Shevany Moharir

Shaping the Future of Work:

Competing Interests in Automation in the U.S. Labor Force

Introduction

In the last decade, artificial intelligence (AI) and automation have fundamentally shifted the dynamics between employers and employees. In 2012, Amazon utilized around 1,000 robots in their warehouses. By 2023, however, that number had increased to over 750,000 robots, causing the company to reduce its workforce in logistics (Greenawalt, 2024). It is not only Amazon and the logistics sector that are affected. Businesses across sectors are automating too as a cost control measure. With automation offering companies with possibilities for economic development and innovative ideas, it leaves organizations less interested in issues regarding curtailing job opportunities, fair wages, and exercising social responsibility, leading to most workers who lose their jobs receiving little help finding new employment. The issue is not simply that automation eliminates jobs, but that current labor protections enable companies to maximize profits while leaving their employees behind.

Automation itself is not inherently good or bad, but its impact depends on how it is implemented and controlled. In countries with strong labor legislation, automation adoption is accompanied by worker retraining initiatives along with policies safeguarding the economic well-being of workers. American labor policies tend to lag behind, leaving workers more vulnerable to the risk of job loss. The impact of automation varies by industry, and manufacturing and logistics are two prominent examples of its social and economic consequences. General Motors (GM) and Amazon provide representative case studies on how different industries adapt to automation and handle, or fail to handle, its impact on workers. This paper examines the shifting dynamics between AI and labor, specifically in manufacturing and logistics. The literature review synthesizes previous studies on corporate automation policy, labor market trends, and international policy responses and offers a framework for understanding regional approaches to the transition. The methods section then explains the qualitative and quantitative data sources used to ascertain the economic and social impacts of automation. By contrasting GM and Amazon, the report analyzes the various ways in which automation reshapes work, pay, and worker protection, and sheds light on both broad trends and sector-specific concerns. Automation has clear economic benefits, but its effect on workers is largely dependent on how companies and policymakers manage this shift. Ultimately, the goal of this research is to examine how stronger labor policies such as mandatory retraining policies and wage insurance could balance the rewards of automation against its social costs.

Literature Review

Research on the economic drivers of automation suggests that companies justify automation primarily through efficiency gains, cost reductions, and long-term profitability. Acemoglu and Restrepo (2020) argue that automation increases firm productivity but reduces labor demand, particularly for routine jobs. This highlights a core challenge in automation adoption, where corporate gains often come at the expense of workforce stability. Similarly, Bessen (2019) finds that though automation restructures employment patterns rather than eliminating jobs entirely, job loss is inevitable in the restructuring process, directly impacting both GM's manufacturing workforce and Amazon's logistics operations in different ways. In terms of workforce displacement and inequality, automation disproportionately affects low- and mid-skilled workers, leading to wage suppression and economic instability. Muro et al. (2019) highlight that 25% of U.S. jobs are highly susceptible to automation, with manufacturing and logistics among the most affected sectors. This vulnerability is particularly relevant to GM and Amazon because both operate in these vulnerable industries, though their approaches to managing this transition differ significantly. Labor unions warn that automation increases job instability and competition among workers (IAMAW, 2023), a crucial counterpoint to corporate narratives about automation's benefit, framing the analysis of power dynamics between these corporations and their workers.

It is important to understand the different reasons behind incorporating AI into business models across different industries in order to analyze how GM and Amazon justify their automation efforts to both shareholders and the public. Manufacturing focuses on efficient means of production, while logistics emphasizes streamlining operations. For example, GM presents automation as the key to innovation in vehicle production, explaining that it reduces human error and increases output (General Motors, 2023). This justification focuses on quality, and represents a common narrative in manufacturing automation that overlooks employment risks. On the other hand, Amazon uses robotics and AI in warehouses to maximize logistics efficiency but increases temporary employment and worker surveillance (Yu, 2024). This dual impact of technological advancement and labor uncertainty exemplifies the complex tradeoffs of this problem. Thus, government policy responses to automation vary in their economic consequences, with some focusing on retraining initiatives and others simply leaving workforce transitions to the will of the market. Muro et al. (2019) argue that without effective policy interventions, automation could increase income inequality. The International Labor Organization calls for policies that balance technological progress with labor protections (ILO, 2021). These policy considerations will be central to analyzing how regulations influence corporate automation decisions. These

studies provide a foundation for understanding how automation transforms labor markets and why corporate automation strategies often prioritize efficiency over employment stability.

In order to explore these dynamics, this research employs Sociotechnical Systems (STS) Theory, which captures the adoption of a technology within social, economic, and organizational contexts, rather than its mere cost efficiency. This framework allows the research to shift from considering automation as an inevitable outcome of technological progress to viewing it as a strategic choice incorporated into current social and economic structures. This includes an analysis of corporate profitability goals such as cost-cutting, operational efficiency, and competitive markets; labor relations, such as union activity and worker displacement; and economic policy measures like state support and labor protections. Analyzing STS theories can help us better understand why GM and Amazon deploy different automation policies when they both operate within the same economy. Overall, STS Theory clarifies why automation is not simply a matter of technological progress but rather a decision made by corporations guided by the surrounding government and market conditions.

Further, the Political Economy of Labor framework considers power balances between corporations and workers when automation is being determined. This critical lens emphasizes power inequality in making technological decisions and how that shapes the design and implementation of technology in a way that typically favors capital over labor. It asks why automation prioritizes capital accumulation, including increasing corporate profits and/or reducing labor cost, over worker stability, including job security and/or fair wages (Braverman, 1974). The framework provides analytical tools for how corporate narratives regarding the benefits of automation may downplay the reality of changing labor relations in a way that negatively affects workers. The framework will specifically lend itself to examine union

pushback to GM's automation replacing production workers, and Amazon's warehouse automation activities which increase efficiency but create unstable, lower-wage employment. The Political Economy of Labor framework contextualizes the impact of automation by considering the power dynamics between corporations and workers, and how those dynamics influence labor policy and worker structures. Combining these frameworks offers a lens for examining how automation benefits corporations and often undermines worker protections and job security.

Methods

This study uses a comparative case study of GM and Amazon to understand automation strategies in two large industries, manufacturing and logistics, respectively. It will consider GM's and Amazon's automation strategies since 2010, a period when both companies greatly expanded their use of robots and AI technologies, highlighting the accelerated adoption of advanced automation in both industries and enabling the study to shed light on common trends and emerging issues. The comparative case study will allow for consideration of industry-specific economic costs and benefits, as well as workforce displacement implications. By recognizing differences related to automation between both manufacturing and logistics, this study can better identify both general corporate automation strategies, as well as industry relative differences, that have both positive and negative outcomes for affected workers. In both case studies, the corporate analysis will identify relevant themes regarding each company's justification for workforce automation in terms of cost efficiency and market competitiveness, worker retraining and preparation as a mitigation strategy, and the productivity and innovation patterns. Overall, the studies will identify common rationales in corporate decision-making regarding workforce changes across industries.

Data collection includes primary sources such as corporate reports, investor statements, press releases, public statements from both GM and Amazon, and policy documents from labor unions such as IAMAW and trade groups. Secondary sources include academic studies on automation's impact on labor markets, government reports, and think tank papers that contextualize the broader economic and regulatory factors affecting automation trends. First, corporate justifications for automation will be identified, focusing on recurring themes such as cost reduction, efficiency, and global competitiveness. Second, labor responses will be examined, comparing differences in job loss, working conditions, and wage trends between the two industries. Finally, policy implications will be assessed by evaluating how labor regulations, or lack thereof, have influenced automation adoption and labor market stability in the U.S. By integrating qualitative document analysis with economic and labor data, this research aims to reveal the structural forces driving automation adoption and its consequences for workers.

Analysis

The impact of AI and automation on job markets influences how companies make decisions, how our economy is structured, and government policies, with a focus on efficiency and profits rather than worker stability. As companies introduce automation into the workplace, the effect on workers depends on industry-specific labor needs, company strategies, and government regulations. Manufacturing and logistics are two industries that make widespread use of automation and have come to be reliant on it, therefore providing a good point of comparison in observing how automation affects jobs differently across sectors. Corporations

argue in favor of automation as it creates new opportunities by moving workers into higher-skilled positions, while labor groups point out that AI can make jobs less secure and keep wages from growing. By looking at GM and Amazon, two leading companies that have heavily invested in automation, this analysis explores how corporate strategies affect working conditions, and whether automation's economic benefits are worth its downsides. STS Theory and the Political Economy of Labor framework outline not just the impacts of automation but also why these patterns continue despite their negative impacts on workers.

Corporate Automation Strategies and Their Labor Impact

GM uses automation to improve production efficiency, lower costs, and create better products. GM has invested heavily in AI-driven and robotic production, maintaining that automation "enhances operational efficiency and ensures long-term competitiveness" (General Motors, 2023). They argue it removes human error, speeds up production, and maintains product quality. This approach, however, has caused extensive job losses and opposition from labor unions. The U.S. Bureau of Labor Statistics (2022) reports auto manufacturing employment has fallen by 30% since the 1990s, citing automation as a leading cause. The International Association of Machinists and Aerospace Workers (IAMAW) has criticized GM's strategy and argues that it cares more about profits than jobs. The labor union estimates that for every 200 robots introduced, approximately 100,000 human jobs are lost (IAMAW, 2023), leading to devastating economic consequences for local communities. GM's plan exposes how when regulations are weak, companies favor profits over jobs. Their focus on competitiveness masks a profound power imbalance where workers' interests are secondary to shareholder profits. The STS framework helps explain why GM takes this path despite external risks. The company operates in a system that rewards short-term efficiency gains and doesn't hold companies accountable for how they affect its workforce. So while GM benefits financially from automation, local economies suffer because job losses reduce consumer spending and increase dependence on unemployment benefits. This outcome isn't an inevitable effect of automation, but rather it results from specific social and regulatory conditions that fail to balance technological advancement with social welfare. GM's automation strategy shows how corporations prioritize productivity and cost-cutting over their employees. Thus, while automation improves efficiency, implementing it without adequate worker protections has caused economic hardship for affected workers and communities.

Amazon's automation strategy is designed to streamline logistics, improve the efficiency of deliveries, and lower the cost of operations but has also created precarious, high-turnover employment. Amazon presents automation as a way of operational efficiency rather than directly cutting costs through layoffs, but its approach has increased job insecurity and unstable employment. Amazon employs more than 750,000 robots in their warehouses, maintaining that automation makes warehouse operations more efficient and reduces shipping time (Greenawalt, 2024). Unlike GM, Amazon does not replace workers directly with AI, but instead, they redirect employees into alternate roles to work alongside these automated systems. These roles, however, are often temporary and lower-paying (Muro et al., 2019). The U.S. Department of Labor (2023) reports that Amazon warehouse employment has over 100% turnover per year, which implies most workers resign within one year due to low wages, high-pressure working conditions, and minimal job security. Its high turnover and lack of long-term job security mean that even though automation here does not directly replace its employees, it instead reshapes them into less stable, lower-paid jobs, challenging the long-term sustainability of its labor model.

From the Political Economy of Labor framework, Amazon's approach represents a sophisticated evolution in how capital relates to labor, where jobs aren't eliminated but transformed in ways that further reduce worker bargaining power and increase instability. This evolution is particularly concerning because it creates the appearance of job creation while actually weakening workers' position. So, while Amazon creates the image that AI has helped create thousands of new jobs, the reality is that many of these positions lack stability and long-term career growth opportunities (Muro et al., 2019). Thus, Amazon's automation strategy, despite focusing on logistics efficiency rather than directly displacing workers, still contributes to labor instability.

Systemic Factors Enabling Corporate Automation Priorities

The economic impact of automation varies by industry, but in both manufacturing and logistics, weak labor policies allow corporations to prioritize profits over workforce stability. McKinsey (2023) reports that companies investing heavily in automation have seen productivity gains of up to 40%, with profits rising proportionally. Despite these financial gains, workers see little benefit, as these profits are rarely redistributed as higher wages or job security. The U.S. Bureau of Labor Statistics (2022) notes that while automation has created more high-skill jobs in AI and robotics requiring a certain threshold of educational attainment that is not always equitable, it has also led to fewer middle-skill jobs, worsening wage inequality. This shift has resulted in job polarization: low-wage positions remain plentiful while stable, middle-class jobs continue to disappear, creating more economic instability for many workers. The STS framework

shows how automation decisions exist within complex social, economic, and regulatory systems that currently favor corporate interests. In the U.S., shareholder primacy norms encourage companies to prioritize short-term profits over other considerations. The idea of financial loyalty between firms and their clients often justifies cost-cutting that benefits shareholders, even when hurting an organization's own employees. As Braverman (1974) argued through the Political Economy of Labor framework, the pursuit of automation reflects capital's ongoing drive to control the labor process and increase profit extraction, a structural feature of the economic system rather than simply individual corporate choices.

In response to these challenges, the U.S. Department of Labor (2023) has attempted to create workforce retraining programs to help displaced workers find new roles. However, few workers participate because these programs are often too expensive and many people don't even know they exist. Other countries with stronger worker protections have policies that protect jobs during automation transitions. For example, in Germany, companies deploying automation must invest in worker retraining, helping displaced employees learn new skills and stay employed (ILO, 2021). This shows that a company's response to automation isn't fixed but shaped by regulations and social expectations. Since U.S. companies aren't required to support their workers through these transitions, it leads many vulnerable workers to lose their jobs with no clear path forward. This difference isn't just because of market competition, since German manufacturing companies face the same global pressures but operate differently. The real difference comes from each country's social and economic systems. Germany has stronger worker representation in company decisions, better social safety nets, and different cultural expectations about corporate responsibility. These factors create different incentives when making automation decisions. As a result, in Germany, automation's benefits aren't mostly going

to corporations, and workers and communities don't bear as much of the cost. Without stronger government action in the U.S., automation will continue to mostly benefit companies while hurting workers.

Corporate Strategies Persist Despite Social Costs

Given the clear social costs of current automation approaches, there remains a question of why market forces or public pressure don't correct these imbalances. The Political Economy of Labor framework provides crucial insight: the power imbalance between capital and labor has grown increasingly asymmetrical as union density has declined, falling from 20.1% in 1983 to 10.1% in (U.S. Bureau of Labor Statistics, 2022). This declining countervailing power means corporations face minimal pressure to share productivity gains with workers or consider community impacts in their automation decisions. Additionally, STS Theory helps explain why technological implementation follows patterns that favor capital: technology is not neutral but designed and deployed in ways that reflect existing power structures. In both GM and Amazon's cases, automation technologies are specifically engineered to increase management control over the production process while reducing reliance on worker knowledge and discretion, akin to the pattern Braverman (1974) identified in his critique of scientific management. The technologies themselves embed values of efficiency and control rather than worker empowerment or community welfare. In this context, GM and Amazon's automation strategies are not surprising deviations from expected corporate behavior but rather predictable responses to the incentives and constraints they face. The question is not why these companies prioritize profit over workers, but rather why our sociotechnical and political-economic systems permit and encourage this prioritization despite its documented social costs.

Conclusion

This research has transformed our understanding of AI and automation by revealing it not as an inevitable technological force but as a socially constructed process shaped by power dynamics and corporate interests. This began by questioning the popular narrative that automation's negative impacts on workers are unavoidable consequences of technological progress. A thorough analysis of GM and Amazon established that automation's effects vary significantly by sector and are determined by specific sociotechnical systems rather than technology itself. Applying the Political Economy of Labor framework alongside STS Theory has demonstrated that automation serves as a tool that reinforces existing power structures, enhancing corporate control over production processes while often undermining worker security. The comparative case study analysis reveals how the current trajectory of automation reflects choices made within particular regulatory environments and corporate governance structures, which are choices that consistently prioritize profit over worker welfare.

There are important takeaways here for policymakers and corporate leaders dealing with technological changes. Policymakers can use these findings to create better strategies for managing AI that balance new technology with people's well-being. Instead of seeing automation as something out of their control, they can develop industry-specific regulations that set standards for implementing automation responsibly. Corporate leaders should rethink their automation approaches, noting that the German model shows how investing in retraining workers can lead to better long-term results. Labor organizations can use these findings to push for greater representation in corporate decision-making, making sure workers' perspectives are considered when automation decisions are made. Future research could look at successful cases where automation has helped both a firm's productivity and its workers. This could include

studying how automation impacts different regional labor markets, comparing how various countries govern automation, and examining the psychological and social effects when people lose jobs to AI. Another important area to explore might be alternative corporate ownership models that better align technological innovation with broader social welfare.

The challenge isn't about stopping technology from advancing but about changing how we handle automation. By improving worker protections, putting money into retraining programs, and creating corporate structures that include more voices, we can use automation to increase shared prosperity instead of undermining it. Understanding that AI is a choice rather than something that is inevitable opens up new possibilities for developing technology that serves everyone's interests and reflects what we value as a society and our ability to make different choices.

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