**Economic Impact of Trained Front Line Supervision in the**

**Recruitment and Retention of Employees**

**University of Tennessee Center for Industrial Services**

**Tennessee Certified Economic Developer Capstone Project**

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**Introduction:**

As part of the Solutions Consultant team for The University of Tennessee Center for Industrial Services (UTCIS), the topic of recruiting and retaining front line workers and the associated cost impact in terms of dollars and disruption to plant operations is one of the top issues the group deals with in companies statewide. This issue is not one normally addressed within the economic and community development community. While statewide unemployment rates remain low and jobs are being added at a brisk rate, this problem needs as much attention as narrowing the growing skills gap. This paper will offer suggestions and solutions that economic development practitioners can utilize to educate companies on best practices for this problem.

When you look at the overall economic and community development success in Tennessee with regards to job growth, the results are phenomenal. The *Chattanooga Times Free Press* reported that Tennessee employers have added jobs at a rate of over one and a half times the national average over twelve months ending April 2018, by creating 69,700 jobs. These additional jobs reduced the unemployment rate to 3.4 percent. That is well below the national average of 4.1 percent. See appendix 1 for Tennessee unemployment trends. Denise Rice, head of the Tennessee Manufacturers Association, said a recent survey found 84 percent of manufacturers across the state reported "moderate to extreme difficulty" in filling vacant jobs. The average time to fill a factory job in Tennessee is now over 70 days. [i]

These job numbers are a direct reflection of the state's efforts to grow the economy and create more jobs. Overall for the state, these numbers are encouraging, but for the individual employer these numbers mean difficulty in retaining and recruiting employees. As positions become more plentiful, employees begin to "job shop", that is, chase small, incremental increases in their wages. In an environment where a low unemployment rate is combined with strong economic growth

creating new jobs at a brisk pace, both new and current employers have trouble filling open positions and retaining employees.

Economic developers once focused on site preparation, local and state incentives, community livability, and other traditional marketing and attraction strategies. In today's economy, workforce attraction and retention has become a major factor in the selection process for locating new or expanding existing businesses. The purpose of this document is to explore the economic effect of turnover in the frontline worker ranks and the strategies that can be deployed to combat this issue.

**Background:**

Employee turnover is a universal issue facing organizations of all types across Tennessee. In some industries like retail sales, hospitality, and customer service, jobs are designed in such a manner that a turnover rate of 30%-40% is not crippling to the business. In manufacturing organizations, where training times and skill development require longer intervals, the cost of turnover is a drain on company cash and time resources. Examination of the costs associated with turnover extends well beyond just the cost of recruiting and training new employees. The true cost associated with employee turnover also includes:

- Loss of productivity

- Reduced quality levels

- Increased rework costs

- Disruption in management's ability to execute plans as scheduled

- Loss of morale and engagement of remaining employees

*Forbes Magazine* stated that in U.S. companies, employee turnover at all levels costs in excess of a staggering $160 billion per year.[ii] To put this into perspective, a locally owned, privately held

company with 150 employees, and annual sales of $15 million has a not uncommon annual turnover rate of 30%. A survey by The Society of Human Resource Management, SHRM, finds the average cost-per-hire for companies is $4,129.00.[iii] The formula for calculating the cost of turnover is relatively straightforward once the total cost-per-hire has been determined. The formula is: (Total Employees) x (Turnover Rate) x (Total Cost-per-Hire) = Annual Cost of Turnover.

In the example shown above, the Annual Cost of Turnover is $185,805.00 or 1.2 % of total sales.

$$150 \text{ employees x } 30\% \text{ turnover rate x } \$4,129.00 = \$185,805.00$$

By reducing the turnover rate by 50%, this company can add $92,902.50 annually to their cash flow. This year over year injection of cash will enable the company to grow existing lines, add additional services, upgrade equipment or increase investment in employee training and benefits. The application of these cost savings will vary by employer, based on their individual needs and aspirations, but the impact to the company and the community in terms of dollars and job stability is real.

**Strategies to Reduce Turnover:**

To examine the strategic approach to reducing turnover we must look in three arenas; each with distinct roles:

- Public Sector
- Non-Profit Sector
- Private Sector

**Public Sector:**

Public policy is a vital part of this solution. These policies must be directed to guide and support efforts, not to regulate and inhibit. Policy driven state incentives such as Incumbent Worker Grants, Low Interest Loans for Capital Investments, and programs such as Jobs4TN provide assistance to both the employer and the individual searching for relevant work. While not a focus of this project, the reality of technology growth creating a major skills gap for manufacturing organizations, is an issue that cannot be ignored in any discussion on workforce development. Thirty-six percent of employers report that a lack of employee skills has resulted in problems for their organization in terms of cost, quality, and time.[iv] The State of Tennessee is demonstrating its commitment to be a proactive leader in solving the skills gap issues with programs such as Drive to 55, TN Reconnect, TN Promise, Complete TN and Tennessee Pathways.

**Non-Profit Sector:**

The non-profit Sector is an underutilized resource for tapping into an alternative source for securing employees. This sector already provides other valuable services for a portion of the employable population that is necessary to fully populate the open positions that exist in our state. With the assistance of the private sector, the non-profit sector must engage in equipping those seeking assistance by preparing them for placement in the workforce and teaching work based skills that will enable them to find and keep long term employment.

**Private Sector:**

The private sector must take the lead in resolving the employee turnover issue. Companies must review internal policies aimed at retention, such as limiting the use of temporary workforce in terms of length of service and percentage of total employees, offering competitive wage and

benefit packages, and providing an internal training programs aimed at skills development to keep employees engaged. In short, companies must realize that in order to recruit and retain better employees, they must be a better employer. A Gallup poll of more than 1 million U.S. workers concluded that the number one reason people quit their jobs is a bad boss or immediate supervisor. Seventy-five percent of workers who voluntarily left their job did so because of their boss and not the position itself.[v] Most frontline supervisors are promoted into this position as a reward for being the "best" operator in a work cell. They are often placed into a position they are not prepared for, leaving the work cell without its top performing operator, therefore reducing quality and efficiency in addition to weak leadership.

The hypothesis of this paper is that frontline supervisors must be properly trained in order to recruit and retain a stable workforce. Front line supervisors in a manufacturing setting have traditionally been held accountable for managing the workforce to meet time-phased production goals. In reality, the supervisor is also the front line of human resource management, environmental and safety program management, process improvement management, as well as inventory and production management.

**Project Description: Tennessee Automotive Supply Chain Workforce Readiness Program**

The Tennessee Automotive Supply Chain Workforce Readiness Program (AWRP) brought together workforce development, education, and industry experts to design a customizable leadership development program specifically for the automotive industry. This program, funded in part by the Appalachian Regional Commission (ARC), is a pilot program led by The University of Tennessee Center for Industrial Services. The program is available at a subsidized rate to automotive manufacturing companies located across the 54 Tennessee counties contained in the ARC region. The benefits the program offers to employers include:[vi]

- Assistance from workforce and industry experts to identify high-potential individuals and leadership candidates in the organization.

- Through a comprehensive training program, relevant to the industry, cultivate a pipeline of emerging leaders, supervisors and managers.

- Foster a culture of continuous improvement, development and growth through continuing education opportunities to cultivate the organizations internal supply of talent.

- Bridge the gap in supervisory and communication skills, quality, and continuous improvement skills allowing front line supervision to engage and collaborate with employees.

- Optimize operations through continuous improvement methodologies.

- Provide the front line supervisor the tools to take the lead in changing and sustaining cultural shifts in the workplace.

Appendix 2 details the training topics and objectives for each available module.

The ARC grant allows companies to design a program to fit its unique needs and improve areas of weakness or reinforce areas of strength. The program provides for follow-on coaching from trained individuals to guide the newly trained leaders in the integration of these concepts in their daily activities.

**Project Results and Lessons Learned:**

To date, the pilot program has provided training to 97 individuals across 10 cohorts. This section will focus on one particular company located in a rural Tennessee county. The company wishes to

remain unnamed but has agreed to share their story. This company selected a curriculum including fourteen topics covering 16 weeks of training. The sixty-nine carefully chosen individuals attended a combined 2,196 hours of training. The average attendee received training in eight topics. The chosen topics are listed in Appendix 3.

**Company Description:**

The company has a staff of 425 employees, with a 40/60 ratio of full time to temporary workers. The organization consists of three facilities located in different areas of the city. All three buildings have experienced high turnover rates. The plant manager alone has turned over five times in the past six years. The turnover rate in the full-time workforce is reported at 48% annually, with turnover in the temporary workforce at 65% annually. At the time of training, the company was actively recruiting to fill the following management positions: plant manager, director of quality, continuous improvement manager, new products engineering manager, human resource manager, plant controller, and three manufacturing supervisors.

After accounting for temporary to permanent conversions (40) with the assumption that these employees would not need additional training, the net turnover rate is 49%, or 208 employees. Using the formula described earlier, the annual cost of turnover is $858,832.00.

208 employees x 49% turnover rate x $4,129.00 = $858,832.00

This is an incredible number for an organization with annual sales estimated at $100 million in an industry where zero defects and 100 percent on-time delivery is the standard. See Appendix 4 for all calculations.

**Conclusions:**

The financial reasons for lowering turnover rates are clear. To keep costs low and remain competitive, employers need to turn to their greatest resource, their employees. In the case study, the designed benefits of the Automotive Supply Chain Workforce Readiness Program was perfectly aligned with the stated corporate goals: to improve work conditions, improve morale, and lower turnover rates through education of front line supervisor, manager and director levels. As companies invest in their current employees, they not only increase the knowledge, skill level, and depth of their internal resources, they increase the base for the entire region. By training emerging leaders, companies not only protect themselves from unavoidable turnover, they are also investing in the region. As the region grows, so can the individual company.

While full financial results for the example company are still being collected, the training has been deemed a success. The following comments are representative of reviews since completion of the program:

- "This training has helped to get all of our supervisors and managers on the same page. It has given them tools that all of them understand how to use and when to use them, including Kaizen, Kanban, and a variety of leadership skills." Value Stream Manager.

- "This training has allowed me to take a different approach to everyday leadership situations, to take a deep breath and frame the conversation differently with my team members." 3rd Shift Supervisor.

- "This is a good refresher for leadership training." 1st Shift Supervisor.

- "The first part of the training is very foundational and the second part is very practical. All of the indications are this has really improved the morale of our team." Quality Systems Manager.

As follow-on coaching continues, it is apparent that many of the principles taught in the program are being implemented across the facility. Corporate human resources has committed to continued funding for training targeting specific areas of need. While training alone will not solve the retention issues. The company is reviewing policies on number and tenure restrictions for temporary employees. They have implemented workplace organization (5S) practices and started holding Kaizen Events (process improvement team events) designed to increase employee engagement and increase productivity. By fostering engagement, the company is aiming to build commitment, increase retention, rebuild a lost sense of community, and drive business results.

The AWRP pilot continues through March of 2019, The University of Tennessee Center for Industrial Services is actively working with the automotive industry across the ARC region to add additional cohorts.

The calculated impact for this one company is large, since it only considers the impact of a reduction in turnover rates there are additional savings to be realized. By improving the effectiveness of front line supervisors, we can shift a portion of their daily effort from repeated, non-value added staffing, training and onboarding issues to value added continuous improvement efforts that add positive, tangible results to the financial results of the company.

Unemployment Rate Trends for the State of Tennessee.
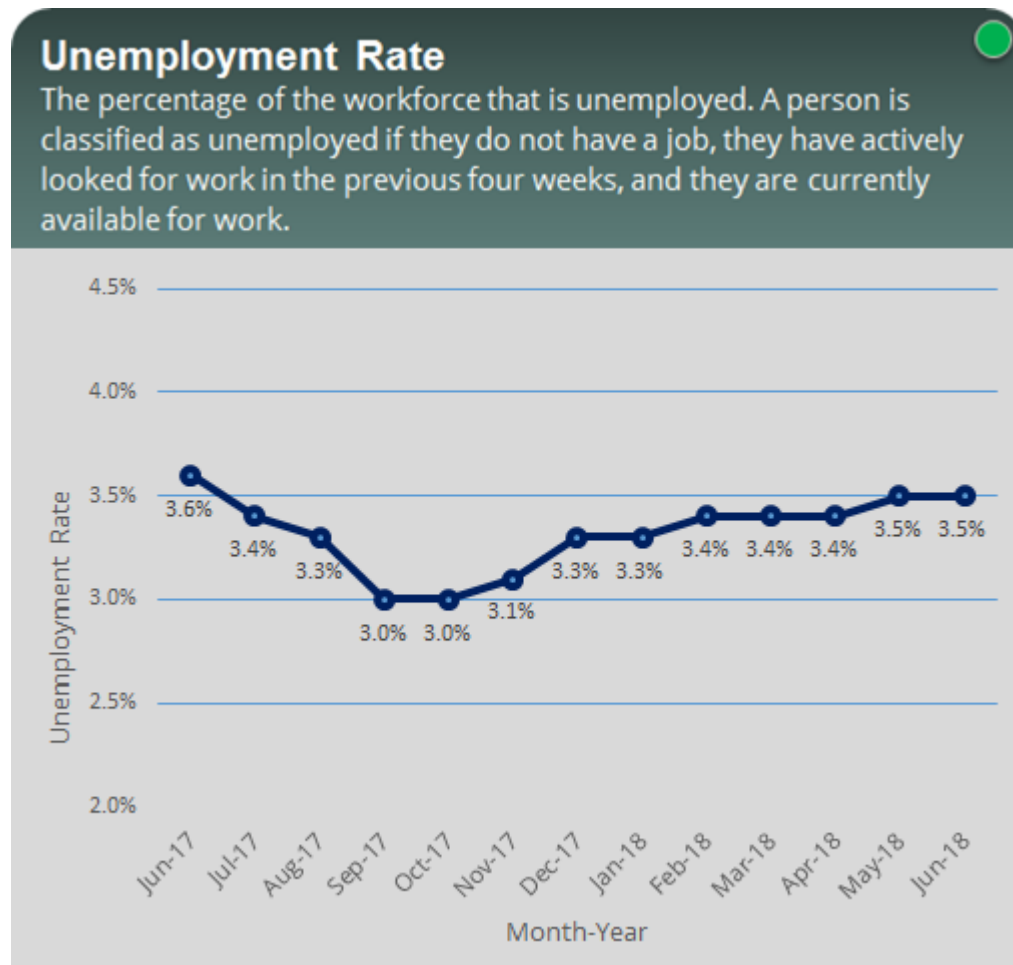


Source: U.S. Bureau of Labor Statistics

## Appendix 2

### Applicable Automotive Workforce Readiness Program Training Topics

| AWRP Module | Training Topic | Training Objectives |
|---|---|---|
| Emerging Leaders in Automotive | DISC Leadership Profile | • Gain increased self-awareness<br>• Build Stronger relationships<br>• Understand yourself and others<br>• Improve communication and leadership effectiveness |
| Emerging Leaders in Automotive | Essential Skills of Communicating | • Communicate clearly and concisely<br>• Understand and manage your nonverbal communication<br>• Effectively communicate through listening |
| Emerging Leaders in Automotive | Essential Skills of Leadership | • Manage your team while enhancing team members' self-esteem<br>• Effectively solve problems by focusing on team members' behavior<br>• Encourage team member participation |
| Emerging Leaders in Automotive | Resolving Conflicts | • Recognize conflicts before they become problems<br>• Identify the source of team member conflicts<br>• Use effective communication to resolve conflict |
| Emerging Leaders in Automotive | Motivating Team Members | • Applying the four stages to influence a team member to perform a task<br>• How to create a work environment that motivates higher performance |
| Emerging Leaders in Automotive | Developing and Coaching Others | • Essential methods to develop and coach team members |

| AWRP Module | Training Topic | Training Objectives |
|---|---|---|
| | | • How to develop team members to become better and more consistent performers |
| Emerging Leaders in Automotive | Diversity Awareness | • Tools to understand and respect people of other cultures<br>• Skills to gain greater understanding and respect from others<br>• Create a climate where team members appreciate differences to improve interaction, increase problem solving, and promote innovation |
| Emerging Leaders in Automotive | Supervisory Fair and Best Practices | • Basic guidelines to reduce potential litigation and help prevent unfair and illegal discrimination in the workplace |
| Qualitative Supply Chain Optimization | Training Within Industry (TWI) – Job Instruction (JI) | • How to explain why team member jobs are important<br>• How to breakdown the job into logical steps and key points<br>• How to teach the correct method of performing tasks on their own<br>• How to effectively follow up to insure standard work is enforced |
| Qualitative Supply Chain Optimization | Training Within Industry (TWI) – Job Relations (JR) | • How to shift culture towards continuous improvement<br>• Teach supervisors to deal with people problems encountered with culture change<br>• Develop basic leadership skills |
| Qualitative Supply Chain Optimization | Identifying Improvement Opportunities | • Learn to identify the need for change and process improvement<br>• Understanding the impact<br>• Developing an improvement plan |

| AWRP Module | Training Topic | Training Objectives |
|---|---|---|
| Qualitative Supply Chain Optimization | Improving Health and Safety | • Practical approaches to accident prevention<br>• Learn concepts of workplace accidents<br>• Discuss attitudes and behaviors that impact workplace safety<br>• Learn to recognize hazards |
| Qualitative Supply Chain Optimization | 5S/Workplace Organization | • Learn organizational techniques to streamline the workplace<br>• How to eliminate items that are not necessary<br>• Implement lasting productivity improvements using the techniques listed above |
| Qualitative Supply Chain Optimization | Risk Based Thinking | • Process approach<br>• Risk based thinking value<br>• Integration of risk based thinking<br>• Risk based thinking tools |
| Qualitative Supply Chain Optimization | Critical Thinking Skills | • Understand what critical based thinking means, to understand the logical connections between ideas<br>• Obstacles to critical thinking<br>• Tools to promote critical thinking |
| Qualitative Supply Chain Optimization | Structured Problem Solving/Root Cause Analysis | • Structured methodologies to define and solve problems<br>• Methodologies to include:<br>  o 5 Why<br>  o 3 Legged 5 Why<br>  o 7D/8D problem solving |
| Qualitative Supply Chain Optimization | Kata: Building Lean Culture | • Methodologies to sustain improvements and culture change by providing the framework for a sustainable problem-solving culture<br>• Improvement Kata routines<br>• Coaching Kata routines |

| AWRP Module | Training Topic | Training Objectives |
|---|---|---|
| | | • Turning scientific thinking into practical skills using a 4-step scientific working patterns and techniques of deliberate practice |
| Qualitative Supply Chain Optimization | Value Stream Mapping | • Create a Product/Service Family Matrix<br>• Current & Future State Mapping<br>• Development of kaizen plan |
| Qualitative Supply Chain Optimization | Kaizen Facilitator | • Overview of Kaizen<br>• Preparation for a Kaizen event<br>• Standard Kaizen event process<br>• Forms, templates, and tools for quickly collecting and analyzing data<br>• Preparation of a final report for management<br>• Estimate of the final impact of the event |

Source: University of Tennessee Center for Industrial Services

**Appendix 3**

| AWRP  Module | Training Topic |
|---|---|
| Emerging Leaders in Automotive | Essential Skills of Leadership |
| Emerging Leaders in Automotive | Essential Skills of Communicating |
| Emerging Leaders in Automotive | Resolving Conflicts |
| Emerging Leaders in Automotive | Motivating Team Members |
| Emerging Leaders in Automotive | Developing and Coaching Others |
| Emerging Leaders in Automotive | Diversity Awareness |
| Emerging Leaders in Automotive | Supervisory Fair Practices |
| Qualitative Supply Chain Optimization | 5S |
| Qualitative Supply Chain Optimization | Structured Problem Solving |
| Qualitative Supply Chain Optimization | Training Within Industry: Job Relations |
| Qualitative Supply Chain Optimization | Kata: Building Lean Culture |
| Qualitative Supply Chain Optimization | KanBan / Pull System Integration |
| Qualitative Supply Chain Optimization | Kaizen Facilitator |
| Qualitative Supply Chain Optimization | Training Within Industry: Job Relations |

**Appendix 4**

| Cost of Turnover (TO) Calculations | Total Employees | Temporary Employees (60%) | Full Time Employees (40%) |
|---|---|---|---|
| Total Employees | 425 | 255 | 170 |
| Annual TO Rate | 58% | 65% | 45% |
| Annual TO | 248 | 166 | 82 |
| Temp to Perm Conversions | | | 40 |
| Adjusted TO Rate | 49% | | |
| Net Annual TO | 208 | | |

Average Cost-per-Hire = $4,129.00

208 employees x 49% turnover rate x $4,129.00 = $858,832.50

Total Annual Sales (estimated) = $100,000,000.00

Turnover as a Percentage of Sales = 0.9%

[i] Dave Flessner April 19th, 2018, "Tennessee adds jobs at 1.5 times the U.S. rate", *Times Free Press*, April 19th, 2018 accessed August 2018 from www.timesfreepress.com.

[ii] Anna Verasai March 16, 2018, "Cost of Employee Turnover vs Retention Proposition", *The HR Digest*, accessed August 2018 from www.thehrdigest.com.

[iii] August 3rd, 2016, "Average Cost-per-Hire for Companies is $4,129, SHRM Survey finds" accessed August 2018 from www.shrm.org.

[iv] Mona Mourshed, Diana Farrell, and Dominic Barton, "Education to employment: Designing a system that works," McKinsey Center for Government (2013), accessed from www.upskillamerica.org, "A Guide to Upskilling America's Frontline Workers.

[v] Brigette Hyacinth, December 27, 2017, "Employees don't leave Companies, they leave Managers", accessed August 2018 from www.linkedin.com.

[vi] University of Tennessee Center for Industrial Services, "Automotive Supply Chain Workforce Readiness Program", accessed August 2018, www.cis.tennessee.edu.