

# Jamaan Argo Truck Lines

## LONG-AND SHORThAUL TRUCKING SERVICES

### *Company Background*

Jamaan Argo Truck Lines, Inc., a medium-sized common carrier based in Bukittinggi, Andalas Island, provides over-the-road transportation services in the Western Indonesia. Truck terminals are strategically situated, one or two driving days apart, in Bukittinggi; Pekanbaru, Jambi; Medan, Aceh; Palembang, Jakarta; and Semarang, Surabaya. The company offers two main types of services to its customers: standard and short-haul services. The standard service includes pick-up of goods at one of its main truck terminals and shipment either to another of its own terminals or to a terminal operated by another major carrier. Short-haul service involves pick-up from or delivery to specific locations other than fully-equipped truck terminals. Customers that desire "our dock to their dock" service, for distances of more than about one hundred miles, contract for the combination of the standard and the short-haul service.

Jamaan Argo Truck Lines was founded in 2009 and initially experienced rapid growth. However, deregulation of the trucking industry caused growth to slacken during the early 2020s, due to increased competition on the most lucrative routes. In 2023, the company nearly foundered in an industry shakeout that forced a number of Jamaan Argo's less successful competitors out of business. In the wake of this shakeout, a lean, mean industry has emerged. Jamaan Argo's sales have recovered, with substantial increases for three consecutive years, and the present rate of growth appears to be sustainable throughout the 2030s.

Two years ago, 60 percent of Jamaan Argo Truck Line's outstanding common stock was acquired by a conglomerate; GKQ Industries, Inc. GKQ also owns several major manufacturing firms, a "third-party" equipment repair company, a chain of mini warehouses, another trucking company based in Bengkulu, and small companies in a variety of industries. The merger offered some preferential haulage business to Jamaan Argo, but otherwise, GKQ decided to allow Jamaan Argo to operate as an independent, separately incorporated subsidiary. Most importantly, it left Jamaan Argo's management team intact. There is speculation that at some time in the future, Jamaan Argo may be merged with the Tg Karang trucking company, but a vice-president of GKQ recently stated that no action along these lines would be taken for at least three years.

Management's near-term goal is to consolidate its success and demonstrates to the new corporate parent that Jamaan Argo is well equipped to do business in tree modern industrial environment. One of Jamaan Argo's immediate plans is to upgrade its information system.

### *Major Company Resources*

Jamaan Argo's major investments are in its fixed terminal facilities and its tractor trailer rigs. Jamaan Argo Truck Line's main facility in Bukittinggi includes the correlate offices, administrative headquarters, sales and scheduling center and data-processing center. In addition, the Bukittinggi facility houses the main truck terminal, a central truck service and repair shop, and a warehouse containing a depreciable inventory of spare parts and supplies, which are dispatched as needed to the regional terminals. Each truck terminal consists of loading facilities a garage unit for routine truck maintenance, rest facilities for drivers, and an administrative office. Terminals operate around the clock, on three shifts, to ensure the efficient loading and unloading of freight and quick truck turn-around.

Jamaan Argo's main goal-and indeed that of the whole trucking industries- is to maximize its equipment utilization. The company would like to keep its truck on the road, carrying full loads every day of the year. Company policy is to keep its tractors no more than three years, and currently, the average age is about fourteen months. The rapid turnover of tractors ensures good reliability and minimizes maintenance expenses. Furthermore, the resale price of a thirty-six-month-old truck is still relatively high.

Both the tractor cabs and the trailers are numbered to facilitate recordkeeping. Detailed records are kept for each tractor and trailer, listing date and cost of acquisition, depreciation charges, service down time, accidents, major and maintenance and repairs performed, and corresponding odometer readings. Accelerated depreciation is used for both tax and financial reporting to achieve quick cost recovery.

Another significant company investment is in human resources. Jamaan Argo attracts good drivers and mechanics by offering stable employment and better than-average fringe benefits. Several drivers have been with the company since started, and many more have at least ten year's seniority. Two drivers are normally assigned to the longer runs, so that one can rest while the other continues to drive. Husband-and-wife driver teams are especially welcome at Jamaan Argo, and a number of employees have opted for this lifestyle. Mileage and layover pay for drivers are generally in line with union-negotiated rates throughout the industry. Drivers are guaranteed 10,000 miles per month, and most average 16,000 to 20,000 miles per month. Hourly wage rates for other no salaried employees, such as loaders, mechanics, and student driving instructors, are also in line with industry-wide union rates. The company pays all premiums for its no salaried employees' health insurance, and five years ago, it established a noncontributory retirement plan for both no salaried and salaried personnel.

The company places considerable emphasis on the quality of its drivers and service personnel, and Jamaan Argo's training programs are the envy of the industry. Applicants for driver positions must be at least twenty-three years old, have had a minimum of one year's verifiable tractor-trailer experience in the previous three years, and have a good driving and safety record. Moreover, all applicants must agree to meet all company and Department of Transportation requirements, including routine alcohol and drug testing. New drivers are given an intensive three-week training program in which, under supervision, they drive each type of truck, carry a representative sample of loads, and visit all of the company's terminals. Mechanics without truck experience work

alongside long-term employees and may also be required to attend classes on truck maintenance at local technical schools. After six months, they are given a certificate attesting to their completion of training, and they also receive a Rp 2.00 per hour raise.

Although the cost of training is relatively high, the investment has resulted in higher fixed-asset utilization, lower repair costs, and fewer accidents particularly serious accidents-than are reported by most of the company's competitors. Each July, a Safety and Performance Bonus is given to all drivers who have completed a year of accident-free driving. Progressively higher bonuses are awarded to drivers with two or more accident-free years. **The human resource management system requires detailed records on each employee. For example, the records for drivers include years of experience, absentee rate, accident record, traffic citations, and average times taken for principal routes.**

### ***Management Structure***

Jamaan Argo's management and administrative structure is centralized, and all strategic, tactical, and major operating decisions are made at the Bukittinggi headquarters. The president and son of the founder, James B. Oppenheimer II, makes all major decisions, while day-to-day operations are delegated to the Vice-President and General Manager, Roger W. Sutan . Sutan oversees the work of the corporate sales manager, manager of operations, controller, and head of data processing. All purchasing, billing, collections, payroll, general accounting, and tax accounting activities are supervised by the controller. The total headquarters administrative payroll includes seventy-five people. Twenty loaders and eight mechanics are employed at the Bukittinggi terminal facility. All drivers are assigned to headquarters, even though they may spend most of their time routes between regional terminals.

The regional terminals in Pekanbaru, Medan, Palembang, and Semarang evaluated as cost centers. Their managers are responsible primarily for local sales and scheduling, efficient operation of the terminals, and routine truck maintenance. In addition to the two salespersons, each terminal has a full-time staff of three shift supervisors, twelve loaders, seven mechanics, and five office personnel. Normally, three mechanics are on duty during the day shift, but only one is on duty during the swing and grave-yard shifts. Mechanics are assigned to the night shifts in rotation; they work two weeks on each night shift and then are allowed three days off to adjust their sleep routines. Office personnel only work during the day shift: 7:30 A.M. to 4:30 P.M., with one hour for lunch.

### ***Marketing and Price Policies***

Jamaan Argo Truck Lines markets its services primarily through solicitations by its own sales force, supported by regional and local advertising. Twelve sales persons are assigned to the Bukittinggi facility and two are assigned to each of the terminals. Promotion in trade and business journals and telephone Yellow Paper is handled by an advertising agency in Andalas Island . In addition, approximately 25 percent of the company's business results from existing customer

referrals, independent shipping agencies, other trucking companies, and recently-other GKQ subsidiaries.

Standard services between the company's terminals are billed at a fixed rate per truck-mile. In order to achieve a high utilization factor for its trucks, the company's goal is to operate only fully loaded trucks. Normally, the departure of a truck will be delayed if another shipment in the pipeline can be consolidating with an existing partial load. However, customers can pay a surcharge that ensures immediate departure of a partial load. Short-haul services are billed at a variable rate per ton-mile that depends on the nature of the load, ease of access to the pick-up and delivery locations, requested schedule, and whether the truck must travel empty on the outgoing or return trip. A 15 percent discount is given for either standard or short-haul services to customers who place more than Rp 500,000 worth of shipping business with Jamaan Argo in any given year. **Total billings are maintained in a subsidiary shipping ledger, and any earned discount comes in the form of a year-end rebate.**

### ***Information Processing Facilities and Procedures***

Currently, the accounts receivable, accounts payable, payroll, and general ledger systems are automated. On the other hand, preparation of drivers' manifests and reports, and maintenance of inventory, fixed-asset, and personnel records are performed manually.

All computerized processing is performed in a batch mode, using a 32-bit minicomputer acquired roughly twenty years ago. The computer has 4GB of main memory and 500 GB of hard disk storage. The central processor supports four input work stations, two line printers, and a CD drive at the Bukittinggi headquarters and one CD drive at each of the regional truck terminals for remote job entry. Backup of the hard disk to external hard disks is performed daily at the central site. The computer is fairly slow, and, at key times during the month, it is unable to keep up with the processing backlog. As the computer equipment has aged, the problem has been compounded by excessive down time for repairs and maintenance.

Customer orders are recorded on paper shipping order forms that provide the input to both the billing and the scheduling functions. Shipping rates are entered from tables that list each category of customer and each type of load. Sales information is keyed into the computer to initiate the billing function, and details of the customers, loads, destinations, and required delivery dates are telephoned to personnel at the truck terminals affected. Truck departure dates and times are mutually agreed upon by the schedulers at headquarters and the shift supervisors at the regional terminals. Copies of the shipping orders are sent to confirm the telephone information, and they generally arrive within two to three days.

The personnel responsible for scheduling are all experienced and have a good feel for the trucks' current locations and future availability. Mindful of the cost of driving empty trucks from one location to another, they generally do a good job of maximizing truck utilization. However, with the expansion of business and the increase in the number of trucks on the road, they find the task increasingly difficult. At

present, the only hard data they have are copies of the shipping orders that have already been issued.

The driver's manifest is prepared manually by the shift supervisor, using data from the shipping order form. It lists the nature and weight of the load, a detailed list of the contents, the destination, the date of dispatch and required delivery date, and any special delivery instructions. The driver signs the manifest at the start of the trip to acknowledge responsibility for the load. The driver is also provided with a blank driver's report form (see Exhibit 1), which must be turned in at the destination point. The report lists the truck number, the dates of the trip, and the beginning and ending odometer readings and it itemizes expenses for lodging and subsistence incurred by the driver. Fuel is paid for using a company credit card, but drivers are expected to pay for other expenses and be reimbursed later. In addition to the driver's report, which is completed after every trip, each driver also submits an end-of-week time report listing the trips made and the driving times for the seven-day period.

Drivers are responsible for checking tire pressures and water and oil levels before starting out on a trip. If a truck breaks down on the road, the driver is responsible for getting emergency help, either from a local truck service station or, if possible, from the nearest company truck terminal. Upon reaching the destination, the driver must complete a report indicating the problem and the steps taken to remedy it. Similarly, if a truck is involved in an accident, the driver must complete a report describing the nature of the accident, the damage sustained, and the responsibility for the accident. A copy of the accident report issued by the attending police officer must be attached.

Scheduled routine maintenance is performed by mechanics at any of the terminals. Major overhauls, which are normally scheduled after every 200,000 miles, are performed at the main terminal in Bukittinggi.

## **Required**

### **Systems Planning**

1. Develop a long-term plan for meeting Jamaan Argo Truck Lines' information processing needs. The main plan-which should extend over a twenty-year time horizon-should provide for growth at 10 percent per year, and the opening of one new truck terminal every five to six years. The long-term plan should be broken down into a series of five-year plans.

As an addendum to your plan, briefly discuss the impact of a merger with the other trucking company owned by GKQ. (Assume that at the time of the merger, the other company is one-half the size of Jamaan Argo.)

2. To what extent could truck scheduling be improved by automation?

Can scheduling be considered an accounting problem?

3. At present, communication of shipping orders to the regional truck terminals takes several days, which, among other things, hinders

**Exhibit 1**  
**Drive's Report**

Driver's Report						
Shipping order _____			Truck no. _____			
Weight _____			No. of items _____			
Description _____						
Driver no. _____			Name _____			
Requested pick-up date _____			Actual pick-up date _____			
Point of departure _____						
Pick-up instructions _____						
Requested delivery date _____			Actual delivery date _____			
Destination _____						
Delivery instructions _____						
Beginning mileage _____			Ending mileage _____			
Fuel used (gallons) _____						
Expense statement:						
_____						
				Other:		
Date	Lodging	Subsistence	Tolls	Description	Amount	
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
Total _____						_____
I certify that the above information is true and accurate.						
Driver's signature _____					Date _____	

efficient scheduling. Identify and evaluate alternative computerized systems to provide for:

(a) On-line communication of shipping orders and other data from Bukittinggi to the regional terminals.

(b) On-line capture of drivers' reports and other data from the regional terminals.

(c) Monitoring of truck location, reporting of shipment status, and notification of breakdowns and accidents.

4. What type of computer system would you recommend Jamaan Argo adopt to accommodate their various information processing requirements for the next several years? Your recommended system should fit into the framework of the long-range plan defined in Exercise 1. Describe your system in detail and defend it against other feasible systems that might be proposed, but do not specify hardware or software brand names.

#### **Systems Design**

5. Assume that Jamaan Argo Truck Lines decides to automate the processing of drivers' manifests and reports, and the maintenance of fixed asset and personnel records.

(i) Prepare Conceptual entity Relationship Model and convert into physical database design model

(ii) Design database table based on physical database design model

(iii) design input screen forms to store at least the following information:

(a) Data from drivers' reports.

(b) Driver personnel records.

(c) Truck fixed-asset records.

The screen forms are to be implemented on an interactive computer system and may include data retrieved from a file in response to keyboard entries. For example, a driver's name may be retrieved and displayed on the screen in response to the entry of his or her employee number. Be sure to include details of any changes in the form occurring at branch points in the interactive dialogue. In particular, a diagnostic message should be displayed upon entry of invalid data.

6. Design output reports providing the following types of information and include totals, where appropriate. In each case, also identify the file or files from which the information could be retrieved.

(a) Weekly shipping detail report, showing:

Trip, departure, and destination

Type of service (standard or short-haul)

Charges and revenue generated

Requested and actual pick-up date

Requested and actual delivery date

(b) Monthly truck depreciation and maintenance report, showing:

Truck number and description Date of acquisition

Acquisition cost, accumulated depreciation, and net book value

Service and maintenance hours and charges (In-house work is charged at a standard rate.)

Reference to accident or breakdown reports

7. Develop an improved method for determining freight rates. Prepare a form to track freight charges for each customer so that discounts can be calculated.

### ***Internal Controls***

8. Last year, the Pakanbaru terminal's operating costs started to rise significantly, relative to those of other terminals. Upon investigation by an internal audit team from Bukittinggi, it was discovered that the terminal manager, Roger "Buck" Hendricks, and a payroll clerk, Susan Zortheck, had created several fictitious employees, submitted fraudulent time cards, and pocketed the paychecks. It was later determined that Hendricks and Zortheck had been dating and were married six months prior to discovery of the problem.

What internal control measures were violated in the incident at the Pakanbaru terminal? Formulate a company policy to deal with this type of problem.