Case Study: GG Freightways (GGFRT)

GGFRT is a regional transportation and distribution company in operation for over 30 years. The company serves major cities in the southwestern region of the United States. Their headquarters (1), terminals/warehouses (8) and maintenance facilities (2) are noted below.

Corporate Profile

Corporate Name: GG Freightways
Founded: August 1989
Headquarters: Los Angeles CA
Terminals/Warehouses (8): Los Angeles CA, San Diego CA, San Bernardino CA, Bakersfield CA, Scottsdale AZ, Phoenix AZ, Tucson AZ, and Las Vegas NV
Maintenance Facilities (2): San Bernardino CA, Scottsdale AZ
Number of Employees: 750 (includes truck drivers)
Fleet: 400 delivery vehicles (average of 50 per terminal) which include: 80 tractor/semi-trailer units, 160 box trucks and 160 panel vans
Total Annual Gross Revenue: $35 million
Current economic climate: stable industry, highly competitive business environment, 6% profit
Future financial goals: 8% profit with 8% reduction in operating costs
President and Chief Executive Officer (CEO): Marissa Schmidt

To familiarize yourself with commonly-used shipping terms in the freight industry, visit this site and refer to it as you read the case study and assignments:
http://www.shipnorthamerica.com/htmfiles/glossary/gloss_shipterms.html

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Current Business Operations

GGFRT operates 24 hours a day, 7 days a week. Sales personnel (40 people, five per terminal) visit prospective customers to outline company capability, services provided and costs. When a customer decides to use GGFRT they call the dispatch office with shipment information. Usually they FAX a copy of the bill(s) of lading to a terminal with information such as origin, destination, product description, weight and number of packages.

A dispatcher at a terminal makes a list of freight pickups and sends a truck to get the freight. To do this they use the Route Optimization/Freight Tracking System to determine the sequence of pickups by zip code. They use local maps within a zip code to map out the specific order of pickups since there may be several in a zip code area. They have a performance goal of 98% of freight picked up within 24 hours of availability.

A driver follows the dispatch order for pickups. Many of the drivers complain that the pickup order is not efficient. When they pick up an order they sign for receipt and either load the freight or guide the customer's forklift operators to arrange it properly in the truck.

After freight is picked up it is brought to the terminal where it is unloaded and sorted by destination. A dispatcher then prepares a delivery ticket (again using the Route Optimization/Freight Tracking System)

that is used to load a truck in the proper sequence for delivery. Some trucks take freight from one terminal to another while others make local deliveries. Since some terminals are close to 12 hours away from each other, there are many "out and back" routes where drivers meet halfway between terminals to exchange freight trailers, which benefits drivers so they don't exceed their permitted daily maximum driving hours of 11 per day. About half of a terminal's space is used on any given night. Dispatchers have a goal to turn freight around in the terminal overnight for next day delivery.

When freight is sent out for delivery, the driver follows the delivery ticket order. Often, they are held up at a delivery destination by traffic or by lack of available unloading space. This can cause the driver to be late trying to make the day's deliveries. Sometimes they get to a destination and the facility is closed and they bring the freight back to the terminal for delivery the next day. It is unloaded and re-sorted by destination. The dispatchers then add it to the next day's delivery tickets.

The major freight volumes are between Phoenix, San Diego and Los Angeles (about 70% of total volume). Trucks run at about 70% average of capacity between terminals. Local delivery volume is heaviest in Los Angeles, followed by Phoenix and then San Diego. Local delivery trucks operate at about 80% full while pickups fill about half of the vehicles space. Some customers pick up and/or drop freight at a terminal/warehouse, with their own equipment.

Truck drivers communicate with the dispatchers using two-way commercial radios. Some also carry personal cell phones and use them if the radio is out of range. A few drivers also carry GPS devices to help locate addresses. In general, the drivers are content with the company. Pay and benefits are good, and they get overtime pay when deliveries run late. Complaints are few and mostly center around either the sequence of pickup and delivery of shipments or vehicle maintenance.

The fleet is maintained at the main Scottsdale maintenance shop and at a smaller shop in San Bernardino. Either one can handle minor maintenance and preventative work. Only Scottsdale can perform major engine and transmission work. Overall the fleet is in good operating condition. All vehicles are on a preventative maintenance schedule which places them out of service two days a month, usually on weekends. Maintenance scheduling is a challenge because it can interfere with the steady flow of shipments both between terminals and for local delivery. There are no "extra" vehicles in the fleet.

Administration

The company management team consists of the President (CEO), Vice President of Operations (COO), Chief Financial Officer (CFO), Chief Information Officer (CIO), Sales Manager, and a Fleet Maintenance Manager who oversees maintenance and safety. They meet weekly to discuss opportunities and issues and to plan for future goals. Except for the CIO, the management team has been in place for many years

The president of the company just hired its first Chief Information Officer (CIO), Lance, after the previous IT Director retired. He comes from a nearby manufacturer who is also a major customer. At that company he was Deputy CIO and primarily responsible for network operations and security.

Business Strategic Objectives

At a recent meeting the management team decided to change the strategic plan for the business to meet growth and cost goals. They highlighted three new strategies they want to employ to increase profitability and grow the business.

1. First, they want to track the whereabouts of freight both in the terminals and on the trucks to provide customers with accurate delivery dates and times;
2. Second, they want to improve the percent of loaded miles in their fleet to reduce costs by coordinating the pickup and delivery of freight at the same time in the same geographic area; and,
3. Third, they desire to provide warehousing services for customers who want to reduce delivery time to their customers or company by having product available locally for pickup in warehouses or quicker local delivery.

Federal/State Mandates

In addition, the management team wants to ensure that the company remains in compliance with all applicable federal and state regulations. The ones they are most concerned about are:

1. The Sarbanes Oxley financial audit and reporting requirements;
2. A new federal requirement to conduct a vehicle safety check every 10,000 miles; and,
3. A Federal Motor Carrier Safety Administration (FMCSA) reporting requirement on the number hours per day for each driver (or max per week, etc.).

CFO/CIO Goals

The CFO has been charged with the overall project. He has asked Lance to help with this effort by modernizing information systems to support the new strategies. He has decided:

1. His first step is to update the IT strategic plan to link to the new strategies in the corporate plan.
2. Second, he wants to engage his customers in a proactive way to first, identify and prioritize IT projects that will help meet the new goals, and then develop a set of requirements for each project.
3. Third, he wants to decide on the best approach to modernize the information systems that will meet requirements at a reasonable cost, and for this he will need to make some changes to the IT organization.

Strategic Direction

As a small player in a large transportation market serving large cities, GGFRT has many larger competitors. They need to improve their alignment of IT with their business strategic objectives as well as updating their operational processes and IT to become more efficient in serving their customers and acquiring new ones.

Current Technology

GGFRT is using a mix of older technology products for finance and accounting, route optimization/ freight tracking and fleet maintenance. There are several projects already in the IT portfolio competing

for resources. The CIO sees a major challenge in balancing available funding, IT staff workload and project prioritization. The project nearest completion is the adoption of the Precise Financial Reporting System to replace the aging finance and accounting system. It will be completed in six months. There are two other projects under way, one for management reporting (Management Reporting System) and one for a mobile application (Mobile Marketing App) that sales staff can use to show potential customers information on the fleet, distribution services available and freight rates, and warehouse options, including a comparison to the competition.

The Route Optimization/Freight Tracking System is very important to the operations manager and dispatchers. The current system allows the input of freight origin and destination information. This is taken from a bill of lading which contains a plethora of specific information. When the dispatchers enter the origins and destinations into the system, they are grouped by zip code. The dispatchers then decide which zip codes will be loaded in a truck and in what sequence for delivery. This takes several hours at night to accomplish and must be done as quickly as possible so trucks can be loaded and sent out in the morning for delivery. Arranging shipment sequence within a zip code is done by locating each address on a map and entering it into the system in the best order. Pickups are handled in a similar manner. Freight tracking features are not yet integrated; this should be developed in the future to meet one of the business objectives. ***The freight tracking features of this system has not yet been developed.***

The Fleet Maintenance System contains information on each vehicle in the fleet. It includes all vehicle specifications, a summary of all repairs, a preventive maintenance schedule and an inventory of parts on hand. This information is entered by accounting clerks, mechanics, purchasing clerks and anyone else who has time to do data entry. It is not as time consuming as the route optimization/freight tracking system, but it contains information critical to fleet reliability. The greatest challenge is scheduling preventative maintenance since it requires vehicles to be down for two days. The dispatchers do not want the equipment taken out of service because it causes planning headaches. The relationship between dispatchers and maintenance personnel is strained.

IT Organization
When Lance was hired as CIO last month, he took a close look at the current staffing. The IT staff consists of 25 people, seven of whom are programmers. The programmers are charged with all systems development and integration work for the company. They have three projects in their current portfolio. Their skill sets include SQL, .Net and C+ programming, and Web design.

There are eight helpdesk personnel who support the eight distribution terminals (one at each terminal). They work independently but report directly to the CIO. The remaining staff includes two network engineers, a financial systems specialist (an expert in the features of the Precise Financial Reporting System), a computer security expert, two shift supervisors (who supervise the programmers, network engineers, financial systems specialist and computer security expert at headquarters), a web designer (though there is no website currently in use, this person reports to the shift supervisors), and the CIO and his two personal assistants.

The IT staff supports multiple locations. At the Los Angeles headquarters/terminal/warehouse there are 15 servers (they contain all software and data; one stores a backup copy of the data) and 30 PCs for accounting, marketing, IT, administration and management. The terminal/warehouse operations offices have eight PCs for dispatchers, one for each of the maintenance offices, one for parts and one for drivers in the driver lounge. The other seven terminals have 10 PCs each and connect to headquarters by a virtual private network (VPN).

IT Portfolio

Precise Financial Reporting System- This new system will replace the current Finance and Accounting System. It is an off-the-shelf product that requires the owner to make modifications to interface with other systems they may own. Two programmers are working on the project. One is setting up the database and loading the software on servers. The other is learning about the system to write an interface with the Route Optimization/Freight Tracking System. A representative of the vendor of Precise Financial will train the accounting staff in its use. This will take about two weeks. ***It can be assumed that this new system will cover any Sarbanes-Oxley (SOX) mandate requirements.***

Management Reporting System- Senior management wanted to know financial information daily. Two programmers have been working on a system to compile the data in a format they can use. They plan to extract information from Precise Financials when it is ready but for now have focused on the current system. They will be done in two months.

Mobile Marketing App- The marketing manager asked for an app that sales staff could use to show potential customers information. This would include things like fleet photos and specifications; pictures of the eight terminals and information about the distribution/warehouse services GGFRT can provide; and a comparison of their costs using sample shipments with rates from competitors compared to GGFRT costs. A programmer and the web designer are working on the project. It will take two more months to complete. ***The purpose of this app is not for tracking of freight and/or driver hours/vehicle mileage.***

The current design/development process is best described by the way it worked in the selection and integration of Precise Financials. The CFO asked the (former) CIO to develop a new finance and accounting system. The CIO interviewed large, respected companies and, after comparing their capability to the current system, chose Precise Financial Reporting. Two programmers were assigned, and a Precise Financial Reporting System specialist was hired to work between IT and the finance office. The CIO receives progress reports every two weeks.

Situation
When Lance was hired, he toured each terminal to see the IT setup and understand local business operations. It was important to him to know just how each person used the systems. He spent time with bookkeepers and accountants, dispatchers, drivers and terminal management. Since he came from one of GGFRT's customers he knew that customers could offer insight into business improvements that would be good for both companies. He visited one large customer in each of the terminal's area of

service to get feedback on how operations between them and GGFRT could be improved. His goal was to see how he could translate what he learned into systems improvements.

Interestingly the most complaints came from bookkeepers and accountants. They said the system was slow and data entry was tedious because accuracy was very important. If they entered wrong information, it could cause incorrect billing (rates are based on weight and size), improper loading (the wrong zip code could mean sending freight in the wrong direction unless a dispatcher caught the error), and more. They estimated current accuracy at about 95% but they had no way of knowing for sure. Further, they complained about financial reporting and their ability to meet compliance requirements. Reporting was mostly a manual process and data they needed from the system was not easily accessed. Most of them had resorted to keeping small ledgers at their desks to track information they knew they would need for reporting.

The dispatchers explained that routing wasn't all that hard, just time consuming. The routing system grouped all the shipments by zip code. They would take all the shipments in a zip code and look at the weight and size (how much cubic space each one needed in a truck), plot them on a map and then put them in delivery sequence. They thought most trucks left the loading dock full and that that the drivers made adjustments in their delivery sequence when needed. Pickups were a bit more challenging. Sometimes they sent a truck out just to pick up freight and bring it back to the terminal. Other times they contacted a driver to ask them to stop at a customer to pick up a shipment while they were making deliveries. Since they didn't know exactly how much space was available on the truck this was a hit or miss situation. Drivers were left to decide if they could make it work.

Drivers were the most outspoken, probably because no one ever asked for their opinion. They were also the happiest of employees (this might explain why they were non-union). They liked being able to make decisions on the go and they knew the customers very well. In fact, they could call some of them if they were running late and the customer would stay open so they could deliver or pick up a shipment. They seemed to have favorite customers and often spent extra time with them talking about common interests. Generally, they were good ambassadors for the company.

Terminal managers were under constant pressure. Their main goal was to get shipments into and out of the terminal as quickly as possible. Delivery times were measured and part of their performance plan. They knew the company had established three new strategies because they were explained in an email they just got. Lance asked how they might provide warehousing services. Most felt they had extra space and could take on some storage but keeping track of the shipments might be a problem. They had to do this manually and the bookkeepers were the ones to keep the records. They felt more bookkeepers would be needed but they didn't know how many.

Lance also met with the maintenance and safety staff at the San Bernardino terminal. The maintenance folks had a large workload and complained that they had a hard time getting equipment in the shop for preventative work. They did not know when equipment would be available until the last minute, so scheduling was always a scramble because they needed to make sure mechanics were available to do

the work. They had a lot of complaints about shifting work hours and the effect it had on their personal lives.

The Safety Manager expressed concerns over driver hours of service. There are federal regulations that limit drivers to 11 hours of driving at a time. Then they need to take an eight-hour break. The problem was tracking the driver's hours to make sure they stayed within the law. Dispatchers tried to help with this when they scheduled pickups and deliveries but there was no easy way to do it and the results were often based on best guess. The safety manager who was ultimately responsible for compliance had drivers turn in their hours each day, but this was always after the fact.

Lance's customer visits were eye-opening. Most of the customers had automated inventory systems and could easily track products from raw material to finished goods. They knew exactly what they would ship and when, usually several days ahead of time. Some customers however needed near instantaneous shipping. They wanted same-day pickup in a lot of cases and fast delivery. In most cases, they were all able to produce electronic documents such as the bill of lading and email or FAX it to GGFRT.

During his interview for the CIO position, Lance was told that the previous IT Director had left a good foundation and that the staff seemed sufficient in number and appeared to be very capable. However, since GGFRT is developing its strategies for the future, the staff must be able to support the business strategies as well as the IT strategies that Lance would develop. One of the first things Lance did was to interview each member of his staff. He discovered that the roles and responsibilities tended to overlap and that morale among his staff was very low. Lance also interviewed the senior leadership of GGFRT and learned that his staff was not meeting their expectations for service. The help desk was perceived as being only somewhat competent and took much too long to respond to problems.   Application developers were very slow in delivering systems, and when the systems were finally delivered, they did not reflect what the customers needed or wanted. Network outages occurred too often from the users' perspective. Finally, the Chief Financial Officer told Lance that the IT costs need to be reduced.

Lance knew he had many challenges. He was determined to identify essential projects and then prioritize them for management review. The outcomes would affect almost every aspect of the business. His IT portfolio was about to grow, and her organization will need to change to meet the challenges.

Your Task

From the perspective of the CIO for GGFRT, you will be completing many tasks over this semester.
- In the ITSP #1 assignment, your main goals will be to develop a new business strategic objective that you feel is one that GGFRT needs to accomplish. You will write IT Mission and Vision statements and develop an IT Governance Board, select an IT Governance Methodology, choose your team and discuss their roles on the board. You will also choose a prioritization tool to rank projects and discuss criteria that is important while prioritizing those projects along with a few other tasks.
- In the ITSP #2 assignment, your main goals will be to choose IT strategies, aligning them with business strategic objectives from the ITSP #1 assignment. You will complete an IT roadmap of the current project schedule and add a new project that you will deem

important to GGFRT's operations. You will discuss risk of implementing projects from the CIO perspective and create steps of a Business Continuity Plan along with a few other tasks.

- For the CIO Memo assignment, you will discuss your leadership philosophy and management style, address IT strategies and discuss how each will benefit the business, create an organizational chart based on the information presented above for the 24 employees in the IT Department, explain how a CIO Organization differs from an IT Department, note Key Services (functions, positions) that will be included/eliminate in your new CIO Organization, create a new CIO organizational chart, and discuss key milestones (related to the Key Services' section) for accomplishing your new CIO organizational structure along with a few other tasks.
- In the IT Decision Paper assignment, your project will be presented (from the ITSP #2 assignment), the strategic alignment of your project to one of the business objectives (from the ITSP #1 assignment) and IT strategies (from the ITSP #2 assignment) will be discussed, discussion of where your proposed project would fit into the IT roadmap (from the ITSP #2 assignment) will be discussed, how your project will share data, integrate, or replace an existing or proposed system will be discussed, benefits the project will provide to GGFRT, requirements of the project, anticipated cost/size of the project, performance measures of your project and the system development life cycle steps of your project along with a few other tasks.

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