Case Study – Burlington Northern

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CIS410-02

01/25/2018

Summary

During this case we will discuss Burlington Northern Railroad (BN), a railroad company that largely ships coal and other goods, and the problems they face. ARES is a research and development project taken on in the early 1980's that could potentially make the company more efficient and effective against competitive companies in the given market. The decision whether to implement ARES into production will be analyzed in the following case study. Once we gather this analysis, we will be able to make an informed decision as to the best strategy to implement.

Problem

The main question facing Burlington Northern Railroad is whether they should proceed with the ARES project, largely like the Air Traffic Control system already put in place for directing flight patterns, which uses Global Positioning System (GPS) to pinpoint the location of crews and locomotives up to 100ft. Currently, they are riddled with issues throughout their organizational system, ranging from the inefficient stoppage of locomotives at all fueling stations, regardless if they need more for the next leg, to Burlington Resources Inc. being spun-off from Burlington Northern which left BN to retain all the debt. Eventually, BN's debt-to-total-capital ratio would be 76%, which is considered very high in this industry. However, given that they had already invested $350 million into the ARES, were going through a debt-repayment program, and the introduction of another system, we must question whether ARES should be introduced into the production system at Burlington Northern.

Industry Competitive Analysis

Mission Statement/ Background

Burlington Northern Railroad's (BN) mission is to be the leading organization in railroad transportation in North America. Their goal is to provide efficient, affordable, and reliable transportation services that will benefit their customers, shareholders, and surrounding communities. BN worked on a differentiation model, by delivering their goods and providing specific services to customers that others simply could not match – by railway. They drop off their goods at different depot stations where customers pick up their product. During this time, they cornered the market and basically worked as a monopoly. It was much faster for BN to deliver coal, agriculture, and industrial products (their three largest business segments) from the other side of the country much faster and significantly cheaper than other industries could. The merger of the four companies strengthened the market in their favor.

As it states, BN is the consequence of merging four different railroad companies into one in 1970. Along with this merger came not only railroad systems, but also vast amounts of land containing natural resources, including but not limited to minerals, timber, and oil and gas, that could be used as possible revenue streams; most definitely increased their inventory. According to the case, "In 1989, up to 800 trains per day ran on BN routes generating revenues of $4,606 million and net income of $242 million." (Gray's Books) Monitoring so many trains per day is one of the largest driving factors that has them restructuring their outfit and implementing a new operations system.

Industry Rivals

Currently, Burlington Northern only has a couple of competitors, one being Union Pacific (UP) (and other smaller railroads) who competes with BN on coal deliveries. The reason UP was so successful as a competitor was due to their double track lines they ran invested in, newer fuel-efficient engines, and their newer technology. Troubling as it may seem, BN had seven other business segments they could pull from to make up for their competitor. The other largest competitor stated were trucks that hauled the same goods as BN. Trucks were less fuel-efficient, could travel faster than trains because they could make up for random and unplanned delays, and they delivered straight to the customers back door. Companies were willing to pay the higher markup for this service because it was convenient for them. According to Ed Butt, ARES project director, "Trucks charge as much as tow to three times what it would cost for rail service. But trucks go door-to-door, and people will pay for that level of service." However, the Staggers Rail Act of 1980 could potentially change things. It stated that railways had the freedom to set their own rates and entering certain markets, but it also allowed railway companies to own other forms of transportation. Shortly after, due to innovative technology introduced, they were able to get a leg up on the trucking industry. Their production increased, and they cut fifty percent of their workforce, bringing in millions.

Threat of Substitutes

"A substitute product is a product from another industry that offers benefits to the consumer similar to those of the product produced by the firms within the industry." (Team FME) None have currently been mentioned, but the threat of substitutes is high. Corn, wheat grain, chemical supplies, and other products could potentially be made locally or closer or could be

manufactured by a company that does not use BN for their shipping business. BN would have to rework the products that they ship to keep up with new substitutes.

Customers

The customers of BN would be any new or current organization or individual that currently pays the supplier of Burlington Northern for any product or service they deliver. To increase the bargaining power of their customers, BN would want to stay ahead of efficiency by creating new and innovative ways to more cheaply ship products. By implementing a new tracking and communication system, this would greatly increase their chances of keeping customers.

Suppliers

In this case, the suppliers those organizations that directly pay Burlington Northern, as well as Union Pacific, certain costs to ship their product to the customer. Again, to increase the bargaining power of suppliers, BN would want to make sure that their railway lines are the safest and most efficient routes among all competitors. Not only that, but their rates need to be competitive to increase the chance of suppliers staying.

Threat of New Entrants

The threat of new entrants for Burlington Northern is extremely low, especially given that they have themselves become the merger of four separate railroad companies. You have a few others currently in the market (UP being the main one that is explained), but not many others are eager to enter. The cost to build the infrastructure to start would be extremely high and not worth it.

Stakeholders

Burlington Railroad has a long of moving parts to their business, and many individuals have a say in how the company currently operates. Not only that, but external companies want to keep their business afloat while using BN. Given this information, there are many stakeholders involved:

- **Executives** – They are the current decision makers for major projects, the ones who allow access to funds for projects (mainly the ARES project in question), and the ones who potentially have the most to lose if this project fails and they must resort to other measures.
- **Employees** – Including, but not limited to, those directly working on the project, including minor executives and engineers, dispatchers, MOW crew, and conductors.
- **Suppliers** – Use BN for deliveries to their customers.
- **Union Pacific** – Rival to BN, and they could see an upside if BN does not upgrade their technology, or if their new project fails off.
- **Shareholders** – Financial investors that have a personal stake in the wealth and well-being of Burlington Northern Railways.

Alternatives

Do Nothing

The main alternative in this case to do absolutely nothing. If they do nothing, they will continue with the current system in place, but they will have to look for alternate ways to stay competitive within the industry. Almost certainly, they will begin to lose money over time, profits will dwindle, and costs will have to be cut somewhere.

Impact on stakeholders:

- **Executives** – Will either have to come up with other innovative ways to stay competitive, cut rates as low as possible, or start downsizing within the company. Eventually, they will look at a total loss of the company or another group (potentially Union Pacific) will buy them out.
- **Employees** – Will be as stressed and disorganized as ever. Seeing that their company may start failing, they will be incentivized to seek more secure employment elsewhere.
- **Suppliers** – Most likely will switch to other rival competitors that will be able to guarantee delivery of goods on and efficient, cost effective manner.
- **Union Pacific** – Will keep growing as a company like they have been, except will start to see suppliers leave BN and come to them. Revenue will increase.
- **Shareholders** – Stock prices start dropping slowly over time. Will see this as a loss and sell off any stake they have in the company.

ARES

Executives of BN decide to implement ARES into their production system and use it going forward. There are many benefits that come along with ARES, including increased rail operations safety and greater operating efficiency. The potential for ARES is very high and "the probability of ARES earning less than 9% real after-tax rate of return is extremely small." (Gray's Books).

Impact on stakeholders:

- **Executives** – Productivity is increased, revenue is increased, profits are increased. They will directly see the effects of this project implemented on the organization. Also, once

they start seeing how productive this new project is, they may begin to be more competitive with their rates.

- **Employees** – Have large stake in the project, especially those directly working on ARES. If the executives continue with the project and ARES fails, the employees will be directly affected by way of potential job loss. Dispatchers would greatly enjoy this new system. They would be able to focus more on 5 to 7 trains and not have to worry about 20 that are low on the priority list. We will also see improved MOW productivity results from improved traffic planning.
- **Suppliers** – They will be able to schedule more deliveries with BN, more suppliers will flock to BN once they see how productive they've become, and suppliers will start to see profits increase.
- **Union Pacific** – Eventually they will have to restructure their system to increase productivity and their revenue stream. Since they originally gained headway over BN by using double line railways, there is potential they will match or improve on BN's ARES project.
- **Shareholders** – Stock goes up, which may cause more shareholders to invest in the company. Profits increase.

ATCS

ATCS, or Advanced Train Control System, is another form of control of trains being developed by members of the Association of American Railroads (AAR) that could be implemented by BN. ATCS differs from ARES in that it will only control trains, rather than ARES, which will control the entire railroad operation.

Impact on stakeholders:

- **Executives** – Productivity is increased, revenue is increased, profits are increased, given that they will not have to invest much in the ATCS. They will directly see the effects of this project implemented on the organization. However, profits may not be nearly as high with ATCS as it is with ARES.
- **Employees** – Many of the employees working on ARES may see their jobs cut from BN. Dispatchers would greatly enjoy this new system, as with ARES. They would be able to focus more on 5 to 7 trains and not have to worry about 20 that are low on the priority list.
- **Suppliers** – May see a slight difference in performance from BN. Not much would change.
- **Union Pacific** – Nothing would change
- **Shareholders** – May eventually see stock taper off, but doubtful that it increases.

Recommendation

Current recommendations based on all information given would be to choose to implement ARES into their production environment. They have already invested $350 million into the project, it would control the entire railway operation, rather than just a small portion, they would stay competitive over their competition implementing new innovative technology that would revolutionize how trains deliver goods, and there is a high probability that profits would increase. Wasted resources on sending MOW crew to repair locations due to poor scheduling would be mitigated. All crews would be expertly scheduled to work at repair locations. Most of the executives agreed that to stay competitive, you must stay innovative. ARES accomplishes this.

Sources

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