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Starfire's Dilemma



Capacity at What Cost?

By Thomas L. Albright, CPA; Paul E. Juras, CMA, CPA; and Russ Elrod

Founded in 1968 by Alan James, Starfire Trucking Company has grown into a sizeable operation with 90 trucks and 180 trailers. Recently, FHP Technologies, Starfire's largest customer, submitted a proposal to James to add delivery routes that would improve the efficiency of FHP's supply chain. With Starfire already operating at (or near) full capacity, James is uncertain that his company can handle the additional routes.

James feels that accepting the offer might require

adding more trucks and possibly incurring additional debt. The issue is whether the rates offered by FHP are high enough to offset the associated risks of growing the fleet. Although James has grown his business organically through the years by reinvesting profits, the company has incurred debt from time to time to replace older equipment (usually in blocks of five trucks). He knows that the slim profit margins associated with trucking, coupled with a downturn in the economy, could spell disaster if Starfire were saddled with too much debt.

Roger Simmons, Starfire's operations manager for the past 16 years, reviewed the FHP proposal and thought it was a great opportunity for the company. He approached James to talk about it, and within 10 minutes they were in a closed-door meeting going over the pros and cons of the offer. Simmons began: "Alan, this is a huge opportunity for us to grow the business. Not to mention, as FHP becomes more dependent on our services, we will be in a stronger position to negotiate future rate increases. I know you're opposed to debt, and I understand the risks of carrying more debt, but there's more than one way to grow our fleet. If you would consider using independent contract drivers, we could grow the fleet enough to accept FHP's offer without incurring more debt."

James cringed at the thought of using independent contract drivers. Independent contractors owned their own trucks, and James viewed them as difficult to deal with and not worth the headache. "Roger, I hear you, but this new route won't last a week if we can't give FHP great service. Independent contractors call the shots, not us. They own the rig and will sit at home if they want to. I'd rather deal with our own company's rigs and drivers. The rewards just don't justify the risks of damaging our relationship with FHP."

James continued, "And I'm not sure we should take on any more debt at this point to purchase additional rigs. The economy is in the tank, and it's a bad time for us to leverage the balance sheet any further. Roger, my success in this business wasn't built by jumping on every offer that came along. Sometimes you have to say no, even to your biggest customer. Unless you can find a way to

squeeze out more capacity within our current fleet, I just don't think we can accept FHP's offer at this time."

As the two men left the room, Simmons was convinced that James was wrong. Simmons felt certain that James was leaving money on the table; he just needed to prepare a financial analysis that would prove it. Was it possible to squeeze out more capacity from an already fully utilized fleet? Perhaps Starfire could shift trucks from another account. Was taking on more debt truly risky given the profit potential of this new route? Simmons knew he had to make a convincing argument before FHP took the offer to another truck line.

Industry Background and Cost Structure

Table 1 presents the 2012 income from operations of Starfire Trucking Company. To better understand the line items and company cost structure, it would be helpful to begin with a general description of the trucking industry and its common practices. (Also see "Industry Terms" for brief definitions of common terms.)

Revenue Sources

Trucking firms generate a variety of revenue types from hauling goods for their clients. The primary source is typically *line-haul revenue*, which is the revenue earned from hauling freight. Another source is *fuel surcharge (FSC) revenue*. Trucking companies are exposed to fuel price volatility when they sign a long-term contract with a customer. With the pointed volatility of fuel prices in recent years, trucking companies include the FSC, which is an additional fee that's triggered when fuel costs exceed predetermined levels. Thus, the primary purpose of the FSC is to protect the truck line from fuel price increases during the contract term.

A trucking line will likely have other, *miscellaneous revenue* sources. When the trucking company stores a loaded trailer on its lot for a customer, it charges a *storage fee*. And if a driver assists with unloading a trailer, an extra "*lumper*" fee is charged. If a truck sits idle at the dock for more than two hours, customers can be charged a fee that is classified as *detention revenue*. Placing a detention revenue clause in the contract encourages customers to load trailers efficiently in order to avoid further constraints on a trucking line's tractor capacity.

Flatbed loads often require extra work or care that incurs additional fees. Companies typically charge a *tarping fee* for certain flatbed loads that would be damaged by rain and must be covered, such as drywall, unpainted steel,

INDUSTRY TERMS

Backhaul: Trucking companies often have a revenue-generating load in one direction, but they need a revenue-generating contract for the return trip. The return trip is known as a backhaul. Often, trucking companies contract with freight brokers to acquire backhauls.

Dry van: A dry-van trailer is a boxed cargo compartment designed for nonrefrigerated freight.

Flatbed: A flatbed trailer is a long, flat platform with no sides.

Tractor-trailer rig: A truck consisting of a tractor attached to a trailer. The tractor typically is powered by a diesel engine.

Table 1: Starfire Income from Operations
 Starfire Trucking Company
 Income from Operations for the year ended
 December 31, 2012

	FYE 12/31/2012	Per mile
REVENUE		
Line Haul	\$20,925,280	\$1.86
Fuel Surcharge	4,950,160	0.44
Miscellaneous	<u>450,120</u>	<u>0.04</u>
Total Revenue	<u>\$26,325,560</u>	<u>\$2.34</u>
VARIABLE EXPENSES		
Insurance	\$675,120	\$0.06
Fuel	8,775,190	0.78
Oil Lubricants	112,700	0.01
Tolls	112,550	0.01
Parts and Small Tools	787,630	0.07
Hourly Wages—Drivers	4,950,160	0.44
Trailer Pool Expense	<u>255,120</u>	<u>0.02</u>
Total Variable	<u>\$15,668,470</u>	<u>\$1.39</u>
FIXED EXPENSES		
Insurance		
General Liability	\$112,620	\$0.01
Physical Damage	225,010	0.02
Workers' Comp.	226,000	0.02
Health Insurance	224,500	0.02
Security	111,750	0.01
Depreciation	2,137,500	0.19
Salaries, Benefits (Garage)	675,000	0.06
Salaries, Benefits (Office)	1,012,520	0.09
Bad Debt Expense	113,500	0.01
Permits	111,520	0.01
Rental Equipment	1,013,000	0.09
Payroll Taxes	562,500	0.05
Accounting Fees, Supplies, Computer Maintenance	112,350	0.01
Miscellaneous	<u>337,510</u>	<u>0.03</u>
Total Fixed	<u>\$6,975,280</u>	<u>\$0.62</u>
Income from Operations	<u>\$3,681,810</u>	<u>\$0.33</u>

Per-mile values are based on 11,250,000 miles. All per-mile values have been rounded to two decimal places.

(All financial information in the case has been scaled and disguised for educational purposes.)

and some types of wood products. Loads transported on flatbed trailers also must be secured by straps or chains. These types of loads often are associated with higher workers' compensation claims. Thus, an extra *strapping and chaining fee* is charged *only* for a flatbed load.

Finally, additional insurance is required when transporting high-value cargo. Many trucking companies simply won't haul a load if it's above the company's standard cargo insurance limits. Those that are willing to bind additional cargo coverage normally do so for a *high-value cargo fee* that covers only the extra cost of insurance. (Alternatively, this revenue line item can also be booked as a reduction to the Insurance expense account.)

Drivers

There are two possible arrangements that trucking companies have with drivers. The drivers can be classified either as employees or as independent operators. Employees receive traditional employee benefits and a Form W-2 for tax purposes. An employee is hired permanently under the assumption that he or she will make deliveries into the foreseeable future. This arrangement constitutes a permanent job.

Alternatively, independent contractors are generally considered temporary rather than permanent. In the trucking industry, an independent contractor often signs a one-year contract. Since independent operators aren't considered employees, they receive a Form 1099 for tax purposes. Independent contractors generally control their working hours, unlike an employee. These operators typically own and provide the tractor, but they generally don't provide the trailer. In addition to driver salaries and depreciation on trucks, expenses incurred by independent contractors include:

- ◆ IRP (International Registration Plan) registration tags. The independent contractor buys the IRP tag for the tractor, while the shipping company buys the tags for the trailer.
- ◆ IRS Form 2290, *Heavy Highway Vehicle Use Tax Return*.
- ◆ Diesel fuel, engine fluids, and all maintenance-related parts and items.
- ◆ Physical damage insurance.
- ◆ Nontrucking "bobtail" liability insurance, which is needed when the truck isn't transporting a trailer.
- ◆ Tolls and scale fees.

For an example of a publicly traded transportation company that uses primarily independent operators, visit Landstar's website at www.nonforceddispatch.com/landstar.php.

For a description of a publicly traded transportation company that primarily owns its rigs and employs company drivers, see J.B. Hunt Transportation Services, Inc., Form 10-K, Part 1, Item 1, Business, JBI Segment: [https://ww2.jbhunt.com/INET/webcontent.nsf/0/FCCDDC9728D74245862579C200676940/\\$File/JBHT%202011%20Annual%20Report.pdf](https://ww2.jbhunt.com/INET/webcontent.nsf/0/FCCDDC9728D74245862579C200676940/$File/JBHT%202011%20Annual%20Report.pdf).

Capacity Issues

Laws require a driver to take a 10-hour break after 11 hours of driving. Furthermore, a driver can't work more than 70 hours in an eight-day period without taking a 34-hour break. For companies like Starfire, which typically assigns one driver to one tractor, this practice can constrain the available hours the tractor can operate.

To improve tractor utilization by avoiding constraints based on legal driving-time requirements, other trucking companies use "slip seating." This practice permits greater tractor utilization by placing a fresh driver behind the wheel at the end of the first driver's shift. Slip seating is similar in practice to when an airline company keeps its planes flying longer by inserting fresh flight crews as the previous crew goes off duty. Efficiencies can also be gained by utilizing team drivers. Commonly involving husband and wife teams, one person drives while the other sleeps. Relative to a single driver, this arrangement basically doubles the amount of miles that can be driven in a given week. Typically, teams are paid more, but additional line-haul revenues offset the extra labor costs.

Another strategy to improve tractor utilization is to use trailer pools, commonly referred to as "drop and hook" systems. For example, trucking companies often leave an empty trailer with customers, who load it with products as units are produced. When the trailer is full, a tractor arrives, drops an empty trailer to replace the loaded trailer, and immediately hooks to the loaded trailer and departs. Tractor utilization improves because the tractor isn't sitting idle while a customer loads a trailer. This approach is economically feasible because trailers are far less expensive to purchase and operate than tractors.

Most trucking companies keep some tractors "on the fence" as spares in case a tractor breaks down. But there's considerable disagreement over what constitutes too many spares. Some owners believe a truck line should put all available equipment on the road and rent a tractor if a spare is needed. Others disagree and maintain a small number of tractors in reserve.

Currently, Starfire Trucking Company keeps a small

number of tractors and trailers out of service but prepared for duty in case a rig breaks down. Some Starfire managers believe this policy is an expensive luxury and that some of these idle rigs could be used to add the new routes requested by FHP. When estimating a tractor's practical capacity, management at Starfire uses 85% of total potential miles driven in a period. Theoretical (or 100%) capacity utilization is virtually impossible in the industry because of factors such as traffic and loading delays.

The Proposal

Management at FHP has asked Starfire to consider adding two dry-van loads per week; each load would require 1,500 miles round trip. Because FHP is a long-term client with a strong financial position, it has asked for a very favorable rate of \$2.15 per mile, which includes the FSC and all miscellaneous fees. Roger Simmons believes the potential volume of freight from FHP can be used to grow Starfire's business and profitability and that there's a risk associated with not taking the new lines. If Starfire doesn't accept the new routes, another trucking line will, thus helping the competitor build loyalty with FHP.

FHP is a stable, solvent company that presents no question of collection, thus ensuring a reliable cash flow. If FHP decides to restructure its supply chain in the future, however, Starfire could find itself in the undesirable position of holding dedicated assets (trucks and trailers) for routes that no longer exist. James's aversion to increased debt levels further exacerbates concerns about acquiring additional fixed assets. Starfire might be able to service the initial demand with existing equipment, but it would need to acquire more tractor-trailer rigs or consider outsourcing the miles using independent contractors when additional routes are added in the future.

Again, Table 1 presents Starfire Trucking Company's income from operations for the year ended December 31, 2012. This statement isn't prepared in accordance with Generally Accepted Accounting Principles (GAAP), but it presents costs by behavior. Table 2 presents Starfire Trucking Company's balance sheet as of December 31, 2012.

The Assignment

Starfire's management is considering the proposal from FHP. There are many issues involving strategy, cost, risk, and capacity. Prepare a recommendation to management regarding the FHP decision that includes the following:

Financial Analysis. Management wants to consider

three independent scenarios to meet the demands of the FHP proposal:

- ◆ Starfire can service FHP's needs with existing capacity.
- ◆ Management of Starfire invests in one additional truck and trailer that can serve the needs of FHP (at least initially). Assume the annual incremental fixed cost associated with acquiring the additional equipment is \$50,000. Further, FHP would agree to pay \$2.20 per mile (total including FSC and miscellaneous fees) if Starfire would sign a five-year contract.
- ◆ Starfire expands capacity by outsourcing the miles requested by FHP. Starfire has business relationships with independent contractors, though James is reluctant to use them. One of Starfire's most reliable independent contractors has quoted a rate of \$1.65 per mile. Assume FHP would agree to pay \$2.20 per mile if Starfire would sign a five-year contract. Further, assume Starfire would incur incremental fixed costs of \$20,000 annually.

Capacity Analysis. Starfire's management is uncertain about how to view capacity. Discuss the challenges that management faces with defining and managing capacity. Consider various definitions of capacity.

Strategic Analysis. Consider the strategic implications (including risks) associated with expanding (or choosing not to expand) operations to meet the demands of FHP.

Executive Summary. Provide a discussion that summarizes the current decision alternatives from your financial analyses, capacity analysis, and strategic analysis, and make a final recommendation as to what Starfire management should do. **SF**

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Table 2: Starfire Balance Sheet
Starfire Trucking Company
Balance Sheet, December 31, 2012

ASSETS		
Current Assets		
Cash	\$200,000	
Accounts Receivable	<u>300,000</u>	
Total		\$500,000
Property, Plant, and Equipment		
Land	\$1,000,000	
Buildings	3,000,000	
Accumulated Depreciation Buildings	(1,250,000)	
Tractors, Trailers, and Equipment	18,650,000	
Accumulated Depreciation	<u>(4,750,000)</u>	
Total		<u>16,650,000</u>
Total Assets		<u>\$17,150,000</u>
LIABILITIES AND EQUITY		
Current Liabilities		
Accounts Payable	\$150,000	
Taxes Payable	65,000	
Current Portion of Long-term Debt	<u>35,000</u>	
Total Current Liabilities		\$250,000
Long-term Liabilities		
Notes Payable	\$1,865,000	
Total Long-term Liabilities		<u>1,865,000</u>
Total Liabilities		\$2,115,000
Owner's Equity		
Contributed Capital	\$3,550,000	
Retained Earnings	<u>11,485,000</u>	
Total Owner's Equity		15,035,000
Total Liabilities and Owner's Equity		<u>\$17,150,000</u>

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