

The Future of Data-Driven Internal Audit: How AI Enables Code-Free Analytics and New Skills

Applying Generative and Agentic AI to audit analytics and risk.

Meet the Speaker



Tom Keaton is the Vice President, Business & Product Strategy at Diligent, the leading GRC SaaS company. We give leaders a connected view of governance, audit, risk, & compliance to bring clarity to complex risk, stay ahead of regulatory changes and deliver impactful insights.

With 20 years of experience in the internal audit profession, Tom has led internal audit functions, enterprise risk management initiatives, data analytics programs, and fraud, ethics, and compliance efforts.

Connect with Tom on [LinkedIn](#)



Learning Objectives

By the end of this session, you should be able to:

1. Recognize the real ways auditors are already using AI today
2. Leverage Natural Language Analytics for smarter data exploration
3. Transform qualitative risk inputs into structured insights

Use Cases
and
Challenges

Agentic AI
in Audit
Analytics

AI for Audit
Analytics

AI for Risk
Discovery

Common Use Cases

- Writing Narratives
- Creating Audit Reports
- Writing Issues
- Generating Risk or Controls
- Mapping Risk, Controls and Regulations



Challenges



Explainability



Trackability



Auditability

Polling Question #1

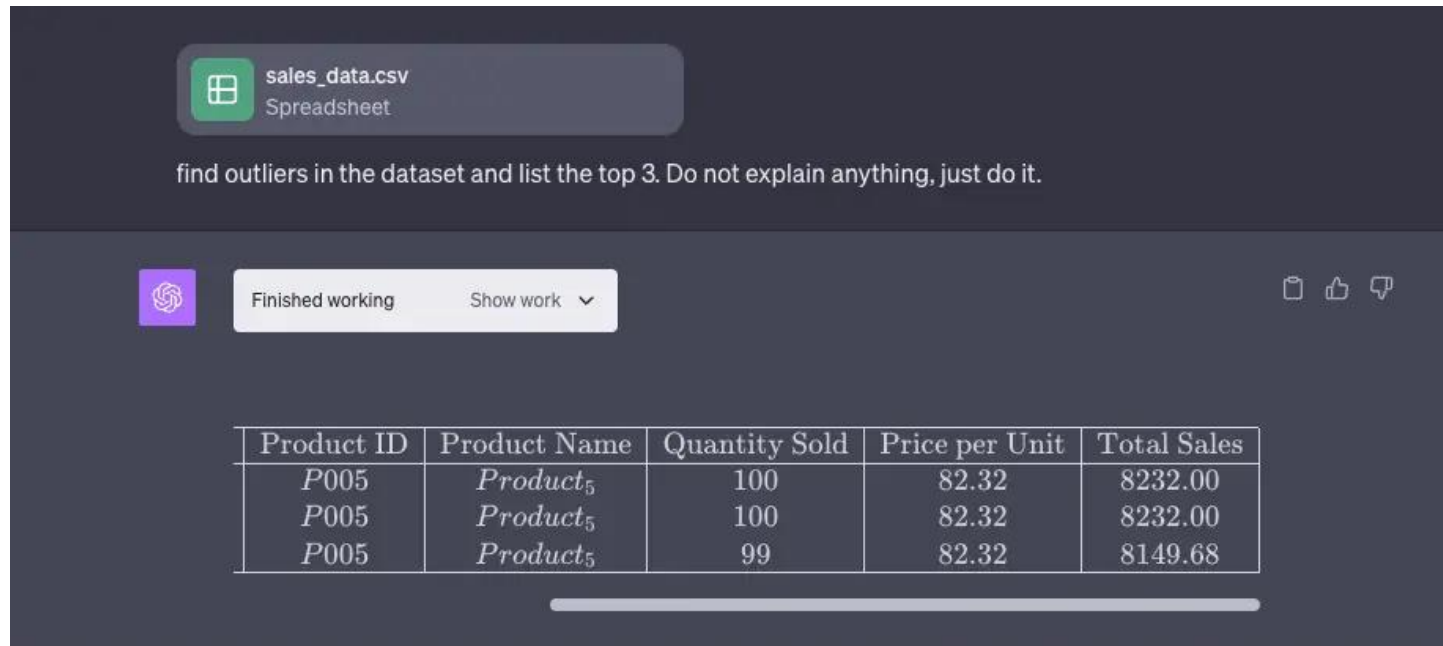
Which of the following best describes your team's current proficiency with data analytics tools and techniques?

- A. We're just starting our data analytics journey
- B. We have basic skills and can perform simple analyses
- C. We have moderate proficiency and can handle more complex analyses
- D. We are highly proficient and regularly use advanced analytics
- E. We are world class in our use of data analytics

AI for Audit Analytics

The journey, challenges, and potential solutions

Using Generative Gen AI for Performing Data Analysis



sales_data.csv
Spreadsheet

find outliers in the dataset and list the top 3. Do not explain anything, just do it.

Finished working Show work

Product ID	Product Name	Quantity Sold	Price per Unit	Total Sales
P005	Product ₅	100	82.32	8232.00
P005	Product ₅	100	82.32	8232.00
P005	Product ₅	99	82.32	8149.68

LLMs can write Python and execute it, BUT

- Data privacy concerns
- Can't work with large tables
- Still need to maintain code
- Difficult to organize your data

Natural Language Analytics

AI (LLMs) are powerful, but you can't use them directly to perform data analysis.

- Limited context window
- Prone to hallucination
- Not explainable / repeatable

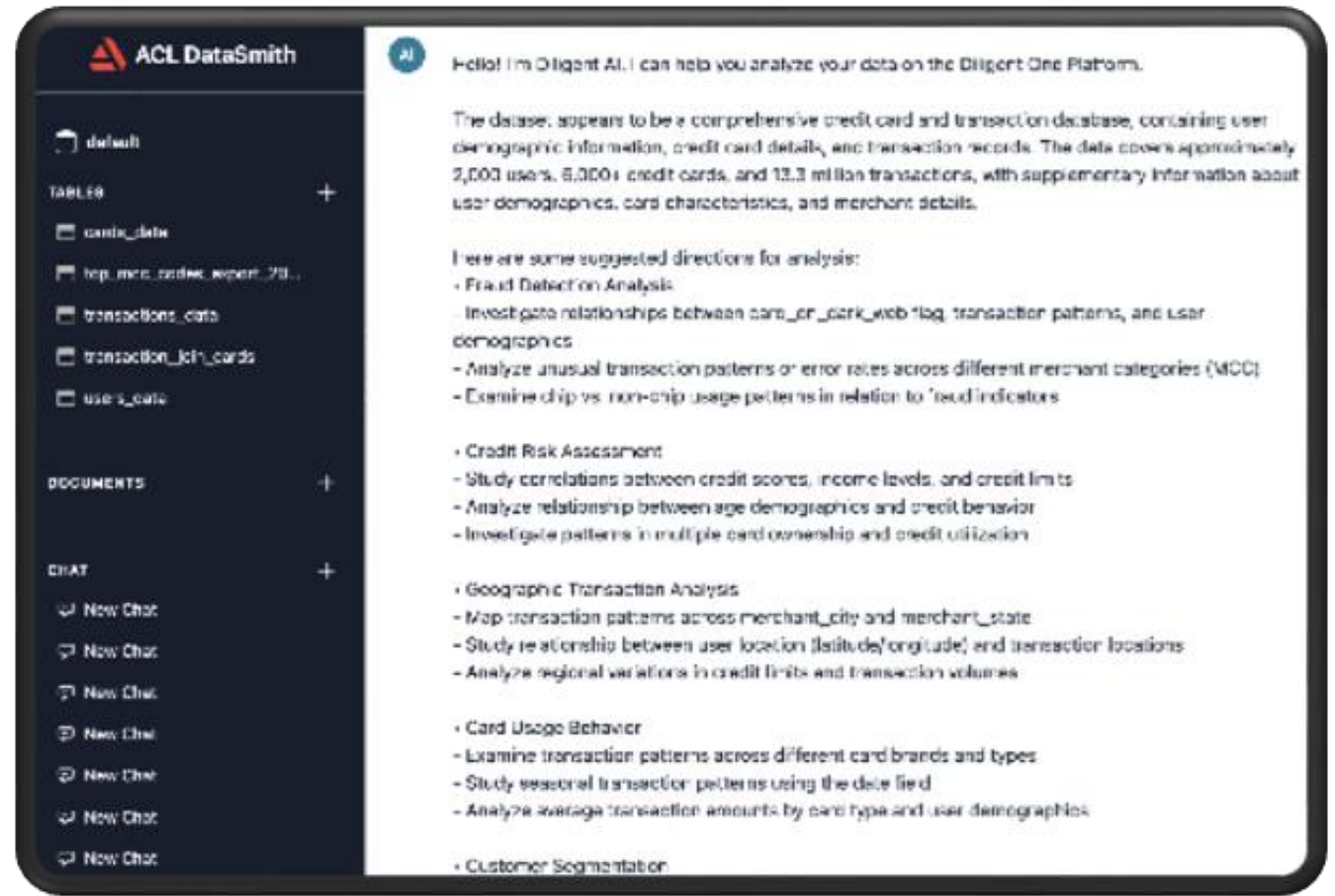
The screenshot displays the ACL DataSmith interface. On the left is a sidebar with a 'TABLES' section containing a list of database tables such as 'assistance_payments_transactions', 'cards_data', 'complex_type_test', 'invoices_by_state', 'vehicle_inquiries_from_2010...', 'state_comparison', 'x_wonder_master', 'temp_cards_data_173564532', 'temp_dept_hrs_spending_20...', 'transactions_by_state', 'transactions_data', 'transactions_with_cards_data', 'users_data', and 'vba_transactions'. Below the tables is a 'DOCUMENTS' section with a file named 'SECRETARY_AUDIT_CONTR...'. The main area shows a table titled 'transactions_data' with 15,000,015 total records. The table has columns: #, Card_id, Amount, Use_type, Merchant_id, Merchant_city, and Merchant_state. Below the table is a 'Query' section with a text input field containing the natural language query: 'what is the total and average transaction amounts by state?'. Below the input field is a 'Run' button and a 'Run SQL' button. The SQL query editor below shows the start of a query: 'SELECT * FROM transactions_data WHERE...'.

#	Card_id	Amount	Use_type	Merchant_id	Merchant_city	Merchant_state
1	2972	\$ 77.00	Swipe Transaction	59935	Boulder	MD
2	4725	\$14.72	Swipe Transaction	67570	Bretzendorf	IA
3	142	\$00.00	Swipe Transaction	21702	Wata	CA
4	2850	\$200.00	Swipe Transaction	27052	Crown Point	IN
5	3415	\$40.41	Swipe Transaction	13051	Hershey	MD
6	163	\$4.81	Swipe Transaction	28510	Brock	NV
7	2972	\$77.00	Swipe Transaction	59935	Boulder	MD
8	2140	\$70.96	Debit Transaction	34071	CHIEF	
9	5151	\$251.50	Ultra Transaction	50202	ONLINE	
10	1112	\$10.74	Swipe Transaction	2054	Rushing	NV
11	3417	\$1.51	Swipe Transaction	67570	Pearland	TX
12	3051	\$2.58	Swipe Transaction	75721	Brooklyn	NV
13	2427	\$19.03	Swipe Transaction	54435	Boulder	MD
14	1127	\$45.33	Swipe Transaction	2054	Kahala	HI
15	3338	\$40.42	Swipe Transaction	61135	North Hollywood	CA

Natural Language Analytics

But an AI can produce scripts, such as SQL or Python which can be auditable and repeatable.

In fact, you can find emerging tools which combine these concepts to create an experience for users to create true natural language analytics, with areas for exploration being suggested by AI



Polling Question #2

How much would you say your internal audit team uses Artificial Intelligence (AI) to aid in its data analytic efforts?

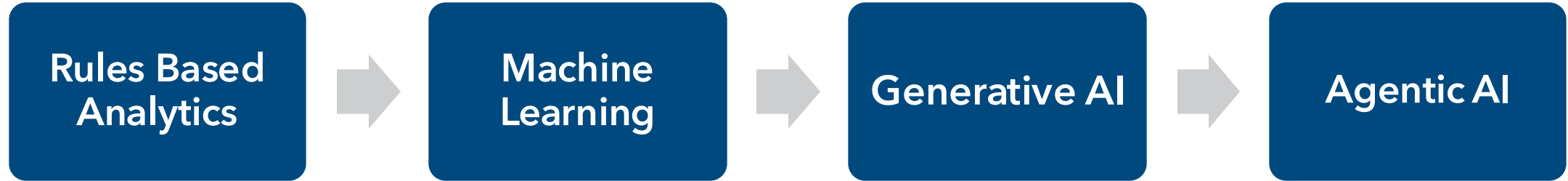
- A. Not at all
- B. We rarely use AI in data analytics
- C. We use it sometimes but not extensively
- D. We often use AI in data analytics
- E. We almost always use some element of AI in data analytics

From Generative to Agentic AI

In the application of audit data analytics

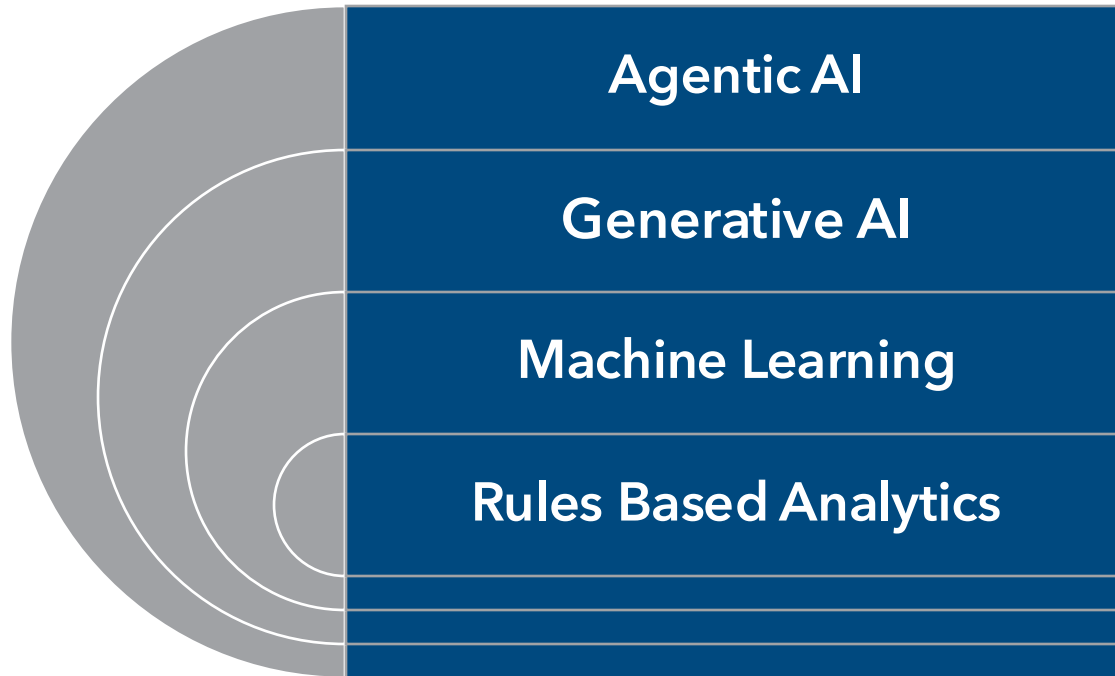
The Journey from Rules-based Analytics to Agentic AI

This linear view is too simplistic:



- Explainability remains crucial
- Scale matters
- Core analytics haven't disappeared
- The real world is messier than headlines

The Journey from Rules-based Analytics to Agentic AI



Generative AI

- Helps translate business requirements into rules
- Assists in documenting and explaining rules
- Prompt > Product

Agentic AI

- Leverages a set of tools to develop plans and strategies
- Iteratively adapts to changing situations
- Prompt > Plan & Execute Loop > Product

Polling Question #3

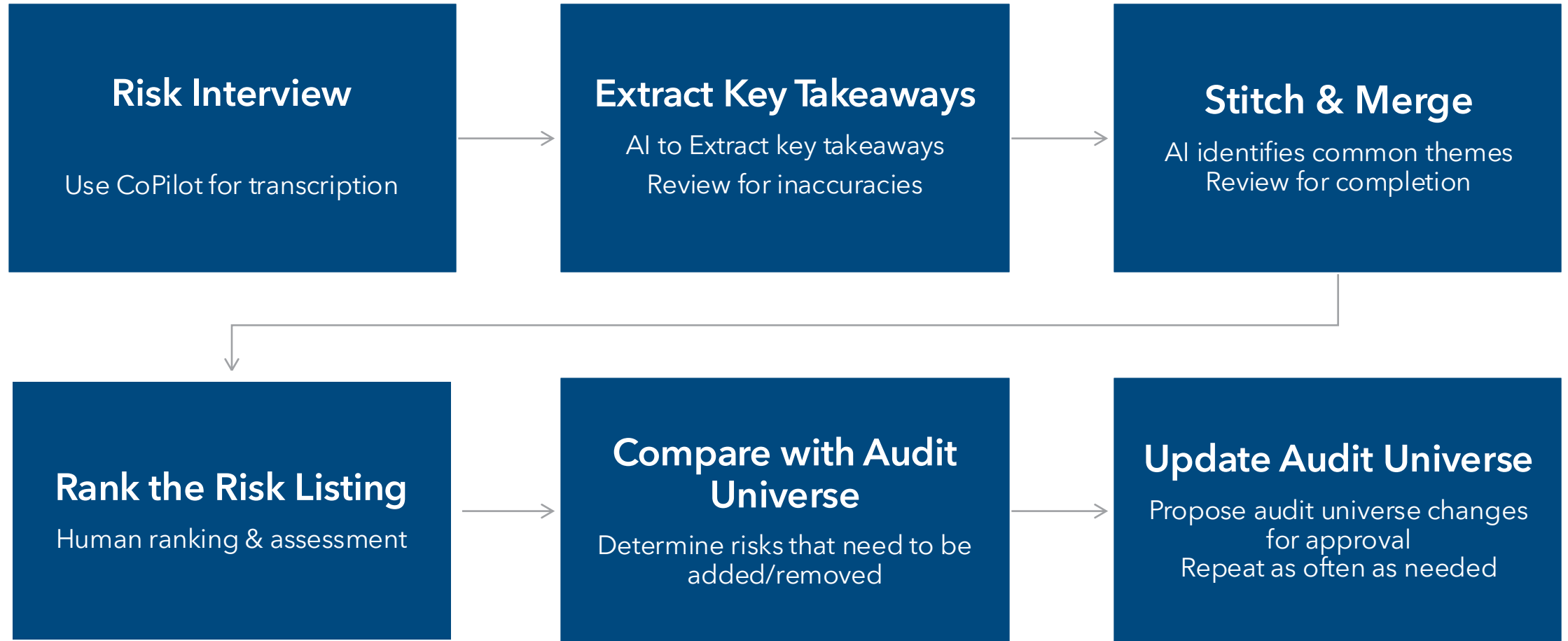
What do you anticipate will be the biggest challenge in adopting AI-powered, code-free analytics in your internal audit function?

- A. Data quality and accessibility
- B. Lack of clear understanding of AI capabilities
- C. Resistance to change from existing staff
- D. Budgetary constraints for new tools and/or training
- E. Concerns about the reliability and explainability of AI results

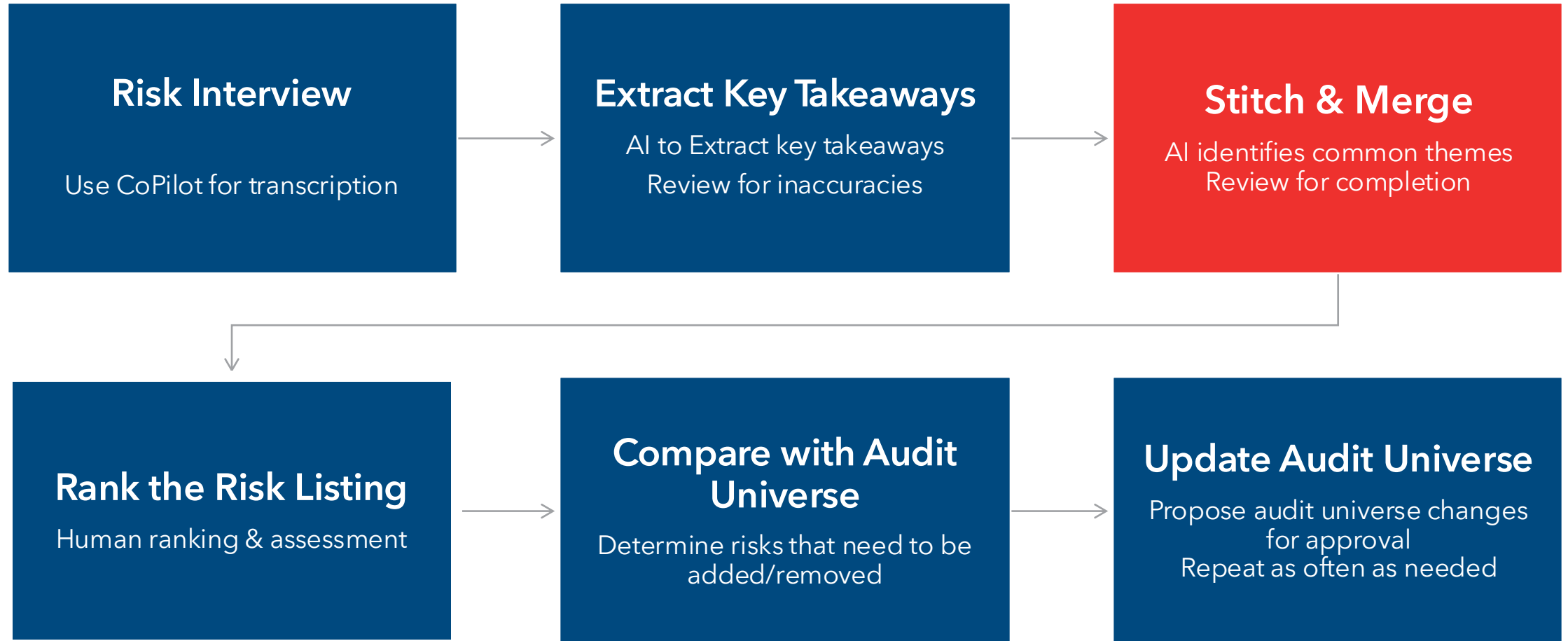
AI for Risk Discovery

Combining datasets without keys.

Use case / Background: Risk Assessment process with AI



Risk Assessment process with AI



Polling Question #4

Which of the following new skills do you believe will be most crucial for internal auditors in an AI-driven environment?

- A. Prompt engineering and AI interaction
- B. Data storytelling and visualization
- C. Critical thinking and ethical AI considerations
- D. Understanding of AI model limitations
- E. Project management for AI initiatives

Let's imagine you've conducted a Risk survey of your employee base

Key question to your audience:

"What potential risks or challenges, both external and internal, should our organization be preparing for that we may not have adequately considered?"

Please provide 2-3 specific examples and briefly explain their potential impact. Consider factors such as market changes, technology, regulations, organizational strategy, structure, workforce, and corporate culture."

Response
"I don't see any major risks. GlobeTech Industries is doing fine as it is."
"The rapid growth of quantum computing could render our current encryption methods obsolete within 5 years."
"Climate change might affect our supply chain. Floods in Southeast Asia last year delayed shipments."
"Have you seen the new AI thing? ChatGPT or whatever? That's gonna change everything, mark my words."
"1) Aging workforce: 30% of our skilled machinists at the Millbrook plant are nearing retirement. We have a succession plan, but it's not foolproof."
"The shift towards sustainable practices in our industry poses both risks and opportunities. Competitor X is leading the way, and we're struggling to keep up."
"我认为我们应该关注中国市场的变化。新的法规可能会影响我们在深圳的工厂运营。" (Translation: "I think we should pay attention to changes in the Chinese market. New regulations may affect our factory operations in Shenzhen.")
"Look, I've been with MegaCorp for 25 years, and I've seen these 'emerging risks' come and go. Remember, the only constant is change."
"Emerging risks? How about the risk of our entire R&D team burning out! The Prometheus Project is already showing signs of stress."
"1. Synthetic biology advancements: Potential for new, eco-friendly materials that could disrupt our traditional manufacturing processes."

Your Risk Survey Responses

Risk Category (Level 1)	Risk Domain (Level 2)	Risk Title (Level 3)
Strategic	Market Dynamics	Competitive Disruption
Strategic	Technology Evolution	Technological Obsolescence
Strategic	Regulatory Environment	Regulatory Compliance
Operational	Supply Chain	Supply Chain Disruption
Operational	Workforce Management	Talent Shortage
Operational	Information Technology	IT Infrastructure Failure
Financial	Market Risk	Foreign Exchange Volatility
Financial	Credit Risk	Customer Default
Environmental	Climate Change	Extreme Weather Events
Environmental	Resource Scarcity	Raw Material Shortage
Technological	Cybersecurity	Data Breach
Technological	Emerging Technologies	AI and Automation Disruption
People	Employee Wellbeing	Burnout and Stress
People	Organizational Culture	Resistance to Change
Reputational	Brand Perception	Negative Publicity

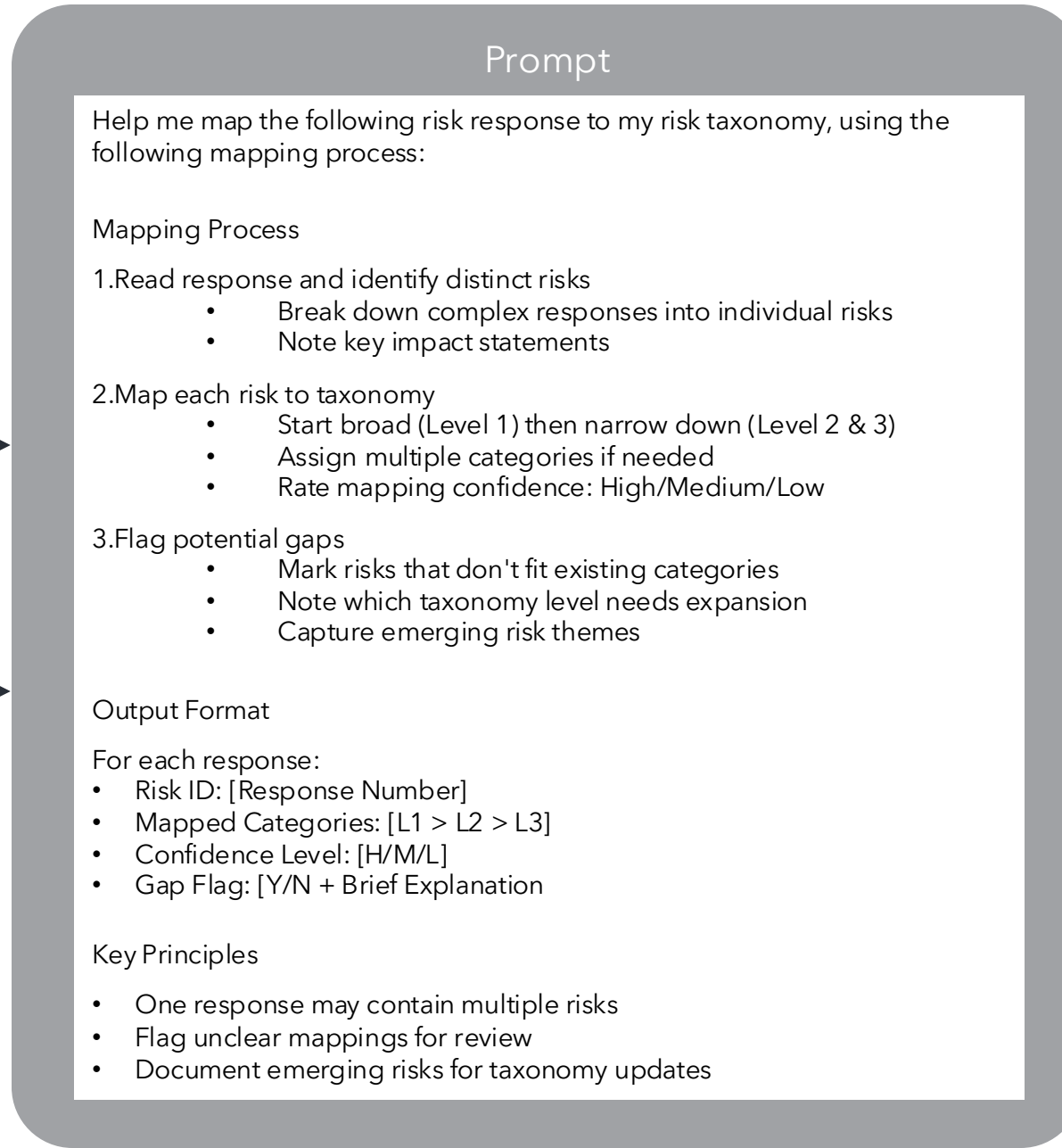


Response
"I don't see any major risks. GlobeTech Industries is doing well."
"The rapid growth of quantum computing could render our current products obsolete."
"Climate change might affect our supply chain. Floods in our key regions are a concern."
"Have you seen the new AI thing? ChatGPT or whatever? It's changing everything."
"1) Aging workforce: 30% of our skilled machinists at the end of their careers."
"The shift towards sustainable practices in our industry is a double-edged sword."
"我认为我们应该关注中国的变化。新的法规可能会影响我们的业务。"
"Look, I've been with MegaCorp for 25 years, and I've seen a lot of changes. Things are moving fast."
"Emerging risks? How about the risk of our entire R&D team leaving for competitors?"
"1. Synthetic biology advancements: Potential for new, eco-friendly materials."

Prompt for AI "Stitch and Merge"

Risk Responses

Risk Taxonomy



Categorized Risk Responses

Categorized Risk Responses

Original Response	Response Summary	Primary Risk Mapping	Secondary Risk Mapping	Confidence	Gap Flag
"I don't see any major risks..."	No major risks identified	None	None	-	No
"The rapid growth of quantum computing could render our current encryption ..."	Quantum computing threat to encryption	TEC-01 (Cybersecurity > Data Breach)	-	High	Yes
"Climate change might affect our supply chain..."	Climate impact on SE Asia supply chain	ENV-01 (Climate Change > Extreme Weather)	OPS-01 (Supply Chain Disruption)	Medium	No
"Have you seen the new AI thing? ChatGPT or whatever..."	General AI concerns	TEC-02 (Emerging Technologies > AI Disruption)	-	Medium	No
"1) Aging workforce: 30% of our skilled machinists at the Millbrook ..."	Multiple risks: aging workforce, rare earth supply, legacy systems	OPS-02 (Workforce Management > Talent Shortage)	-	High	Yes
"The shift towards sustainable practices in our industry poses ..."	Sustainable practices competition	STR-01 (Market Dynamics > Competitive Disruption)	ENV-02 (Resource Scarcity)	High	Yes
"我认为我们应该关注中国的变化。新的..."	Chinese regulatory changes	STR-03 (Regulatory Compliance)	-	High	No
"Emerging risks? How about the risk of our entire R&D team burning out..."	R&D team burnout	PPL-01 (Employee Wellbeing > Burnout and Stress)	-	High	No

Polling Question #5

Would you like someone from Diligent to contact you for more information on this topic?

- A. Yes, please!
- B. No thanks

Thank You