

Mississippi Log Trucking Business Owner Assessments of Industry Challenges

James T. Shannon and T. Eric McConnell

Mississippi State University, North Mississippi Research and Extension Center, Verona, MS 38879

Mississippi State University, College of Forestry Resources, MS State, MS 39762

james.shannon@msstate.edu, 662-566-8010

INTRODUCTION

- The log trucking industry has been labeled a major challenge in the Southeastern U.S. wood supply system
- Previous log trucking research documented:
 - Aging ownership
 - Difficulties recruiting truck drivers
 - Operation of older trucks compared to other industries
 - Disproportionate increases in liability insurance rates
 - Constrained profits
- Further research necessary due to:
 - Limited knowledge of Mississippi log trucking business owner perceptions on hiring drivers and profitability
 - Lack of Mississippi log trucking group comparisons

OBJECTIVES

- Learn how truck driver availability and operational constraints impact profitability over time
- Determine how perceptions related to hiring truck drivers and business profitability differed among log trucking business owner groups (Table 5)

METHODS

- Mississippi State University Human Research Protection Program and Institutional Review Board exemption determination reference IRB-22-200.
- Mix-mode survey implemented in separate phases:
 - Mississippi Logger Association (MLA) district meetings
 - Qualtrics e-mail survey
 - Qualtrics QR code survey.
- Demographic and operational independent variables stratified into quintiles using the 20th, 40th, 60th, and 80th percentile locations as cutoff points.
- Safety and out-of-service violations divided into two groups, separating those with and without citations.
- Dwass, Steel, Critchlow-Fligner (DSCF) non-parametric test was used to locate attitudinal differences among log trucking business groups
- N= 98 for demographic and operational analysis
- N = 85 for citation analysis



RESULTS

Table 1. Percentage of Mississippi log trucking business owner responses relating to ability to hire drivers in 2019 and 2021.

	More difficult in 2021 (1,2)	The same in 2019 and 2021 (3)	Easier in 2021 (4,5)	Median
Percentage of responses	84%	15%	0%	1

Table 2. Percentage of Mississippi log trucking business owner responses rating the impact of four variables on hiring qualified drivers.

Variable	Low importance (1,2)	Moderate (3)	Important (4,5)	Median
Lack of qualified drivers	4%	7%	88%	5
Failed drug tests	11%	13%	75%	5
Uncompetitive pay	8%	29%	64%	4
Lack of employee benefits	18%	26%	56%	4

Table 3. Percentage of Mississippi log trucking business owner responses relating to profitability in 2019 and 2021.

	Profits were worse in 2021 (1,2)	Profits were the same in 2021 (3)	Profits were better in 2021 (4,5)	Median
Percentage of responses	73%	14%	12%	1

Table 4. Percentage of Mississippi log trucking business owner responses rating the impact of ten variables on profitability

Variable	Low importance (1,2)	Moderate (3)	Important (4,5)	Median
Insurance	1%	4%	95%	5
Fuel Prices	1%	5%	94%	5
Hiring drivers	4%	3%	92%	5
Trucking rates	3%	7%	89%	5
Accident lawsuits	10%	4%	85%	5
Increasing driver pay	4%	12%	84%	4
Mill turn times	5%	12%	82%	5
In woods turn times	19%	10%	71%	4
Road weight limits	13%	16%	70%	4
One-way distance	8%	24%	67%	4



Table 5. Independent variable groupings analyzed from a mixed-mode survey of Mississippi log trucking companies conducted during 2022-2023.

Variable	Unit
Safety practices score	Safety Score
Years hauling	Years in business
Trucks	Total trucks
Owner age	Age (years)
Miles per truck	Miles (thousands)
One-way haul distance	Miles
Production	Loads/week
Insurance premiums	Dollars (thousands)
Overweight violations	2021 citations
Safety violations	2021 citations
Out-of-service violations	2021 citations

Table 6. Dwass, Steel, Critchlow, and Flinger significant pairwise comparisons.

Dependent variable	Independent Variable	Percentile Comparison	DSCF p-value
In woods turn times	Overweight violations	40 th < 20 th	0.029
Increasing driver pay	Safety practices score	20 th < 60 th	0.013
Increasing driver pay	Safety practices score	20 th < 80 th	0.042
Increasing driver pay	Safety practices score	20 th < 40 th	0.042

SUMMARY AND CONCLUSIONS

Hiring Qualified Drivers

- 84% said it was harder to hire qualified drivers in 2021
- Greater emphasis on driver shortages and failed drug tests
- > 50% reported the importance of qualified driver pay

Profitability

- 73% with lower profits in 2021
- Greater importance on insurance, fuel, hiring, and haul rates
- > 66% influence of litigation, policy, or management practices

Categorical Comparisons

- Few categorical differences. Centered on safety practice score
- Businesses with lower safety practice scores said increasing driver pay was less impactful on profits

Conclusions

- Mississippi log trucking businesses largely in agreement on factors impacting hiring drivers and business profits
- Workforce development could address driver shortages and failed drug test return-to-work protocols
- Increased importance of cost management to negotiate adequate haul rates
- Investment of savings in qualified drivers and safety practices could control rising insurance by preventing crashes

