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Problem Statement and Objective

Generative AI (GenAI) is seen as one of the main levers for **enterprise reinvention**, yet most leaders do not believe they have the right capabilities to successfully reinvent their organizations.

97% of CxOs worldwide believe that GenAI will be **transformative** to their company and industry, yet only **5%** of organizations are actively reskilling their workforce at scale.

Given the technological change posed by the incorporation of GenAI systems in the workforce, **how can Accenture clients redesign their workforce and adopt effective GenAI strategies to be robust to this shift?**

Our aim is to develop a system which enables companies to navigate the impact of Generative AI on the composition of their workforce. We achieve this through an elaborate simulation framework to maximize productivity through effective company technology strategies and optimized reskilling initiatives.

Data Description



Task and Skills Data
Tasks involved in each job
Skills required in each job



Job Transition Data
Probability of specific job transitions
Wages, Education, Experience, etc.



Financial Data
Employment statistics across industries

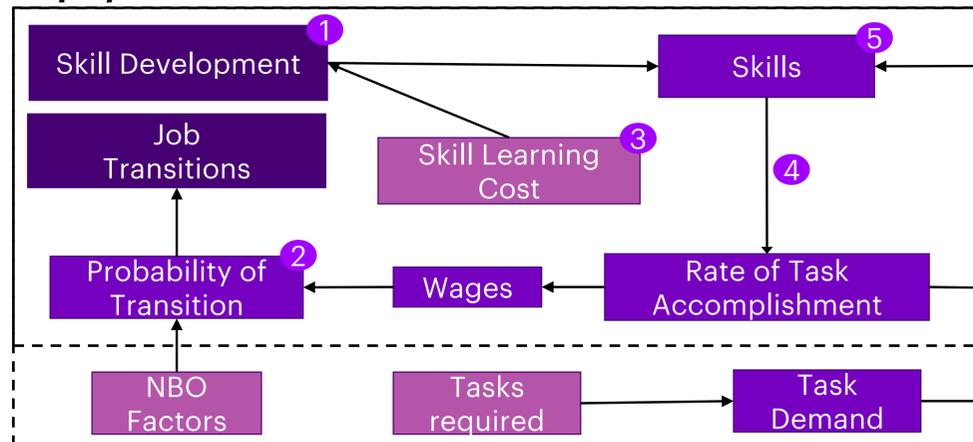
851
Jobs

332
Tasks

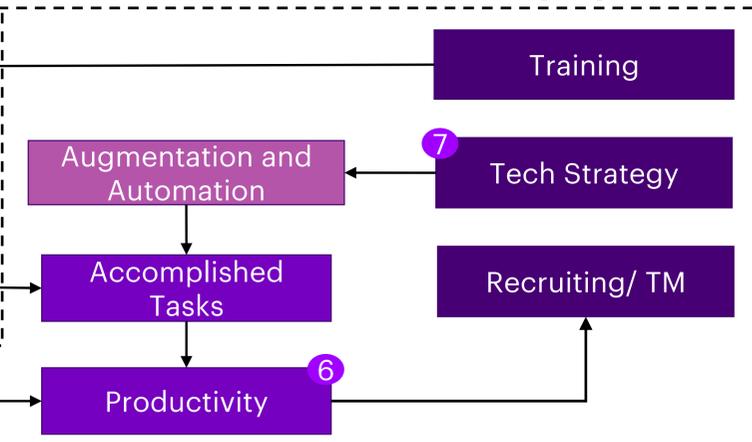
7748
Skills

Simulation Overview

Employee Level View



Company Level View



■ Decisions
■ Input Data
■ Simulated Data

Key Decision Point Algorithms

1 Skill Initialization

- Simulate individual careers backward in time to set the skills with which a person starts

2 Transition Value Model

- Random Forest model to predict probability of transitions with wages and other personal factors

3 Skill Learning Cost

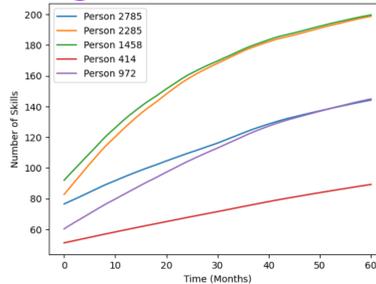
- Estimated with education and experience features of jobs that require the skill

4 Skill-Task Matching

- Cosine Similarity approach using co-occurrence of tasks and skills in jobs

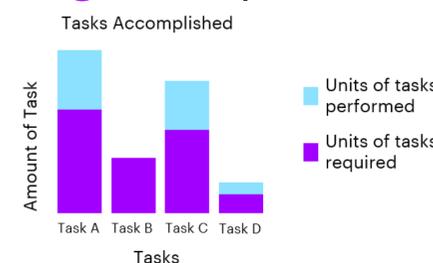
Simulation Mechanics

5 Skill Development



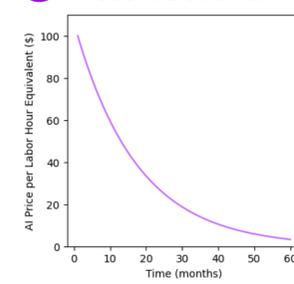
People acquire skills over time, depending on both their job and how quickly they learn new skills.

6 Productivity Calculation



A company requires several tasks for unit productivity. Here, more of task B is required to achieve an additional unit. Overall, productivity shows how task and skill redistribution are required to maximize performance.

7 Cost of AI over time



We assume the cost of AI labor starts very high and decay exponentially.

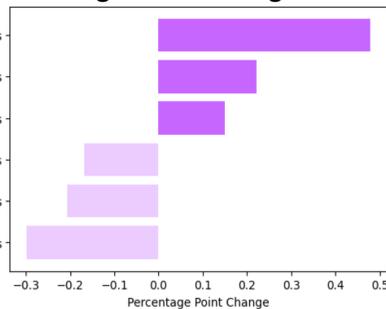
Simulation Outcomes (Application to the US Banking Industry)

Our asset provides detailed insights into potential **workforce changes** as demand for specific task and skills shift over time

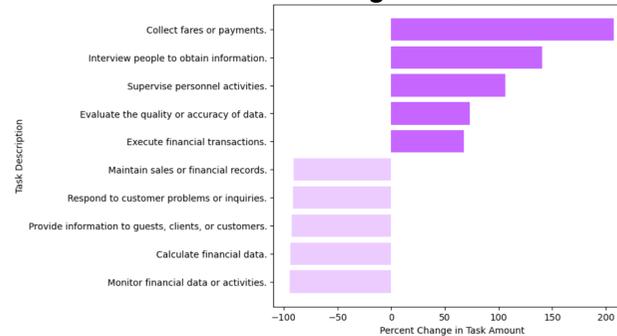
Changes in jobs and AI adoption lead to **changes in task distributions** of the workforce. Our asset enables **detailed analysis** of these changes.

These changes result in **changes in skill importances**, underlining the need for proactive reskilling to address the gap. Our asset aids **strategic decision-making** on this front.

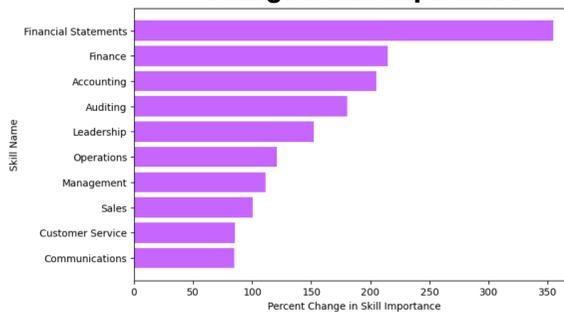
Change in Job Strength



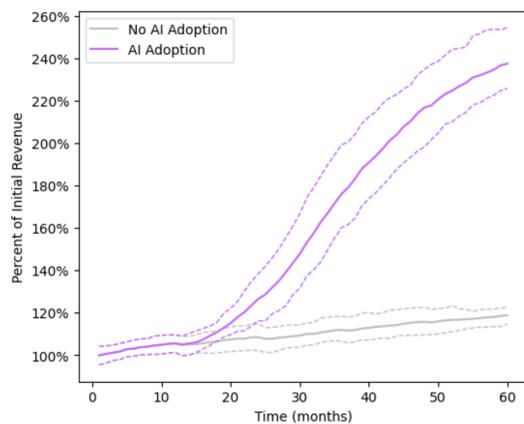
Change in Task Demand



Change in Skill Importance



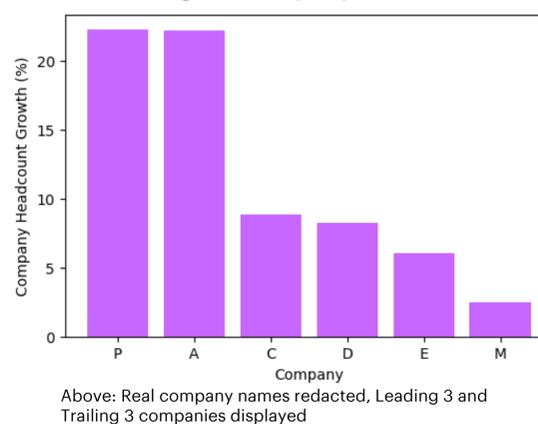
Revenue Growth over Time



Our asset also relates the adoption of GenAI systems with **expected revenue increase** over time. As seen on the right, the simulation describes how **effective technology strategies** surrounding the integration of GenAI systems are vital for accelerated growth.

The revenue growth graph shows the mean and 50% confidence interval of 20 replications

Change in Company Headcounts



Industry leaders see **headcount growth**. The simulation includes companies with different characteristics, enabling a **company-level analysis** against overall industry standards as well as against specific competitors.

At a company level, our asset shows that **leading companies** have:

84% faster GenAI integration **1.6x higher** productivity/person

Business Impact and Value Proposition

- Simulation framework with a high degree of **personalization**, enabling experimentation of various scenarios to determine the **optimal strategy** for specific clients and **across all industries** supported by Accenture
- Our solution provides insight into key company strategies and a **focus on reskilling** of the workforce in conjunction with **GenAI adoption strategy** with the goal of **maximizing economic value**
- The decision-point algorithms such as the skill-task matching framework serve as valuable capability enablers **in various advanced analytics efforts** to position Accenture as leader in the GenAI and Talent space.
- This multi-faceted tool encapsulates our valuable contributions by supporting Accenture client work.

Product Demo

