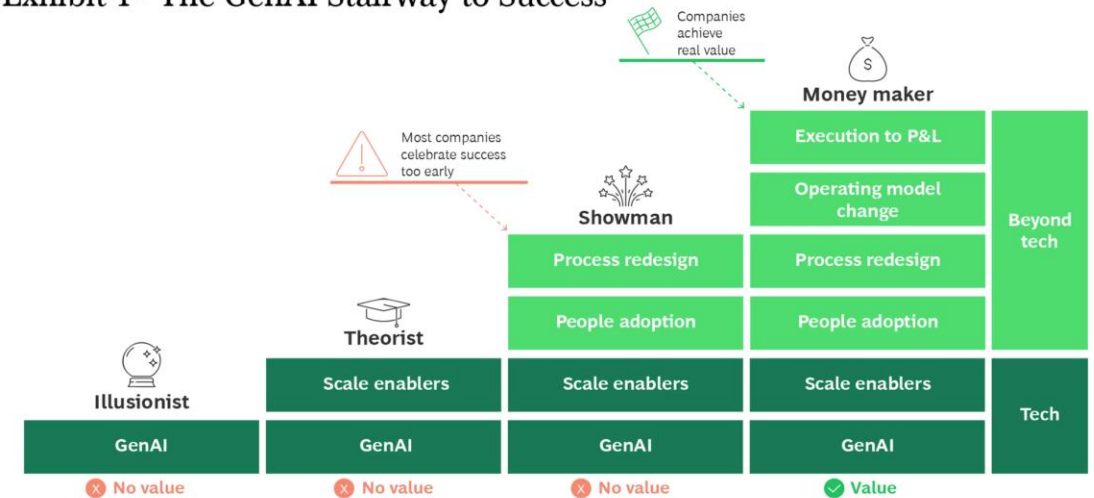
Generative AI

GenAI's transformative power stems from:

- **Accessibility:** Simplified interfaces allow non-technical users to leverage AI.
- **Versatility:** Applications span creative, analytical, and operational tasks.
- **Scalability:** Rapid adoption due to its broad utility.
- In insurance, GenAI's ability to process unstructured data and generate insights is particularly valuable, given the industry's reliance on knowledge-based processes **(McKinsey, 2025)**.

BCG's "GenAI stairway" shows that most firms stall when they treat GenAI as tech alone; value comes only when we link use cases to concrete P&L goals and hold business owners accountable.

Exhibit 1 - The GenAI Stairway to Success



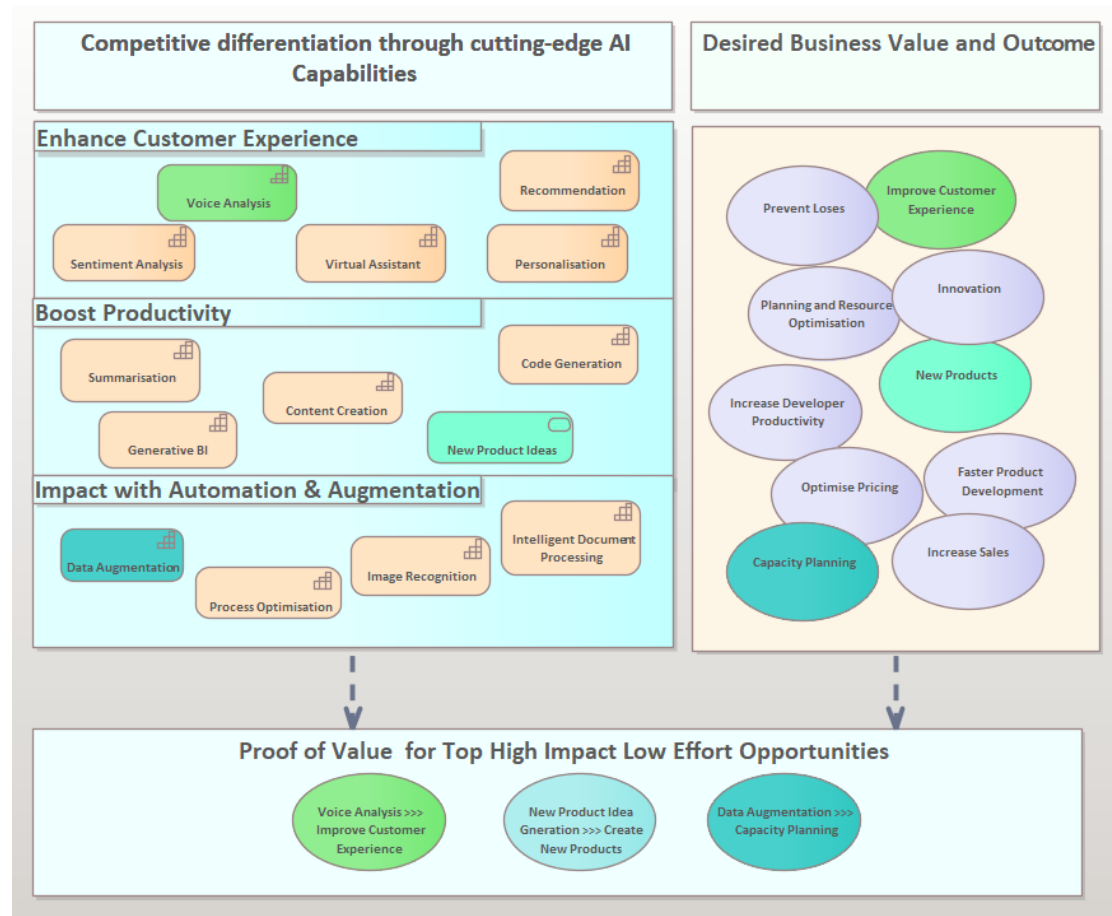
Source: BCG analysis.



Beyond Chatbots

- Large Language Models can craft first-draft policy wordings & emails in seconds
- **Multimodal models** handle docs, image, spreadsheets etc.
- **Retrieval-augmented GenAI** = answers grounded in your proprietary data, not just internet trivia
- **Fine-tuning cost** has fallen drastically since 2023
- And of course, “**Agents !!**”

Source: May 2025, Medium.com





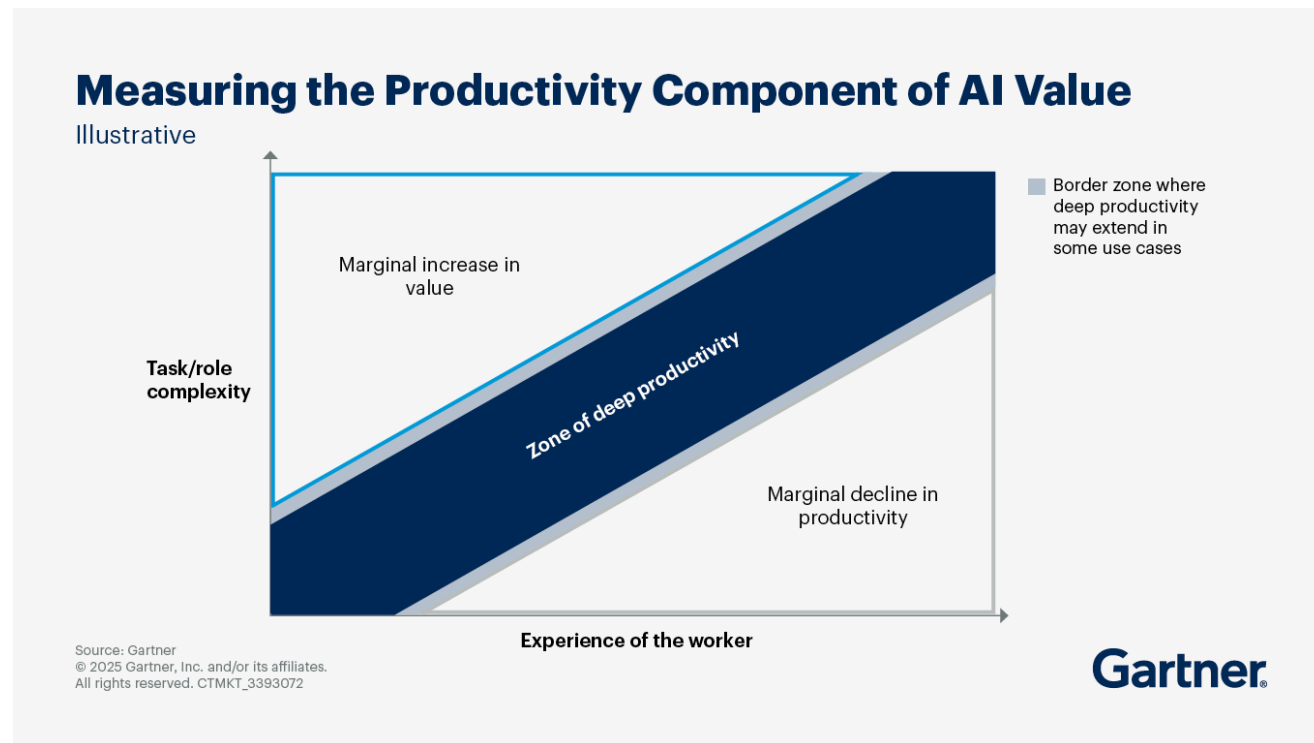
End-User Productivity Tools: ChatGPT, Claude, etc.

Source: May 2025, Gartner

Avoid the “**productivity trap**” and prioritise **deep productivity zones** first.

Technical Tasks Using Natural-language code tends to benefit faster as models improve e.g. “R/Python”.

Built-in tutor: staff upskill by asking "why did the model do that?".





Task Level AI Usage & Business Process Optimizations

Example 1: Conversational Use

Instant Assumption Rationale Generator

What it does

You paste:

vbnet

Copy

Edit

Mortality improvement: 1.5 % p.a. flat to 2030, grading to 0.5 % by 2040.

Persistency: Ultimate lapse 4.2 % pa (down from 5.0 %).

Discount rate: RFR + 200 bps.

...then ask: "Draft three crisp paragraphs justifying these changes for the Board pack—tone: clear but non-technical."

Why it's impactful

Takes a chore that can rob an afternoon and turns it into a 30-second prompt + a quick polish. No need for orchestration or autonomous action—just a smart writing partner that speaks "actuarial" and "executive" at the same time.

Example 2: Fully Blown Agents

Agent 1 ingests claim, extracts entities, routes to right workflow

Agent 2 checks policy limits & external fraud databases in real-time

Agent 3 drafts customer response; human adjuster only reviews edge cases



Semantic Kernel



AutoGen



Azure AI Foundry



Trust, Risk & Ethics: Exploring with Boundaries

It's important to balancing opportunities & risk:

- Gartner proposes a **TRiSM** framework – transparency, risk, security, model monitoring
- Regulation: privacy-by-design & documented model lineage
- RACI: COE owns standards, 1st line builds, 2nd line audits, 3rd line assures
- Ensure adequate production guardrails for custom AI Applications.

Source: May 2025, Gartner

