PRINTING INDUSTRY
PERFORMANCE & INSIGHTS

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

MIDDLE TENNESSEE STATE UNIVERSITY

PRINT & GRAPHIC COMMUNICATIONS ASSOCIATION

2024 Financial Benchmarking Findings

Paths to Improving Your Printing Company

Survey conducted in April & May of 2024
Data drawn from 2023 financial statements
Report released June 24, 2024

2024 Financial Benchmarking Findings

Paths to Improving Your Printing Company

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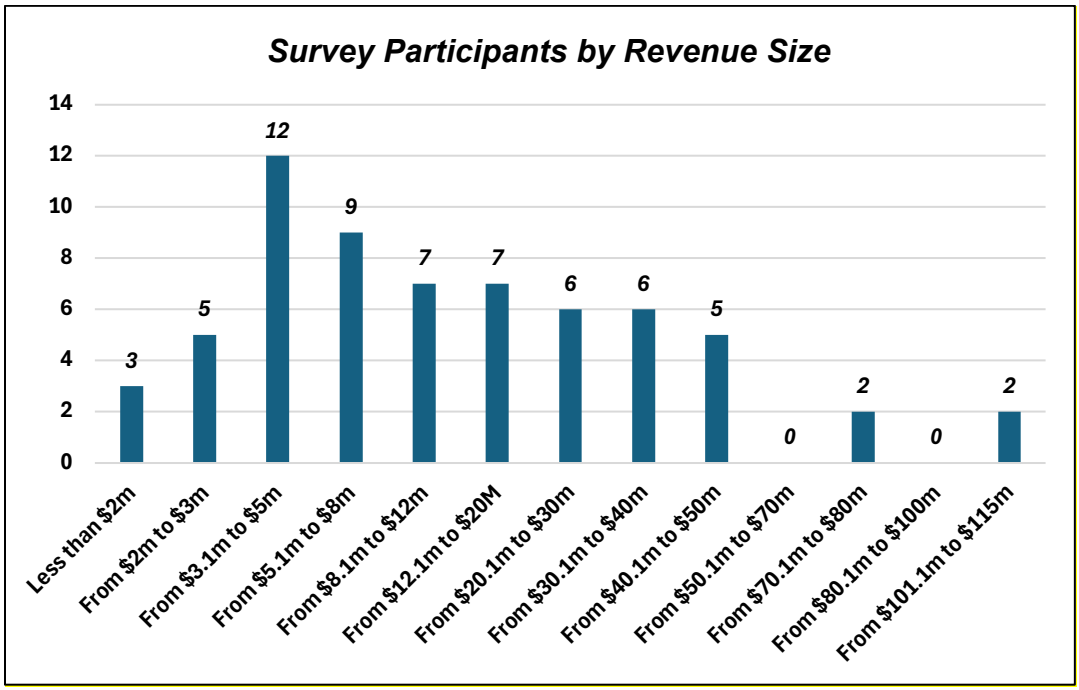
From our April/May 2024 "*Printing Industry Performance & Insights*" survey, we seek to provide you (printing company leaders) with financial benchmarks that will help in strategic planning and operational decision-making. Specifically, we explore percentages and ratios from income statements, value-add analysis, balance sheets, and cash management indicators. Our 2024 survey is based on firms' financial information from 2023 and, as applicable, compares this information to our 2023 survey, which was based on firms' 2022 financial information. Comparing your financial results to industry financial benchmarks can help your team consider differences you might find meaningful to your firm's efficiency and effectiveness. Your team can consider these differences and investigate those that would imply significant areas for needed improvement and develop an actionable plan to implement changes, measure outcomes, and set relevant goals. Using financial benchmarks is a common theme in successful companies.

Companies in our industry vary greatly in revenue size, products produced, and processes applied. The chart below shows the variance in revenue size of firms

included in the 64 “all firms” group of our income statement. Our survey participants’ revenue ranges from less than $2m to over $100m. Also, those 64 firms vary greatly in product focus, such as general print products, general packaging labels, specialized labels, catalogs, and wide format. Some of our participants focus on digital, some focus on sheetfed, some apply an even combination of digital and sheetfed, and some apply flexographic. About eight of the 64 engaged in heat-set offset. Our survey participants come from all kinds of printing companies.

Also, all U.S. regions are represented in our survey. Here are the percentages of our survey respondents that represent each region: Northcentral = 34%, Northeast = 14%, Southcentral = 16%, Southeast = 14%, and the West = 22%. The states per region are listed at the end of our report.



Given our industry’s diversity, we seek to provide financial benchmarks for industry segments and for different firm sizes. However, our 2024 survey participation was low. In fact, it was significantly lower than our 2023 survey. Therefore, we do not provide financial benchmarks for different industry segments nor for different firm sizes; we group all the 2024 survey participants together.

Seeking to increase participation, we are seeking input about how to enhance our financial benchmarking surveys to make them more valuable to industry leaders. If you have related thoughts, please email Dr. Ralph Williams at ralph.williams@mtsu.edu

Our report contains four sections.

- Income statement – cost categories as a percentage of revenue and value-add (p.4)
- Balance sheet ratios (p.12)
- Cash management indicators (p.17)
- Other insights drawn from our survey (p. 21)
    - Employees per $1m in revenue
    - How printing company leaders analyze financials
    - 2024-Q1 revenue and performance perceptions
    - Application of new GAAP lease rules
    - Accounting suggestions
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Income statement –
Cost categories as a percentage of revenue and value-add

Year 2023	All Firms (AF)	Higher-Performers (HP)	Differences (HP-AF)
Number of firms	**64**	**15**	
Total Revenue	**100.00%**	**100.00%**	
Materials and Outside Services			
Paper and substrates	**21.23%**	**21.38%**	**0.15%**
Other chargeable materials	**6.37%**	**6.69%**	**0.32%**
Outside chargeable services, including freight and postage	**8.56%**	**8.03%**	**-0.53%**
Total Materials and Outside Services	**36.16%**	**36.10%**	**-0.06%**
Factory Costs			
Payroll, including taxes and benefits	**21.88%**	**19.36%**	**-2.52%**
Other factory costs, excluding depreciation	**10.83%**	**6.79%**	**-4.04%**
Depreciation	**3.31%**	**4.16%**	**0.85%**
Total Factory Costs	**36.02%**	**30.31%**	**-5.71%**
Cost of Goods Sold	**72.18%**	**66.41%**	**-5.77%**
Gross Profit	**27.82%**	**33.59%**	**5.77%**
Administrative Costs			
Payroll, including taxes and benefits	**8.16%**	**6.79%**	**-1.37%**
Other administrative costs	**4.50%**	**3.56%**	**-0.94%**
Total Administrative Costs	**12.66%**	**10.35%**	**-2.31%**
Sales and Marketing Costs			
Payroll, including taxes and benefits	**5.95%**	**6.41%**	**0.46%**
Other sales and marketing costs	**0.89%**	**0.93%**	**0.04%**
Total Sales and Marketing Costs	**6.84%**	**7.34%**	**0.50%**
Interest	**1.03%**	**0.88%**	**-0.15%**
Income Before Taxes	**7.29%**	**15.02%**	**7.73%**
EBITDA	**11.63%**	**20.06%**	**8.43%**

The bottom two rows of our income statement tables provide “income before taxes” and “EBITDA” as a percentage of revenue or value add (shown below). As taxes vary by state and how a firm is licensed (S-corp, C-corp, LLC, etc.), and companies vary in the amount of debt and depreciation approaches, EBITDA (*Earnings Before Interest, Taxes, Depreciation, and Amortization*) is an excellent financial benchmark. EBITDA equips you to compare your firm’s operational performance to other firms regardless of tax differences, debt

use, or deprecation approach. In other words, EBITDA is a solid “operational” comparison benchmarking tool. However, whether a company owns or rents a building may affect EBITDA comparisons; we discuss this a bit in our depreciation section below.

However, we must acknowledge that EBITDA is a better comparison tool when looking at specific industry segments or revenue-size groups. Hopefully, in the future, we’ll have enough survey participation to explore industry segments and revenue-size groups. All that said, we acknowledge that our EBITDA percentages, both for all firms and higher-performing firms, are not perfect benchmarks. Hopefully, they will provide some guidance.

We applied EBITDA as a percentage of revenue to identify higher-performing firms. We did not apply a fixed amount, such as selecting the top 25% of firms based on their EBITDA as a percentage of revenue. Instead, we ranked the respondents from highest to lowest EBITDA as a percentage of revenue and then looked for a significant drop in EBITDA percentage between respondents. We identified those above that drop as higher-performing firms, which represent 15 of the 64 total firms included in our study. Those 15 firms had an EBITDA of 13% or greater. Multiple industry segments – such as general print providers focused on sheetfed, general print providers focused on digital, label printers, and others – are reflected in these 15 firms.

Total Materials and Outside Services

In the income statement above, you will see that *Total Materials and Outside Services* as a percentage of revenue for all firms and higher-performing firms are very similar, with only a 0.06 percentage point difference. In our 2023 financial benchmarking survey, the higher performing firms’ *Total Materials and Outside Services* as a percentage of revenue was about two percentage points below all firms. It’s possible that in our 2023 survey, higher-performing firms were able to leverage their relationships with paper suppliers to get lower prices in that tight paper market. Our 2024 survey results may reflect a more normal paper market.

Here's a big takeaway. If your firm is spending more than 36% of its revenue on materials and outside services, you might explore ways to lower those costs, such as seeking other vendors or lowering waste. If your firm is outsourcing a significant amount of services, you *might explore* the potential benefits of bringing those services under your roof. In addition, you might consider increasing how much you markup outside materials and services or your overall pricing markup.

Total Factory Costs

As a percentage of revenue, higher-performing firms averaged 5.71 percentage points less in total factory cost than all firms. This difference is greater than what we found in our 2023 survey, where higher-performing firms averaged 2.31 percentage points less on factory costs than all firms. This higher difference may result from our small sample size or our inability to look at industry segments. However, these results, consistent with last year, should prompt printing firm leaders to *continuously* seek ways to produce more with less and reduce wasted production time. For instance, leaders might have monthly open discussions with production employees seeking production improvement ideas.

After seeing these consistent findings of higher-performing firms spending less on factory costs, the "lean thinking" concept came to mind. One of my operations professor colleagues suggested this book: *Lean Thinking: Banish Waste and Create Wealth in Your Corporation 2nd Edition,* by James Womack and Daniel Jones. From research we've conducted in the printing industry, developing a "continuous improvement" culture connects with higher performance, which aligns with our financial benchmarking findings over the last two years. Effective implementation of continuous improvement requires teamwork. Patrick Lencioni's book "*Overcoming the Five Dysfunctions of a Team: A Field Guide for Leaders, Managers, and Facilitators*" may help.

Economies of scale are cost advantages that companies reap when producing more with fixed costs, such as building rent, utilities, or equipment leases. Operating multiple shifts may produce economies of scale. Indeed, in our

next financial benchmarking survey, we may explore whether higher-performing firms work multiple shifts.

Interestingly, higher-performing firms incurred more depreciation in their factory costs than all firms' average, 0.85 percentage points more, which is similar to our 2023 survey findings. Higher-performing firms may invest more in new equipment or automation, which we anecdotally see among higher-performing firms that we are familiar with. Lower-performing firms may have older, fully depreciated equipment.

Interestingly, an association leader shared that a couple of their strong member firms are limited by space and have old equipment that is fully paid for, which would result in low depreciation. Those firms manage their costs by crossing over between manufacturing and brokering. Obviously, there's not one path to high performance in our industry.

We wondered if higher-performing firms tended to own their buildings, which increased their depreciation costs. However, only four of the 15 higher-performing firms own their buildings. The other 11 higher-performing firms rent their buildings. This suggests that the higher-performing firms' higher depreciation costs are driven by equipment and automation.

Total Administrative Costs

On average, higher-performing firms spent 2.31 percentage points less on total administrative costs than all firms in our survey. This is similar to our 2023 survey findings, in which we found higher-performing firms spending 2.46 percentage points less on total administrative costs than all firms.

To explore this a little deeper, we looked at total administrative costs and total employees. We found, on average, that all firms spent about $18,000 per employee on administrative costs. However, higher-performing firms averaged $15,000 in administrative costs per employee.

Higher-performing firms appear to do more with less administrative resources. They may apply some of the following approaches: staff members taking on multiple roles, outsourcing some administrative functions, or

increasing revenue without increasing administrative staff. We see some firms using technology to replace manual administrative tasks; we'll see how that develops.

I shared last year's financial findings in printing association luncheons and webinars. At one of the luncheons, the point that higher-performing firms spend less on administrative costs resonated with a company leader. With a convicted look, he said, "You know, we don't look for efficiency in our office like we look for it in our plant!"

Consider making a list of every function covered by your administrative team. Why do you need each function? There are base functions that every entity must have, but there is a myriad of functions that are done because they have been done forever. Consider these questions: "What do we get in return for each function?" and "What actions result from each function?" One last question, "What are the costs and benefits of doing certain functions in-house versus outsourcing them."

Total Sales and Marketing Costs

In contrast to factory and administrative costs, higher-performing firms spent 0.50 percentage points more on total sales and marketing costs than all firms. This difference is greater than what we found in our 2023 survey, which showed higher-performing firms spending 0.19 percentage points more on sales and marketing.

However, generating a return on investment in sales and marketing is about more than "tossing dollars in that bucket." A previous *Printing Industry Performance & Insights* study (Marketing Planning, Sales Team Management & Social Media Usage Insights, April 2022) indicated that sales and marketing costs have little effect on performance unless leadership identifies the following: the firm's target market(s), the unique value(s) the firm provides that target market, and how the firm communicates with its target market.

After hearing that higher-performing firms typically spend more on sales and marketing, a printing company leader asked an interesting question: "Are we farming or hunting?" "Farming" reflects merely organically growing business

through current accounts. “Hunting” reflects proactively seeking new business. Printing company leaders, you might consider or ask your staff the “farming or hunting” question. A related discussion with a printing company leader produced a potential tactic: have someone continuously and proactively look for new prospects. A sales/marketing staff member or individual sales personnel could take on that task. In either case, goals and specific reporting times are vital.

We propose that higher-performing firms get a higher return on their investment in sales and marketing. We found that, on average, all firms in our survey generated $21.50 in revenue for each dollar invested in marketing, while the higher-performing firms, on average, generated $23.70 in revenue for each dollar invested in sales and marketing.

Related to factory, administrative, and sales/marketing costs, in future surveys we might explore the number of employees firms have in each group.

Value add Analysis

Value Add (VA = revenue - materials and outside services)			
Year 2023	**All Firms (AF)**	**Higher-Performers (HP)**	**Differences (HP-AF)**
Value Add as a % of revenue	**63.84%**	**63.90%**	**0.06%**
Factory Costs	**For the numbers below, VA is 100%**		
Payroll, including taxes and benefits	**34.27%**	**30.30%**	**-3.98%**
Other factory costs excluding depreciation	**16.96%**	**10.63%**	**-6.34%**
Depreciation	**5.18%**	**6.51%**	**1.33%**
Total Factory Costs	**56.42%**	**47.43%**	**-8.99%**
Administrative Costs			
Payroll, including taxes and benefits	**12.78%**	**10.63%**	**-2.16%**
Other administrative costs	**7.05%**	**5.57%**	**-1.48%**
Total Administrative Costs	**19.83%**	**16.20%**	**-3.63%**
Sales and Marketing Costs			
Payroll, including taxes and benefits	**9.32%**	**10.03%**	**0.71%**
Other sales and marketing costs	**1.39%**	**1.46%**	**0.06%**
Total Sales and Marketing Costs	**10.71%**	**11.49%**	**0.77%**
Interest	**1.61%**	**1.38%**	**-0.24%**
Income Before Taxes	**11.42%**	**23.51%**	**12.09%**
EBITDA	**18.22%**	**31.39%**	**13.18%**

Value add is a common concept, which is discussed in business courses and applied in various industries. It reflects the difference between revenue and materials/outside services (paper, ink, clicks, plates, outside bindery, and others) purchased by the firm. Value add is the value your firm adds to the parts of its product it buys from others.

From our 2024 financial benchmarking survey, value add as a percentage of revenue was essentially the same for all firms and higher-performing firms (AF = 63.84%, HP = 63.90%). These similar findings were surprising. We'll see how future larger survey participation and the ability to explore industry segments might affect these findings. One would expect higher pricing, better management of outside materials/services costs, and producing more inside as opposed to buying outside service (strategies one would expect to see in higher-performing firms) would generate more value add as a percentage of revenue.

Looking at costs as percentages of value add is a great tool. To do this, subtract materials/outside services from revenue to calculate value add. Then, divide each of your cost categories by your calculated value add to see the percentage of each cost category of value add. We applied this approach in our value add table.

As you see in our value add table, the differences between all firms and higher-performing firms are greater than those shown in our income statement table, where costs are presented as a percentage of revenue. For instance, higher-performing firms spent 8.99 percentage points less on factory costs than all firms as a proportion of value add (see our value add table). In comparison, higher firms spent 5.71 percentage points less than all firms as a proportion of revenue (see our income statement table). Looking at cost as a percentage of value add, versus a percentage of revenue, accentuates the differences between higher-performing firms and all firms. Using value add to compare our costs to higher-performing firms helped point us to the primary areas we needed to address.

Key Points

Consistent with our 2023 financial benchmarking survey, this year's survey produced the following: higher-performing firms spend a bit less on outside materials and services, they spend less on factory and administrative costs, and they spend a bit more on sales and marketing. As we were collecting this year's data and saw the low participation, we were concerned if this year's data would confirm last year's findings. However, this year's data did confirm last year's findings! This reinforces areas where printing company leaders might seek more efficiency and areas where they might invest more.

In our income statement findings shown above, the biggest difference is in EBITDA. Higher-performing firms averaged 8.43 percentage points more in EBITDA based on revenue. High-performing firms' EBITDA is 72.5% more than that of all firms. This is comparable with last year's findings, where higher-performing firms averaged 7.59 percentage points more EBITDA based on revenue, 66.8% more than the all-firms average.

Again, our survey participation was low this year. However, this year's strong EBITDA percentages among higher-performing firms align nicely with last year's findings. This reinforces the idea that printing industry firms CAN earn high EBITDA percentages.

And last, remember that "little things add up!" Printing company leaders, chip away at improvement in multiple areas, and those improvements will add up nicely!

Balance Sheet Ratios

After our income statement analysis, to calculate balance sheet ratios and cash management indicators, we removed responses without a balance sheet, balance sheets with errors, and big balance sheet anomalies. From our 2023 financial benchmarking survey (which reflected the 2022 year), we found usable balance sheets from a total of 56 firms, and we identified 11 higher-performing firms based on the EBITDA analysis. From our 2024 survey (reflecting the 2023 year), we found only 39 usable balance sheets. Given this year's small number of usable balances, we did not find a valid group of higher-performing firms for this year's balance sheet section of our report.

Our 2024 survey numbers are low, which reduces the statistical validity of our averages. questionable. Hopefully, we will still provide you with some helpful knowledge from the numbers below. Comparing your balance sheet ratios and cash management indicators to our findings and comments may open the door to constructive thinking.

The table below shows our findings for six financial ratios for all firms from this year's survey, reflecting the 2023 year, and from last year's survey, reflecting 2022. For each of the balance sheet ratios in the table, we provide the ratio's formula, explain the ratio, and discuss our findings.

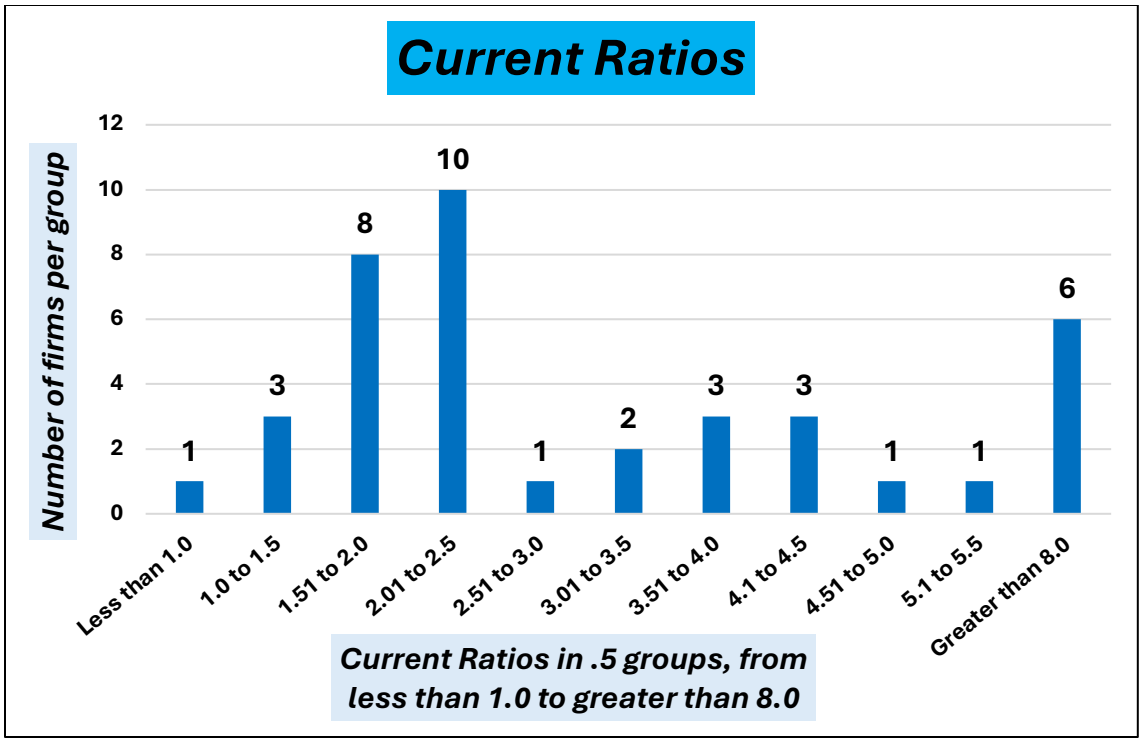
	Year 2023	Year 2022
	All Firms	All Firms
Number of firms	39	56
Current Ratio	3.63	3.31
Quick Ratio	3.00	2.41
Revenue-to-Total Assets Ratio	1.92	1.90
Total Liabilities-to-Total Assets	50.20%	46.77%
Return on Total Assets (ROA)	5.56%	13.14%
Return on Equity (ROE)	2.91%	24.47%

Current Ratio = Total Current Assets / Total Current Liabilities.

"Current Ratio" means, "We have this many dollars in current assets for every dollar of current liabilities." As current ratios indicate our ability to pay bills, this is an important ratio to monitor.

Interestingly, in this year's survey we found an average current ratio of 3.63, which is higher than all firms and higher-performing firms in our previous year.

This prompted us to look at the distribution of current ratios among the 39 firms in this year's findings. The graph below shows the distribution of current ratios among the 39 firms grouped by differences of 0.50 in current ratios ranging from "less than 1.0" to "greater than 8.0."



The largest group, “2.01 to 2.5,” had ten firms. The second largest group, “1.51 to 2.0,” had eight firms. This supports our notion that 2.0 is a good current ratio benchmark for printing companies. Eight firms with current ratios “greater than 8.0” increased our average, but it also shows there are firms in our industry with a large bucket of current assets relative to current liabilities. This may reflect unspent Employee Retention Credits (ERC) and Paycheck Protection Program (PPP) funds. Those printing firm leaders must avoid “cash hubris.” Don’t let the previously received ERC and PPP funds divert cash management.

Current ratios are dynamic. For instance, current ratios can change dramatically when unplanned repairs surface. However, current ratios can change in a trend if current assets and current liabilities are not well managed. We encourage you to measure and monitor your current ratios. Make sure your current ratio stays above 2.0, the trend goes up or stays steady, but it does not go down. You want to see a decreasing current ratio trend and adjust before it bites your firm. A healthy current ratio prepares your firm for unexpected expenditures.

Quick Ratio = (Current Assets – Inventory) / Current Liabilities.

"Quick Ratio" means, "We have this many dollars in liquid assets (current assets without inventory) for every dollar in current liabilities."

Aligning with this year's current ratio findings, our quick ratio average is a bit higher than last year.

As inventory is considered less liquid than other current assets, quick ratios may provide a better picture of the ability to pay bills. As the paper supply chain changes, printing firm leaders may find quick ratios more relevant than before. Because printing companies differ in their inventory needs and how they measure inventory (if they do), it's hard to provide a guide as to what is a good quick ratio. We would generally say 1.75. Again, measure and monitor.

Revenue-to-Total Assets = Total Revenue / Total Assets.

"Revenue-to-Total Assets" means, "We generate this much in revenue for every dollar we have invested in total assets."

This year's average revenue-to-total assets, 1.92 ($1.92 in revenue for every dollar in assets), is very consistent with last year's findings.

This ratio may help determine a performance improvement path for your firm. For instance, if your EBITDA percentage is low, but your revenue-to-total assets are significantly higher than our findings, you might focus on lowering costs. On the other hand, if your revenue-to-total assets are considerably lower than our findings, you might focus on increasing revenue.

One of our coauthors suggested assessing "Revenue-to-Current Assets," which is a unique approach. The 39 firms in this year's survey averaged 3.94 in revenue-to-current assets. That means they averaged $3.94 in revenue for every dollar in current assets. You might compare your firm's number to that finding. We'll see how knowledge from this ratio develops in future surveys.

Total Liabilities-to-Total Assets = Total Liabilities / Total Assets.

“Total Liabilities-to-Total Assets” means, “This percentage of each dollar of our assets is financed with liabilities.”

This year’s average total liabilities-to-total asset percentage, 50.20%, is a little higher than last year’s. This may reflect more investment in new equipment or automation. From our last two years of surveys, one might see a healthy total debt-to-total assets of around 45% to 50%. However, among healthy companies, two factors can affect the total liabilities-to-total assets percentage: how much profits the owners hold in retained earnings and the owner's aversion or willingness to take on debt (both may relate to an owner’s personal wealth).

We explore two commonly used return ratios:

Return on Total Assets (ROA) = Income before Taxes / Total Assets.

“Return on Total Assets” means, “Every dollar we have invested in total assets produces this percentage return.

And…

Return on Equity (ROE) = Income before Taxes / Total Equity.

“Return on Equity” means, “Every dollar we have in equity (investment in the business and retained earnings) produces this percentage return.

This year’s ROA average, 5.56%, and ROE average, 2.91%, are strikingly low, much lower than last year’s numbers. One might wonder if last year’s ROA and ROE were affected by ERC or PPP payments. Hopefully, these findings are the result of our small sample size of usable balance sheets. Indeed, in our income statement table the average EBITDA as a percentage of revenue (11.63%) was good for the 64 firms. We can’t explain these low ROA and ROE findings. Going forward, we will watch this.

Generally, we see 17.0% ROA and 25.5% ROE as good printing company goals. Those ROA and ROE numbers align with last year’s findings for all firms. We encourage printing firm leaders annually and objectively explore their firm’s ROA and ROE, seeking a 17.0% ROA and 25.5% ROE. Also, when considering a

significant asset investment, firm leaders might budget the expected profit change, the projected ROA, and the ROE to weigh the potential benefit of that investment. Producing a budget implementing the effects of a significant asset investment will help you set goals, such as costs and revenue.

Keep in mind that the amount a company has in assets and equity may affect ROA and ROE. Consider a company that recently has not invested much in new assets, a large portion of its assets are nearing full depreciation, it has little debt, and it has built equity by holding all its profits in retained earnings. That firm may generate a very high ROA and a very low ROE. You might keep those factors in mind when comparing your firm's ROA and ROE to industry benchmarks.

Cash Management Indicators

Cash is the life blood of a business! Profitable businesses fail if they run out of cash. Managing cash problems that arise unexpectedly soaks up valuable time needed for leading, generating revenue, managing operations, or addressing H.R. issues. Therefore, continuously monitoring the cash management indicators shown below is helpful.

The table below shows our findings for cash management indicators from this year's survey, reflecting the 2023 year for all firms. Again, given our low participation numbers, we don't share higher-performing firms' ratios for the 2023 year. The table also includes our findings from last year's survey, reflecting 2022 for all firms.

For the cash management indicators in the table, we provide the formula, explain the indicator, and discuss our findings.

	Year 2023	Year 2022
	All Firms	All Firms
Number of firms	39	56
Days in Inventory	79.9	102.3
Days in Accounts Receivable	45.0	47.4
Days in Accounts Payable	46.9	71.6
Cash Conversion Cycle	78.0	78.2

Days in Inventory = Inventories / ((Paper and Substrates + Other Chargeable Materials)/365)).

"Days in Inventory" means, "On average, inventory stays on our floor for this many days."

The second section of the formula Includes tangible products your firm purchases that are part of its final product. We applied "Paper and Substrates + Other Chargeable Materials" from our income statement format. Some folks include "Cost of Goods Sold (COGS)" in that part of the formula. However, our income statement includes "factory costs" in COGS, which is not a tangible product component. In calculating the annual days in inventory ratio, we divided "Paper and Substrates + Other Chargeable Materials" by 365. If you are calculating days in inventory monthly, you will apply the number of days in that month, and if you are calculating it quarterly, you will use the number of days in that quarter. The guidelines in this paragraph also apply to days in accounts payable discussed below.

From last year to this year, we see a significant decrease in days in inventory for all firms (from 102.3 days to 79.9 days). This might reflect that as paper is more available than it was during COVID, firms are not accumulating larger than normal inventories now. They are working to reduce paper inventory. If your firm's days in inventory did not decrease from 2022 to 2023, you might explore how to reduce what you have in storage.

Our industry endured the recent challenging paper market, which we may see again. One might view those challenging times as an opportunity to learn how to better manage procurement, manage inventory, and ensure "timely access" to essential materials. For specific thoughts about managing

inventory, consider reviewing our October 2022 *Printing Industry Performance & Insights* report – *"How Paper is Affecting Printing Companies and Approaches to Consider"*.

Having enough inventory to meet customer needs and avoid production delays is vital. However, view inventory as "cash sitting on the shelf." Monitoring days in inventory will help stimulate that view.

Days in Accounts Receivable = Accounts Receivable / (Revenue/365).

"Days in Accounts Receivable" means, "On average, it takes this many days for our customers to pay bills we send them."

This year's average days in accounts receivable (45 days) align with last year's findings. Generally, we see 42 days in accounts receivable, or lower, as a worthy goal. However, customers' use of credit cards to pay bills may affect future days in accounts receivable averages. Customers' use of credit cards to pay printing firms is a topic we hope to explore in our October 2024 survey.

Better accounts receivable management reflects a proactive rather than a reactive approach. For instance, we see firms that reactively investigate receivables when cash becomes a problem or when they become aware that one of their customers is far behind in paying bills.

In contrast, a proactive approach involves regularly exploring accounts receivables (consider weekly) and identifying customers needing a "reminder" call. Consider 42 days or lower in accounts receivable as a benchmark. Related to "or lower," we hear some industry folks who propose 35 days as a worthy goal. The big message… continuously monitor your days in accounts receivable and strive to do better. You might offer someone who is managing accounts receivable a monthly bonus when days in accounts receivable falls under your goal.

One other point – some customers providing your company with high revenue at high margins may pay slowly. It's important to consider the pluses and minuses of certain accounts and understand what you may have to live with. For instance, a customer providing your firm with a solid amount of revenue may sell what your firm provides to one of their customers. It may take 60 days

for that customer to pay your firm, but it's worth it. In this situation, a constructive conversation with that customer may help form expectations.

Days in Accounts Payable = Accounts Payable / ((Paper and Substrates + Other Chargeable Materials)/365)).[1]

"Days in Accounts Payable" means, "On average, it takes this many days for us to pay bills our vendors send us."

This year's average days in accounts payable, 46.9 days, is significantly less than last year's findings. Assuming this year's average days in accounts payable finding is valid, one might connect this year's lower numbers with the improvement in paper supply. In using paper inventory, printing firms may have bought less paper and were billed less.

One can argue that longer days in accounts payable are better from a cash management standpoint.

> "Every dollar you owe your vendor is another dollar you keep in your checking account or is one less dollar to borrow."
>
> "Once cash is paid to a vendor, it's gone… not available for emergencies."

However, who will vendors take better care of… slower payers or faster payers? When considering how fast to pay vendor bills, think strategically. Consider setting guidelines for how long you plan to take to pay each vendor's invoices. When a situation surfaces that will cause more time needed to pay an invoice (for instance, you are buying paper for a project that will take a month to complete and two months for your customer to pay for it), discuss that situation in advance with your vendor. It's better to have that chat early instead of when your vendor's invoice comes due. From an ethical standpoint, stand by your word. And last, if your vendor offers early payment terms, you might consider the costs and benefits of making early payments.

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[1] Material shared in the Days in Inventory section above applies to the second section of this formula.

Cash Conversion Cycle = Days in Inventory + Days in Accounts Receivable – Days in Accounts Payable.

"Cash Conversion Cycle" reflects, "How many days it takes us to convert inventory into cash."

Given the decrease from last year in days in inventory and the decrease in days in accounts payable, this year's cash conversion cycle (78 days) is almost identical to last year's findings. Assuming our numbers are valid, printing firms tended to tie up less cash in inventory, but they paid their vendors faster… a trade-off from the cash conversion cycle view – but a potentially improved vendor relationship model.

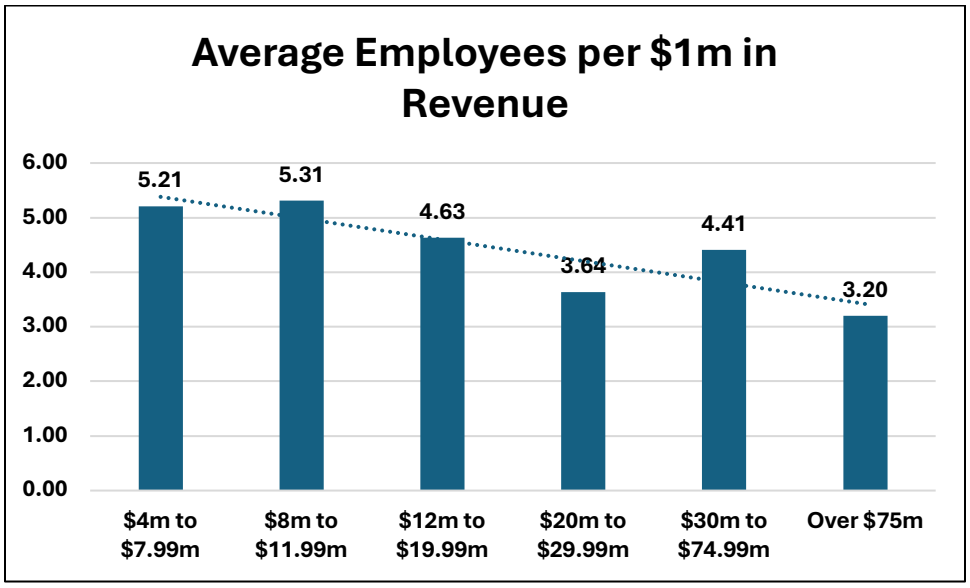
The cash conversion cycle number shows a big picture of changes in the three other cash management indicators. The three indicators that make up the cash conversion cycle (days in inventory, days in accounts receivable, and days in accounts payable) are related. Would you want your customers to pay you slower than you are expected to pay vendors? A shorter cash conversion cycle is better and means more cash in your firm's bank account.

We encourage printing firm leaders to calculate these four cash management indicators, compare their numbers to our averages, and continue to monitor them. Again, it's better to see a problem coming than to have it wake you up.

Other Insights Drawn from our Survey

In this section, we provide insights drawn from survey questions not specially related to financial benchmarking.

Employees per $1m in Revenue



We analyzed the number of employees per $1m in revenue. Given our small sample size, we did not have confidence in our numbers for small companies, those with less than $4m in revenue, so they are not included in the chart above.

Our findings show that bigger printing firms have fewer employees per $1m in revenue, and that is shown in the trendline in the chart above. This is consistent with what we've seen in previous findings. You might calculate your firm's number of employees per $1m in revenue and compare it to the appropriate groups above. If your firm's number is significantly higher, you might step back and consider options, such as leaning back your team or striving for revenue growth without adding employees. Don't assume that revenue growth always requires additional employees.

How Printing Company Leaders Analyze Financials

In our recent survey, we included this item, "Share processes you apply in analyzing financials, such as what you look at, when and how often you analyze financials, or who is involved." Here are a few of the interesting statements printing firm leaders shared with significant phrases underlined.

"COMPARE PERCENTAGES, Year to date, Prior Year, Monthly, % of column to income, % of column to expense, compare to annual budget."

"We look at financials monthly. Mainly focus on gross profit, net profit and compare sales from same period previous year."

"Every month, compare percentages of costs and profits to previous months, years, etc."

"Full monthly financial statements; trend sales volume, gross margins and net income. Statements are shared with the executive team."

"Our monthly financials include income statement and Value Added income statement that have columns to show expense as % of sales or VA. We have a 1 page monthly benchmarking report that uses this survey's results for comparison."

"We look at financials the 10th day of the following month. We look at major ratios each month as well. All monthly notes are kept in a google drive so that we can compare to previous year."

"Look at current asset/liability ratios and cash needs."

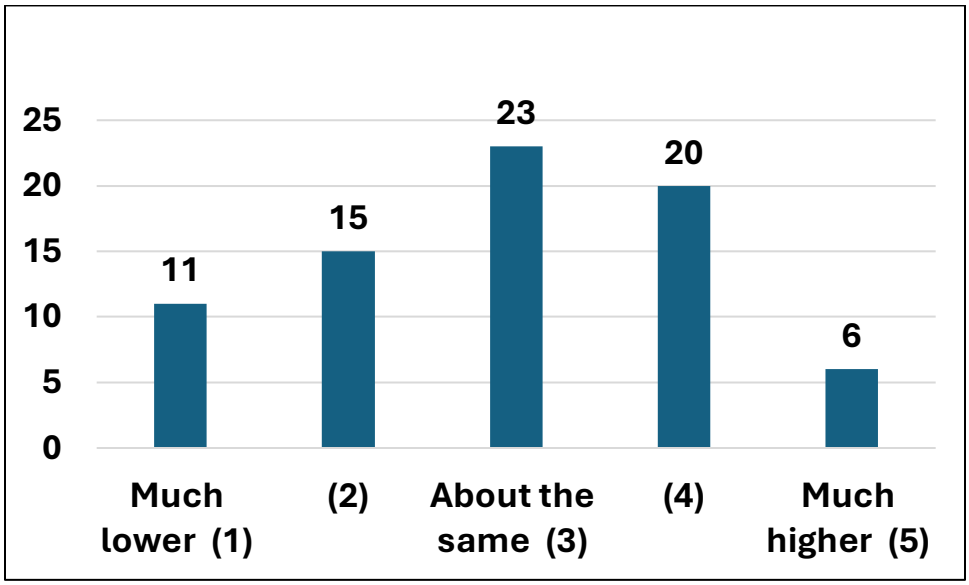
In these statements, we see the following useful approaches: an ongoing, monthly, approach; the use of percentages; financial ratios; value add; budgeting; sharing with the team; and using benchmarks from our surveys.

Yes, we are big fans of analyzing financial statements. However, financial statements are retrospective and look back. Budgeting is mentioned in multiple quotes above. Budgets are based on the strategic and tactical actions that management plans to execute. As such budgeting, is proactive and provides a tool for managers to assess performance against plans and/or validity of the assumptions used in plans.

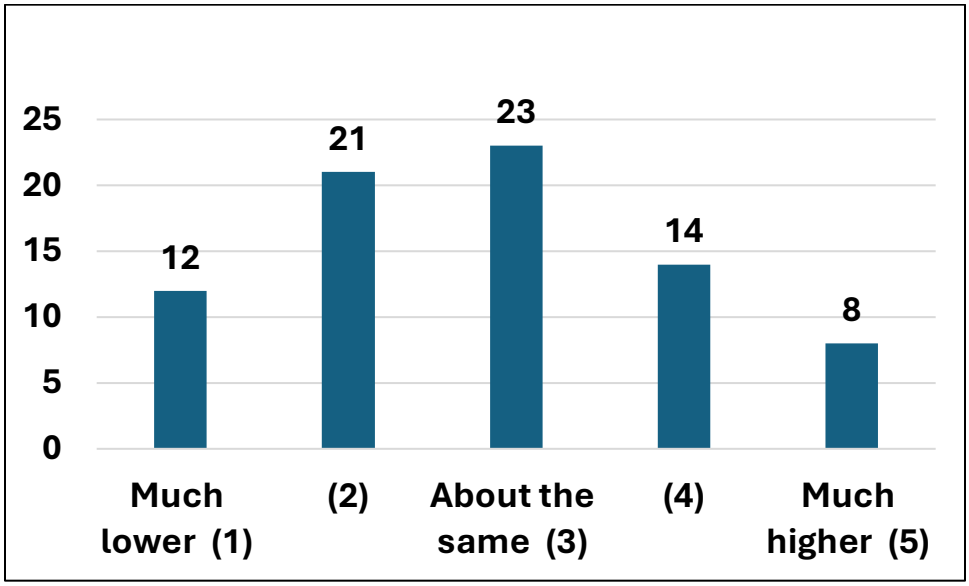
Lastly, don't let financial analysis pull you away from analyzing operating data, such as chargeable time and productivity for different cost centers. Monitor operating trends and compare them to the financial results. As one of our coauthors says, "Financial statements tell a story, and the key is to make sure that the story is consistent with reality. Reality is operating data."

2024-Q1 Revenue and Performance Perceptions

As our recent financial benchmarking survey focused on 2023 numbers, we also desired to draw information about the current environment. We included these two questions: “How does your company's 2024 first-quarter revenue compare to its 2023 first-quarter revenue?” and “How does your company's 2024 first-quarter profitability (net profits, net income, bottom line) compare to its 2023 first-quarter profitability?” Respondents replied using this five-point scale: “Much lower (1),” “About the same (3),” and “Much higher (5).” The chart below shows the distribution of responses to our revenue question, “How does Q1 2024 compare to Q1 2023?”



The chart below shows the distribution of responses to our performance question, “How does Q1 2024 profitability compare to Q3 2023 profitability?”



About 75 printing company leaders answered these questions. Both graphs indicate a normal distribution, a bell curve, with answers at both ends of the scale. In our industry, there are firms that are not doing so well, but there are firms that are doing very well. The good news from these graphs is that our industry has potential. If your firm is challenged, you might recognize and share with your team that some printing companies are doing very well, which is also reflected in our financial benchmarking findings.

Application of new GAAP Lease Rules

Recently, GAAP (Generally Accepted Accounting Principles) instituted a rule where leases longer than twelve months are now included in balance sheets as an asset and a liability. Twenty-one companies in our survey reported leases in their balance sheet. If you are not familiar with this GAAP change, you might discuss it with your accountant. When seeking future loans, a bank might expect you to include leases in your balance sheet. Going forward, we will explore how this GAAP change affects balance sheet ratios.

Accounting Suggestions

In this year's survey, we offered participants the opportunity to send their financial statements as opposed to submitting those numbers into our survey. About 25 firms sent us their financial statements. From reviewing those statements, a few accounting formatting suggestions surfaced that we share below.

- Separate expenses into the following categories: *Cost of Goods Sold*, *Factory Expenses*, *Administrative Expenses*, *Sales and Marketing Expenses, Depreciation and Amortization*, and *Interest*.
    - Separating expenses into these categories will help you see where your firm is spending money and will help compare your firm's numbers to industry benchmarks.
    - We saw statements where ALL of the firm's payroll (factory, administrative, and sales/marketing) was included in one item in one category. Separating payroll (including wages, taxes, benefits, and bonuses/profit sharing) into appropriate categories will help you see costs from a structured view.
- If you maintain paper inventory (or another item with a significant amount on your shelves), measure it and record it as a current asset.
    - Inventory is "cash on your shelves." Measuring it and entering it into your balance sheet will help you monitor that asset.
- Not too much detail, but some.
    - For instance, we saw income statements where every repair/maintenance or office supply invoice was listed. Combining invoices into subcategories will help you see the picture and direct you where to look at details.

Percentage of Revenue Lost to Spoilage

Shortly before we released our survey, a printing company leader asked if we were aware of any data showing how much revenue printing firms lost to spoilage. That prompted us to include in our survey this question: "From your best guess, an estimate, what percentage of your revenue resulted in spoilage (rework or replace a product, in part or in entirety)?" About 60 participants

responded to that question. From a general view of the responses, it appears that spoilage of less than one percent of revenue is a good goal.

The level of detail printing firm leaders applied to answering this question was interesting (e.g., 0.01%, 0.37%, 1.17%, 0.34%, to name a few). Indeed, multiple respondents shared specific dollar amounts lost to spoilage. It's obvious that several firms in our industry specifically measure and monitor the amount of revenue lost to spoilage.

Recycling Payments

Prompted by printing association leaders from the West Coast, we included in our survey this question: "Did your firm receive recycling revenue? If yes, please provide an estimate of how much." About half of 75 respondents answered, "Yes." It was surprising that those 35 or so yes answers were not from one or two regions. Printing firms from all over the nation are drawing in recycling revenue. If your firm is not, you might look into that possibility. If your firm is receiving this revenue and you are in a state considering or implementing Extended Producer Responsibility legislation, you will want to consider the potential impact on this source of revenue.

We hope you find some actionable knowledge above. Please email Dr. Ralph Williams (ralph.williams@mtsu.edu) with questions, comments, or suggestions about this report or any *Printing Industry Performance & Insights* surveys or reports.

Participating Regional Printing Associations
FGA – Florida Graphic Alliance
GLGA – Great Lakes Graphics Association
GMA – Graphic Media Alliance
PGAMA – Printing and Graphics Association Mid-Atlantic
PGCA - Print & Graphic Communications Association
PIA – Printing Industry Association
PIAG – Printing & Imaging Association of Georgia
PIAMA – Printing and Imaging Association MidAmerica
PIAS – Printing Industry Association of the South
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

States Included in Each Region

Northcentral
- Illinois
- Indiana
- Kansas
- Michigan
- Minnesota
- Missouri
- Nebraska
- Ohio
- South Dakota
- Wisconsin

Northeast
- Connecticut
- Maryland
- Massachusetts
- New Hampshire
- New Jersey
- New York
- Pennsylvania
- Rhode Island

Southcentral
- Arkansas
- Kentucky
- Louisiana
- Oklahoma
- Texas

Southeast
- Alabama
- Florida
- Georgia
- Kentucky
- Mississippi
- North Carolina
- South Carolina
- Tennessee
- Virginia
- West Virginia

West
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- California
- Colorado
- Nevada
- Oregon
- Utah
- Washington