Shivani Patel

CIS 410-01

Dr. Barker

Case 1 - Burlington Northern Case

01/24/2019

**Summary**

This case talks about the Burlington Northern Railroad Company. Burlington Northern Railroad (BN) is a company that was formed in 1970 when four railroads merged together. BN has a large rail system and land grant holdings that include minerals, timber, oil, and gas. BN’s revenue comes from a wide range of segments, with coal being the largest, agriculture commodities comes second. The sources of revenue also include industrial products, intermodal, forest products, consumer products, and automotive products. BN upgraded the railroad around 1980, though, there were still some issues with controlling the trains and showing deliveries on time. A couple of years later, BN managers thought whether the technology used to track airplanes could be utilized in the railroad system to improve operating validity. This thought started the first phase of the ARES (Advanced Railroad Electronics System) project. They are trying to determine if implementing the ARES would provide benefits that would overcome the significant cost. Through this paper, we will analyze the ARES project to make an informed decision if BN should continue with the ARES project and if they do, how they should do it.

**Problem**

There were many complications with the system that they were using even after BN modernized their railroad in the 1980s. 800 trains traveled approximately 200,000 miles each day. (Barker) When the trains meet and pass one another or if a train is running late, then it can cause delays along the entire line. There was a communication problem. Dispatchers could not see if a train was delayed on other territories, therefore, sending the train further could cause larger problems and cause more trains to be off schedule. They must also search through frequencies to contact trains which makes it difficult to coordinate maintenance work on the tracks because of the small window of time dispatchers. Another issue is that it was not easy for conductors to monitor the status of the train, such as fuel levels, potential problems with the cars indicating maintenance was needed, and speed limits. Engineers don’t have a way to check the fuel level without stopping the train and looking at the fuel gauge on the back of the train, so they refuel at nearly every station even if they don’t need fuel yet. (Barker) Several managers at BN believe that the ARES project is the answer to the problems mentioned above.

BN is concerned if the ARES task will enable them to achieve their objectives and is worth $350 million investment, putting BN more profound into an obligation that they as of now are.

**Industry Competitive Analysis**

The mission of Burlington Northern is to lead railway operator by using advanced technologies that circle around improving customer service and safety while delivering goods on time. If they improve service, they can capture a larger share of the market and if they better utilize their assets then a larger percentage of their income will become profit.

After the merger, Burlington Northern focuses on seven markets: coal, agricultural commodities, industrial products, intermodal, forest products, food and consumer products, and automotive products. Burlington Northern mainly serves the Midwest and Western part of the United States.

**Porter’s Five Forces**

1. **Competition Rivalry**

The main competition of BN was Union Pacific (UP) which is another railroad company. UP competes with BN in the coal industry. BN believes that UP could transport more coal because they had invested a lot of money in new technology that allowed them to have fuel-efficient engines and heavy-duty double tracks. Therefore, UP has excess capacity, where BN is at their capacity. Upgrading to the ARES system has the potential to give BN more capacity, which could in return give them more of the market share.

There are other transportation methods which include airplanes, boats, and trucks that are also competition. The main competitor to railways is trucks because they can carry the same goods as trains and they can also offer door-to-door delivery with low-cost options for delivering the same goods that railways deliver.

1. **Threat of New Entrants**

The threat of new entrants into the railroad market is not super likely because of the high barriers to entry. Barriers to entry include absolute cost advantages, access to inputs, economies of scale and well-recognized brands. (Martin) BN should not worry too much about new competitors because the threat of new entrants in the train industry is low. The railways that are already built have companies that own and operate trains on them. BN is the result of the merger of four different railways. It would cost a new entrant a lot of money and other resources to acquire the materials, employees, and property needed to compete with BN, UP, etc. in the US. There are very high entry and exit barriers. Regulations, capital investment, and training employees are just a few reasons why the threat of new entrants is low. (Pratap)  
 There are opportunities that a new type of transportation could develop and overtake the train industry, although the threat of new entrants in the train industry is low.

1. **Customer’s Bargain Power**

Customer’s bargaining power is very high in this case and they have a good amount of control. There are so many alternatives, therefore, customers can refuse to pay BN prices if they are not competitive in the market. They can request cheaper prices or fast deliveries. BN must have lower prices or better technology to keep their customers happy. Innovation is business creativity that contributes to organizational values. This might take the form of cost savings, increased profit or market share. (Jane) Innovation is the key for this industry, especially with the cheap price of transportations using trucks or planes.

1. **Supplier’s Bargaining Power**

There are many suppliers that could provide the items that BN needs. BN has suppliers that provide fuel for the trains, replacement parts and other items needed to keep the railways and train cars in good condition. BN could easily switch suppliers but they will always need replacement parts and fuel to stay in business. So if the market sets the fuel price more than what BN wants to pay, BN will have no choice but to buy it for the price that they offer because they need the fuel to stay in business. The suppliers can stay competitive by providing good quality products at a low cost or having good services. Higher quality increases customer satisfaction and decreases returns, which adds cash at your bottom line. (Reiss)

1. **Substitutes**

BN does not have to worry much about the threats of substitutes because they are at medium risk. Suppliers could decide to change their transportation methods due to lower costs from competitors, more timely delivery or better service. Things that are time-sensitive might be better qualified to be flown relatively than transported by train. A substitute can be trucks. The trains will still be able to transport larger quantities of cheaper goods, but trucks can transport smaller quantities of more expensive goods and do it faster and cheaper than trains can.

**Cost Leadership Strategy**

BN uses a cost leadership strategy in the business. In cost leadership, the market sets the price. The organizations do not have any control over their price, therefore, they must lower costs. “It’s important to remember that we’re trying to reduce costs – not just prices. Also, that the company with the lowest prices isn’t necessarily the one with the lowest costs. (Jorgenson) It is important for BN to have lower costs to produce a larger revenue if BN and UP have the same price. Ever since BN merged, they have the access to many different raw materials with suppliers across half the country which allows them to cut some costs in shipping to locations since the raw materials are available. If they apply ARES, they hope to increase tasks effectiveness and technical skills.

**Stakeholders**

The main categories of stakeholders are **customers, employees, shareholders, and suppliers**. The **customers** could benefit from the ARES solution because if it is implemented correctly, it will allow BN to transport larger quantities at a lower cost. This would make the customers happy and they may order more in the future. But if the ARES does not work as planned, it could raise the prices which would negatively affect the customers and may even cause them to go to competitors. The **employees** include conductors, dispatchers, executives, maintenance crew and others that are employed by BN. The employees are the ones that will allow funding, make decisions and will determine the success or failure of the ARES project. The **shareholders** also have a big stake in the success or failure of ARES because they are the people who are investing in BN and hoping that ARES will provide them financial gain and better business operations. The **suppliers** are important regarding the ARES decision because they want to make sure their products will be delivered securely to their destinations.

**Alternatives and Impact on Stakeholders**

The first alternative is to do nothing and continue operations normally. This would have the least amount of immediate impact on all the shareholders because nothing in their current environment would change. According to the book *The Goal*, “The main function of a successful business is to make money now and continue making money in the future”. (Goldratt) Doing nothing may cause the company to lose any competitive advantage and prevent them from continuing to make money in the future. Customers may switch to other competitors that can offer more reliable and affordable service. This would reduce profits and cause the share price to go down.

The second alternative is to do the ARES project. Senior executives are concerned that the $350 million estimate is low and that the actual cost of implementation will be much higher. They also have concerns that the benefits of the new system might be overstated. Control, Data, and Vehicle covers all the features of the railroad and will help make BN operate more efficiently. Employees of BN will have trained in this system. The maintenance crew will be able to perform maintenance when necessary and dispatchers will be able to notify them more accurately when they are able to work. This approach has much less risk of causing a bankruptcy if implementation turns out to be more expensive than planned or less beneficial. The entire project is dependent on that ARES will work as expected and s implemented correctly.

The last alternative is to wait and do the ACTS (Advanced Train Control System) project.ACTS was being created by the Association of American Railroads. The ATCS is designed to control trains instead of the entire rail system so it may not cost as much as ARES. The stakeholders would be affected similarly to the second option. Workers may have an easier job with the new system but locating the train compared to 10 to 15 miles radius like ARES does may be a challenge. ATCS may not give BN a competitive advantage if another company successful implemented ARES but it may be a cheaper option that will change the organization and increase throughput. Executives may have to look to the future because technology is ever changing that may lead to a less costly ARES “ at times a person may actually declare that he or she needs to “read what’s happening in a particular situation” (Morgan).

**Solution**

The best course of action, in this case, is to do nothing. Burlington Northern has very little to gain with ARES project in terms of benefits. The cost of ARES project initially is at $350 million and this may go over budget and cost more. It is best to wait for another railway company to develop the ARES to make the mistake that will occur. BN has a good standing within the market and if the ARES project did not go by design they could lose that advantage. They should improve their current process now and generate more demand and revenue and continue to make money for the future. It would be risky to invest such a large amount of money into a new system when the company is already carrying a lot of debt and is facing such significant challenges from external sources. BN can spend the $350 million on other investments and improve the current system.

**Citations:**

1. Barker, Robert. Computer Information Systems, Burlington Northern. CIS 410-01
2. Goldratt, Eliyahu M., and Jeff Cox. The Goal: A Process of Ongoing Improvement. Great

Barrington, MA: North River, 1992. Print.

1. Jane Downey. *Bizjournals.com*, The Business Journals, www.bizjournals.com/philadelphia/blog/guest-comment/2013/07/innovation-your-key-to-success-and.html.
2. Jorgenson, Eric “How Cost Leadership Builds Powerful Businesses, and Why It Always Matters.” *Medium.com*, Medium, 4 May 2015, medium.com/evergreen-business-weekly/how-cost-leadership-builds-powerful-businesses-and-why-it-always-matters-83685eb1c55e.
3. Martin, Marci. *Porter's Five Forces: Analyzing the Competition*. 25 Sept. 2018, www.businessnewsdaily.com/5446-porters-five-forces.html.
4. Morgan, Gareth. Images of Organization. Beverly Hills: Sage Publications, 1986. Print.
5. Pratap, Abhijeet. “Five Forces Analysis of Aviation Industry.” Cheshnotes. 25 August 2017.
6. Reiss, Bob. “Build a Good Relationship With Suppliers.” *Entrepreneur*, Entrepreneur, 11 May 2010, www.entrepreneur.com/article/206530.