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Research Advisory Report

Your Workforce - the Weakest Link in the Supply Chain

The Importance of Supply Chain and Human Resources Strategy Alignment for Talent Recruitment and Retention

By Bob Ferrari

Managing Director- The Ferrari Consulting and Research Group

Founder and Executive Editor- Supply Chain Matters Blog

Introduction and Purpose

Global supply chains are clogged, with businesses, consumers, and supply chain workers collectively frustrated. Every day media reports provide headlines of supply chain failures. The situation will require additional months (or years) to resolve. There is a growing belief that existing supply chain and talent management processes and technology need a rethink. Talent challenges already existed in many areas prior to the global pandemic. For example, the global shortage and aging population of truck drivers along with the shortage of warehouse workers was widely recognized. At the very top, the need to have supply chain leaders who are business leaders, not just functional experts, and can speak the board's language has been evident for years. The evolution of technology, the growing complexity and performance expectations from supply chains are driving the need to have people who understand data and analytics from multiple angles including, customer behavior, finance, sustainability, etc. Now, post pandemic product demand surges, subsequent cascading, and often consequential global supply chain disruptions, as well as long hours of work under restricted conditions and personal health concerns have led to even more concerning front-line worker shortages. The pandemic has exposed how vulnerable modern supply chains are to the loss of manual workers.

In a three-part series of *Point of View Research Advisories*, *The Ferrari Consulting and Research Group* will address specific supply chain workforce challenges with a special emphasis on how business, supply chain, and human resource management teams can partner on proactive efforts to address workforce performance management, recruitment, and retention.

This initial report focuses on front-line supply chain operational workforce needs and challenges in areas of manufacturing and production, logistics and customer fulfillment, field service, warehousing, and transportation. Subsequent research advisories publishing in the first half of 2022 will address supply chain leadership and strategy, procurement, planning, and decision-making talent challenges. The final report in this series will serve as an overlay to the talent management takeaways from both



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groups, and cover deployment of augmented technology to provide opportunities to overcome workforce talent challenges in supply chain operations and management.

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Multi-Industry Supply Chains Put to the Test

In the first half of 2020, the COVID-19 pandemic rapidly spread across the globe and resulted in public health mandates for populations to stay in their residences or be isolated. The pandemic challenged businesses with unprecedented simultaneous product demand reductions and explosive growth, triggering global supply shocks across many industry sectors. Manufacturers, distributors, retailers, and suppliers were either shutdown or operating with restricted capacity.

Workers deemed essential to economies and maintaining public health supply and services were granted exemptions to continue working. That included many front-line operationally focused warehouse, customer facing, production, field service, fulfillment, and multi-modal transportation focused workers. While supply chain administrative, planning and management teams generally had



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the ability to work virtually from home, those directly involved in physical movement and servicing of essential goods had to adapt to a whole different level of added challenges and personal concerns.

In 2021, a series of cascading manufacturing, logistics and global shipping disruptions contributed to numerous bottlenecks and choke points. Policy changes such as Brexit amplified the shortage of operational staff in certain countries. This led to critical shortages and added worker turnover among required operations such as truck drivers, warehouse, and online customer fulfillment work teams. An additional challenge has been the need to recruit or re-skill staff for an accelerated supply chain transformation and adoption of various advanced technologies such as AI, natural language interfaces, mobile apps, robotics, and IoT.

The need for younger and diverse workers in supply chain operational roles is an added challenge. This is a call to action to business and academic institutions to make supply chain an attractive career choice by increasing the education around supply chain in schools and universities.

Inflection Point- The ‘Great Resignation’ Period

Data provided by the *U.S. Bureau of Labor Statistics* indicates that in September of 2021, 4.4 million workers, amounting to 3 percent of the workforce, voluntarily left their positions, the highest since the government began tracking departure data in the year 2000. August data indicated that there were 4.3 resignations, or 2.9 percent of the U.S. workforce. In November 2021, there were a reported 11.2 million job openings in the *United States*, exceeding the 7.4 million classified unemployed workers.

In October of 2021, the *Duke University’s Fuqua School of Business* periodic survey of the nation’s *Chief Financial Officers* indicated that quality and availability of labor was a top concern.

The challenge is not solely evident in the *United States*. In October 2021, *Politico Europe* cited data collated by the *OECD* indicating that of the 38 member countries of advanced industrial countries, about 20 million fewer workers reside in the workforce than before the *coronavirus* struck. Of these 20 million, 14 million reportedly have exited the labor market, being classified as ‘not working’ and ‘not looking for work’.

In early May of 2021, Anthony Klotz, associate professor of business management at *Texas A&M University* warned about the “*Great Resignation*”, the significant workforce departures that were occurring in the *United States*.

Professor Klotz cited what he believed were the four primary drivers of these workforce departures:

- Workers citing long hours and burnout, particularly front-line workers in healthcare, food service and retail industries. Upwards of 18 months of long hours on the job, restrictions in interacting with family and workplace anxiety having taken a discernable toll.

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- Workers, already seeking to change jobs before the pandemic, elected to hold-on amid significant job impacts and widespread layoffs that occurred during the pandemic. As signs of economic recovery and reduced virus infection rates permeate, workers are feeling greater freedoms to leave unsatisfactory jobs and pursue personal career interests.
- The notion of “*pandemic epiphanies*” which Klotz attributed to significant numbers of workers experiencing major shifts in the identity and purpose of work, triggering motivations to seek other careers or start new businesses.
- Aversion to returning to on-site offices after a year or more of experiencing the flexibilities, conveniences, and closeness to loved ones that work from home provided.

The pandemic’s impacts included the availability of affordable child-care for families, and the need for one someone to temporarily exit the workforce to tend to child-care or in-home online schooling needs.

Economists and businesses are sensing a discernable shift in workforce dynamics, and a shifting of power dynamics favoring workers. They further point to decades of declining hourly wage growth and increased use of independent contractor or “gig” worker engagement providing little added worker benefits beyond compensation.

While the immediate response in supply chain operational dimensions has been increased hourly compensation, added benefits or sign-on bonuses, there are far broader actions to consider in hiring practices, process, and technology dimensions. For example, a report in the *UK* highlighted the fact that the current target pool for operational jobs ignores the availability of a diverse workforce in terms of gender, ethnicity, etc. It becomes a lot harder to recruit if you are only focused on <30% of the potential workforce.

Specific Supply Chain Operational Workforce Challenges

Online Customer Fulfillment And Warehouse Workforces

Pre-pandemic, consumers were becoming more attracted to the convenience of online ordering with free shipping and one to two day or same day delivery. Since the pandemic, the movement to online customer fulfillment volumes are significantly greater.

The *National Retail Federation (NRF)* estimates that non-store and online sales generally average 10 percent of total sales entering the year 2021. According to data from *Statistica*, online sales as a percentage of total retail sales peaked to 15.7 percent during Q2-2021 at the height of the pandemic. However, with the post-pandemic recovery underway in the *United States*. Now, total retail sales during 2021 are expected to grow in the range of 10.5 to 13.5 percent to a total number of \$4.4



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trillion, and non-store and online sales growth forecasted in the range of 18 to 23 percent representing \$1 to \$1.1 trillion.

According to data published by *eMarketeer*, online retail sales in *Western Europe* are expected to reach upwards of \$660 billion by the end of 2022, equating to 14.8 percent of total retail sales. *Ecommerce* sales are expected to exceed \$625 billion in 2021. Similarly, the 2021 *Singles Day* online shopping festival that transpired an eleven-day period across *China* and parts of *Southeast Asia* generated an equivalent gross merchandise value of \$84.5 billion, representing an 8.5 percent *year-over-year increase*.

This explosion in online fulfillment has driven structural workforce changes for retail and its supply chain ecosystems. With a continual increase in retailer bankruptcies or restructuring, brick and mortar retail workers have lost their jobs. At the same time, major online retailer platforms such as *Amazon*, *Target*, *Walmart* and others have added hundreds of thousands of warehouse and customer fulfillment positions, but each is struggling to garner augmented workforce numbers. For the first time ever, *Amazon's CFO Brain Olsavsky* indicated to investors that for the upcoming 2021 holiday fulfillment quarter, labor availability is the primary capacity constraint and characterized this constraint as “*new and unwelcomed*.” *Amazon* is not the only customer fulfillment provider with this challenge.

Online customer fulfillment and operational warehouse jobs require physical stamina and attention to detail. Working hours are long and require endurance. On the job safety is a constant need especially within facilities with large numbers of people operating material handling equipment. Employee turnover levels are traditionally high because such jobs are perceived to be a temporary means to supplement income.

Among warehouse operations, hourly, daily, or weekly worker needs vary considerably and are dependent on inbound or outbound material flows that are often challenging to plan in advance without advanced technology. Warehouse labor has often been viewed as a major cost driver and there has been a dependency on recruiting workers to meet daily or weekly needs with contract labor firms. Higher worker turnover, sometimes approaching double-digit levels on an annual basis, requires constant onboarding and training of workers.

With the growing shortage of available workers, large employers are stepping up efforts for hiring bonuses, added benefits, tuition assistance, and occupational training related to new roles.

Material automation and robotics are garnering increased investment but there are customer fulfillment areas where worker dexterity, flexibility, and judgement are still required. Important progress is being made in the deployment of termed *autonomous mobile robots (AMR)* and voice picking technology that interact with warehouse and customer fulfillment workers to provide reduced training time, added productivity, and worker safety with less worker walking and endurance needs.



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Global Truck Driver Shortages

Pre-pandemic and throughout 2021, there remains significant evidence of nationwide truck driver shortages across the *United States* and *Europe*.

According to data from the *American Trucking Associations (ATA)*, the ongoing shortage of qualified truck drivers has reached a historic high of 80,000 compared to estimated shortage of 61,000 drivers prior to the pandemic. Driver shortages are most acute in the long-haul and for-hire trucking segments. Industry participants and stakeholders indicate there is no singular cause and that different answers will be required.

The shortage stems from factors that include added demands for truck transportation, structural and work practice challenges presented in surface transportation that have persisted for years, and an existing aging workforce of qualified and experienced drivers. The supply of new truckers comes from driver training schools that prepare prospective truck drivers for state license certification to be able to legally drive various trucks. During the pandemic, many schools suspended or restricted their activities, causing a lack of new drivers entering the workforce. Prior incidents of severe traffic accidents caused by long hours without rest have resulted in government regulations related to maximum continuous driving time and the need for requiring in-truck electronic monitoring of driving and rest times. The U.S. trucking industry itself initially resisted these mandates out of concerns for added restrictions and added truck driver employment turnover rates. High driver turnover remains a persistent challenge due to the unique demands of certain jobs such as long-haul interstate or cross border driving that require drivers to be on the job for multiple continuous days. Unsatisfactory treatment from employers as well as destination workers and facilities, and the lack of either convenient truck parking or proper bathroom, meal and rest facilities adds to driver frustrations and quit rates. With high average ages of existing truck drivers, an estimated 1,200 qualified drivers are also retiring each week in the US.

In the U.S., drivers are compensated on a per-mile basis and are typically not compensated for the first two hours of waiting time encountered in loading or unloading activities among various stops. High levels of congestion and packed warehouses have exacerbated wait times for drivers, and every hour of added wait time takes away from a driver's per mile earning potential. Shipper requirements tied to specific on-time delivery performance add to tensions in the system when congestion or severe weather occurs.

To attract more drivers, the industry has increased compensation rates, with the *American Trucking Association (ATA)* indicating that the industry is now paying five times the historic average. By some estimates, long-haul drivers can garner pay rates in excess of \$80,000, while average compensation levels are noted to be in the range of \$45,000, and as much as \$100,000 for drivers employed by manufacturers', retailers' or wholesalers' private fleets. Compensation and career needs are for more



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predictable hours, home and family choices, or worker aspirations for becoming independent for-hire truckers to be able to choose customers and typical loads.

In Europe, the previous migration of workers hid local workforce shortages. The overall shortage of truck drivers was well known in Europe prior to the pandemic, but the combination of the pandemic and Brexit together exposed how the United Kingdom is short of an estimated 90,000 truck drivers. The immediate result has been a significant rise in the wages of UK truck drivers, but long term it will still require a large increase in the available workforce. The lack of cohesive retention and training opportunities, along with the availability of technology tools that address structural needs are opportunities to improve conditions. That includes drivers' abilities to stay connected with employers, customers, and loved ones. A big need is determining adequate parking, bathroom facilities and rest areas as stopping points.

The industry anticipates that advanced technology in the form of autonomous driving trucks will alleviate the industry's driver shortages. However, needs for additional on the road technology testing and the requirement of individual states approval are extending the timetable of actual availability. In the meantime, collective industry and government efforts need to address the broader transportation and logistics infrastructure inefficiencies that exist.

Manufacturing Talent Needs

Years of global supply chain outsourcing for manufacturing and production of intermediary and finished products has led to a discernable and ongoing shortage of skilled manufacturing workers. Across the *United States*, an estimated 25 percent of existing manufacturing workers are over the age of fifty-five, resulting in higher retirement rates amounting to upwards of 10,000 workers per day.

With the increased presence of automation, including robots, *internet of things (IoT)* enabled sensors and additive manufacturing technologies, the skills required for entry and experienced level manufacturing jobs have increased, along with the need for continual training. As was noted in our *2021 Predictions for Industry and Global Supply Chains* published in January 2021, supply chain and manufacturing digital transformation and automation of processes is about the abilities of humans to increasingly interact with technology. As manufacturing firms rethink their existing global sourcing strategies, consideration will have to be made to the recruitment, training, and ongoing retention of skilled manufacturing workers.

The Value of a Skilled Occupational Workforce

U.S. television personality Mike Rowe is best known for his broadcast program "*Dirty Jobs*," highlights the most unpleasant jobs and the workers that perform those jobs. In 2008, Rowe created the *mikeroweWORKS Foundation* in an effort launch national public awareness to the importance of a



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continuous pool of skilled trades labor in the economy. Rowe's observation is that U.S. society does currently not have a trained workforce standing by or willing to fill occupational positions that actually exist. Rowe points to the existence of a massive skills gap where millions of skilled jobs are unfilled because no one is trained or willing to do them.

In this foundation's web site, it is noted:

"Our crumbling infrastructure, our widening skills gap, the disappearance of vocational education, and the stratospheric rise in college tuition—these are not problems. These are symptoms of what we value. And right now, we have to reconnect the average American with the value of a skilled workforce. Only then, will the next generation aspire to do the work at hand."

There is substance to such observations. Governments are becoming more focused on the means to make occupational and community college training more available and affordable for prospective workers. There is a clear need for skills and career development frameworks for employers to manage and develop their supply chain, manufacturing, field service and maintenance operational workforce.



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Summary Takeaways

The following are the summary takeaways incorporated in this *Research Advisory*:

- The *COVID-19* global pandemic exposed pre-pandemic business process and physical supply chain vulnerabilities, including taking care of the safety and welfare of all workers, skills development for adequate availability and to take operational worker's personal and life balance into consideration.
- The *Great Resignation* period represents an inflection point for businesses, reflecting a shifting socio-economic dynamic where highly experienced *Baby Boom* generation workers are exiting the workforce in greater numbers. Existing and prospective workers feel more empowered to seek increased compensation and benefits along with employers willing to value individual employee contributions and work-life career options and needs.
- Workers seek to work for organizations that provide experiences that give a sense of personal contribution and the appeal of making a difference in customer and business operational needs. They do not want to be taken for granted and seek to share in the monetary and other benefits of successful business outcomes such as increased sales and profits.
- Supply chain management teams need to step-up efforts in developing diversity, equity, and inclusion in the workforce to build a pipeline of skilled workers. Current practices tend to hire from traditional talent pools and ignore the availability of a much wider and diverse pool.
- Existing and future operational workers will need to interact with and embrace new workplace technologies. Such technologies should not only benefit business productivity and efficiency, but equally, employee experience and career development.
- Society as a whole needs to place more value on the availability and existence of a skilled occupational workforce along with added appreciation of the work and life aspirations of these workers. That includes their opportunities to seek more permanent positions, equitable compensation, or the means to form independent businesses.

In the second subsequent research advisory publishing in February, we will further explore workforce trends and challenges related to supply chain procurement, product management, strategy, planning, logistics, service and supply chain wide strategic leadership and decision-making needs. Our June 2022 report will overlay the takeaways from operational and management workforce challenges and areas and add opportunities where technologies and enhanced collaboration among human resource and supply chain management teams can make a difference in dynamic skills assessments, employee journeys, diversity and multi-cultural workforce dynamics.



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About the Author

Bob Ferrari is the Managing Director of The Ferrari Consulting and Research Group LLC, a supply chain consulting and research firm providing insights and strategic assistance in supply chain business processes and information technology strategies. Bob is also the Founder and Executive Editor of the Supply Chain Matters blog and a highly recognized thought leader. His background includes over 30 years' experience across multiple dimensions of supply chain functional and information systems management.

Call to Action- Further Information

Additional insights can be found on the [Supply Chain Matters blog website](#).

Additional information related to example of the capabilities described in this advisory can be found by clicking on the link below:

www.oracle.com/scm/scm-and-hr/

For additional information or assistance with your supply chain management business and advanced technology initiatives, please contact the author:

The Ferrari Consulting and Research Group LLC

Email: bob.ferrari@theferrargroup.com

Phone: 781-944-6308

Web: www.theferrargroup.com