Burlington Northern

Case 1

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Introduction

Formed in 1970 by the merger of 4 railroads Burlington Northern (BN) serves the great plains and northern United States. BN has seven primary segments: coal, agricultural, industrial products, intermodal, forest products, food and consumer services, and automotive products. As of 1989 BN's Net income was $243 million with over 800 trains running on its tracks a day. In 1990 BN faced a decision to invest in a new system called the Advanced Railroad Electronics System or ARES. This system would take BN from the Iron Age to the Electronic Age, featuring a GPS that could track a train's position within 100 feet. It would also give data about the trains health, performance, and even stop the train if needed. This would greatly improve the efficiency of deliveries and help fix issues on the train before they developed into something worse.

Industry / Competitive Analysis

Mission Statement:

Burlington Northern is a railroad committed to the delivery of goods in a safe and efficient manner while maximizing the utilization of its assets to the highest reguard.

Generic Strategy:

Being that Burlington Northern's main transport items are comedies, BN would be considered to have a Cost Leadership Generic Strategy. As seen in the case, most products that BN carries are almost totally predictable and contracts or Certificates of Transportation (CoT) are under a cycle time to allow for BN to have good assert utilization thus reducing the time and cost that BN can deliver.

Porter's 5 forces

Rival Competitors: Union Pacific (UP) is BN's main competitor. UP is very good at upgrading lines, technology, and engines to deliver goods (specifically coal). BN management believes UP had excess capacity while BN was running close to capping out. UP is adding pressure to BN to adapt and develop new technology and methods to stay ahead.

Threat of Substitutes: BN is currently facing the threat of a substitute to be more efficient in its delivery of goods. Its main threat is the trucking industry whereas they can deliver goods for business at a 90-95% on time rate while BN is capping out at 75-80% rate. This favors the trucks for businesses who are relying on Just-In-Time for the production of their goods. If the government passes the regulatory changes allowing for trucks to be longer and heavier it will only add to the threat.

Threat of Buyers: Even more than substitutes, the threat of other railroads to choose from is increasing for buyers which is driving down the rates that railroads charge. Since the deregulation, railroads have greatly increased productivity allowing for smaller railroads to carve a place for themselves.

Threat of Suppliers: Currently, the threat of suppliers is not very high. This is mostly due to the fact that this is a Cost Leadership area and money is made by how fast they can get out commodities. BN has a strong hold on the northern area of the United States and there really is not much other competition. With this in the railroad business the cost of switching railroads can be very high.

Threat of New Entrants: This is a very low consideration for BN as the cost to enter the railroad business is very high. New players are not common to see as well as most rapid growth would come from a merger.

Orgs Structure

BN's diverse operations and staff are located in 3 major cities. The Operations Department is located in Overland Park, Kansas the Labor Relations Department is in Ft. Worth, Texas and the Information System Services is in St. Paul, Minnesota. BN serves the Great Plains and Northern United States from Minnesota to Washington. The current CEO is Jerry Grinstien while Bill Greenwood is the COO under them consists of many VPs. The COO is in charge of managing the Marketing, Equipment, ISSD and Operations. While the CEO oversees Public Affairs, Strategic Planning, HR, Law/Government affairs, and Finance.

Business Issue and Key stakeholders

Business Issue

The business issue presented is whether or not to invest in the Advanced Railroad Electronics System or (ARES). This project would cost $350 million and span a couple of years. To date, BN has spent $15 million on the project and their co-developer Rockwell International has spent "3 times as much". This system would help dispatchers be able to manage the trains within their territory better and more efficiently.

Key Points of Conflict

1. The first issue is if BN has enough funds to undertake the project on. At the current time, BN has a debt-to-total-capital ratio of 76% which is extremely high for a railroad company. The company's goal is to pay down the debt of $200 million a year till 1994. Along with natural depreciation of railroad equipment does BN have enough capital currently to undertake the project?

Stakeholders

Internal

- BN Senior Executives
- Board of Directors
- BN Senior Management
- Ed Butt and ARES project team

External

- Shareholders
- Investors

2. The second issue is the technology concerns and if BN needed any, all, or just part of ARES. By the time that the project was fully developed there were alternatives to ARES such as the Advanced Train Control System. Although some said they were at least 5 years behind ARES it did provide an alternative solution and was there another cheaper solution out there? Another idea brought up was to gut ARES and only take parts such as the LARS system and energy management system.

Stakeholders

Internal

- BN Senior Executives
- Board of Directors
- BN Senior Management
- Ed Butt and ARES project team
- Information System Services Department

External

- Association of American Railroads and ATCS
- Rockwell International

3. The final point of conflict is that the current executives were almost completely new to the project. The development spanning over 9 years had seen 4 different CEO's take office. Hardly anyone was there for the original product's conception thus creating a disconnect from the project and management. Much of the current management wasn't able to fully understand the project. Many argued that they shouldn't be the first to implement the new technology and the safer bet would be to have someone else take

the leap and fail so they could learn. Another worry that management had was that the control center wasn't complete and would require a $80 million dollar investment for completion. Finally, management worried that all projects tend to take more time than budgeted to get off the ground. What if it took years upon years to complete and install? Would something better and cheaper exist by then, or would they be behind competitors? Would ARES be safer for their employees or would the technology fail on them?

Stakeholders

Internal

- BN Senior Executives
- Board of Directors
- BN Senior Management
- Ed Butt and ARES project team
- Information System Services Department
- Employees of BN

External

- Unions

Proposed Solutions and Alternate Courses of Action

Alternate courses of action

1.Implement ARES: The First solution would be to fully implement ARES into the BN operation. This would hopefully solve the issue of dispatchers only being able to really look at 5 trains at a time. Currently a lot of trains when they are put on a side track to let another train pass are almost forgotten about and dispatchers have no idea which trains are behind. The system would also be able to increase the safety in which trains are inspected for malfunctions and tracked to prevent collisions. Managers have 4 highly interrelated components and people are the primary source (Cash). The possible revenue gained would be over $200 million a year after the initial $350 million is paid. The downsides to this idea would be it would set back the debt payoff and would run a risk of not being completed within the time frame.

Theory that support this course of action

- Five Focusing Steps for Bottlenecks
    - Identify: There is currently a bottleneck in how dispatchers handle incoming trains that is causing millions of dollars to be lost.
    - Exploit: By using ARES, BN could reduce the time trains take to get to their destination by allowing dispatchers to know more information on the trains
    - Subordinate: Not only would this fix the bottleneck but would greatly increase the safety for the employees and health of trains
    - Elevate: This course of action would fix the dispatcher bottleneck issue

○ Repeat: Learn from the implementation of ARES and use the new revolutionary data being gathered to find and exploit the next bottleneck

Impact of action on stakeholders

Internal: The groups affected by the implementation of ARES would be the Board of Directors, BN Senior Executives, BN Senior Management, Ed Butt and ARES team, and Employees. This would greatly worry investors initially and the different management groups could be under fire if this project would turn out poorly. The ARES team would certainly have their work cut out for them in the implementation process and staying within budget. Finally, Employees would probably see a reduction of needed workers but would greatly see improvement in the safety of their work.

External: The external groups affected would be the Unions and Investors. This is inherently a risky project to undertake and would have investors certainly worried as this could set BN back financially. For Unions this is a huge benefit as the safety of workers are being prioritized within the company.

2.Sell ARES: The second best option I would recommend would be to outright sell ARES in its current state. "Good CTO's are always looking for ways to build a competitive advantage"(Fried). Being that ARES is the current known leader in this technology BN should have no issue selling the project off to someone else. This would quickly raise capital initially allowing it to be put towards paying off some of its debt. Also it could serve as an observation experience to see how well ARES helps another company and management could learn greatly from another company's mistakes and

successes. In reality, the survival of the business is more important than anything else. (Fried) The downside to this is that you are giving up a potentially very valuable asset. Later down the road if you decide to buy this product it could cost more than the cost would have been to just build the system and implement it.

Theory that support this course of action

- Value Chain
    - The value chain here applies as currently BN is not in the best place financially to be able to take on such a task. By cutting out support activities this not only will raise money towards the primary activities but also simplify what BN can do to focus on primary activities.

Impact of action on stakeholders

Internal: The groups affected by the implementation of ARES would be the Board of Directors, BN Senior Executives, BN Senior Management, Ed Butt and ARES team. Management would be able to have a quick cash grab to help with some of the financial issues they are undertaking at the moment. The ARES team would inevitably be hired on by the new company to implement the product.

External: Rockwell, Investors and shareholders would have a big sigh of relief that this would raise money for the firm and could see a cash kickback to make them happy for the time being. Rockwell would possibly receive some of the compensation as well as help develop the project.

3.Spin-off ARES into its own company: My main solution is to spin off ARES into its own company similar to how BN spun off Burlington Resources Inc. to help capitalize on its natural resources that it owns. ARES is currently a leader in this space and I believe that BN should capitalize on this fact while it can, like the textbook said "Fast Response is the name of the game in many industries, Those firms who identify a need and respond to it first are capturing impressive market shares"(Cash). Like the case said "If BN goes with ARES the rest of the industry will follow". With the nearest known competitor 5 years behind BN could implement this system in other railroad companies and that doesn't seem to scare off management either as they are quoted saying "I don't want BN to be the sole advocate, I've invited other railroads to come observe the technology in the Iron Range". I believe this would solve a multitude of issues, first being that BN doesn't have to be the first to implement it on their own trains and can observe very closely the impact of ARES being that their subsidiary company would be the implementer. Also this could be a huge revenue booster to BN to help pay back the debt and affordability of the project by charging railroads to have the system implemented. I don't have any worries of BN finding railroads to buy this product being that ARES is a leader in the field and it has multiple 3rd party studies run to prove that ARES provides a real business value. "Overall, the world is shrinking and companies are extending their reach"(Cash) BN's buyer might not just be from the US in European countries the employment laws are strict thus for projects outsourcing is not uncommon(Fried). With the way revolutionary products are grasped in the modern world, ARES could one day be BN's biggest revenue source.

Theory that support this course of action

- Goldratt and Business Process

  - The Goal: "To make money now and in the future". ARES would provide this by being a learning experience early on for BN and possibly setting up a huge revenue stream in the future for the company.

  - By using this theory we would completely reinvent the process for ARES by creating a new process, this new process would have ARES as the inventory that needs to be sold. We would need to implement a high Operating Expense early on to finish the development of the project but this would help the throughput later on. An issue early on would be the bottlenecks occurred in the implementation, by starting off by implementing this on another railroad first BN can smoothout the bottlenecks for their own implementation.

Impact of action on stakeholders

Internal: The groups affected by the implementation of ARES would be the Board of Directors, BN Senior Executives, BN Senior Management, Ed Butt and ARES team, and Employees. The different management groups would be able to receive a profit and income by the sale of ARES to different railroads and lower the debt that they are currently facing. The ARES team would begin the implementation throughout different railways and would need to be expanded to be able to keep innovating to stay ahead of

the competition. Employees would see some of their workload reduced with the implementation of ARES.

External: Stakeholders, Investors, Rockwell, Unions would all be affected. The stakeholders could see a kickback from the profits of ARES. Rockwell would be more heavily involved in the development as well as receive profits and Unions would be happier as their workers would be safer on the job.

References

- Cash, James I. *Building the Information-Age Organization: Structure, Control, and Information Technologies*. Irwin, 1994.
- Fried, Louis. *Managing Information Technology in Turbulent Times*. John Wiley & Sons, 1995.