

Burlington Northern

Case Evaluation 1

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Introduction: Burlington Northern and the Problem Statement

During the 1980's and early 1990's, Burlington Northern, a railroad company, began the process of answering the big question: "what kind of (railroad) company should we be?" (Barker 10). In order to completely assess the company's operations, Burlington Northern's executives began a strategic review of operations in areas such as operating strategies, customer behavior and many others. As a result, Dick Lewis, a Burlington Northern executive, explained the railroad industry in general was facing "service and capital intensity" (Barker 10) as its two major challenges. In order to combat these challenges, Burlington Northern needed to "improve (their) ability to deliver service... and utilization of assets" (Barker 10). The major problem facing Burlington Northern, and subsequently driving their major business decisions, was how to best "improve utilization of assets... and reduce the capital investment required during the 1990s" (Barker 10). With the introduction of a possible investment into the ARES technology project, the organization faces a decision on how to proceed with regards to these two difficulties. The following case analysis will examine Burlington Northern's operations and their current business state, discuss the variety of alternatives available to the company to solve this problem and their effects on the organization, and conclude with a recommend regarding the company's future.

Mission Statement

Burlington Northern Railroad was a railroad company that began operation in 1970 and continued into the late 90's. The company was formed to provide transportation options to its customers, with the company's primary revenue coming from seven different sources: coal, agriculture, commodities, industrial products, intermodal, forest products, food and consumer products, and automotive products (Barker 1). By providing railroad transportation to its customers within these 7 segments, Burlington Northern was able to implement a cost leadership strategy in order to satisfy customer needs and regulate business operations.

Generic Strategy

Burlington Northern was able to effectively use a cost leadership strategy because they were able to provide their service with the lowest cost within their market. They are able to accomplish this through a combination of regulations and business efficiencies. Beginning in 1980, the deregulation of the trucking and train industries had a major impact on the company's ability to set their own rates and become more competitive in regards to both types of transportation. Because of their lower rates and overall operating cost being competitively low, Burlington Northern was able to decline employees "by 50 percent while revenue ton miles increased by over two thirds" (Barker 6). Additionally, Burlington Northern was efficiently running business operations in a variety of areas in comparison to their competition. For example, Union Pacific was Burlington Northern's largest competitor in coal but while Union Pacific was running "excess capacity" through its investments in new technology, Burlington Northern was "running close to capacity on its coal lines" (Barker 4). These types of business decisions allowed Burlington Northern to provide the lowest cost in comparison to its competitors.

Organizational Strategy

Along with their generic, cost-leadership strategy, Burlington Northern operates as a functional organizational strategy by dividing their organizational processes into separate business functions. The organization is broken into three segments: corporate, operations, and corporate staff. The corporate functions included "finance, strategic planning, marketing and labor relations", the Operations Department oversaw all operating divisions such as "train dispatchers, operators, and their supervisors" and the corporate staff included "Information System Services" (Barker 1).

Porter's Five Forces

Competitive Rivalry

As a transportation company, Burlington Northern had a variety of competition within its market including other railroad companies, trucking operations, airplanes, and boats. Of these competitors, separate railroad companies and trucks pose the largest competition for Burlington Northern. For its largest service segment, Burlington Northern had a large competitive advantage over the coal industry.

Union Pacific, Burlington Northern's largest coal competitor, had made "substantial investments in heavy-duty double track and in new technology, fuel efficient engines" but they were running at "excess capacity" (Barker 4). This allowed Burlington Northern to have a cost advantage over its major competitor. Additionally, Burlington Northern's smaller segments were in competition with the trucking industry. During this time there was a large realization of the "just-in-time delivery benefits" (Barker 4) and while shipping commodities through road trucks were "two to three times what it would cost for rail service", customers were still willing to "pay for that level of service" (Barker 6). Even though deregulation was having a major impact on the trucking industry, competitive rivalry posed the largest threat to the organization because of trucking's advantage in this particular segment.

Threats of New Entrants

The threat of new entrants for Burlington Northern is extremely low due to the high cost of capitalization for this specific market. The cost alone necessary for trains, trucks and other possible modes of transportation are so high, that is virtually impossible for new companies to enter the market. Because of this, Burlington Northern can consider this a low risk.

Threat of Substitutes

Substitutes in relation to Burlington Northern would be other transportation services, such as airplanes, boats, other railroad services and road trucks. These substitutes would pose a threat to Burlington Northern especially in their relation to certain segments of the company's forms of revenue, particularly with their service sensitive segments. With the substitute of trucks having such a high advantage with just-in-time delivery, this particular form of transportation poses one of the largest threats for this category; Dick Lewis even stated that "trucks are pretty secure" (Barker 7) in these particular segments because regulations were being enacted to even further reduce trucking cost. However, with Burlington Northern's largest sources of revenue, coal and agriculture, the company had little threat of substitutes because of the high cost for similar transportation options (i.e. airplanes and boats). This causes the threat of substitutes to be a medium risk for Burlington Northern.

Bargaining Power of Customers

The bargaining power of the customer also poses a large threat to Burlington Northern because of the amount of dependency the company has on the customer. For example, for Burlington Northern's largest revenue segment, trains were used to ship coal in coal cars, "most of which are owned by the customer" (Barker 4). Although the "unit coal trains never stopped, and the coal business was almost totally predictable" (Barker 4), the customer could decide to use a competing railroad company to ship its coal. However, Burlington Northern was able to reduce the "average cycle time" which in turn "reduced the capital investment in coal cars" (Barker 4) in order to mitigate this risk. For Burlington Northern's agriculture segment, the bargaining power of the customer is extremely high as well because grain deliveries "were more random" and "long-term agreements were not common" (Barker 4). This allowed the customers to use the cheapest, more reliable method of transportation at the time of harvest and Burlington Northern would have to be prepared at any given time to provide that level of support. However, through the Certificates of Transportation program, Burlington Northern was able to sell contracts with commitments to move grain within "a three-day interval, six months in the future" (Barker 4). This was a way to mitigate this risk as well and to lower overall the bargaining power of customers.

Bargaining Power of Suppliers

The suppliers in Burlington Northern's case would be the organizations that not only provide the materials needed to build and maintain trains and railroads, but also the labor union workers that were supplied to perform maintenance, train conductors, dispatchers, and other functions for the company. Because labor union undergoes a series of negotiation periodically, and that Jim Dagnon suggested that the "train crew sizes could be reduced" (Barker 20), it seems that the suppliers in generally do not have much bargaining power and the risk is low.

Stakeholders

Customers

One of the major stakeholders for Burlington Northern is their customers. The customers include all businesses that utilize the railroad service and rely on the company's service, cost, and overall support for

the customer. If the organization does not meet these needs, the customer will be more likely to switch to an alternative method of transportation.

Employees

Burlington Northern cannot operate without its employees and depends on them for management, dispatching of trains, maintenance of way crews, crews on the trains, and many more. The employees are directly affected by the company's decisions and rely on their ability to make decisions with their employees' interest in mind.

Stockholders

The stockholders for Burlington Northern have a huge stake within the company because of the amount of influence the stockholder has with the company. These stockholders are concerned with how well the company is performing and the overall value of the company. If the company begins to perform poorly, the stockholders could sell their shares and the value of the company's stock could decrease, negatively affecting the company. If the company is performing well, the stockholders may want to invest more and increase the value of their stock. These stakeholders are directly interested in how well the company is performing in relation to their investments.

ARES Research and Development Team

The Advanced Railroad Electronics System (ARES) was created to respond to the problem of utilizing the company's assets to their maximum potential. The ARES R&D team, first beginning as Burlington Northern's R&D department and then moving into a separate ARES R&D team, was used to assess and manage the development and implementation of the ARES project. The team, having developed the product for the last nine years, is concerned with the overall improvement of the company's assets and the executives' decision to implement the system within the company. The team had the largest stake in the operations of the organization as they saw the project as a "means to accomplish key goals of service improvements, operating efficiencies and improved capital utilization" (Barker 11).

Solutions

Invest and Implement the ARES Project

This solution involves implementing every aspect of the ARES Project that has been developed so far. The project could be separate into three main parts, containing sub products related to each segment: Control, Data and Vehicle (Barker 11). The Control segment was used to produce schedules and ensure proper operating procedures, the Data segment was used for communication of data between the Control and Vehicle segment, and the Vehicle segment provided a form of communication within the locomotives themselves. Incorporated with the Vehicle segment, there was an Energy Management System (EMS) and the Locomotive Analysis and Reporting System (LARS). Under this option, all of the above segments and their sub-programs would be implemented. The risk for this solution would be high as even the largest “component, revenue enhancements... had the most uncertain estimates” (Barker 21) but the return could be just as high as no other company would implement this type of technology within the railroad industry.

Invest and Implement a portion of the ARES Project

This solution would implement all three segments of the ARES project but exclude EMS and LARS from implementation. Even though project was proposed including these two components, Galassi, the head of the R&D team, stated that the team “figured that top management would want to have a picture of the total project” and therefore, LARS and EMS were “clearly very separable pieces” (Barker 16). The risk for this solution would still be high but instead of investing in an entire project, the main components could be utilized without the separate, costly components.

Do not invest or implement and continue Business As-IS

This solution would continue with the company As-Is and disregard the ARES project all together. This would allow the company to operate according to its current business practices and save the investment that would otherwise be used for the ARES Project. However, the company would lose the \$15 million already invested in the project and the time invested as well. Additionally, current business practices would have to be updated as they are constraining the business from moving forward. For example, information is manually entered into a system but only when a train is at a station and only by either the dispatcher or the conductor. This seriously limits the accuracy of information and prevents the business from receiving the correct information in a timely fashion.

Solutions Impact on Stakeholders

Solution 1

Customers

Assuming the system operates correctly and as estimated, the customers would be positively affected by the implementation of the system because certain aspects of the business would be improved, such as accurate delivery times and overall reliability of shipments. This would cause an increase in customer satisfaction and the customer would be less likely to switch providers. If the system failed after implementation, the customer would see the opposite effects and possibly switch companies.

Employees

Again assuming correct implementation, employees would see an more reliable system to enter information and receive, while in transit and at dispatch locations. This would provide easier job functions and more accurate information for maintenance workers as they would be able to determine problems instantly instead of through labor that could last long amounts of time. However, this could reduce the number of jobs needed in the job and as a result, layoffs would occur. Additionally, the amount of training time to use the system will have an impact on the employees.

Stockholders

The stockholders would see a positive result from the ARES Project as sales and overall operating cost would decrease because of the system. This could cause stockholders to receive a higher return on their investment and possibly invest more in the company. However, if the project does not perform as predict, the stockholder may see a negative return on their investment.

ARES R&D Team

The ARES Team would have the most impact from this solution because the team would be utilized in every aspect of the organization. The implementation, training of end user and overall maintenance of the system would allow this group to become an integral part of the organization and one that cannot be eliminated, causing the department to grow as well. However, if the implementation does not go as planned, the team could be disbanded immediately and a new team brought in.

Solution 2Customers

Just as with solution 1, the customer would be heavily impact although not to the extent that solution 1 would offer. Customers would see a change in service, which has the possibility of being positive or negative, and would base their switching decisions on that outcome. However, without the implementation of EMS and LARS, it can be assumed that the affects to the customer will not be as great as solution 1.

Employees

Also similar to solution 1, employees would see a change in their work environment that would cause then to perform at a more efficient rate but would also involve some level of training. This could also produce layoffs in certain departments of the organization, particularly in the labor workers.

Stockholders

The stockholders would also be affected by either an increase on their investment or a decrease depending on the results of the project. This change will not be as significant as solution 1 may hold.

ARES R&D Team

This team would become more of a requirement within the company and could expand because of this. Aspects of the operations would rely on this department, still making them an integral part of the company.

Solution 3Customers

With this solution, the customers would see no change with delivery and reliable of shipments because the business would continue to operate in the same manner. Because of the high satisfaction the company is receiving because of their low cost overall, the customer would be likely to remain with the company and see no change in operations.

Employees

The employees would also see no change in operations and would also require no additional training to complete job functions. The employees would continue to work As-Is but the company would still be operating under the constraints of the bottlenecks within the company. These are defined as the workers who limit the accurate input of data. An example would be a clerk would be required to enter in trains time of arrival, but “if busy, might not observe the actual arrival, thus recording a 12:00 train as 12:15, and then entering this fact at 1:00 to the management data files” (Barker 9). This could adversely affect the business operations.

Stockholders

Stockholders would continue to see the same return on their investment as previous years, assuming the market and business operated at current levels.

ARES R&D Team

The ARES team would see the biggest effect as the team would no longer be needed. Without investment or implementation for the project, the team would be disbanded and either relocated within the company or let go all together. This stakeholder would have the most to lose from this decision.

Conclusion

Based on the solutions presented, the overall standing of the organization and the investment that would be required to implement the ARES Project to solve Burlington Northern’s problem, the organization should continue to operate AS-IS and accept the loss of the investment currently put into the ARES Project. Even implementing a portion of the Project could have the “potential benefit... (being) large” (Barker 16), the overall outcome is highly uncertain and “depend(s) greatly on implementation success” (Barker 16). Because of this level of uncertainty, it would be extremely risky to implement the project at this stage and has the potential for even greater loss for Burlington Northern. Additionally, after brief review of Burlington Northern’s financial records the estimated \$220 million current investment in the project would not be feasible as there is not enough within retained earnings or within the available stock to sell currently (Barker 3). This would lead to higher debt for the organization along with the uncertainty of implementation. Therefore, even with the current constraints facing the organization, the best option

would be to operate As-Is in order to please the greatest number of stakeholders and continue operating the business processes at a manageable strategy.

Works Cited

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