



# 2022 ENGINEER SUMMIT

Financial Benchmarking

Presentation by:  
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# Financial Benchmarking Workshop

## Agenda

1. The 3 drivers of profitability
2. How to benchmark successfully
3. Benchmarking Smith & Jones Associates
4. Benchmarking your firm

# Profitability is a Function of 3 Key Performance Indicators



$$\text{Profitability} = 1 - \frac{N}{M \times U}$$

**M = Direct Labor Multiplier** = Net Revenue ÷ Direct Labor

**U = Utilization Rate** = Direct Labor ÷ Total Labor

**N = Non-labor OH Factor** =  
(Non-labor Overhead + Total Labor) ÷ Total Labor

Here is an example:

Net Revenue = \$3,000,000

Direct Labor = \$1,000,000

Indirect Labor = \$500,000

Non-labor OH = \$900,000

$M = \$3,000,000 \div \$1,000,000 = 3.0$

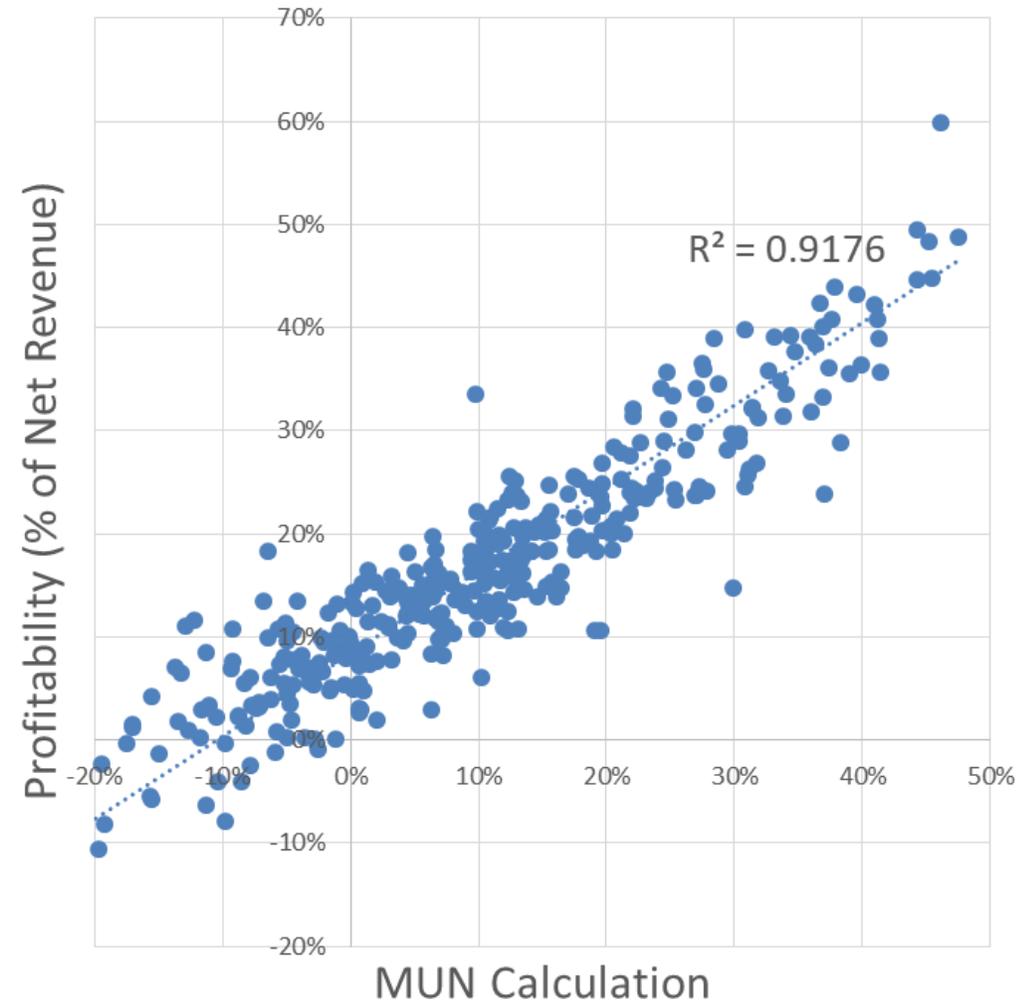
$U = \$1,000,000 \div (\$1,000,000 + \$500,000) = 66.7\%$

$N = (\$900,000 + \$1,000,000 + \$500,000) \div (\$1,000,000 + \$500,000) = 1.60$

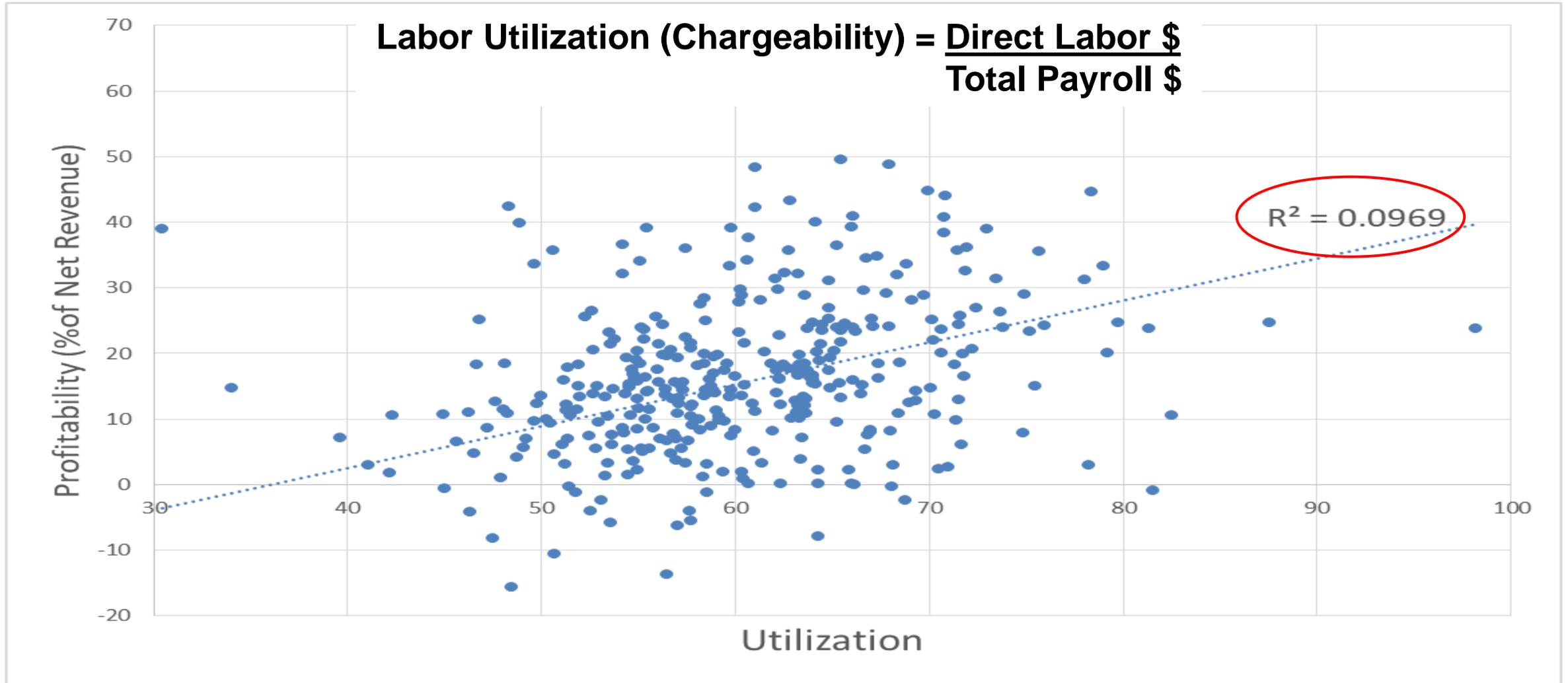
$\text{Profitability} = 1 - [1.60 \div (3.0 \times 0.667)] = 20.0\%$

$\text{Profit} = 20\% \times \$3,000,000 = \$600,000$

Let's see how each KPI affects profitability



# Many Principals Obsess About Utilization Rate (U)



Source: PSMJ A/E Financial Performance Survey

# People Respond To The Pressure By Using Accounting Tricks That Raise Chargeability

- Getting admin staff to charge to jobs
- Spreading principals' time to jobs
- Dumping time onto over budget jobs
- Transferring proposal time to jobs after selection

But do they increase the firm's profitability?

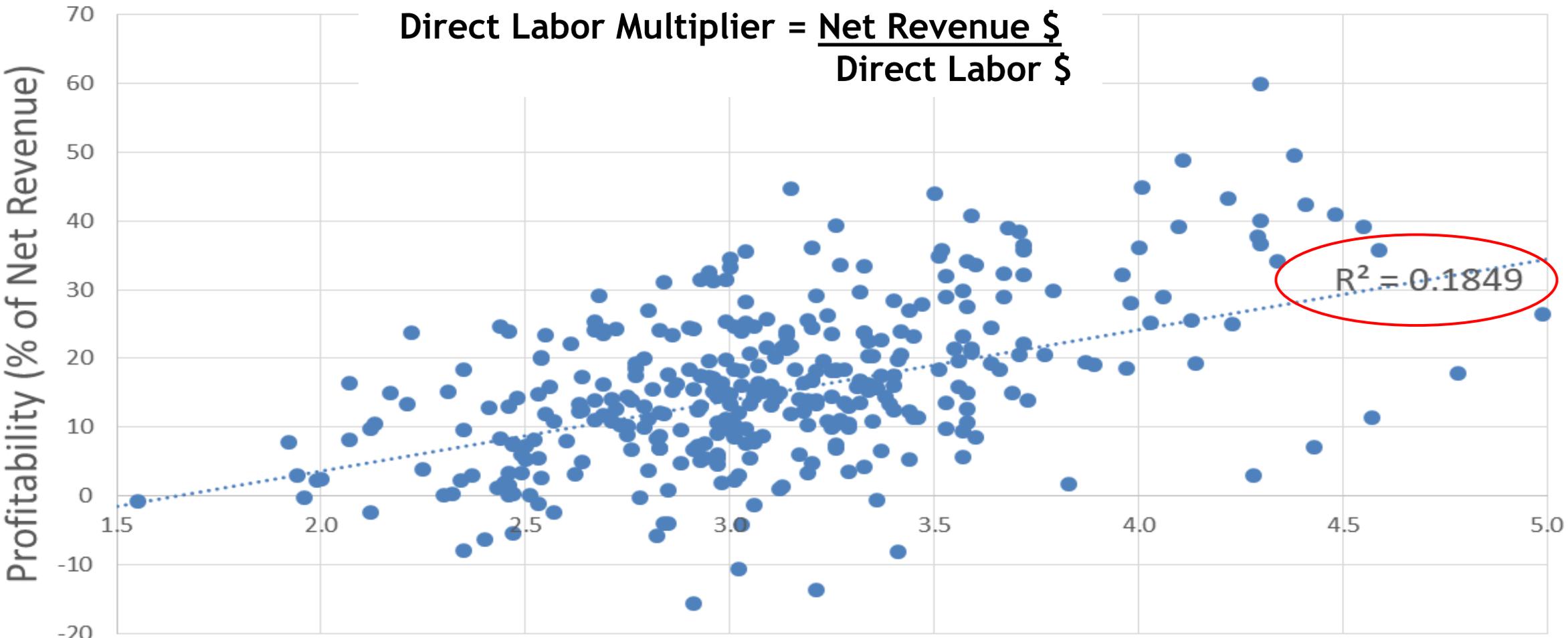
Profit = Revenue - Expenses



# What About Direct Labor Multiplier (M)?

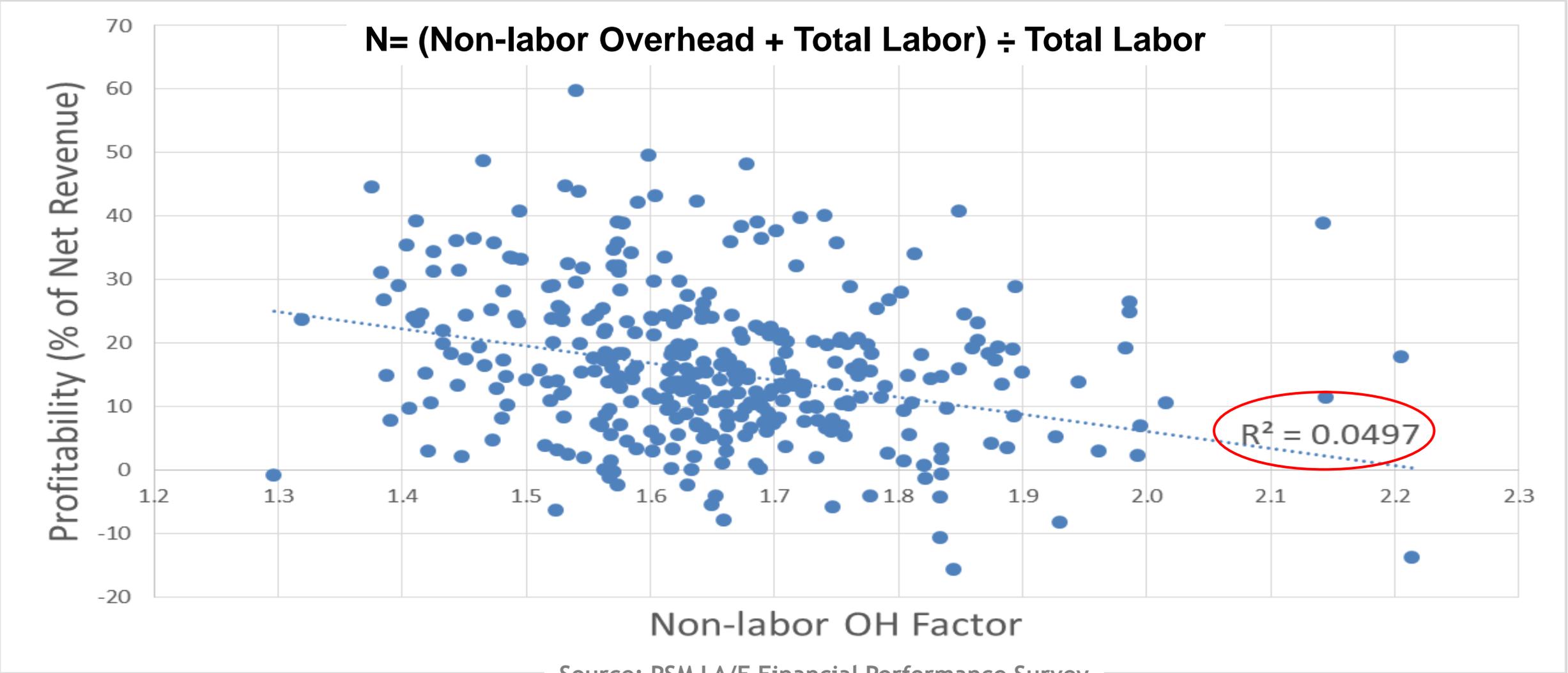


$$\text{Direct Labor Multiplier} = \frac{\text{Net Revenue \$}}{\text{Direct Labor \$}}$$



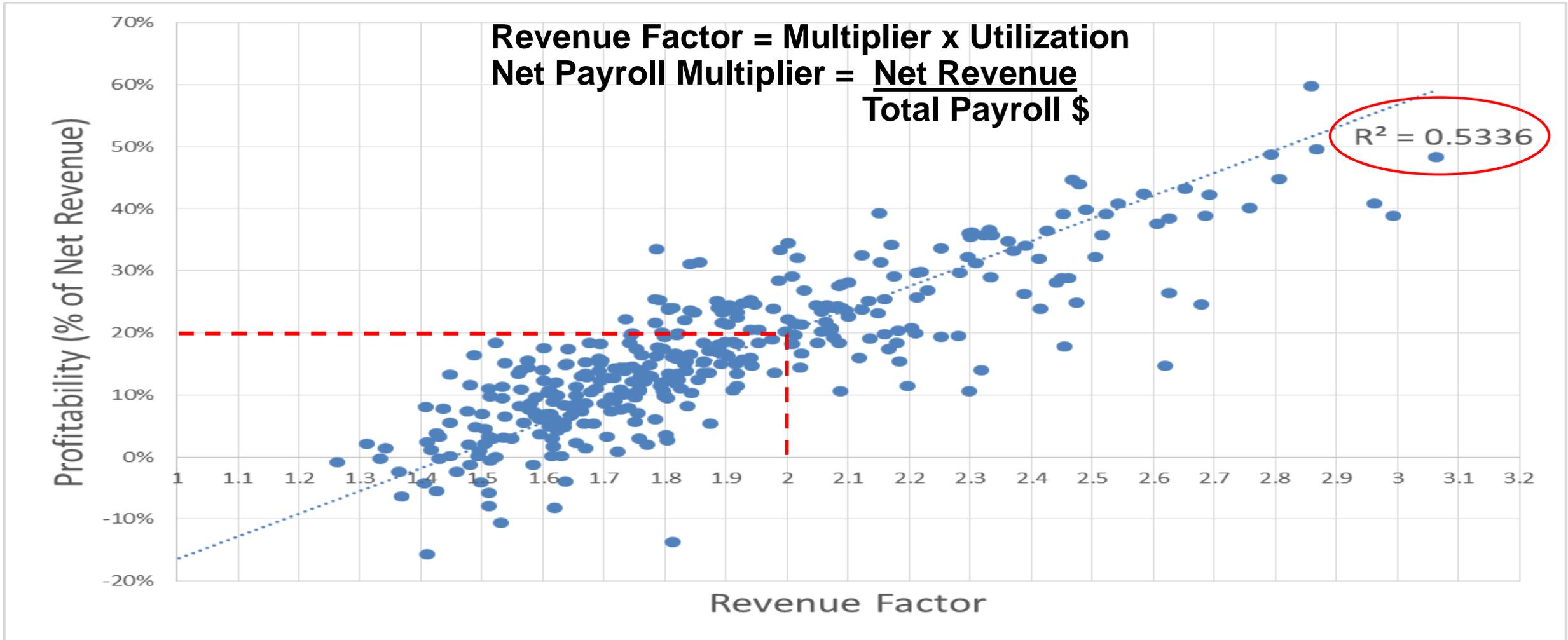
D.L. Multiplier Achieved  
Source: PSMJ A/E Financial Performance Survey

# What About Non-labor OH Factor (N)?



Source: PSMJ A/E Financial Performance Survey

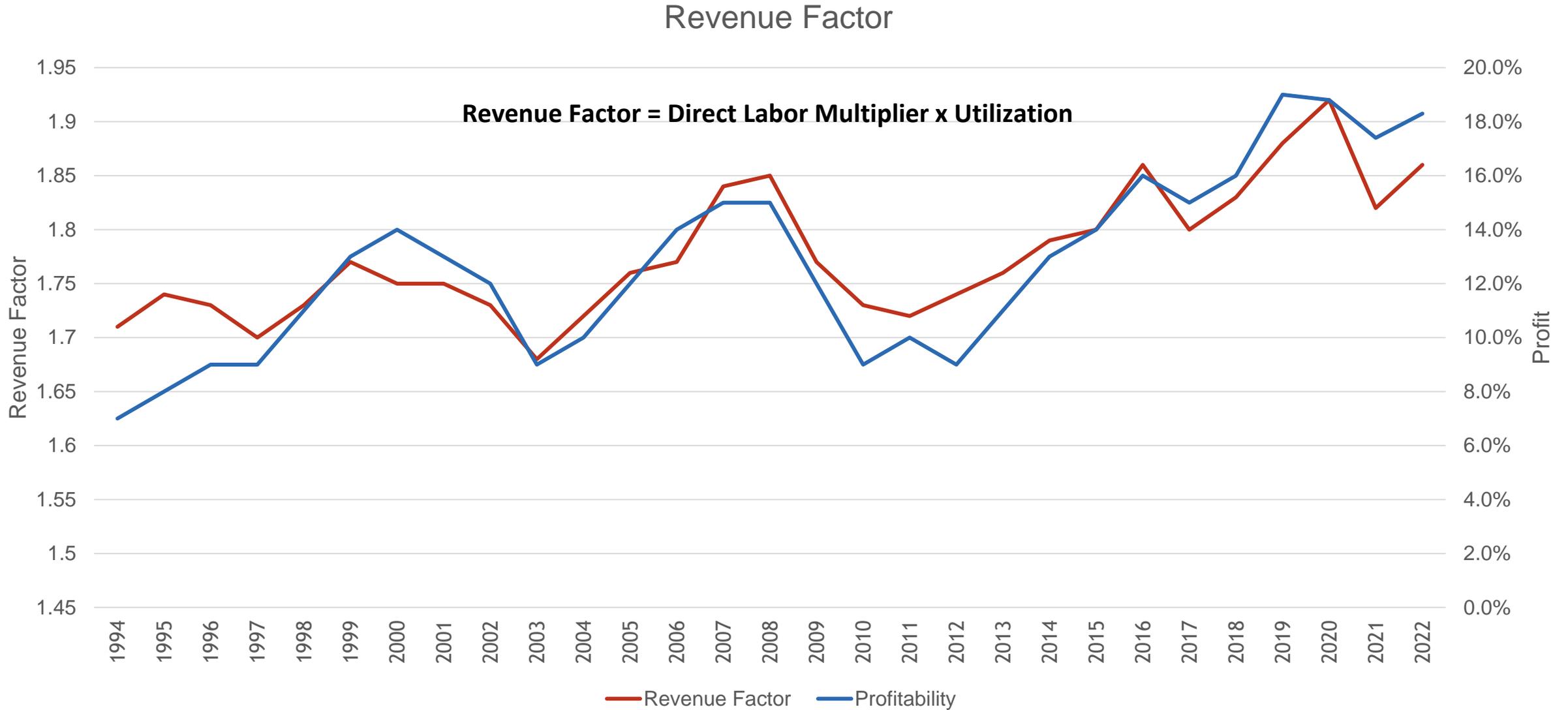
# When You Combine Multiplier (M) and Utilization (U)...



Source: PSMJ A/E Financial Performance Survey

PSMJ | Resources, Inc.

# The Correlation is Even Stronger Over a Long Period



# Different Ways to Be Successful



Parameter	Firm A Typical	Firm B Niche	Firm C Commodity
A. Gross Revenue	\$10,000	\$10,000	\$10,000
B. Reimbursables (ODCs)	\$1,000	\$1,000	\$1,000
C. Net Revenue (A - B)	\$9,000	\$9,000	\$9,000
D. Total Payroll	\$4,500	\$4,500	\$4,500
E. Direct Labor	\$3,000	\$2,000	\$4,000
F. Overhead	\$3,000	\$3,000	\$3,000
G. D.L. Multiplier ( $M = C \div E$ )	3.0	4.5	2.25
H. Utilization ( $U = E \div D$ )	67%	44%	89%
I. Revenue Factor ( $G \times H$ )	2.0	2.0	2.0
J. Profit ( $C - D - F$ )	\$1,500	\$1,500	\$1,500

# Small Differences In Revenue Factor Can Have Big Impacts On Profits



## For a typical 100-person firm:

Profit impact of 0.1 increase in Revenue Factor =  
100 staff @ \$90,000/year x 0.1 =  
\$900,000/year

## Or you can add \$900,000 to profits the old-fashioned way by:

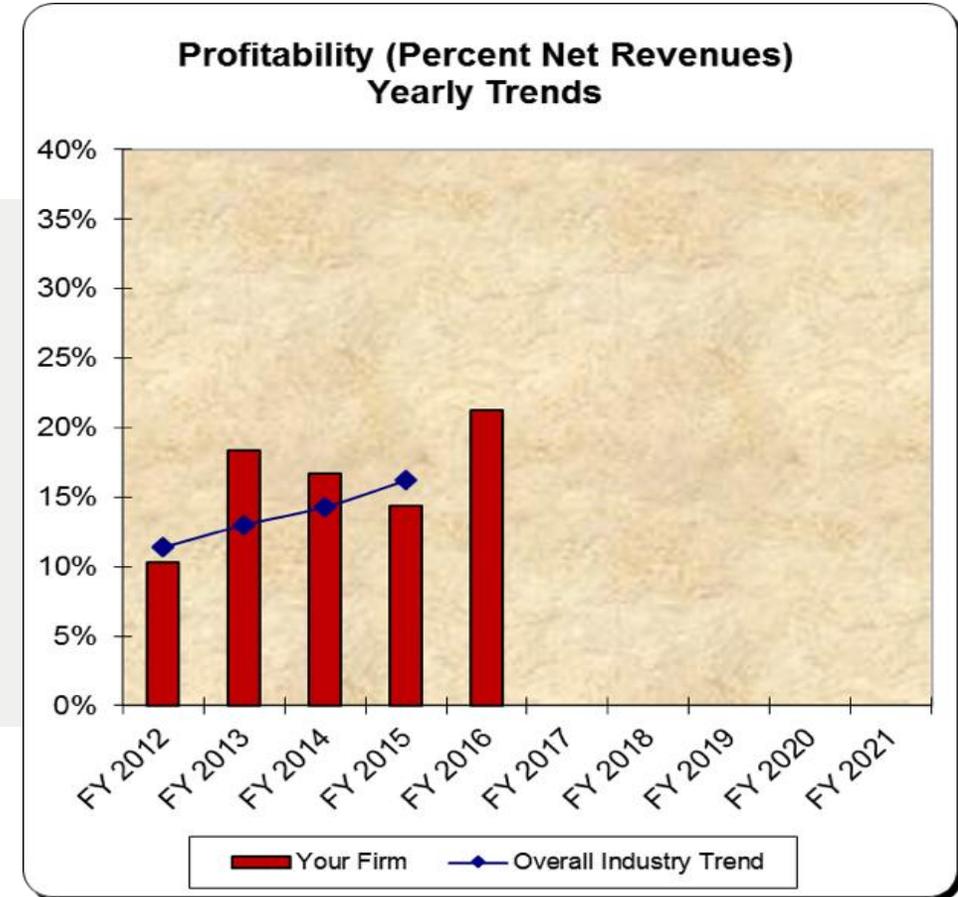
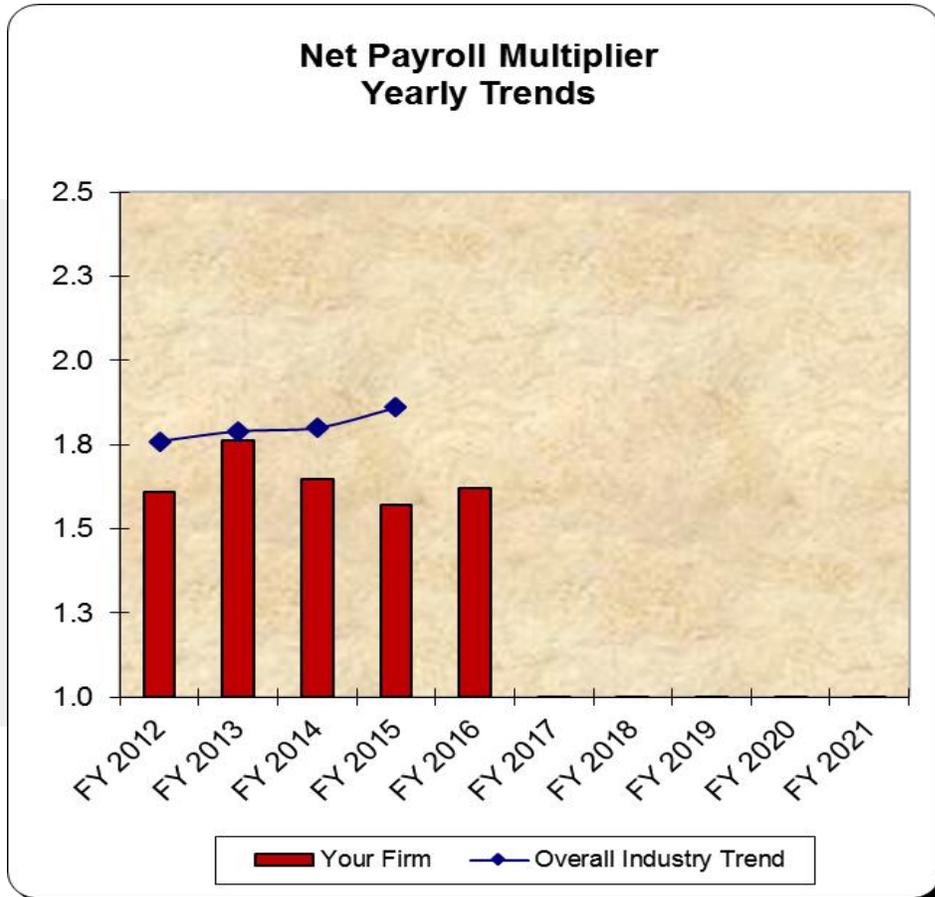
- Selling \$6 million more work
- Hiring 35 more employees to do the work
- Renting 10,000 square feet of office space to house the new employees
- Buying 35 more computers, telephones, etc. for the new employees
- Achieving 15% profit on that work

# You Can Also Increase Profitability By Reducing Non-labor Overhead

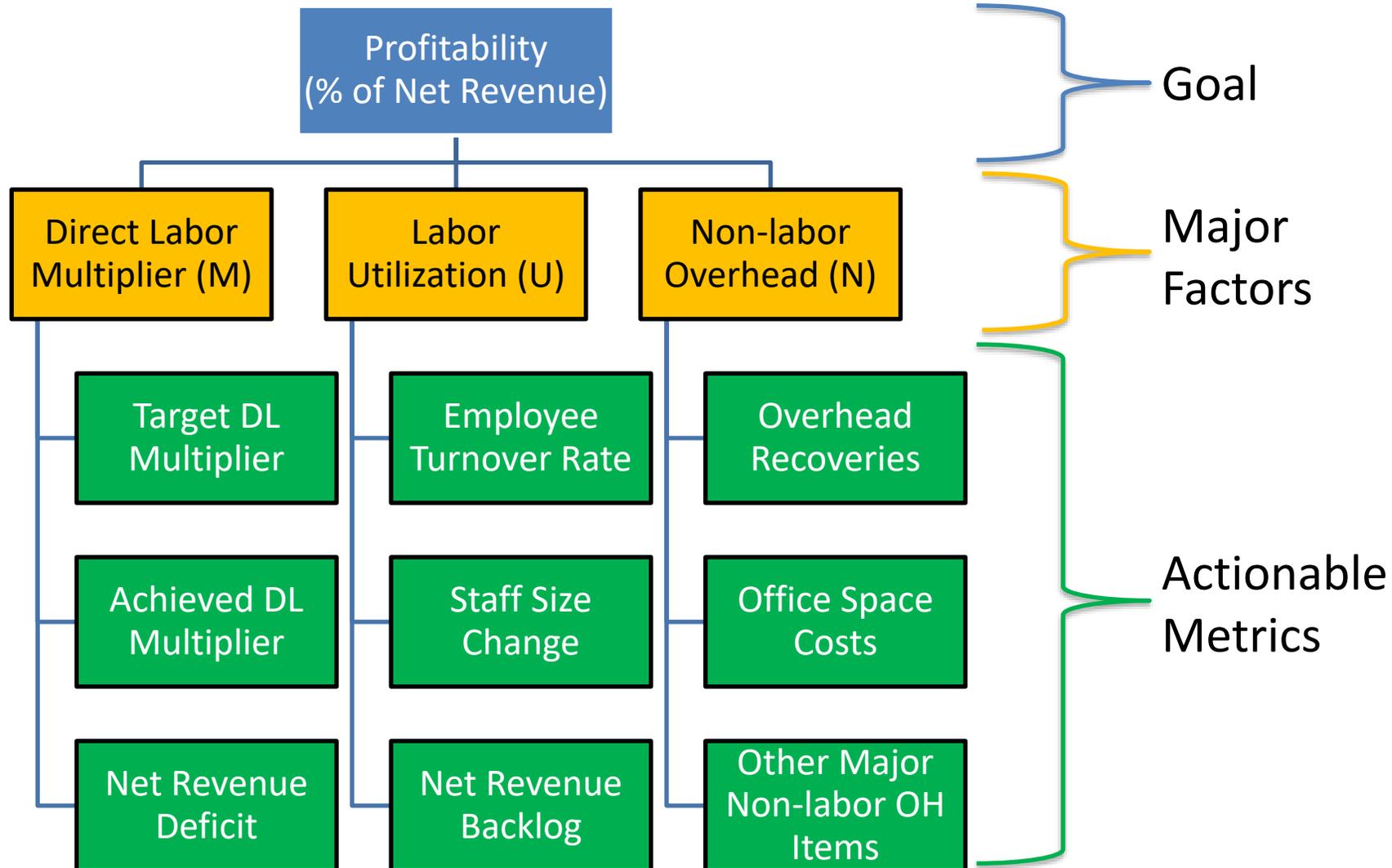


This 82-person engineering/survey firm has had a chronically low revenue factor

But their low non-labor overhead has allowed them to be reasonably profitable



# Successful Benchmarking: Cascade Your KPIs



# Team Workshop No. 1

## Analyzing Smith & Jones Associates



You are a principal in Smith & Jones Associates (SJA), a 53-person MEP firm. 85% of your work is done as a sub to architects. Your firm performs most of its work for education owners.

1. Open the “Financial Benchmarking Tool” on your digital toolbox.
2. Open the “Start Here” tab. This is the basic information about SJA.
3. Open the “Firm Data” tab. This is SJA’s financial performance data over the past 5 years (including a projection for this year).
4. Open the “Select Peer Group” tab. Select one of the options that describes SJA.
5. Open the “Firm Trends” tab and look at the first graph.

# How Does SJA's Profitability Compare to Its Peers?

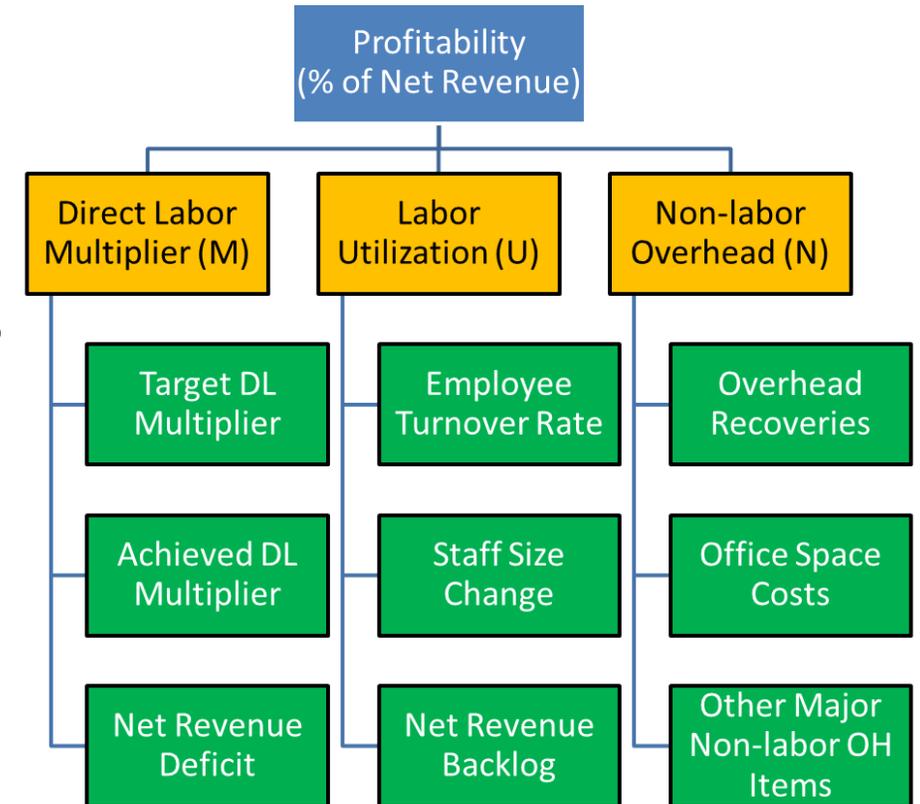


- A. Much better
- B. Somewhat better
- C. About the same
- D. Somewhat worse
- E. Much worse

# Open the “Benchmark Summary” Tab. Let’s Look at the 3 Profit Drivers.



1. How does SJA’s Utilization compare to its peers?
  - A. Much better
  - B. Somewhat better
  - C. About the same
  - D. Somewhat worse
  - E. Much worse
2. How does SJA’s Achieved DL Multiplier compare to its peers?
  - A. Much better
  - B. Somewhat better
  - C. About the same
  - D. Somewhat worse
  - E. Much worse
3. How does SJA’s Non-labor overhead compare to its peers?
  - A. Much better
  - B. Somewhat better
  - C. About the same
  - D. Somewhat worse
  - E. Much worse



# What are possible root causes for SJA's problems?



# Team Workshop No. 2

## Improving the Performance of SJA



1. Open the “Planning Worksheet” tab.
2. Establish 2023 targets for SJA and enter them in the shaded cells of Column K.
3. Open the “Vision Summary” tab. This is a summary of SJA’s past and planned key performance indicators.
4. Open the “Firm Trends” tab. This is a graphical representation of SJA’s past and planned KPIs.

# How Aggressive is Your Target for 2023?



1. Target profitability <5% of net revenue
2. Target profitability = 5-10% of net revenue
3. Target profitability = 10-15% of net revenue
4. Target profitability = 15-20% of net revenue
5. Target profitability >20% of net revenue

# What should SJA do differently to improve its profitability?



# What Other Metrics Are Important?



1. Look at the other metrics in the “Firm Trends” and “Benchmark Summary” tabs.
2. Which ones are important to track?  
Why are they important?

# Homework: Benchmark Your Firm



1. Make a copy of the Excel file and enter your firm's data.
2. Which metrics are most in need of improvement?
3. What will you do differently to improve their performance?

# 5 Reasons to Participate in PSMJ Surveys

<https://www.psmj.com/SurveyAlert>



1

**It Inspires Benchmarking -- the Key to Improved Performance!**

with your peers.

2

**It's Crucial Data for Helping the A/E Industry Build Back Better**

with your peers.

3

**It Means FREE access to PSMJ's Benchmarking Tools**

4

**It Means Half-Off The Survey Reports You Need to Drive Success**

5

**FREE Circle of Excellence Award Entry**

# Thanks for Attending This Program!



- Any final questions or comments?
- If you have questions or comments after you get home...
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- Please fill out this evaluation form

