Burlington Northern: The ARES Decision

CIS 410-02: Case 1

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**1. The Problem**

Should Burlington Northern Railroad Company (BN) invest $350 million dollars into an information system known as Automated Railroad Electronics System (ARES)? The $350 million is broken down into three cost categories; $200 millions for on-board equipment, $80 million for the control system, and $80 million for the data ink communications. ARES is an automated system that is supposed to significantly change how BN is currently managed and operated. However, top management is skeptical on implementing ARES. It is very costly and an extremely large project to take on. There’s always the risk of taking on this project and in the end it ends up costing more than the projected $350 million dollars originally planned. The current railroad system creates numerous problems throughout BN operations. There are over 5,000 conjunctions, which create 25 million possible distinct routes.

**2. Environment Position**

Burlington Northern was formed in 1970 by the merger of four different railroads. In addition to a vast rail system, the merged company owned substantial natural resources including extensive land grant holdings containing materials, timber, and oil and gas. In 1989, up to 800 trains ran our Burlington Northern routes generating revenues of $4,606 million and net income of $242 million. Dispatchers at this time are using technology from around the 1920s. Causing dispatchers to only be able to focus on 5-7 trains when they were responsible for 20-30 trains in their assigned area. According to the Chief Operating Officer, the new technology alone will not benefit the company but the restructuring of the entire company and many operations as well (Cash, pg. 25). For these reasons, a cheaper alternative seems like the better options.

**3. ICA**

1. **Mission**

Burlington Northern (BN) mission is to provide transportation service to its customers by offering a more reliable and faster service, while reducing cost and increasing revenues by improving the utilization of its assets to stay ahead as the top company in the railroad industry.

1. **Generic Strategy**

BN is currently following the cost leadership strategy by using economies of scale to transport high volumes of commodities to its customers. Coal was the number one source of revenue and BN had long-term contract customers (Cash, pg. 4). BN’s second largest source of revenue came from agricultural commodities and BN was expecting to grow in this segment given recent changes in economic policies in Eastern Europe. To satisfy the expected increase in demand for these types of products, BN will need to become more efficient to keep its cost leadership strategy, gain potential new customers in the future, and to maintain its existing customers.

1. **Organizational Structure**

Burlington Northern is structured in a functional form, where similar knowledge, tasks and skills are being grouped together. This is because the functional form promotes economies of scale (Cash, pg.35). For example, dispatchers are in charge of controlling the trains and each of them were assigned to a region and they were only responsible for that region. Numerous functions were divided this way, including control systems and communications, freight car management, and maintenance. Each reported to the operations manager that was assigned to that specific department. The idea was to create a rational system to operate as efficient as possible (Morgan, p.22).

1. **The Five Forces**
2. **New Entrants**

Given that the railroad industry requires heavy initial investment, the threat of new entrants is rather low. However, affects of deregulation on both the trucking and railroad industries were changing the competitive environment in transportation (Cash, pg. 62). Due to the lower initial investment to enter the trucking company business, they were gaining advantage over railroad companies since they were door-to-door delivery service which is preferred by customers in order to the just-in-time production.

1. **Substitutes**

For Burlington Northern its largest source of revenue was coal (Cash, pg. 62), and its major competitor was the Union Pacific (UP), which was another railroad company that had recently invested in a new technology. \*\*\*\*Train to the customers would normally transport heavy products, like coal and grain. This puts BN in a position where it was difficult for the customer to switch but when it comes to transporting light products trucks were moving ahead.

1. **Customers**

The railroad industry had a few companies providing the service to the customers, but it was facing to major challenges, which were capital intensity and service (Cash, pg. 68). This was improving the trucking industry since customers were in search for faster services and the trucking companies were the ones to provide it.

1. **Suppliers**

Farmers and large corporations were BN’s top suppliers. For suppliers who were providing heavy products, like coal, they didn’t have too much bargaining power since railroad companies were the most logical choice for such heavy products. For the lighter products, like grain, they had somewhat more bargaining power because they could easily switch to a trucking company.

1. **Competitive Rivalry**

BN’s number one competitor is Union Pacific (UP). UP has been investing to be more efficient (Cash, pg. 4). Another main competitor of BN is the trucking industry. Since the trucking industries costs were down due to the effects of deregulation, they were able to provide more flexibility for customers.

**4. Alternatives**

1. **Do Nothing**

BN could choose to do nothing and keep running the business the way they have been. If BN chooses to do nothing, this could affect their future. It would allow the trucking companies to continue taking their customers for the lighter products.

1. **Implement all of ARES at one time**

If they implement ARES all together at one time, and it fails, then they go into bankrupt and have made the worst decision ever. On the other hand, if they implement it, and it’s successful, then they have taken over the market from Union Pacific. Adaptive companies use information technology at a level close to their competitors (Fried, pg.372). But this solution can affect the customers who are demanding faster delivery that is required for the just in time manufacturing.

1. **Implement ARES one Region at a time**

They BN implements ARES one region at a time, incase of failure, it minimizes the backlash. Instead of $350 million dollars at once, it could be sorted to be a much smaller amount for a smaller scale of implementation at first.

**5. Stakeholders**

1. **Employees**

This group would be directly affected by the ARES project. This will change the whole business process and they will have to adapt to a new process. It also may take place of some of the jobs that are currently needed. Either eliminating or causing employees to learn new jobs to be more directed at the new system needs. However, the advantage is that the new system promises to be more efficient and safe which can make the available jobs easier.

1. **Customers**

ARES is going to improve scheduling of trains, which will provide a faster and more reliable service to its customers. This also may affect the customers in a very different way. With ARES costing $350 million, if implemented, could cause Burlington Northern to raise their prices.

1. **Top Management**

This group is responsible for ensuring the company is running properly and efficiently. It is this group’s duty to ensure Burlington Northern could financially withstand an investment such as this without going under.

**6. Alternative’s Impact on Stakeholders**

1. **Employees**

If BN decides to do nothing, the employees would stay in the same position they are currently in. If ARES is implemented, then some employees could potentially lose their jobs, while others could have to train learning new job roles that pertain to the new system. If BN chooses to implement ARES per region, employees wouldn’t be affected until it was implemented in their region. Then they could potentially have to be trained to work alongside the new system.

1. **Customers**

If BN decides to do nothing, then the customers would not be affected since nothing would be changed. If BN decides to fully implement ARES, then the customers would be affected depending if the system failed or succeeded. If it failed, then the customers would ultimately leave BN and it would go under. If the company succeeded, this could mean potential faster and more accurate shipping terms. Depending on the revenue (if any) from the system, costs may go up. Just depends on what the outcome is. If BN chose to implement the system by region, then the customers may be immediately affected. It all depends on the outcome of implementing the system is. If it takes an immediate financial hit then the customer’s costs will rise. If it increases revenue and operations efficiency, then it could affect the customers in positive ways.

1. **Top Management**

If BN decides to do nothing, then top management would be in the same position they were always in. If BN decides to implement the full ARES system, then top management will have to be the ones who look over the project to ensure it doesn’t take the company under. Whatever the outcome is, it sits on top managements shoulders. Depending upon the outcome depends on the action of top management. Good outcome, top management would have to continue looking over the system and making sure everyone is properly trained to decrease errors. If BN chooses to implement the system, it is at the approval of this group of stakeholders. If it fails, they are out of jobs. If it is successful, then they have just become the top railroad system.

**7. Recommendation**

My recommendation is for Burlington Northern to do nothing. Currently they are in financial trouble. If they purchase ARES and it fails, then they go bankrupt and Burlington Northern no longer exists. Instead of taking the risk of going bankrupt, they should focus on improving the system they currently have. By improving the current system hopefully, they will become financially able to upgrade to ARES with less concerns in the future. When a company is in trouble, the idea isn’t to purchase more things to add to your debt. That is exactly what they would be doing by purchasing ARES.

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