



# **Workforce Shortages: Its Effects and Effective Related Practices**

## **PRINTING INDUSTRY PERFORMANCE & INSIGHTS**

Providing regional printing association members  
a printing industry outlook view and actionable knowledge.

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**2021**

## **Workforce Shortages: Its Effects and Effective Related Practices**

Printing association leaders felt workforce shortages and supply chain issues merited prompt attention. Therefore, in the October PIPI survey, we addressed three topics: industry outlook, workforce shortages, and supply chain issues. Addressing three topics made for a long survey. Sorry, we will make future surveys much shorter!

Given this study addressed three topics, we are providing three reports. This report provides insights into how workforce shortages affect our industry and ways to address those shortages through effective recruiting, hiring, and human resource (HR) practices. Stated differently, we sought to discern what recruiting, hiring, and HR approaches firms that are well-managing the current workforce issues were applying. We thank all those who participated in the survey and the fifteen regional printing associations (listed below) with whom we partnered.

In preparing our survey, we reviewed multiple small business HR research articles. We found it interesting that most, if not all, of the studies, explored recruiting, hiring, and HR practices from a “company” perspective – assuming companies applied the same practices for all types of employee positions. That prompted us to study recruiting, hiring, and HR practices from two perspectives: what practices are applied for production employees and what practices are applied for sales/admin employees. This approach also added to our survey’s length and complexity. Sorry again. However, we hope the survey results provide helpful knowledge.

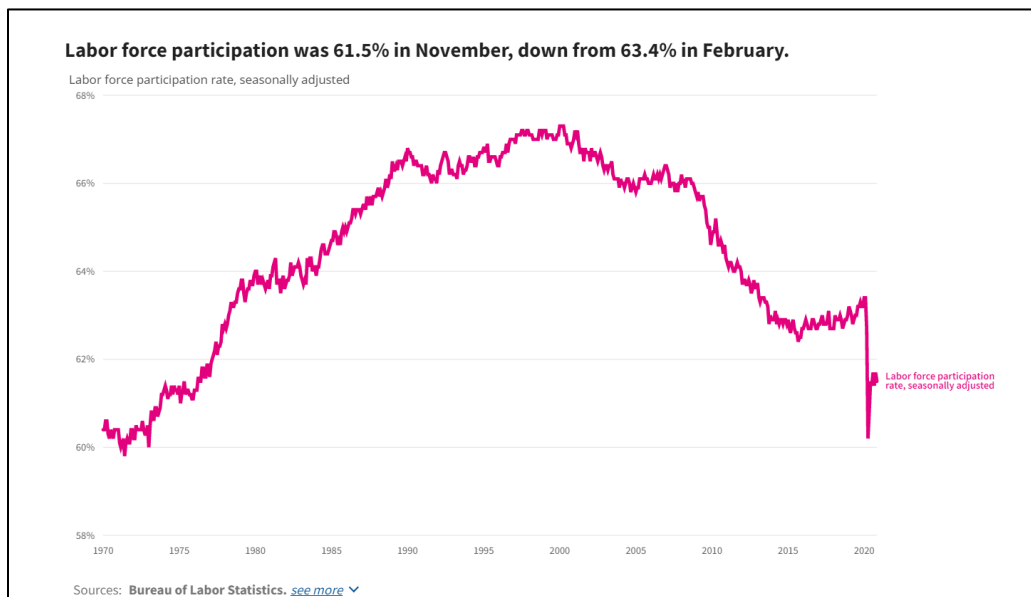
### **Key Takeaways**

- The recent drop in workforce participation is striking, but the drop in workforce participation is not new.
- Higher-performing printing firms tend to have less employee turnover.
- On average, printing firms lost about 10.5% of their employees to other employment opportunities, and 3.5% were fired or laid off. In total, that represents approximately 14% total average turnover for the industry.
- Printing company leaders indicated in our survey that on average, they were unable to fill 36% of their open positions for more than a year.
- In our survey, many printing company leaders reported how workforce issues, such as recruiting and turnover, affected their firms. In addition, multiple leaders shared that employee motivation was waning.
- Printing company leaders should apply effective recruiting, hiring, and HR practices to address the workforce issues. Our data suggest higher-performing firms apply just a few more hiring-decision tools than lower-performing firms.

- From our survey, the effectiveness of ten recruiting sources was assessed. Our findings suggest that the use of more recruiting sources results in more qualified candidates.
- From our survey, we provide the effectiveness of various hiring-decision tools.
- Printing company leaders should strategically decide what recruiting sources, hiring-decision tools, and HR practices they need. In addition, they should develop those competitive advantages.
- We also provide tips related to executing some recruiting, hiring, and HR practices.

## Workforce Shortage's Effect on the Printing Industry

Workforce shortages are affecting the entire economy, not just our industry. According to the Harvard Business Review, job resignations have reached record levels and remained unusually high through most of 2021.<sup>1</sup> During Covid, the U.S. experienced a massive drop in labor force participation, and the proportion of workers engaging in employment is still far below normal. The graph below illustrates the drop in workforce participation (see the footnote below for a link to the graph<sup>2</sup>). Yes, the recent drop in workforce participation is striking, but the decline in workforce participation is not new.



<sup>1</sup> <https://hbr.org/2021/09/who-is-driving-the-great-resignation>

<sup>2</sup> [https://usafacts.org/articles/labor-force-participation-rate-and-the-pandemic/?utm\\_source=google&utm\\_medium=cpc&utm\\_campaign=ND-Economy&gclid=EAlaIqObChMlyq7G6lqC9AIVgfGzCh1umA39EAAYASAAEgJx5vD\\_BwE](https://usafacts.org/articles/labor-force-participation-rate-and-the-pandemic/?utm_source=google&utm_medium=cpc&utm_campaign=ND-Economy&gclid=EAlaIqObChMlyq7G6lqC9AIVgfGzCh1umA39EAAYASAAEgJx5vD_BwE)

From our data, we found in our industry a negative correlation between firm performance and employee turnover. In other words, higher-performing firms tend to have less employee turnover, which makes sense. Does less turnover prompt higher performance, or does higher performance prompt less turnover? Who knows for sure? However, our finding of a negative relationship between turnover and performance reinforces the importance of this study, which, again, was encouraged by multiple regional association leaders.

Underscoring this study's relevance, our PIPI survey data indicates that, on average, printing firms lost about 10.5% of their employees to other employment opportunities. They purposely parted ways (fired or laid off) about 3.5% of their employees. In total, that represents 14% average turnover. Furthermore, on average, printing company leaders indicated that they could not fill 36% of their open positions for more than a year. We hope the material below related to effective recruiting, hiring, and HR in our industry helps on those fronts.

Our October PIPI survey included the question, "Has the labor shortage affected your business?" Of the 194 respondents who answered that question, 135 (about 65.5%) indicated that the labor shortage affected their business. We also provided the opportunity to describe how the labor shortage was affecting their firm. Multiple respondents shared points related to these statements:

- Recruiting and hiring is difficult, few candidates
- Finding skilled employees is difficult
- Finding entry-level employees is difficult
- Wages are increasing
- Delivery delays, turning down jobs, lost jobs are occurring
- Unable to manage growth or increased demand
- Current retention is low, and turnover of their work force is high
- Working more overtime
- Replacing retiring employees (BTW – our survey data suggests that 18% of printing industry employees are over 60 years of age)

A few leaders pointed to the stress and burnout workforce problems were causing. One shared that they were "working people too hard," another shared that this situation was causing "excessive pressure on leaders," and one stated "We are stressing our folks more than we care too." Related, a leader pointed to how the workforce issues took leaders' time away from other business concerns.

Another interesting view shared was concern over the general motivation of today's workforce. Consider these quotes:

- "... most of them seem to have lost their will to work!!
- "Difficult to find anyone willing to work."
- "Work ethic and quality is poor and candidates are greedy."
- "Difficult to find workforce that is motivated or wants to learn."
- "... cannot find people willing to work. the damn government is destroying the capitalist system..."
- "I have had employees who did not want to return for work because the government was paying them more not to work."

In the context of the dismal picture portrayed above, leaders shared a couple of positive statements:

- "I take better care of the people that I have, not wanting to lose anyone..."
- "The number of applicants has reduced significantly but due to our hiring practices outside of the norm for our industry we have gain good team members and have continue our growth."

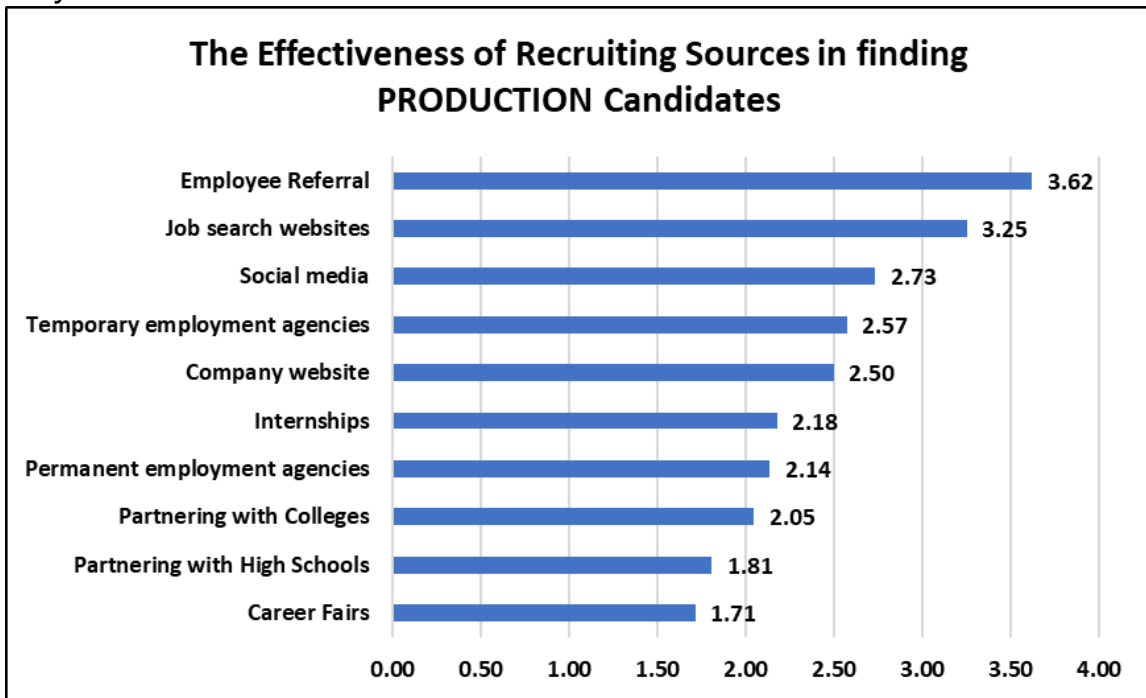
Leaders, regardless of the environment, it's up to you to apply effective recruiting, hiring, and HR practices!

Below we provide findings related to effective recruiting sources, effective hiring-decision tools, and effective HR practices. As mentioned above, we looked at each within the context of production employees and within the context of sales/admin employees.

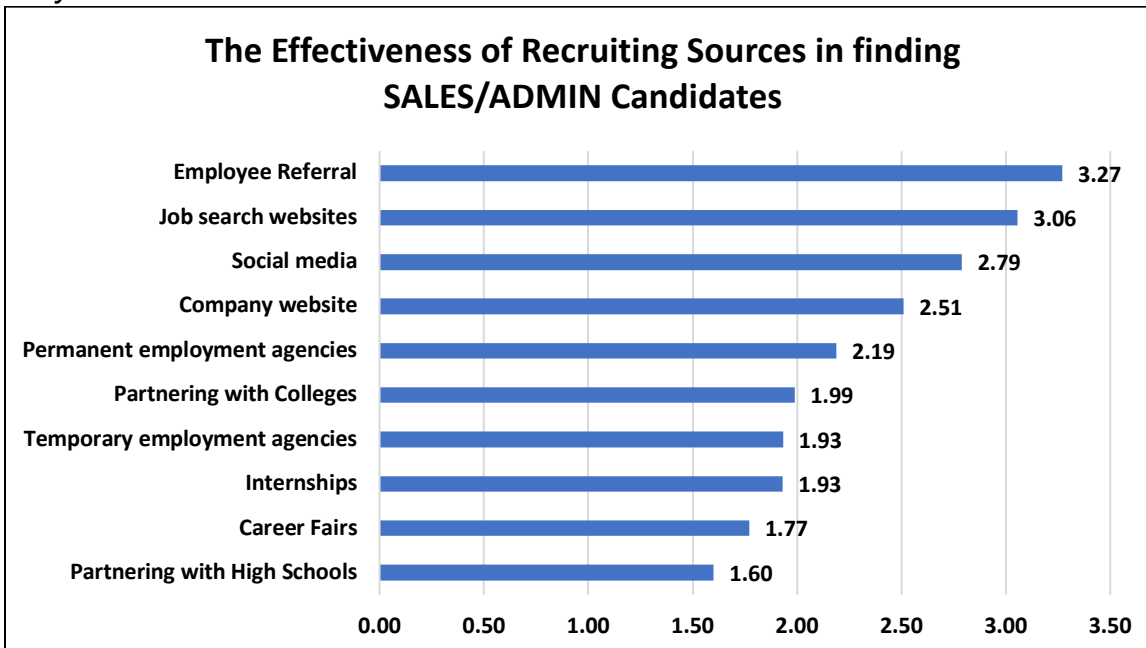
### **Effective Recruiting Sources**

We asked respondents to indicate the effectiveness of ten recruiting sources. For *production candidates*, respondents indicated employee referrals as most effective, followed by 2) job search websites, 3) social media, 4) temporary employment agencies, 5) company website, 6) internships, 7) permanent employment agencies, 8) partnering with colleges, 9) partnering with high schools, and 10) career fairs. For *sales/admin candidates*, again, respondents indicated employee referrals as most effective. And that source was followed by 2) job search websites, 3) social media, 4) company website, 5) permanent employment agencies, 6) partnering with colleges, 7) temporary employment agencies, 8) internships, 9) career fairs, and 10) partnering with high schools. See Illustration One and Illustration Two below for details.

**Illustration One** – a one-to-five scale: 1 = Not effective at all; 3 = Neutral; 5 = Very effective.



**Illustration Two** – a one-to-five scale: 1 = Not effective at all; 3 = Neutral; 5 = Very effective.



Interestingly, employee referrals and job search websites were at the top of both lists and by a significant margin. When leaders seek employee input related to potential job candidates, employees feel like they are part of the game, an ambassador for the

firm. In addition, when an employee suggests a potential candidate, they have a stake in the game: employees are less likely to recommend a weak candidate, and employees may help the new hire they suggested perform well. Of course, one must acknowledge the possible ill will created a company does not consider the suggested candidate.

A company's website was close to the middle of both lists. If someone is looking for employment in a geographic area or in our industry, it is reasonable to assume they will look at firms' websites. An HR professional suggested including videos of current employees on the "open-position page" of your website. This logic speaks to the importance of sharing open positions on websites in a clear and easy-to-find manner.

Survey respondents' high positioning of job search websites speaks to the effectiveness of Indeed, ZipRecruiter, Monster, Flexjobs, and others. At the bottom of both lists, the low ranking of partnering with high schools and career fairs surprised us a bit. One would think connecting with high schools might provide a source for production trainee candidates. Building relationships with high schools may require an ongoing investment, but it's possibly worth the time and effort. When connecting with high schools, or community colleges, one might apply the phrase "apprentice opportunities" as opposed to "internships." Internships applies more to college students (The term "apprentice" appears to have drifted away. Internship implies a temporary engagement; apprentice implies long-term engagements). Related to career fairs, the amount of internet communication conducted today may have reduced the value of that recruiting source.

Temporary employment agencies were higher on the production employee list than on the sales/admin list. In the last printing business I led, we applied temporary employment agencies to hire entry-level production employees.<sup>3</sup> We shared with our temp agency that we were looking for candidates who would transition into permanent jobs. If we saw a temp employee as a good addition to our company, we would pay the temp agency until that contract expired and then pull the employee into our full-time roster. If we did not see the temp employee as a solid full-time addition, we would send them back to the temp agency and request another candidate, which they supplied quickly. We had a great relationship with that temp agency, and that approach produced multiple employees who progressed into skilled positions.

We asked respondents to what extent they used each of the ten recruiting sources. For both production employee recruiting and sales/admin recruiting, we found a positive correlation between the number and extent of recruiting sources applied and the availability of suitable candidates. In other words, when seeking employee candidates, using more recruiting sources, and applying them more extensively, produces more potential good hires, which makes sense.

It appears the need to seek suitable employee candidates, in our economy and particularly in our industry, will not go away soon. Therefore, we suggest you consider the list of ten recruiting sources above, determine the ones you feel are potentially effective (as many as reasonable), and develop solid proficiencies in using those sources. We recognize that applying many recruiting sources requires management time and effort. But create and develop this competitive advantage!

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<sup>3</sup> Experiences from the lead author, Ralph Williams.

## Effective Hiring-Decision Tools

To assess the use of hiring-decision tools, we asked respondents the extent they used each of nine approaches. To discern which practices were effective, we examined their use among top-performing firms (approximately the top 28% of performers among our respondents). Table One below provides a list of the approaches ranked by use when hiring production employees, and Table Two provides the same for hiring sales/admin employees.

**Table One** – using a one-to-five scale: 1 = Not at all; 3 = Sometimes use; 5 = Always use.

<b>The use of Hiring Decision Tools - Production Employees</b>		
<b>1</b>	<b>Interview candidate to measure interpersonal skills, personality traits, communication skills</b>	<b>4.57</b>
<b>2</b>	<b>Job knowledge interview to assess job specific knowledge and expertise</b>	<b>4.54</b>
<b>3</b>	<b>Recommendation letters from previous managers, professors, or others</b>	<b>3.30</b>
<b>4</b>	<b>Personal statement, writing sample, resume, or cover letter</b>	<b>3.30</b>
<b>5</b>	<b>Group interview with multiple candidates to measure problem-solving and discussion skills</b>	<b>2.76</b>
<b>6</b>	<b>Practical test to assess actual job ability regarding tasks similar to work sample (activities that are designed to measure different types of jobs, such as hanging plates on a press, operating a cutter or folder, preflighting files, operating a digital press)</b>	<b>2.49</b>
<b>7</b>	<b>"Cognitive ability test to assess basic mental abilities regarding reasoning and comprehension (for example, IQ test)"</b>	<b>2.05</b>
<b>8</b>	<b>Written test to measure personality traits (Myers Briggs MBTI, Predictive Index, Disc, StrengthFinders, etc.)</b>	<b>1.86</b>
<b>9</b>	<b>Job knowledge written test (multiple choice) to assess job specific knowledge and expertise</b>	<b>1.73</b>

**Table Two** – using a one-to-five scale: 1 = Not at all; 3 = Sometimes use; 5 = Always use.

<b>The use of Hiring Decision Tools - Sales/Admin Employees</b>		
<b>1</b>	<b>Interview candidate to measure interpersonal skills, personality traits, communication skills</b>	<b>4.51</b>
<b>2</b>	<b>Job knowledge interview to assess job specific knowledge and expertise</b>	<b>4.36</b>
<b>3</b>	<b>Personal statement, writing sample, resume, or cover letter</b>	<b>3.84</b>
<b>4</b>	<b>Recommendation letters from previous managers, professors, or others</b>	<b>3.41</b>
<b>5</b>	<b>Group interview with multiple candidates to measure problem-solving and discussion skills</b>	<b>3.05</b>
<b>6</b>	<b>Practical test to assess actual job ability regarding tasks similar to work sample (activities that are designed to measure different types of jobs (such as writing, verbal communication, Microsoft Excel, emailing, etc)</b>	<b>2.39</b>
<b>7</b>	<b>Written test to measure personality traits (Myers Briggs MBTI, Predictive Index, Disc, StrengthFinders, etc.).</b>	<b>2.25</b>
<b>8</b>	<b>"Cognitive ability test to assess basic mental abilities regarding reasoning and comprehension (for example, IQ test)"</b>	<b>2.24</b>
<b>9</b>	<b>Job knowledge written test (multiple choice) to assess job specific knowledge and expertise</b>	<b>2.00</b>

We were a bit surprised by the tables' similarity. Two types of interviews, one focusing on interpersonal skills and the other on specific job knowledge, are at the top of both tables. An HR professional suggested looking online for "behavioral-based questions" to apply in an interview. Again, referring to the last printing business I led, we would gather a group to discuss what questions to include before conducting interviews. Also, we would incorporate two people from the company in interviews, one to ask questions and one to take notes. After the interview, the two interviewers would compare thoughts and make conclusive notes.

Recommendation letters and personal written statements, such as resumes or cover letters, are in the top four of both lists. The presence of personal written statements in the top for four production employees surprised us a bit. Practical ability tests (having candidates do required tasks) was sixth on both lists. We see this tool as applicable to both position types, but especially to production employees (come in and work with the press operator for a couple of hours). "Job knowledge written test (multiple choice) to assess job-specific knowledge and expertise" is at the bottom of both lists, yet we were surprised that some printing firms apply this practice.

"Written test to measure personality traits (Myers Briggs MBTI, Predictive Index, Disc, StrengthFinders, etc.)" appears in the lower third of the list. As management professors, we were a bit surprised to see personality tests that low in the table. We see

a benefit in considering how well potential candidates' personality traits fit an open position.

Our PIPI survey data suggests higher-performing firms apply just a few more hiring-decision tools than lower-performing firms. Therefore, the number of hiring-decision tools applied may not matter as much as choosing and becoming more proficient in using the most applicable evaluation approaches. Leaders, we suggest that you evaluate Table One and Table Two, then, strategically decide which hiring-decision tools best apply to different position types, and develop those evaluation skills in your firm. Making the best hiring decision is a win for both your firm and for your new employee!

### **Effective HR Practices**

Effective HR practices promote employee development and motivation. We assessed the effectiveness of eleven HR practices. Below, Table Three provides a list of the approaches' ranked average effectiveness as used with production employees, and Table Four provides the same for hiring sales/admin employees.

**Table Three** – using a one-to-five scale as follows: 1 = Not very effective; 3 = Somewhat effective; 5 = Very effective

<b>The Effectiveness of HR Practices - Production Employees</b>		
<b>1</b>	<b>On the job training</b>	<b>4.35</b>
<b>2</b>	<b>Job rotation</b>	<b>3.64</b>
<b>3</b>	<b>Formal training</b>	<b>3.41</b>
<b>4</b>	<b>Performance appraisal</b>	<b>3.32</b>
<b>5</b>	<b>Information sharing</b>	<b>3.16</b>
<b>6</b>	<b>Individual financial incentives added to compensation</b>	<b>3.09</b>
<b>7</b>	<b>Corporate incentive programs (bonuses tied to firm performance)</b>	<b>2.96</b>
<b>8</b>	<b>Project teams</b>	<b>2.90</b>
<b>9</b>	<b>Quality circles</b>	<b>2.78</b>
<b>10</b>	<b>Suggestion systems</b>	<b>2.71</b>
<b>11</b>	<b>Career development plans</b>	<b>2.69</b>

**Table Four** – using a one-to-five scale as follows: 1 = Not very effective; 3 = Somewhat effective; 5 = Very effective

<b>The Effectiveness of HR Practices - Sales/Admin Employees</b>		
<b>1</b>	<b>On the job training</b>	<b>4.11</b>
<b>2</b>	<b>Individual financial incentives added to compensation</b>	<b>3.97</b>
<b>3</b>	<b>Performance appraisal</b>	<b>3.57</b>
<b>4</b>	<b>Formal training</b>	<b>3.37</b>
<b>5</b>	<b>Corporate incentive programs (bonuses tied to firm performance)</b>	<b>3.35</b>
<b>6</b>	<b>Information sharing</b>	<b>3.34</b>
<b>7</b>	<b>Job rotation</b>	<b>3.18</b>
<b>8</b>	<b>Project teams</b>	<b>3.11</b>
<b>9</b>	<b>Career development plans</b>	<b>2.98</b>
<b>10</b>	<b>Suggestion systems</b>	<b>2.86</b>
<b>11</b>	<b>Quality circles</b>	<b>2.83</b>

On-the-job training, formal training, performance appraisal, and information sharing are in the top five of both lists. In the second printing company I led, we competed heavily with another firm in our state, and they were strong. Through later connections, I learned that our competitor was dedicated to ongoing employee training. Indeed, they had an equipped classroom in their building. Their strategic focus elevated employee skills, but it also enhanced their employees' perception that the company valued them and was willing to invest in them. Training, a competitive asset, made them tough to beat!

Indeed, performance appraisal and information sharing are effective HR practices. However, we encourage you to apply these practices methodically, not haphazardly or randomly. It is crucial to schedule ongoing performance appraisals that focus on evaluating, coaching, mentoring, and motivating employees. It is also important to have guidelines for how to conduct appraisals and how material is recorded. Regarding information sharing, key decisions include what information we share, what media we use, and how often we share information. Another related decision: do we share information with the company as a whole, in small groups, or both. Our results suggest that job training, formal training, performance appraisal, and information sharing are effective HR practices for both production and sales/admin employees. We encourage you to strategically decide if and how you will apply these practices, *as customs*, in your firm.

Quality circles and suggestion systems appear near the bottom of both lists. These two HR practices include involving employees in finding ways "we can do better." Unquestionably, team members may produce nice ideas and prompt out-of-the-box

thinking. Also, feeling their thoughts are wanted and valued may motivate employees. However, before implementing these practices, leaders need to look inside and ask, “do we really want and value input from others, particularly our employees?” If a firm implements quality circles and suggestion systems, as suggested above, they should do so with a plan and be willing to act on beneficial suggestions.

Two HR practices worth mentioning had different effectiveness ratings on the production employee and sales/admin lists. Individual financial incentives, sixth with production employees and second with sales/admin employees, connect better to sales, so that difference is reasonable. Job rotation is second on the production employee list. Learning different production jobs may enhance production employees’ feeling of contribution and sense of job security. In addition, having production employees capable of multiple production tasks may enhance a firm’s adaptability and ability to respond to changing workloads and delivery demands. On the other hand, job rotation was seventh on the sales/admin list. Leaders may take a step back and evaluate if job rotation may develop and motivate specific sales/admin staff members.

Corporate incentive programs (bonuses tied to firm performance) appear in the middle of both lists. We have seen this practice very effectively applied in printing firms. Here are some application keys: 1) Determine a percentage of profits the firm is willing to share with employees; 2) Distribute the amount based on each employee’s percentage of total wages (higher-level employees and employees who work more overtime get a bigger piece of the pie); 3) Distribute this incentive once a year (distributing incentives quarterly makes the piece of pie smaller and less significant, and a problem arises when losses occur in a subsequent quarter); 4) Make distributions separate from regular payroll – a separate check; 5) Make the distribution a big deal – leaders walk around and personally hand checks to employees with a handshake – have a company meeting after distribution to share details, congratulate, and celebrate.

Above, we shared that data *suggests* higher-performing firms apply just a few more hiring-decision tools than lower-performing firms. Results also indicate that higher-performing firms engage in more HR practices than lower-performing firms, but the stats are much stronger than with hiring-decision tools. As with our discussion of recruiting and hiring-decision tools, we suggest that leaders review our HR practices list, consider what items fit their firm, and then commit to applying those chosen.

## **Summary**

We performed a printing industry study about three years ago, one similar to this October PIPI study. A peer-reviewed research journal published our study, a rigorous process (unless your findings are valid, they will not publish your work). Here are the main take-aways from that study: 1) successful printing firms apply more recruiting, hiring-decision tools, and HR practices; and 2) they apply them deeper, with more intensity. The results presented here align nicely with that previous study.

Strategic thinking first focuses on what products we provide, our target customers, what value we provide target customers, and how we do all that. From the print leader quotes shared above and what we hear in media, today's workforce environment is changing. Therefore, deciding what recruiting, hiring, and HR practices to apply is moving up in the strategic ladder of importance. We hope our study and report prompt ideas that can help you refine your thinking related to recruiting, hiring, and HR. If you have comments, suggestions, or questions, please email Ralph Williams at [ralph.williams@mtsu.edu](mailto:ralph.williams@mtsu.edu)

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***Participating regional printing associations***

FGA – Florida Graphic Alliance

GAA – Graphic Arts Association

GLGA – Great Lakes Graphics Association

GMA – Graphic Media Alliance

PGAMA – Printing and Graphics Association Mid-Atlantic

PIA – Printing Industries Alliance

PIAMA – Printing and Imaging Association MidAmerica

PIAS – Printing Industry Association of the South

PIASC – Printing Industry Association of Southern California

PIASD – Printing Industry Association of San Diego

PICA – Printing Industry of the Carolinas

PIMW – Printing Industry MidWest

PINE – Printing Industries of New England

PMA – Print Media Assoc.

VMA – Visual Media Alliance