

Chapter 6

Cybersecure Futures: Bridging AI, Employment, and the Digital Divide

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ABSTRACT

This qualitative study, employing a literature review and case study design, investigates the complex interplay between minimum wage policies, STEM field transitions, and the digital divide. It examines how these factors influence employment dynamics and economic stability. It focuses on the barriers displaced workers face in accessing STEM education and employment, exacerbated by inadequate digital infrastructure in underserved areas. The research highlights the economic and technological impacts on workers, emphasizing the need for adaptable policies and support systems. The study proposes targeted interventions to foster a more inclusive workforce and resilient economy by addressing research gaps. The findings underscore the significance of integrating digital literacy, tailored educational programs, and robust mental health support into policy frameworks. This research provides actionable insights for policymakers, educators, and industry leaders to mitigate economic disparities and enhance workforce adaptability.

INTRODUCTION, PROBLEM, AND INDUSTRY CHALLENGES

This research is driven by the urgent need to address the complex interplay between minimum wage policies, STEM field transitions, and the digital divide, which significantly influence employment dynamics and economic stability. The introduction of minimum wage legislation aims to address income inequality

DOI: 10.4018/979-8-3693-8562-3.ch006

and enhance living standards (Clemens & Wither, 2019). However, the economic landscape presents complexities where such well-intended policies often lead to unintended consequences, including layoffs, job displacements, and exacerbated income inequality. According to a report by the U.S. Congressional Office (2024), increasing the minimum wage would lead to higher employment costs for low-wage workers. Consequently, this could prompt some employers to reduce their workforce compared to what would be expected with a lower minimum wage.

Additionally, research indicates that sudden wage hikes may force small businesses to downsize or close altogether, further contributing to job insecurity and economic instability (Lefebvre, 2024). These outcomes can inadvertently widen the income gap, as those who lose employment or cannot find jobs are left worse off despite the policy's intention to improve living standards (Clemens & Wither, 2019). Therefore, it is crucial to carefully consider and implement minimum wage policies alongside supportive measures that mitigate these adverse effects and promote equitable economic growth (Clemens & Wither, 2019; Lefebvre, 2024).

STEM education and employment are increasingly recognized as potential solutions for displaced workers in a job market that demands technological and scientific skills. Despite substantial investments and educational reforms, interest and enrollment in STEM careers remain low, particularly among underrepresented groups (Chen et al., 2024). This chapter examines how laid-off workers, despite facing challenges such as low STEM interest and enrollment, can transition into STEM fields as a viable solution in a labor market increasingly driven by technology (Chen et al., 2024). Numerous regions worldwide have emphasized the importance of STEM education in advancing global competitiveness and economic growth, highlighting the critical role of these fields in the modern workforce (Arora, 2023).

Another critical challenge is the digital divide, particularly in underprivileged and rural communities, where inadequate internet connectivity and frequent blackouts hinder access to educational resources and online training programs (Brenya, 2023). This barrier is especially significant as it limits the ability of individuals in these communities to fully participate in the digital economy and pursue STEM education and careers (Crawford & Serhal, 2020). Without reliable internet access, efforts to retrain and educate workers are severely compromised, exacerbating existing inequalities and preventing these communities from accessing essential resources and opportunities (Jain et al., 2024).

Internet blackouts further expand the discussion of barriers beyond economic policies to include infrastructural challenges, particularly in underprivileged and rural areas where access to educational resources and online training programs is already limited (Monaco et al., 2024). This issue exacerbates existing inequalities and hinders efforts to bridge the gap between different socioeconomic groups. Just as minimum wage policies may lead to unintended consequences like layoffs, in-

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