



The Causes of Labor Shortage in the United States and Its Impact on the Supply Chain

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Abstract

Recently, there has been renewed interest in the American labor shortage of supply chains. Several studies have documented the labor shortages of the supply chain across the whole industry. However, different reasons and impacts of labor shortages divided specifically into skilled and unskilled workers have not yet to be understood. This study reports on the causes of American labor shortage of skilled and unskilled workers from different perspectives, and the different impacts on the supply chain. A combined qualitative and quantitative methodological approach was used to find and analyze the factors. The finding shows the causes of labor shortages are different between skilled and unskilled workers, each impact of which on the supply chain also differs. The study implies the importance of considering skilled workers and unskilled workers separately to solve the problems of labor shortage in the supply chain. The findings can contribute to a better understanding of labor shortage in the supply chain for two different workers.

Keywords: labor shortage, supply chain, American worker

1.INTRODUCTION

Based on the definition of skilled [1] and unskilled[2] labor, skilled workers are those who have the expertise to perform more complex mental work than regular work, while unskilled workers are those who perform physical work that does not require specialized knowledge. The impact and reasons for both are really different. For skilled labor, although the epidemic made it unlikely for them to work in companies, they can still work from home. However, for unskilled labor, they have to work outside at risk. The population in the US has not shrunk since 2020. So the basic reason for the labor shortage is that people are not willing to go out to work [3]. This paper will focus on the different circumstances skilled and unskilled labor be faced with, find the cause of labor shortage and describe the impact of labor shortage on the supply chain.

2.RESEARCH REVIEW

Both skilled and unskilled workers leave the labor market for different psychological changing reasons. The US saw almost 8 million vacancies for skilled jobs during

the pandemic. Although the situation has eased in recent months and about half of the vacancies have been filled, the problem of job vacancies remains in specific industries such as machinery, transportation and construction [4]. This has been attributed to a trend called "Great Resignation" in the US since the epidemic, which means that many workers are retiring early and finding work-from-home jobs or low-intensity work [4]. A report from Goldman Sachs [5] shows that retirees make up as much as half of a sample of 5 million people in the workforce, while early retirees exceed 1 million. The reason for the "Great Resignation" trend is most likely due to the changes in mindset of people during the epidemic, not only for the skilled workers, but also the unskilled ones. The skilled workers become more family-oriented and Interest-oriented. On the one hand, the closure of childcare centers and nursing homes during Covid-19 forced workers to withdraw from the labor market to take on the responsibility of caring for children or the elderly. In the process of taking care of families, skilled workers may not return to the original workplace after resigning and prefer a telecommuting work [5]. On the other hand, some skilled workers not only left their

original positions, but also started a new job in a completely different field from the one previously in. According to an Indeed survey, 92 percent of the 1,000 people who voluntarily quit more than two jobs since the epidemic said they realized that they had to pursue a job they liked for the brevity of their life [5]. For unskilled workers, there are more health-oriented changes. Many unskilled workers who are no longer willing to take on high-risk work conditions to work and quit jobs to reduce risk of potential infection. Workers will not return to their original jobs until epidemic-related issues are resolved [5].

Since the beginning of COVID-19, people's quality of life, health care, and job opportunities have all been negatively affected. Now the United States faces a huge problem of labor shortage. According to the BLS data, there were 10.9 million job opportunities by the end of July 2021, but only 6.7 million recorded hiring. An increasing number of voluntary departures is exacerbating the discrepancy, with 930,000 people departing in July alone [6]. A skilled labor force is a group of highly trained, educated, or experienced employees to accomplish more complicated mental or physical duties at work. Qualified individuals are generally well trained and have extensive experience [7]. In the United States, the shortage of skilled labor has also become an urgent issue that needs to be addressed. According to a 2018 assessment by the Institute for Manufacturing, 4.6 million manufacturing positions would need to be filled in the United States over the next decade, with 2.4 million jobs expected to go unfulfilled owing to a shortage of educated personnel [8]. The first reason for the skilled labor shortage is that there is a significant deficit in vocational and technical skill formation within education and training frameworks [9]. A skilled labor force needs long-term and technical training to cultivate good workers. Failure to provide suitable training and education will only lead to a less skilled labor force. The second reason is that the rising gap between retired artisans and those entering the labor market is the second factor for the scarcity of tradespeople. According to U.S. Census Bureau figures, about a quarter of the manufacturing workforce is aged 55 and up [10]. As the baby boom generation matures and retires, there aren't enough young people entering the workforce to replace them [10]. The third reason is that people are demanding higher wages and benefits. Lacking enthusiasm for their work, most workers are willing to look for higher-paying, more manageable jobs. Since the outbreak, the U.S. economy has been hit hard, and employers have been more reluctant to raise wages, leading to the loss of a large part of the workforce [11].

Since the Covid-19 pandemic, the supply chain in the US has faced the challenge of labor shortage ceaselessly. The shortage of unskilled labor in particular strikes the supply chain. A typical problem is the shortage of truck drivers. According to the American Trucking

Association (ATA) data, the shortage of truck drivers has risen to 80,000, which is the highest in history. [12] One reason for the shortage is the wage. The inflation rate in the US since 2020 is 11.1%. [13] But the truck driver's average salary just increased from \$55,300 (2020) to \$59,700 (2022), the range of increase is just 7.9%. [14] The inflation caused by Covid-19 resulted in a comparable decline in income, which ended up in the lack of truck drivers. Sometimes, the disorder in ports causes many truck drivers to lack transport capacity. For example, the port of Savannah, the third-largest port in America, is in big trouble. In the container terminal yard of this big port, countless containers were accumulated. The port has accommodated about 80,000 containers, but cargo ships still deliver containers to the port ceaselessly. The chaos in port caused trucker drivers to not be able to get in port and pick up containers in time. [15] The whole supply chain will be delayed. But then, to make matters worse, many truck drivers get paid per mile, the congestion means they cannot do enough loads. Their income declines but they work more hours than before. [16].

3.ANALYSIS

Based on the above analysis, we can understand that due to the influence of various factors, there are a large number of workers in the United States. In some industries, large amounts of the gap is waiting to be filled. According to the research, in the third quarter of 2021, even 74% of small businesses said it was difficult for them to recruit qualified workers, the highest in history. Because of this situation, many companies are competing for employees. [17] According to the survey on the impact of COVID-19 on enterprises, the average wage increased by about 6% in the second and third quarters of 2021, which is twice the increase of wage expenditure of enterprises 10 years ago, which is a huge challenge for enterprise profits. If these problems cannot be solved, they will pose serious risks to the economic growth prospects of the United States in the coming months of 2022. [17] The wages of new employees will continue to grow rapidly. As the cost of living rises, this will increase the wages of workers who continue to work. Overall, higher annual salary increases and special adjustments to retain employees may further increase the company's overall labor costs. Therefore, the lack of manpower in the emerging stage may have a huge impact on the overall industrial layout of the United States, because the lack of various types of talents will have a huge profit impact on various industries in the United States, as mentioned by CNN, and it further affects the national economy.

A lack of skilled labor affects the manufacturing supply chain. Manufacturers' competitiveness is hampered by the loss and unavailability of high-tech skills. Workers are forced to work overtime due to a scarcity of trained personnel, then people's perceptions of

work are changing due to the labor shortage. The quality of applicants is deteriorating. When companies need to get products into production and distribution quickly, they have to find other ways to make products because fewer workers are available with the skills to make them. This resulted in a delay in delivery time [18]. For retailers, the cost of late delivery is huge. The study found that 91% of consumers will change their spending plans, stock up on goods and so on. If a brand is long without goods, consumers will abandon the brand [19].

Supply chain disruption is one of the effects of labor shortages on the supply chain [20]. Labor shortages, particularly of some unskilled workers such as warehousemen or longshoremen, limit the ability of the logistics industry to meet market demand, causing delays in the delivery of goods and services [21]. For example, shipping delays across the United States were caused by the shortage of workers at the Port of Los Angeles who could not unload cargo timely [22]. The supply chain disruptions resulting from shortage of unskilled workers is certainly a heavy blow to the market. The TBOS showed that a whopping 41% of respondents cited supply chain disruptions as a reason for limiting revenue growth in August, an increase of 24 percent from the data of previous month [23]. In addition, supply chain disruptions lead companies to raise the selling price. In August, many companies, which account for over one-third of TBOS, declare increasing selling prices. They make a projection in July that the price received for finished goods or selling price in 2021 would rise by 5.3%, which is higher than the 3.4 percent forecast in December [23].

4. CONCLUSION

This study set out to analyze the reasons and the effects of the labor shortage in the U.S. Generally, it has successfully identified the reasons for the labor shortage, which is inflation, chaos and also health considerations. The second major finding were the effects of the labor shortage in the U.S., which are the decline of manufacturers' competitiveness, the decline of product quality and the increase of product price caused by the increase of cost. However, this study was limited by the absence of the primary research. Due to time and policy constraints, it is difficult for the writing members to obtain first-hand information in the United States in person, but we try to use authoritative and credible articles for research to maximize the accuracy of data and analysis. The problem of employment and labor shortage in the United States is a long-standing problem. To a certain extent, more research is needed to explore more in-depth information.

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