Morgan Stanley
INVESTMENT MANAGEMENT

Counterpoint Global Insights

AI Beneficiaries: Investing in Second-Order Effects

INSIGHTS | COUNTERPOINT GLOBAL | April 2025

KEY FINDING

We anticipate the adoption of AI and automation technologies will reshape workforces. Our Culture Quant[1] tools help us estimate which companies are best positioned to use AI to unlock efficiency gains and margin expansion above consensus expectations.

OUR ESTIMATES:

IF THE
1,000
Largest Public Companies

AUTOMATED AWAY
HALF
of the "High Probability of Automation Roles"[2]

REDUCTION REPRESENTS
1.7 Million
Fewer Jobs
$207 Billion
Reduced Labor Expense

COMPANY ANALYSIS[3]
+16%
Profit Growth
For the top 25% of companies the profit pool expands from $311B to $361B

We also explore the broader societal implications of this technological shift and its economic impact on workers. We highlight cases where opportunities for workers align with company value creation.

AI Beneficiaries Research Summary

At Counterpoint Global, we have been researching the effect that artificial intelligence (AI) and automation may have on the business landscape and society, including the beneficiaries of the second-order effects of these technologies. Our research is ongoing, but we thought we would share our work on systematically determining which companies have workforces that are likely to become more efficient as a result of adopting AI and automation technologies.

[1] Culture Quant was developed by Counterpoint Global in collaboration with academic experts at Harvard Business School in 2019, leverages alternative datasets and Morgan Stanley's Machine Learning Lab – see page 4 for more detail

[2] Information on Automation Probability and "Wave Model" can be found on page 6

[3] Utilizes Counterpoint Global's "Dynamic Life Cycle Analysis" to estimate efficiency allocation between customers, company shareholders, and suppliers (including labor). "Profit" refers to Earnings Before Interest and Taxes ("EBIT") – see page 10 for more detail

This report presents an example of how our differentiated research pillars complement our fundamental-driven investment process:

1. **Disruptive Change Research** – This team provides foundational insights into AI and automation technologies, assessing their potential to expand across industries.
2. **Sustainability Research** – This team developed Culture Quant tools, which generate human capital management insights using an alternative dataset covering 300 million workers.
3. **Consilient Research** – This team created a framework to evaluate a company's position in its life cycle, helping determine how economic surplus may be allocated among stakeholders.
4. **Sector Experts & Investors** – These team members synthesize insights from all differentiated research pillars to complement long-term fundamentals-based analysis of companies and sectors.

Our primary goal is to use these tools and investment insights to benefit our clients. Our secondary goal is to foster a broad dialogue on human capital management strategies with our portfolio companies, clients, and other collaborators.

Human capital management and company culture have the potential to unleash human ingenuity. **We built Culture Quant because we believe culture represents a form of intangible value that the stock market often underappreciates and fails to analyze systematically.** Since 2019, our Culture Quant studies have focused on identifying win-win opportunities. For example, our internal mobility study, which aligns the economic empowerment of employees with value creation, strengthened the financial justification for promoting from within.

Our new research on AI and automation is more complicated, as it explores potential tensions among stakeholders, including customers, shareholders, suppliers, and employees. While adopting these technologies may create efficiencies, it could also reduce the number of people employed in certain roles. We will not take a position on whether or how companies should adopt these technologies. However, we recognize that AI and automation technologies are already here—or will arrive imminently—and we have a fiduciary duty to investigate the ramifications of their adoption.

Part of Counterpoint Global's culture is serving as a hub for innovative ideas. In this case, we believe our tools can help identify strategies that benefit both people and businesses. For instance, we are researching a method to evaluate reskilling. Our study of horizontal mobility, which aims to measure how companies provide employees with new skills and job opportunities, is ongoing.

This report is comprised of five parts: **Part I** shares lessons from the history of investing in world-changing technologies; **Part II** provides an overview of Culture Quant in order to introduce a new model on technology proliferation across the economy; **Part III** presents a framework from our colleagues in Consilient Research to evaluate the allocation of economic surplus; **Part IV** shares examples of how these insights contribute to our portfolio; and **Part V** concludes with a discussion on the broader societal implications of technological evolution.

Flashback: Quote from Berkshire Hathaway Annual Shareholders Meeting May 2018:

ANDREW ROSS SORKIN: "The next question is from Thomas Kamei (Investor at Counterpoint Global) who is in the audience today. I will preface this question by saying that he was here [in 2000] and at age 10 asked you from the audience if the Internet might hurt some of Berkshire's investments? At the time you said you wanted to see how things would play out. He has now updated the question: What do you think are the implications of Artificial Intelligence on Berkshire's businesses, and do you think Berkshire's current businesses will have more or less employees a decade from now as a function of AI?"

WARREN BUFFETT: "I certainly have no special insights as it relates to AI, but would bet lot of things will happen. I would think [AI] would result in significantly less employment in certain areas, but that's good for society, while it might not be good for a given business … [More technology is] enormously pro-social eventually…it's enormously disruptive in other ways and it can create huge problems for a democracy, in how it reacts to that."

CHARLIE MUNGER: "I don't think it would be good for America if everything was produced by one person [utilizing AI] and the rest of us just engaged in leisure."

WARREN BUFFETT: "What if we got twice as productive in a short period of time? So that 75 million people could do what 150 million people are currently doing?"

CHARLIE MUNGER: "I think you'd be amazed by how quickly people would react to that favorably. It's similar to the Eisenhower years, we saw 5% [of productivity gains] per year and people loved it."

WARREN BUFFETT: "Well, it's one thing if you cut everyone's hours in half, but if you fire half the people and the other half keep working…"

CHARLIE MUNGER: (Interrupts Warren) "I don't think you need to worry about 25% [efficiency gains] coming per year. What's actually worrisome is the scenario where we get less than 2% productivity gains per year."

WARREN BUFFETT: (Laughs) "Okay, we'll move on! It's an absolutely fascinating subject. But, it's very hard to predict what will happen…"

DISPLAY 1

Investing in "World-Changing Technology"

Studying Technological Shifts and Value Creation Over the Last Century

	1900	2000	2024
World Changing Technology	Automobile	Wi-Fi	AI
Ubiquity	Ubiquitous Transportation Technology	Global Ubiquitous Standard	Emerging Trend
1st Order Beneficiary: Investment Example	US Auto Manufacturers	Wireless Router Manufacturers	GPU + Hardware Manufacturers
1st Order Beneficiary: Investment Example Outcome	Consolidation and Aggressive Competition	Commoditization	To Be Determined
2nd Order Beneficiary: Theme Enabled by Technology	Suburbanization: **Big-Box Retail**	Rich Content Delivery: **Streaming Video**	Automation and GenAI: **High Efficiency Labor**
2nd Order Beneficiary: Investment Example Outcome	**WALMART: 1,622x Return** ('80-'20) FORD: 23x Return ('80-'20)	**NETFLIX: 519x Return** ('02-'20) CISCO: 4x Return ('02-'20)	**???**

Source: Morgan Stanley Investment Management Counterpoint Global, FactSet, www.History.com, U.S. Department of Transportation Federal Highway Administration as of 12/31/2023.

Part I – Investing in World-Changing Technologies

We have studied the major technological shifts of the past century, recognizing that these forces can disrupt entire industries and reshape the investment landscape. Our Disruptive Change Research effort, led by Stan DeLaney, began in 2004 and seeks to identify companies poised to disrupt industries, as well as those incumbent businesses at risk.

One pattern we have identified in studying world-changing technologies is that the best investments were often not the obvious, first-order ones but rather the second-order ones. In the short term, the market often bids up the enablers of new technologies, but over the long term, the companies that effectively use these technologies create the most enduring value.

For example, if you had anticipated that automobiles would redefine transportation in the 20th century and invested in a basket of U.S. automobile manufacturers in 1920, you would have experienced extreme competition, massive consolidation, and subpar equity returns. By contrast, if you had recognized the **second-order effect** that automobiles would enable suburbanization, you might have anticipated the rise of the big-box retail industry. An investment in Walmart in 1980—one decade after its initial public offering (IPO)—would have **returned over 1,600x** its value by 2020. This is roughly 70x the return of holding Ford, an automobile manufacturer, over the same period.[4]

Similarly, if you had foreseen that Wi-Fi would become a global standard and invested in Wi-Fi router manufacturers, you would have realized relatively poor shareholder returns as the product became commoditized. On the other hand, recognizing that the streaming video industry was a second-order effect and investing in Netflix at its IPO in 2002, would have **returned over 500x** your initial investment. That is more than 100x better than the returns of Cisco, a networking and wireless solutions manufacturer, over that same period.[4]

AI is the emergent technology that the market is currently focused on. Investors have gravitated toward the first-order beneficiaries—the manufacturers of graphics processing units (GPUs), which are a dominant enabler for training large language models (LLMs). LLMs are machine learning models designed for natural language processing tasks. Over time, they may become multimodal, capable of both processing and generating images, audio, and video.

[4] FactSet

The long-term outcome for chip manufacturers remains uncertain, but the history of other disruptive technologies suggests that capitalism ensures early advantages are eventually competed away. **However, we have conviction in one second-order effect of AI: significant productivity gains in both blue- and white-collar labor.**

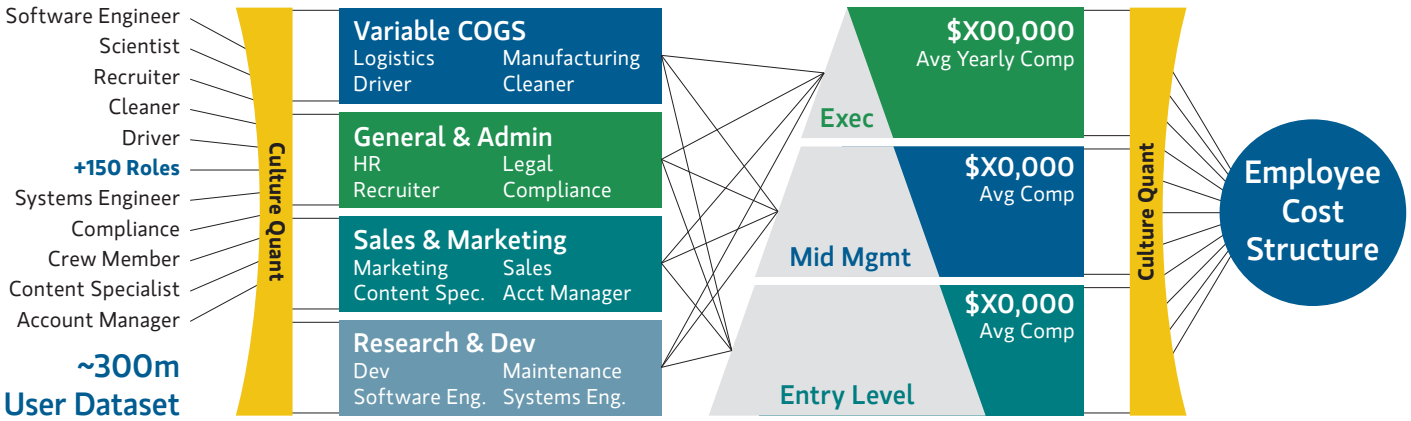
The World Economic Forum's *Future of Jobs Report 2025* surveyed over 1,000 employers representing 14 million workers, and 86% of respondents expect AI to transform their businesses by 2030.[5] This transition will be enabled by entrepreneurs that develop applications which bring these technologies into enterprise environments. This development raises a broader question: which public companies have workforce structures that could benefit from significant efficiency gains.

We will share a case study on how we use Culture Quant tools, the Dynamic Life Cycle Analysis framework, and expertise from our Sustainability, Consilient and Disruptive Change Research teams to systematically identify companies with the potential for AI and automation-driven productivity gains.

DISPLAY 2

Culture Quant – Counterpoint Global Proprietary Tool

Alternative Data + Morgan Stanley Machine Learning Research Team + CG Sustainability Research



Source: Morgan Stanley Investment Management Counterpoint Global, Revelio Labs as of September 2024

Note: Our study utilized 100 million employees for 2023, 34 million employees are mapped to the specific public companies utilized in the study

The Machine Learning Research Team at Morgan Stanley is comprised of hyper-specialist researchers who work on fundamental and complex problems across the Firm, such as in Fixed Income, Investment Management, Electronic Trading, and other groups. This is an applied research lab that creates new products and build holistic systems with Machine Learning truly at the center. The lab works in a wide variety of areas including time series analysis, recommender systems, network theory, LLMs, NLP for finance, fairness and privacy.

Part II – Culture Quant: AI Beneficiaries

There has been a secular change in how companies invest, with a shift toward intangible assets (e.g., intellectual property) and away from tangible assets (e.g., productive factories). Current accounting standards were primarily designed to measure tangible capital; therefore, financial reporting struggles to quantify human capital and culture.

This deficiency has become increasingly acute, as human ingenuity is the driving force behind intangible capital, and some corporate cultures are better than others at fostering creativity. In 2019, Counterpoint Global's Sustainability Research team began collaborating with academic experts from Harvard Business School to enhance our understanding of the value of human capital within companies. Our proprietary "Culture Quant" process is a result of that research.

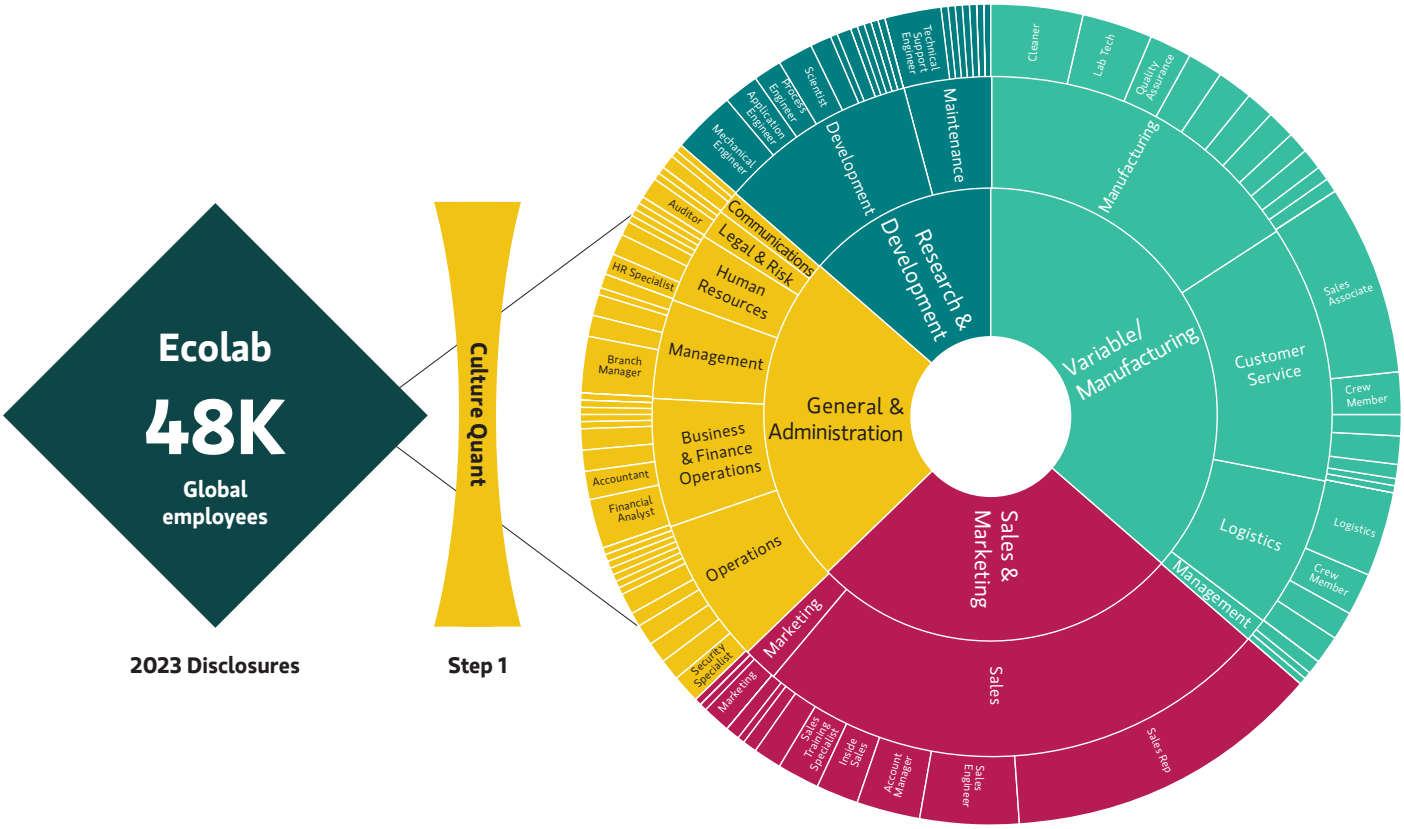
We believe this work helps align the interest of investors and employees by demonstrating that employees are key stakeholders in a company's success, contributing to both business differentiation and attractive shareholder returns. Our goal is to better understand corporate culture and create a systematic method for evaluating it.

[5] https://reports.weforum.org/docs/WEF_Future_of_Jobs_Report_2025.pdf

DISPLAY 3

Visualizing Employee Cost Structure

Company Example: Ecolab Inc.



Source: Morgan Stanley Investment Management Counterpoint Global, Ecolab Inc., Revelio Labs as of 12/31/2023

Culture Quant Research & Key Findings

Our initial Culture Quant research was conducted in partnership with Morgan Stanley's Machine Learning Research Lab and utilized an alternative dataset providing monthly employer data for **more than 300 million employees** over the past decade. This dataset enabled us to estimate **employee turnover at the company level**, a key statistic that most companies do not disclose. The study found a **strong positive correlation** between **high employee retention** and **stock price outperformance**. Additionally, the research suggested a potential causal relationship between improving employee retention and future shareholder returns. [See full report here].[6]

In recent years, we have expanded our analysis to include studies on salesforce efficiency and junior mobility—specifically, how often companies promote from within versus hiring externally. Our latest study brings together various research threads to estimate a company's total employee costs. We do this by analyzing the mix of occupations within a company and the compensation associated with each role. The Culture Quant Employee Cost Structure tool enhances our ability to estimate employee costs, providing deeper insights beyond the limited disclosures companies typically provide.

For example, Ecolab, a company focused on water and food safety, states in its Form 10-K that they have 48,000 employees globally. This disclosure is broad and lacks actionable detail. Our tools allow us to estimate how much the company pays for specific roles, such as cleaners, sales representatives, and accountants. This level of insight enables us to assess employee costs with more fidelity than what standard disclosures reveal. By providing a better understanding of employee costs, this assessment also enables us to evaluate the potential financial impact of automation.

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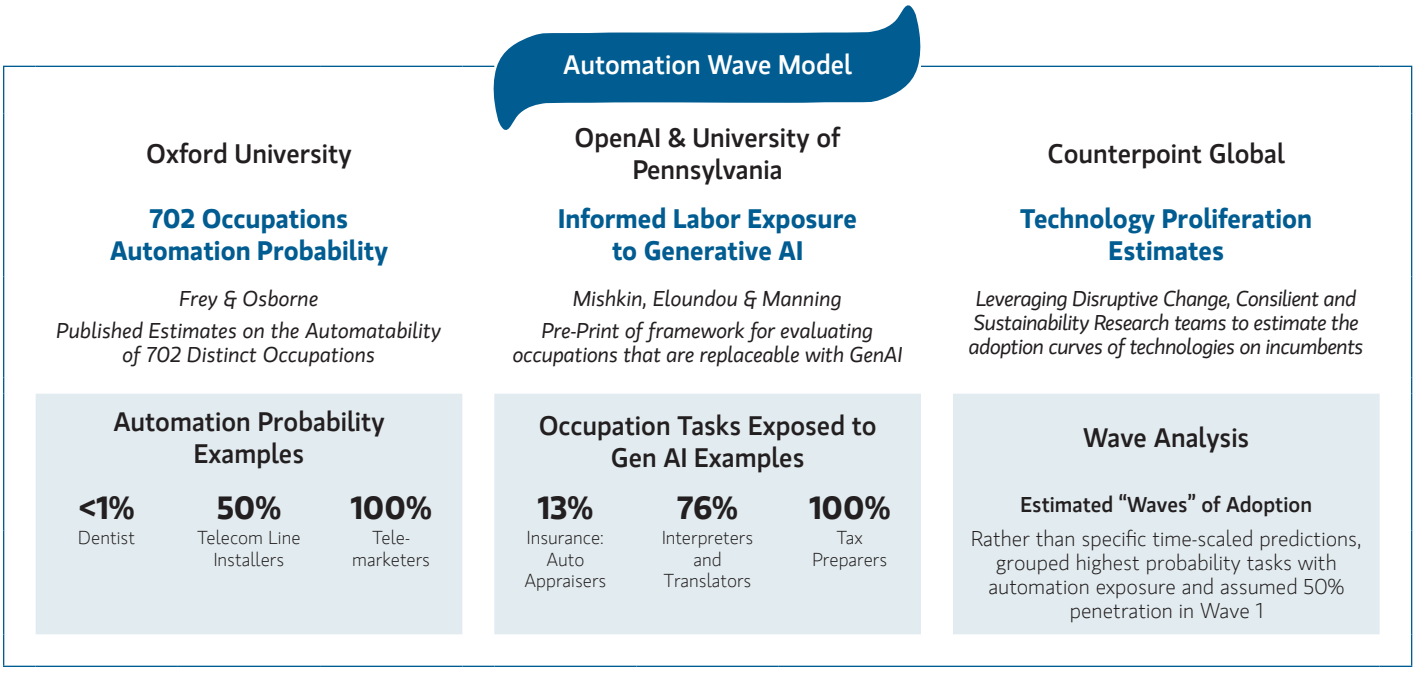
[6] https://www.morganstanley.com/im/publication/insights/articles/article_culturequantframework_us.pdf

DISPLAY 4

Culture Quant – Automation Wave Estimates



Source: Morgan Stanley Investment Management Counterpoint Global, EcoLab Inc., Revelio Labs as of 12/31/2023. Carl Frey & Michael Osborne, The Future of Employment. Tyna Eloundou, Sam Manning, Pamela Mishkin, Daniel Rock, GPTs are GPTs: An Early Look at the Labor Market Impact Potential of LLMs.

Utilizing Culture Quant to Estimate AI Beneficiaries

The second part of this process is the **Automation Wave Model**, which combines research from academia to estimate which roles have the highest probability of automation.

To assess the impact by role, we utilize research by Professors Carl Benedikt Frey and Michael Osborne at Oxford University, which estimates the probability of automation for 702 distinct occupations.[7] Their conclusions are based on evaluating each role across factors such as creativity, human interaction, and repeatability. Their findings present a spectrum of automation probability: on one end, telemarketers face a 100% likelihood of automation, while on the other, dentists have a 0% probability. We then refined our occupational map by incorporating recent advancements in generative AI (see work by Pamela Mishkin, Tyna Eloundou and Sam Manning from OpenAI and Daniel Rock from the University of Pennsylvania).[8]

Our model predicts a series of technology adoption waves. Among roles with a high probability of automation (75% or more), we assume half get automated over the midterm. This shift is already underway, with companies reducing headcount in roles where technology is widely available, such as call centers. In some cases, software-enabled agents may even enhance customer satisfaction compared to human interactions.

While certain roles are likely to be augmented with technology rather than replaced, technology is expected to take a greater share of tasks from humans. According to the World Economic Forum's survey on the Future of Work, respondents representing 1,000 employers estimate that, as of today, 47% of tasks are primarily completed by humans, 22% by technology, and 30% by humans working with technology. Employers expect technology alone to capture a greater share of tasks, increasing from 22% to 34% by 2030, while human-performed tasks are projected to decline from 47% to 33% over the same period.[9]

The Automation Wave Model enables us to estimate post-automation employee costs and the economic surplus created by reducing labor expenses. However, we have not assumed a specific timeline for completing the first wave of automation. As a result, this analysis offers a static snapshot, without factoring in corporate sales growth or expense leverage over time.

[7] Carl Frey & Michael Osborne, The Future of Employment.

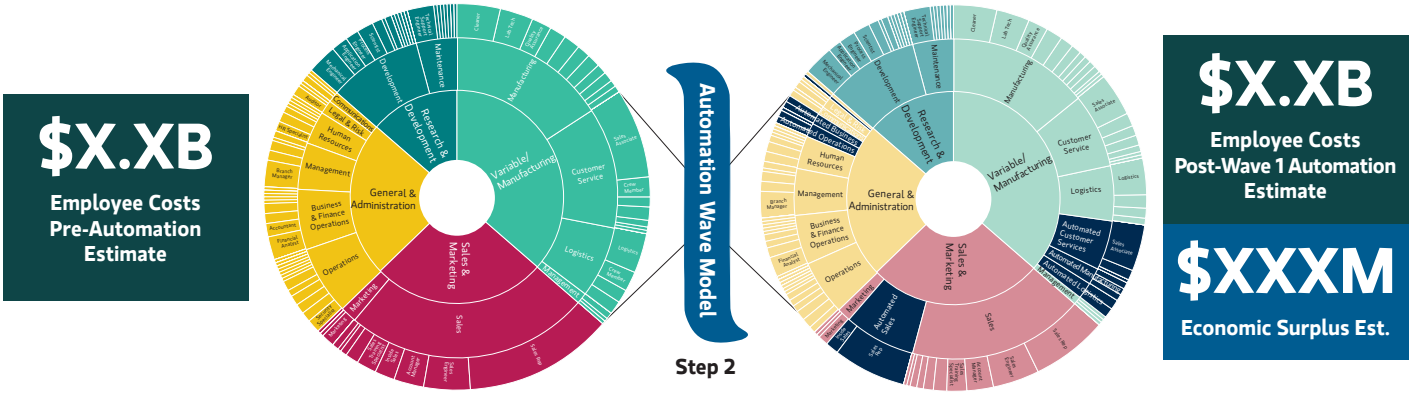
[8] Tyna Eloundou, Sam Manning, Pamela Miskin, Daniel Rock, GPTs are GPTs: An Early Look at the Labor Market Impact Potential of LLMs.

[9] https://reports.weforum.org/docs/WEF_Future_of_Jobs_Report_2025.pdf

DISPLAY 5

Applying Automation Wave Model to Employee Cost Structure

Company Example: Ecolab Inc.

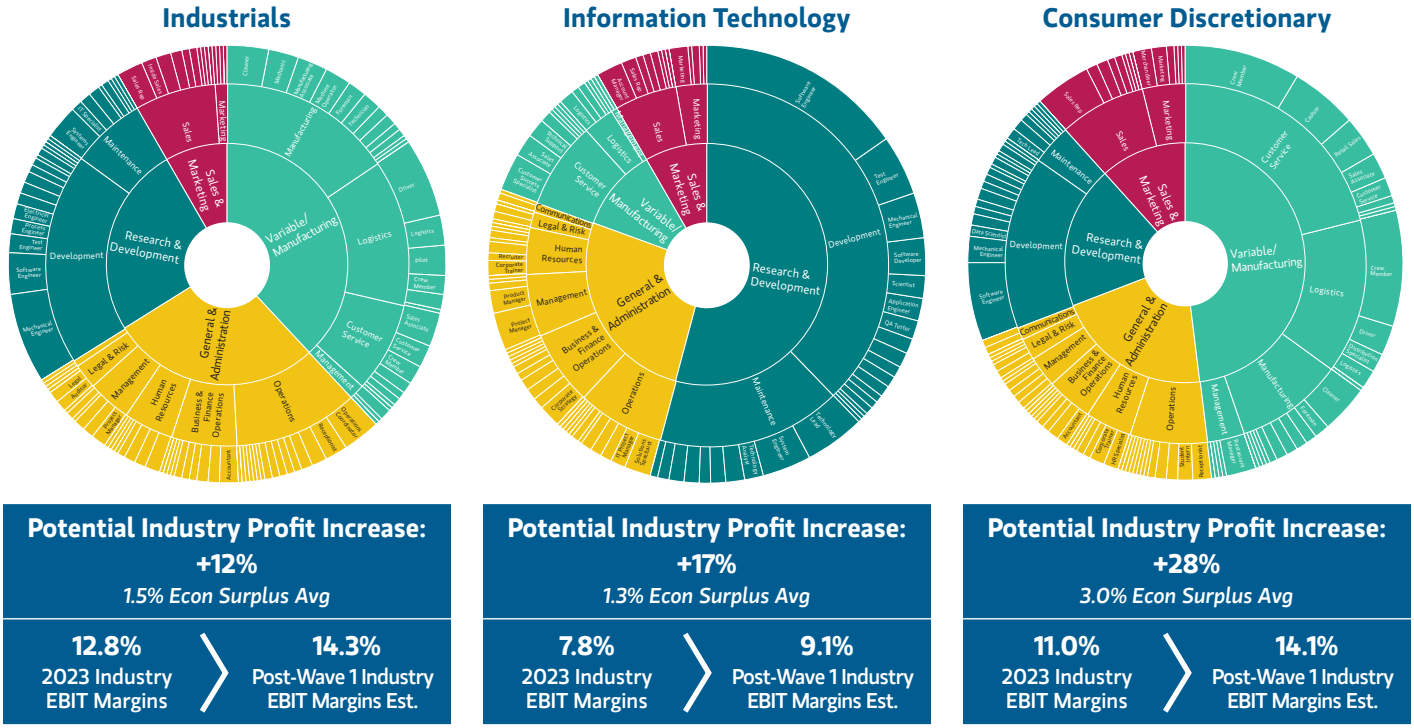


Source: Morgan Stanley Investment Management Counterpoint Global, EcoLab Inc., Revelio Labs as of September 2024.

Furthermore, our estimates do not factor in the costs of implementing and utilizing these technologies.[10] Companies will likely face incremental operating expenses and additional depreciation costs tied to the capital investments required for adoption. While we plan to refine our estimates over time, this initial analysis provides a broad sense of the potential efficiency gains from automation. However, even when advanced technologies are available and business leaders are motivated by competitive pressures, adoption is rarely immediate. Many companies will experience a lag as they adapt their processes to fully integrate these innovations.

DISPLAY 6

Industry Estimates Overview: Economic Surplus Improving Potential Industry Margins



Source: Morgan Stanley Investment Management Counterpoint Global, FactSet, Revelio Labs as of September 2024. The views, opinions and estimates are subject to change at any time due to market, economic, or other conditions, and may not necessarily come to pass.

[10] Company discussions are for informational purposes only and should not be deemed as a recommendation to buy or sell the securities mentioned or in the sectors shown above. The views, opinions and estimates are subject to change at any time due to market, economic, or other conditions, and may not necessarily come to pass.

We can apply these insights from the company level and extend them to observe efficiency gains on a broader sector level:

While these gains, measured as a percentage of sales (EBIT margin), may initially appear modest—such as 1.5% margin expansion for Industrials—they can significantly expand potential profit pools, particularly in mature, low-margin industries. For example, a 3.0% margin increase within the Consumer Discretionary sector translates to a 28% expansion in the potential profit pool (see *Display 6*).

This analysis naturally leads to a critical question: Which stakeholder will ultimately capture the economic surplus generated by automation? Will companies pass these savings on to customers through lower prices? Will companies retain the surplus, increasing profit margins, and thus benefit shareholders? Or will suppliers and labor gain enough leverage to negotiate higher prices and wages?

To better understand how companies might allocate this surplus among stakeholders, we turn to our Consilient Research team's work on company life cycles and industry structures.

Part III – Value Creation and Stakeholder Value Capture

To understand how economic surplus is allocated among stakeholders, we use the Value Stick, a framework popularized by Harvard Business School Professor Felix Oberholzer-Gee (see *Display 7*). This tool provides a structured approach to analyze value creation and distribution by examining the interactions between customers, suppliers and shareholders.

1. **Willingness to Pay:** At the top of the Value Stick is the maximum amount a buyer perceives a good or service to be worth. The higher the willingness to pay, the more value the consumer associates with the product.
2. **Price:** The level below willingness to pay is the actual amount the company charges for its product or service. The difference between willingness to pay and price represents **consumer surplus**, which reflects the extent to which the buyer perceives they are getting a good deal.
3. **Cost:** The level below price is cost, which includes all the expenditures necessary to produce a good or service, such as labor, raw materials, and other inputs. The difference between price and cost determines the company's **economic profit margin**.
4. **Willingness to Sell:** At the bottom of the Value Stick is the lowest amount a company could pay its suppliers, including employees, before they would walk away and end the relationship. The difference between cost and willingness to sell is known as **supplier surplus**.

Let's bring these concepts to life by looking at the example of Shake Shack, a fast casual restaurant chain. These estimates are informed by company disclosure, discussions with management, and our sense of the customer value (i.e., remarkable deliciousness) the company provides.

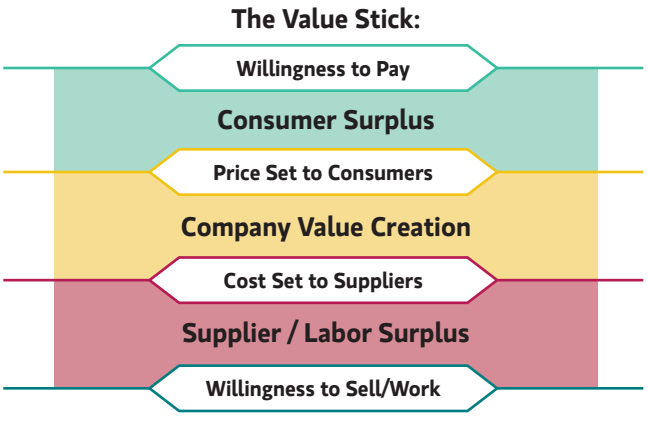
Starting at the bottom of the Value Stick, as illustrated in *Display 8*, we estimate each ShackBurger and crinkle-cut fries meal requires 11 minutes of labor. At a minimum wage of $12 per hour, this translates to a labor cost of **$2.20 per meal** (11 ÷ 60 × $12 = $2.20). However, Shake Shack prioritizes human capital and aims to provide an exceptional hospitality experience. To attract and retain top team member talent, the company pays employees **$18 per hour, a 50% premium** over minimum wage. This increases the labor cost to **$3.30 per meal** (11 ÷ 60 × $18 = $3.30).

Shake Shack **prices its meal at $11.50**, achieving a **20% restaurant operating profit margin** (factoring in $5.90 in food and occupancy costs per meal). We estimate that customers' **willingness to pay** is at a **$20 value**. For comparison, the high-end Tavern Burger with duck fat potato chips at the Gramercy Tavern Taproom in New York

DISPLAY 7

The Tension in Creating Value

Expand the Focus Beyond the Borders of the Company



Source: Morgan Stanley Investment Management Counterpoint Global based on Felix Oberholzer-Gee, Better, Simpler Strategy: A Value-Based Guide to Exceptional Performance (Boston, MA: Harvard Business Review Press, 2021), 14.

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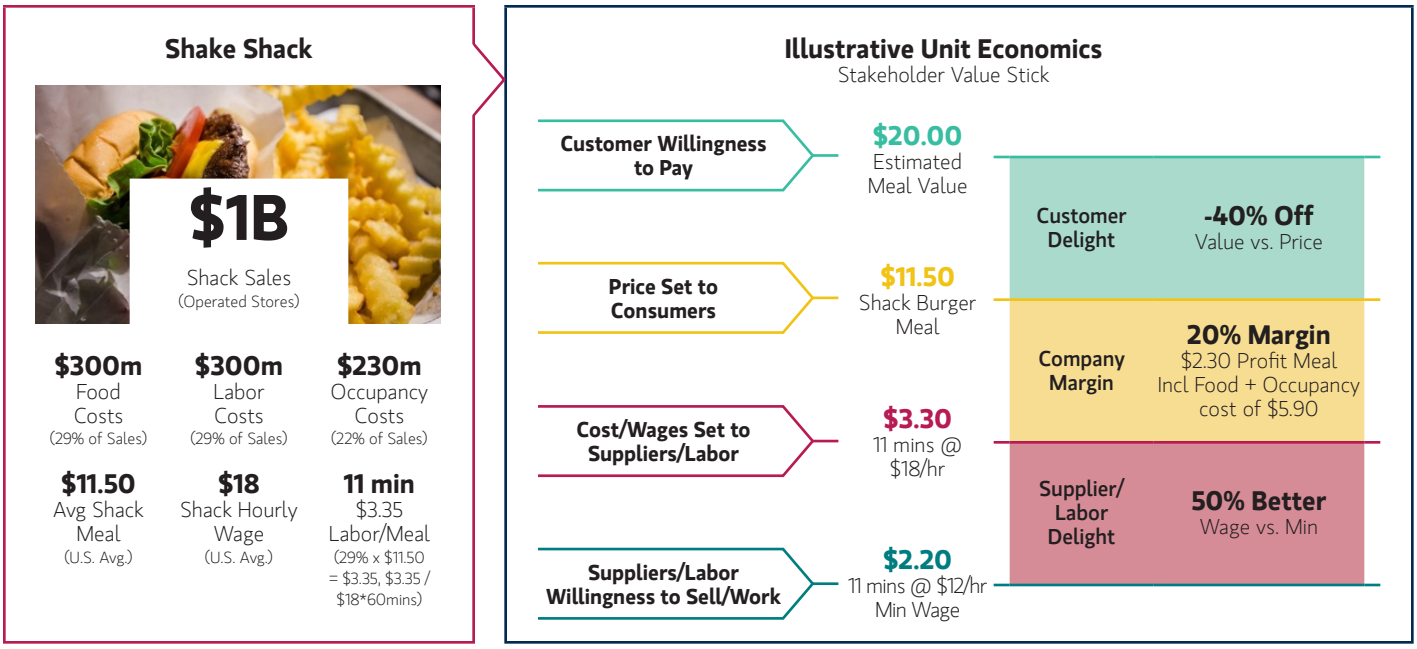
DISPLAY 8

Value Creation and Stakeholder Value Capture

Insights from Consilient Research



Source: Morgan Stanley Investment Management Counterpoint Global, Shake Shack, Inc. as of Fiscal Year (FY) 2023. Company discussions are for informational purposes only and should not be deemed as a recommendation to buy or sell the securities mentioned or in the sectors shown above. The views, opinions and estimates are subject to change at any time due to market, economic, or other conditions, and may not necessarily come to pass.

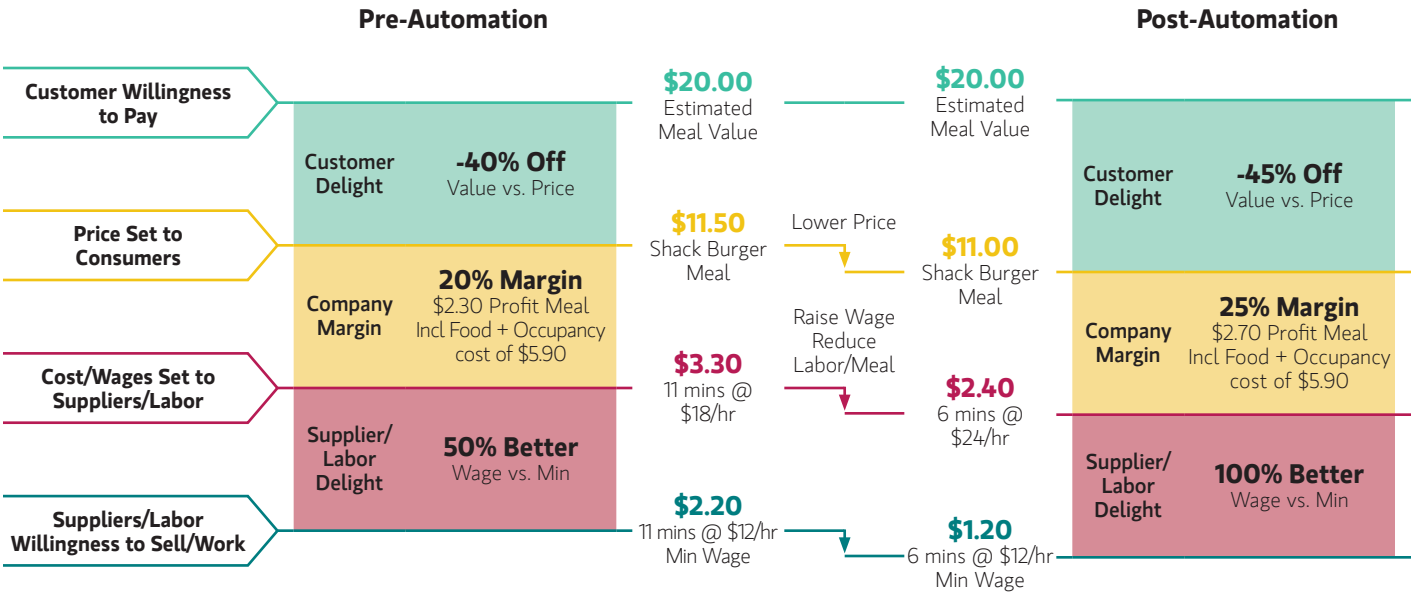
City—the burger that originally inspired the ShackBurger—costs $35 as of fall 2024. This means **consumer surplus**, or the difference between willingness to pay and price, is **$8.50** ($20 - $11.50).

Now let's apply the **Value Stick** to a scenario in which Shake Shack adopts automation technology expected to be widely available in the midterm:

DISPLAY 9

Value Creation and Stakeholder Value Capture

Insights from Consilient Research



Source: Morgan Stanley Investment Management Counterpoint Global, Shake Shack, Inc., Revelio Labs. Illustrative as of 12/31/2023. Company discussions are for informational purposes only and should not be deemed as a recommendation to buy or sell the securities mentioned or in the sectors shown above. The views, opinions and estimates are subject to change at any time due to market, economic, or other conditions, and may not necessarily come to pass.

Starting at the bottom right of *Display 9*: with automation, the labor required per meal could **drop from 11 minutes to 6 minutes**. In this scenario, Shake Shack could **raise wages by 33% to $24 per hour**, **reduce the meal price by $0.50**, and **still increase restaurant-level margins from 20% to 25%**. If willingness to pay remains constant—when it could even increase due to faster food preparation—consumer surplus would **rise from $8.50 to $9.00**, company profit would **increase from $2.30 to $2.70**, and supplier surplus would **grow from $1.10 to $1.20**.

While some companies may distribute the added economic surplus equitably among customers, shareholders, labor, and suppliers, we believe that a company's position in its lifecycle will be a key factor in determining how surplus is allocated among these stakeholders. To systematically assess the allocation, we apply a second Consilient Research framework: Dynamic Life Cycle Analysis.[11]

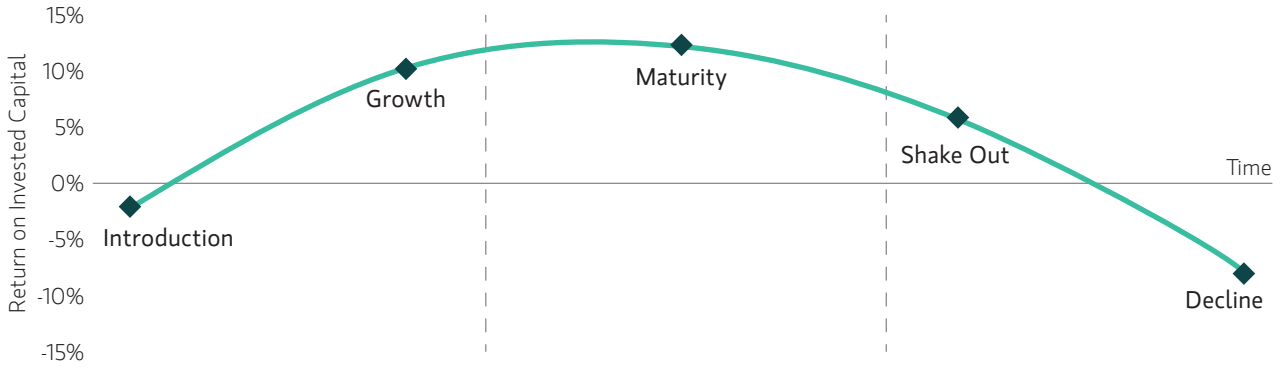
Dynamic Life Cycle Analysis

Investors commonly assume that age determines where a company is in its lifecycle, from inception to maturity. However, our Dynamic Life Cycle Analysis reveals that reality is more nuanced and interesting. Building on the work of Professor Victoria Dickinson (University of Mississippi), Consilient Research's approach integrates classic categorization of stages with investment patterns as they appear on a company's statement of cash flows. This methodology demonstrates that companies do not progress through life cycle stages in a strictly linear fashion, instead they can revert to earlier stages when new opportunities arise.

DISPLAY 10

Capital Allocation and Strategy Over Company Life Cycle

Insights from Consilient Research - Dynamic Life Cycle Analysis and Industry Structure and Strategic Opportunities



	ACT I – INTRODUCTION + GROWTH		ACT II – MATURITY	ACT III – SHAKE OUT + DECLINE	
% of Russell 3000 Sample	46.2%		35.3%	18.5%	
ROIC	-3.1% Intro	+10.5% Growth	+11.3%	+3.9% Shake Out	-11.8% Decline
Growth Rate	+12.4% Intro	+12.4% Growth	+7.4%	+5.1% Shake Out	+5.8% Decline
Industry Structure + Strategic Opps	Emerging / Fragmented / Network		Mature	Declining	

Source: Morgan Stanley Investment Management Counterpoint Global, FactSet. Illustration is hypothetical and provided for informational purposes only. For further information see "Trading Stages in the Company Life Cycle" at www.morganstanley.com/im/en-us/financial-advisor/insights/articles/trading-stages-in-the-company-life-cycle.html. Note: Universe is the Russell 3000 excluding financial and real estate sectors. ROIC=return on invested capital; nominal sales growth for next 3 years, annualized. Growth Rate = nominal sales growth for next 3 years, annualized. The views, opinions and estimates are subject to change at any time due to market, economic, or other conditions, and may not necessarily come to pass.

[11] https://www.morganstanley.com/im/publication/insights/articles/article_tradingstagesinthecompanylifecycle.pdf

Once companies are classified within the appropriate life cycle stage, we can analyze attributes such as return on invested capital (ROIC), and sales growth rates (see *Display 10*). We then map these lifecycle categories to **Consilient Research's Industry Structure and Strategic Opportunities Framework** (drawing on insights from Gaining and Sustaining Competitive Advantage by Jay Barney, Competitive Strategy by Michael Porter, and Strategies for Declining Businesses by Michael Porter and Kathryn Harrigan).

By combining these frameworks, we categorize companies into three acts: **Act One** – Introduction and Growth; **Act Two** – Maturity; and **Act Three** – Shakeout and Decline.

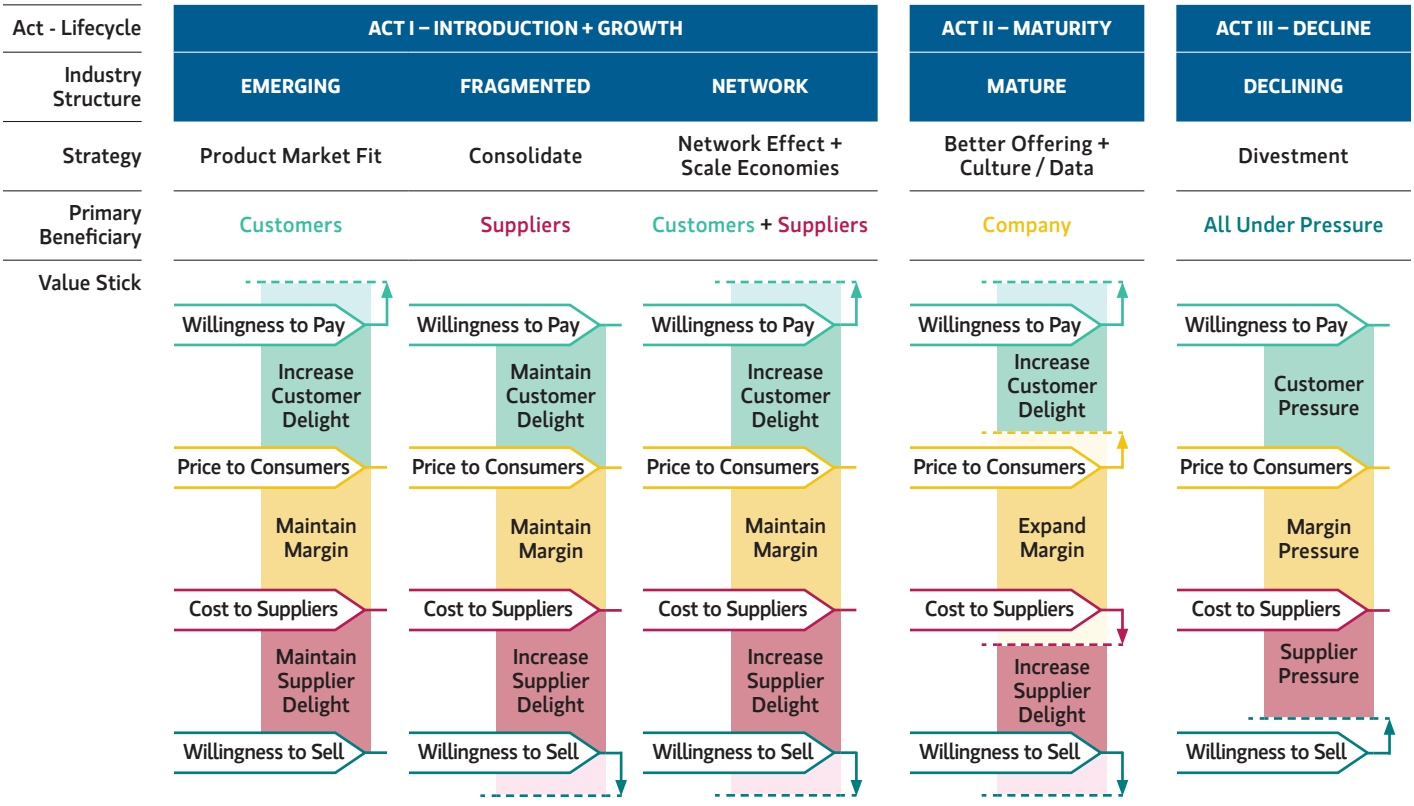
Within **Act One**, we apply fundamental research and further classify companies into three industry typologies: **Emerging, Fragmented and Network**. These categorizations allow us to estimate how surplus value might be distributed among customers, shareholders and suppliers. For example, Emerging Growth businesses prioritize finding product-market fit, leading to a larger share of surplus being allocated toward increasing consumer surplus, either through lower prices or improved product quality (see left column of *Display 11*).

In contrast, mature companies leverage their scale to enhance customer offerings and reduce costs, while gradually expanding operating profit margins. This economic logic underpins concepts such as "Scale Economies Shared," which has been central to the success of companies like Costco, a warehouse club retailer. Additionally, companies in the Act One and Act Two stages may reinvest some of their efficiency gains into employee development and compensation. Our first Culture Quant analysis found a positive correlation—likely causal—between employee retention and share price out performance.[12]

DISPLAY 11

Adapting Consilient Research Industry Structure and Strategic Opportunities

An Approach to Estimate the Allocation of Economic Surplus

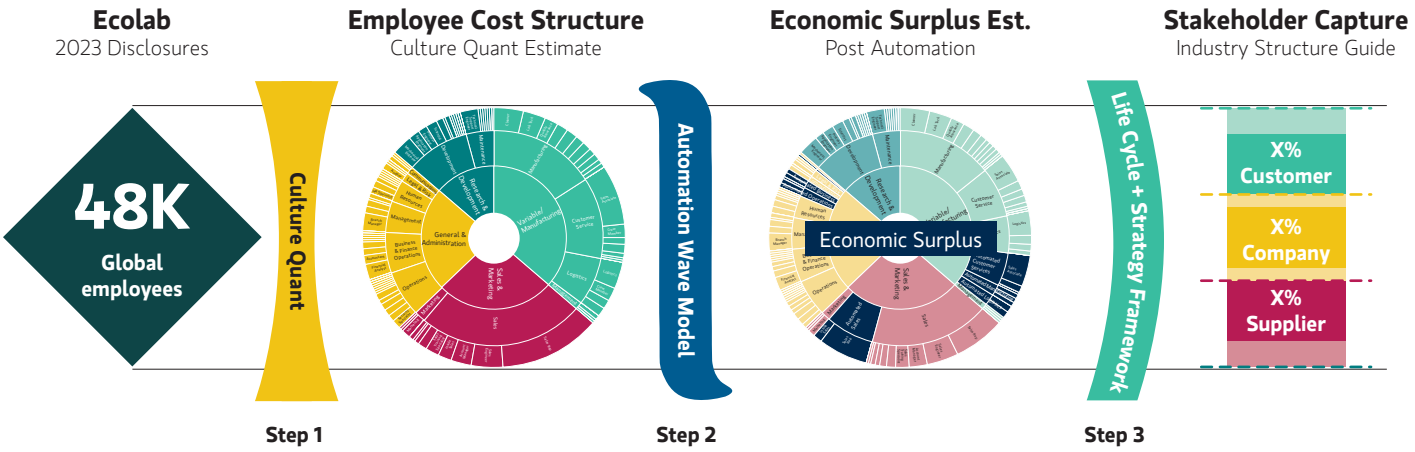


Source: Jay B. Barney, Gaining and Sustaining Competitive Advantage-4th Ed (London, UK: Pearson Education, 2013), 84; Michael E. Porter, Competitive Strategy: Techniques for Analyzing Industries and Competitors (New York: The Free Press, 1980); and Kathryn Rudie Harrigan, Strategies for Declining Businesses (Lexington, MA: Lexington Books, 1980).

[12] https://www.morganstanley.com/im/publication/insights/articles/article_culturequantframework_us.pdf

DISPLAY 12

Summary – Estimating Automation Economic Surplus Stakeholder Allocation



Source: Morgan Stanley Investment Management Counterpoint Global, Ecolab Inc., Revelio Labs. Data as of September 2024.

In summary, our process enables us to move from opaque and uninformative company disclosures to a clearer understanding of employee cost structures. By doing so, we can estimate a company's efficiency gains from adopting automation technology and assess how that surplus may be distributed among customers, shareholders, and suppliers.

We estimate that **if the 1,000 largest public companies automated away half of their roles with a "high probability of automation", it would result in 1.7 million fewer jobs—enabling companies to reduce labor costs by $207 billion annually.** Note, these estimates do not account for the cost of implementing technologies, do not specify a time frame, nor factor in the growth expectations of these companies. Instead, they are intended to provide a sense of scale regarding how these technologies might reshape the corporate landscape.

Using our surplus allocation framework across the index of the 1,000 largest public companies, we estimate that customers will capture $72 billion in savings through lower labor and supply costs, suppliers will capture $48 billion, and companies will retain the remaining $87 billion in surplus as incremental profit. **If companies capture $87 billion in efficiency gains—expanding profits from $1,828 billion to $1,915 billion—it would represent a 5% increase in the operating EBIT profit pool for the combined group.**

However, efficiency gains are not expected to be evenly distributed, as we estimate that certain companies and industries will be more significantly impacted. For the top 25% of companies in terms of estimated efficiency gain capture, the profit pool is projected to expand by 16%, increasing from $311 billion to $361 billion. While the aggregated statistics provide useful directional insights, we believe the more valuable research will focus on analyzing these changes at the company-specific level.

Part IV – How these Insights Contribute to the Portfolio

At Counterpoint Global, we are first and foremost fundamental investors. However, we incorporate quantitative tools, such as Culture Quant, when they can complement our investment process (see *Display 15* for a snapshot of our Culture Quant AI Beneficiaries Dashboard). Our analysis of AI beneficiaries highlights potential margin capture that consensus estimates have yet to fully consider. (See *Display 13* for examples)

DISPLAY 13

Portfolio Impact: Variant Insights

AI Exposure in Tailwinds Strategy

	Process	OPPORTUNITY IDENTIFICATION	ANALYSIS	RISK MANAGEMENT
Sector Expertise:	Sample Tailwinds Holdings	**AI Enablers and Infrastructure Growth:** **ASML Holdings (ASML)** Arms race of chip makers + geopolitical driven "friendshoring" **Itron (ITRI)** AI Datacenters driving energy demand, need smarter grid for dynamic pricing	**Moat Strengthened by Emerging Technology** **Waste Connections (WCN)** Utilizing more automation in waste sortation makes WCN preferred acquirer **Axon Ent. (AXON)** Data-moat from police body cams increases efficiency and network effects	**Permanence: Difficulty to Disrupt** **Union Pacific (UNP)** Material efficiency gains through automation (33k tie unloads from 10 days to 6 hours) **Ecolab (ECL)** Enables safety and resource efficiency in traditional sectors via 26k field associates
Differentiated Research Pillars:	Sample Tailwinds Holdings	**DCR: New Disruptive Company Formation** **Aurora (AUR)** Self-driving truck platform and ecosystem—increase fixed asset utilization + safety **Symbotic (SYM)** Robotics for warehouses automation (being deployed in 42 WMT Warehouses)	**SR: Culture Quant – Out of Consensus Margin Capture** **Cintas (CTAS)** Utilizing automation in centralized cleaning facilities and sales technology for cross-selling **Shake Shack (SHAK)** Utilizing automation in stores to increase throughput efficiency, labor utilization and upsell	**CR: Disrupting GICS Exposures with ML** **SCIG – Systematic Clustering Investment Exposure Groupings** Utilizing advancements in Machine Learning (ML) to group companies by similarity versus primary end-market

CQ: AI Econ Surplus

Source: Morgan Stanley Investment Management Counterpoint Global. Company discussions are for informational purposes only and should not be deemed as a recommendation to buy or sell the securities mentioned or in the sectors shown above.

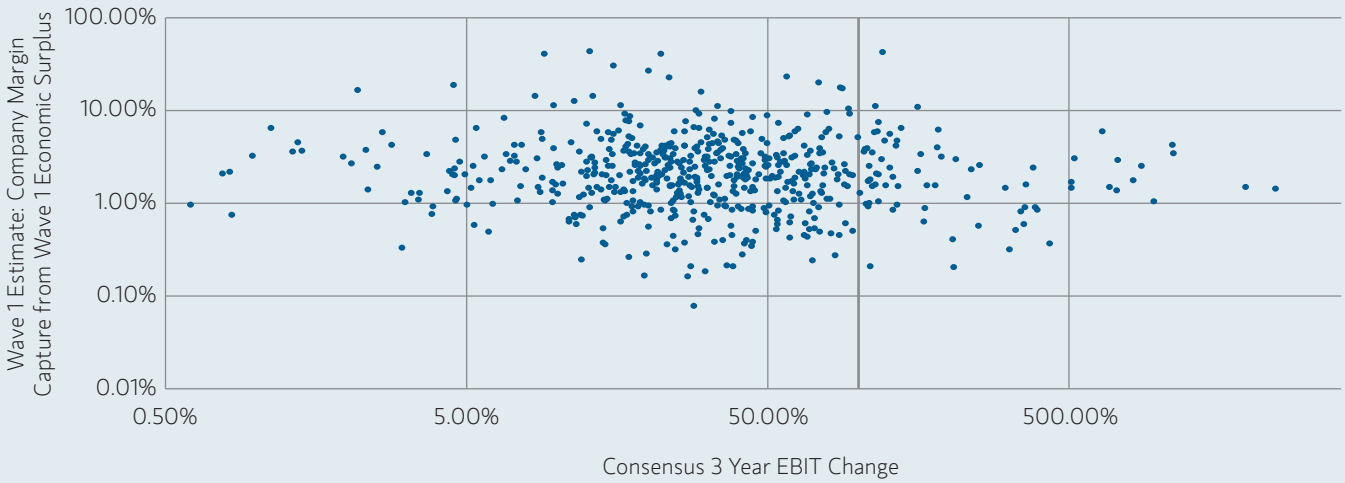
Culture Quant AI Dashboard

Below is a screenshot of the Culture Quant AI Beneficiaries dashboard. This interactive tool provides an estimate of margin expansion at the company level versus the consensus operating profit margin growth estimate over the next three years. Investors can dive into specific companies to explore its margin expansion across different role categories and analyze the percentage of operating costs potentially reduced through automation. This dashboard was developed by MSIM's sustainability tech and data team visualizes over 23 million data points from the analysis.

DISPLAY 14

Culture Quant

Labor & AI/Automation



Source: Morgan Stanley Investment Management Counterpoint Global, FactSet, Revelio Labs. Data as of September 2024.

Part V – Broader Societal Implications

Starting in 2019, we launched Culture Quant as part of our Sustainability Research to explore a "social" topic where profits and purpose align. From an investment and profitability perspective, we recognized that company culture is a critical driver of intangible value creation—such as intellectual property—which has become an increasingly important component of enterprise value. At the same time, from a purpose-driven perspective, we believed that companies that retain and empower employees as key stakeholders not only create economic opportunities, but also strengthen their long-term business resilience and competitive advantage.

At the same time, we observed that many other investors approached "social" research in a more qualitative and reductive manner—primarily by identifying risks and excluding companies from their investment universe. Culture Quant, however, takes a quantitative and additive approach. We believe that systematically identifying companies with strong cultures can serve as a valuable signal for investment opportunity.

Our initial studies identified win-win scenarios that benefited both companies and their employee stakeholders. This research provided a compelling case that higher employee retention was correlated with—and potentially caused—better stock price performance. This financial justification strengthened the case for expanding employee-centric initiatives.

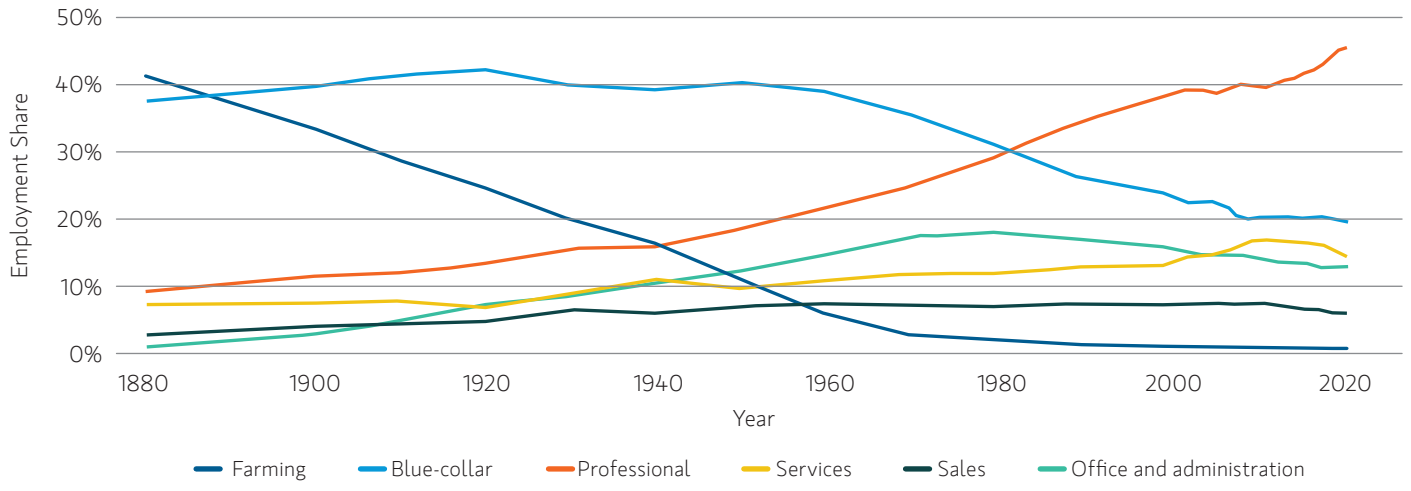
The current study of AI beneficiaries is more complex than our analysis of employee retention, as it introduces tensions between customers, shareholders, and suppliers (with employees being the most important group within the supplier category). While AI adoption can drive efficiency, it can also significantly reduce the number of people employed in specific roles. We are not making a judgement on whether companies should or should not adopt AI, but we believe the technology is already here—or will be imminently—and that we have a responsibility to explore its potential economic impact.

There is a possibility that labor markets will adapt to this new reality, as they have in the past. A recent paper, "Technology Disruption in the U.S. Labor Market," by Professors David Deming, Christopher Ong, and Lawrence Summers, examines the historical shift from an agricultural to a manufacturing economy as a precedent. They write:

> *"At the dawn of the twentieth century,* ***40 percent of U.S. employment was in agriculture, compared to less than 2 percent today****…even though employment in farming fell rapidly during the early twentieth century, agricultural output continued to rise rapidly as it became highly mechanized. The same technology that enabled mechanization of farming also increased the productivity of factory work, enabling new process improvements like assembly lines and creating new jobs."*[13]

DISPLAY 15

Changes in the occupation structure of the US labor market, 1880-2024[14]



Source: www.economicstrategygroup.org/wp-content/uploads/2024/10/Deming-Ong-Summers-AESG-2024.pdf

[13] https://www.economicstrategygroup.org/wp-content/uploads/2024/10/Deming-Ong-Summers-AESG-2024.pdf

[14] Notes: Calculations are based on decadal US census data from 1880 to 2000 (except for 1890) and 2001-2022 American Community Survey (ACS) samples (except for 2020), sourced via the Integrated Public Use Microdata Series (IPUMS) (Ruggles et. al. 2024). Occupations are harmonized across decades to two-digits SOC codes using the IPUMS occ 1950 encoding and methodology used in Autor and Dorm 2013. Samples are restricted to workers aged 18 to 64 non-institutional quarters who provide nonmilitary occupational responses.

One key difference between past technology evolutions and the current AI-driven transformation is the rate of change. Advances in AI and automation are occurring over weeks and months, rather than years and decades. This creates an opportunity for further research on reskilling, upskilling, and wage management strategies as society navigates these changes.

Counterpoint Global aims to be a hub for innovative ideas, and we are developing tools to identify strategies that benefit both people and businesses. For example, we created a new way to quantify "internal mobility", identifying companies with cultures that promote junior employees into middle management. We found a positive correlation between this signal and stock price performance under certain conditions.

We are now designing a study to identify companies with high "horizontal mobility"—a propensity to provide employees with new skills that enable them to transition to different roles. To advance this research, we are partnering with other institutions with a specific focus on "the role of the asset owner in the creation of good jobs in the age of AI."

Risk Considerations

There is no assurance that a Portfolio will achieve its investment objective. Portfolios are subject to **market risk**, which is the possibility that the market values of securities owned by the Portfolio will decline and that the value of Portfolio shares may therefore be less than what you paid for them. Market values can change daily due to economic and other events (e.g. natural disasters, health crises, terrorism, conflicts and social unrest) that affect markets, countries, companies or governments. It is difficult to predict the timing, duration, and potential adverse effects (e.g. portfolio liquidity) of events. Accordingly, you can lose money investing in this Portfolio. Please be aware that this Portfolio may be subject to certain additional risks. In general, **equities securities'** values also fluctuate in response to activities specific to a company. Investments in **foreign markets** entail special risks such as currency, political, economic, market and liquidity risks. The risks of investing in **emerging market countries** are greater than risks associated with investments in foreign developed countries. **Privately placed and restricted securities** may be subject to resale restrictions as well as a lack of publicly available information, which will increase their illiquidity and could adversely affect the ability to value and sell them (liquidity risk). **Derivative instruments** may disproportionately increase losses and have a significant impact on performance. They also may be subject to counterparty, liquidity, valuation, correlation and market risks. **Illiquid securities** may be more difficult to sell and value than public traded securities (liquidity risk).

Branch, Große Gallusstraße 18, 60312 Frankfurt am Main, Germany (Gattung: Zweigniederlassung (FDI) gem. § 53b KWG). **Denmark**: MSIM FMIL (Copenhagen Branch), Gorrissen Federspiel, Axel Towers, Axeltorv2, 1609 Copenhagen V, Denmark.

MIDDLE EAST

Dubai: MSIM Ltd (Representative Office, Unit Precinct 3-7th Floor-Unit 701 and 702, Level 7, Gate Precinct Building 3, Dubai International Financial Centre, Dubai, 506501, United Arab Emirates. Telephone: +97 (0)14 709 7158).

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