Burlington Northern

Case 1 CIS 410-02

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# Background

Burlington Northern was formed in 1970 by manner of a merger between four separate railroads. This allowed for the formation of a massive railroad system along with the acquiring of a combination of resources including timber, minerals, gas, and oil. In 1990, each day up to 800 trains traveled approximately 200,000 train miles across the 23,356 miles of track creating 25 million distinct routings across the country. Trains were controlled by dispatchers, which told the trains when they needed to stop or it was okay to proceed. The technology used for this procedure was developed in the 1920’s and little had changed since then.

Burlington Northern adheres to the cost leadership strategy. Burlington Northern delivers high volumes of products, and achieves economies of scales. To be successful, this strategy usually requires a considerable market share advantage or preferential access to raw materials, components, labor, or some other important input. Without these advantages, the strategy can easily by mimicked by competitors. (Tanwar)

# The Problem

The current BN system of rail is causing a myriad of problems. There are 25 million distinct routings with 5,000 junctions, with around 10,000 meets and passes on the rails each day. For each meet and pass a conductor must contact a dispatcher assigned to that specific territory via the radio, which was not set to the same frequency every time and can be delayed. This slowed the trains route and the rate at which it could have reached its destination. With slowed trains and inefficient routes, BN is facing full capacity in their coal business which makes up 90% of shipped freight. (Cash)

The dilemma of the company is whether to invest $350 million dollars into an ARES project that would allow for Burlington Northern to provide better service, improve asset utilization, and reduce costs with improved tracking of their trains.

# Porter’s Five Forces

1. Competitive Rivalry

Burlington Northern has many different competitive rivals, including other railroad companies as well as the trucking industry. While BN is close to reaching full capacity, their rival Union Pacific recently upgraded their technology systems and have been able to keep a lower capacity. The trucking industry provides competition by offering door-to-door service for freight, something nearly impossible by rail.

1. Threat of New Entrants

The threat of new entrants is relatively low. For the railway market, the entry barriers are high due to economies of scale and high capital requirements to be able to even compete in the market. These capital requirements are often sunk costs to enter the market with no guarantee of a positive return.

1. Threat of Substitutes

There is a high threat of substitutes for Burlington Northern. The goods that are carried by Burlington Northern are inexpensive, heavy, sold in bulk, and usually not time sensitive. Trucking has dominated the market due to the convenience of door to door deliveries.

1. Bargaining Power of Suppliers

There is a high bargaining power of suppliers because the railway is dominated by Burlington Northern and Union Pacific. This allows them to set the prices if they are competitive with each other inside the market.

1. Bargaining Power of Customers

The bargaining power of customers is low. There are few substitutes in the market available to switch to and the price for substitutes increases by two or three times by moving to trucking freight. If Burlington Northern fails to invest in the ARES system, they could fall behind Union Pacific who already committed to improving their railway tracking system.

# Critical Stakeholders

1. Burlington Northern Shareholders

Burlington Northern’s shareholders have the right to receive dividends on their investments. Major shareholders also likely have the right to vote within the company. If the new ARES system was to fail or negatively impact the business operations then shareholders would receive less of a return on their investment.

1. Burlington Northern Employees

Managers of Burlington Northern will have to learn to implement the new system along with new guidelines and policies to go along with the introduction of new equipment. The managers must use all tools at their disposal to carry out these responsibilities, which is essential to the changing of the entire railway tracking system and employees must follow management decisions and do their tasks to the best of their ability.

1. Burlington Northern Customers

Customers of Burlington Northern may see reduced costs as Burlington Northern’s costs decrease. They may also begin to receive their goods sooner and with more predictability than without the ARES system.

# 4) Available Options

* 1. Purchase ARES and implement it through scheduled iterations.

Purchasing ARES and implementing it through scheduled iterations would allow for the piloting districts to test the new system and work out any existing bugs.

* 1. Purchase ARES and proceed to implement company-wide implementation upon purchase.

This option involves companywide implementation across all districts immediately after purchase. This increases the chances of having a bug or some type of problem due to the complexity of the system.

* 1. Do not purchase ARES and proceed to use the existing system.

Option C involves not proceeding with the project and continuing with the current tracking system of trains on the rails and continuing with the same business process. This would cause Burlington Northern to lose money on its system investment and it would lose the benefits of implementing the ARES system.

# Recommended Option

My recommended option would be to purchase the ARES system an implement it in scheduled iterations upon purchase. Adding new technology to reform the way the business process works is essential according to Dr. Ravi Kalakota. In his book e-business 2.0, he lays out a series of 10 rules, with the number 1 rule being “Technology is no longer an afterthought in forming business strategy but rather the cause and the driver.” (Kalakota and Robinson). Additionally, introducing the ARES system in scheduled iterations allows for the piloting of the program by specific departments. Not only will this reduce (or eliminate) the bugs in your system, but it will also allow for more experience across the company for managers and employees by final rollout due to the staggered strategy. Once the system is fully implemented, the improved tracking system should allow for trains to reach their destinations faster. When this happens, the bottleneck at the train stations should become optimized, and “if the bottleneck is elevated, throughput will increase.” (Goldratt, Cox, Whitford).

I would recommend against implementing the system all at once due to possible complications. This system will change the entire business process and, if properly implemented, improve their ability to do business drastically. This project is a large investment that should not be rushed in to and shot forward, but instead carefully deliberated on. If this option was still chosen, it would still likely render positive results with the new implementation of the ARES system, however there is a higher possibility of something going wrong or bugs remaining in the system on deployment.

I would highly recommend against doing nothing in this situation. According to The Rules of Bureaucracy, for any given large, complex, hard-to-understand, expensive problem, there exists at least one short, simple, cheap, easy wrong answer. (Barker) This would be that answer. Not only will the capacity become overburdened in the long run and business would suffer, you would also still be spending money that you could have saved by investing in the newer technology system. This will break-even in the near future and soon you will be losing more money than you would have had saved by not implementing the new ARES program.

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