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BNSF Strategic Analysis

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BNSF Railway Strategic Analysis

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ABSTRACT

Burlington Northern Santa Fe, LLC. (BNSF), is an American railroad concentrated in the western two-thirds of the U.S. This railroad has a history stretching back over a century, leading the company to function as one of the leading Class I Railroad with over 30,000 employees and over 30,000 miles of laid track. Two analysis methods were used to examine the competitive environment in which BNSF operates. The first is the PESTEL analysis which examines the macro-environment. The second is Porter's Five Forces which analyzes the competitive environment of an industry. The analyses concluded that BNSF's competitive advantage lies in its scale of operations and parent company, Berkshire-Hathaway. By sustaining an appropriate level of network growth, BNSF may continue to lead U.S. railroads moving into the future.

Keywords: BNSF, Railroad, Class I, Strategy, Strategic Analysis

BNSF and Its History

Burlington Northern Santa Fe, LLC. (BNSF) is one of the seven U.S. Class I Railroads. Though a member of the transportation industry, it falls primarily into intermodal freight, railroad, or freight transportation company.

The company is headquartered in Fort Worth, Texas, and is headed by current President and CEO Kathryn Farmer, the first female CEO of the Class I Railroads. The other Class I Railroads include Union Pacific Railway (UP), Canadian National Railway, Canadian Pacific Railway, CSX Transportation, Kansas City Southern Railway, and Norfolk Southern Railway. UP is considered by many within the company to be BNSF's primary competitor.

Though technically only 27 years old, BNSF is the culmination of over 140 years of history, including the acquisition and merging of 390 railroads, beginning with its first predecessor, the Aurora Branch Line, founded in 1849. In the 21st century, BNSF's role continues to be one of transporting goods and commodities within their network that covers the western two-thirds of the U.S., including some parts of Canada and Mexico.

Figure 1. Map of BNSF Rail Network

Credit: BNSF website

PESTEL Analysis

The PESTEL analysis is a tool used to analyze and monitor environmental factors that impact an organization, company, or industry. These factors include Political, Economic, Social, Technological, Environmental, and Legal factors in the external environment (*Industry research: Pestel Analysis*, n.d.).

Political

In addition to BNSF's involvement in the national and global supply chains, there are political factors that affect this Tier I railroad that must considered due to the highly regulated environment of the railroad industry. BNSF is regulated by the Federal Railroad Administration (FRA), which is the governing body of all railroads since its inception in 1966 under the Department of Transportation Act of 1966. The policies of the FRA dictate most aspects of the railroad industry, most notably the areas of safety, research and technological development, and general network development of the railways (*Federal Railroad Administration*, 2019). Additionally, most employees at BNSF are unionized. The most prominent unions are The Brotherhood of Locomotive Engineers and Trainmen and the International Association of Sheet Metal, Air, Rail and Transportation. This affects the relationship between corporate headquarters and rail employees as the workers' conditions are regulated by agreements between the company and the unions.

Economic

As a Class I Railroad, BNSF has a significant economic responsibility in the United States and global economies. BNSF employs between 35,000 and 40,000 employees, with projected growth of 5% between 2020 and 2030 ("Railroad Workers", 2022). This will be driven by continued significant investment in the "rail highway" and the necessary maintenance required for company property (*Economic Impact*, n.d.). In addition to the effects on the labor market, freight railroads haul 1.7 billion tons of raw materials and finished goods across the country (*Freight Rail Facts & Figures*, 2022). This figure will continue to increase as freight cars are continually optimized.

Social

Recently, the most significant social factor affecting BNSF has been the dispute regarding the company's attendance policy. The two main labor unions, Brotherhood of Locomotive Engineers and Trainmen and the International Association of Sheet Metal, Air, Rail and Transportation, have recently declared an effort to overrule a ruling that BNSF unions cannot strike over the attendance policy (*Unions turn to arbitration in effort to strike down BNSF attendance policies*, 2022). If successful, the strike will remove 17,000 workers, which would significantly disrupt the transportation of goods and commodities in the U.S. (Hampton, 2022). In general, the railroad industry's significant implication on social trends would be connecting economies of all sizes and from all over the country through the shipment of goods and services.

Technological

E-Commerce is a major consideration in technological factors that affect BNSF, not just in how e-commerce has affected consumer expectations but also in how BNSF, as a company that provides a service, can interact with and reach current and new customers. In addition to this, the railroad industry is very tech-forward. The most recent technological development of the safety system Positive Train Control (PTC) has set an excellent example of how railroads and governing bodies can work toward developments that benefit the industry (*How technology drives the future of Rail*, 2022). Another example of technology in the railroad is the increase in efficiency of Precision Scheduled Railroading (PSR). By implementing PSR, railroads can increase efficiency since they

would be able to eliminate shorter lanes and focus more on the higher-volume rails (Elliott, 2020).

Environmental

Despite the most fuel-efficient method of transportation for long-haul freight, railroads still use a large amount of diesel. This has negative environmental implications. To mitigate the effects of diesel use on the environment, BNSF has invested in cleaner technologies such as battery-electric locomotives, idle control, automated gates at intermodal facilities, and increasing fuel efficiency (*Environment: BNSF annual review 2020*, n.d.). Corporate Social Responsibility is very much a consideration BNSF takes when expanding rail lines, developing new technologies, and striving to achieve its mission of meeting customers' expectations.

Legal

The railroad industry is a very heavily regulated industry. All railroads must abide by many laws and governing bodies and meet expectations. These include the Railway Safety Improvement Act of 2008 (RSIA), which did several things such as required PTC, set standards for track inspections, instated a locomotive conductor certification, and more. The Staggers Rail Act of 1980 reduced the control of the government on freight operations which reduced inefficiencies. The Federal Railroad Administration (FRA) is the governing body that presides over all railroads. It is primarily concerned with regulating safety practices and promoting the development and growth of railroads.

Porter's Five Forces Analysis

Michael Porter's Five Forces Framework is a method of analysis that assesses the competitive landscape of an industry. The five forces are the bargaining power of suppliers, the bargaining power of buyers, the threat of new entrants, the threat of substitutes, and industry

rivalry (Porter, 1979). This differs from the PESTEL analysis by focusing on the competitive environment of the company's relevant industry instead of other industries in the broader economic environment. By examining Porter's Five Forces, the competitive advantage of a company and the sustainability of that advantage are better understood. The industry in this analysis is freight transportation on rail.

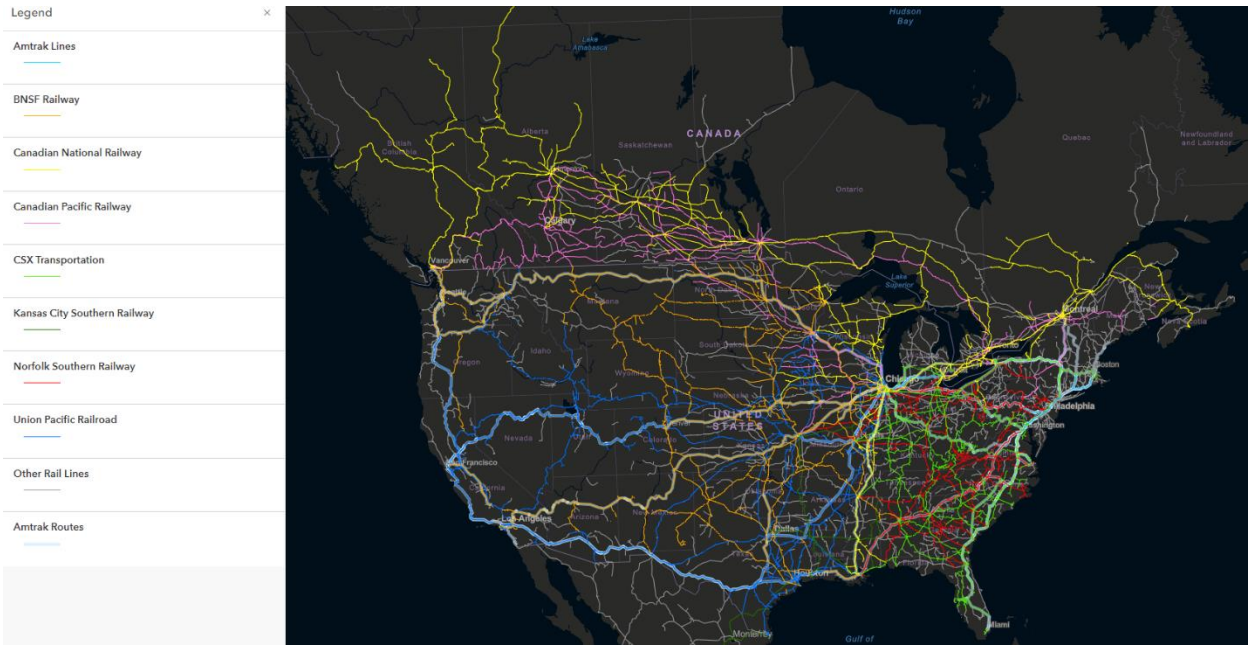
Bargaining Power of Suppliers

BNSF and many other railroads source materials and services from several suppliers (*Suppliers*, n.d.). In the case of Class I railroads and other major transportation companies, the scale is large enough that suppliers do not have a high degree of power since BNSF would be a large enough account that it could easily find another supplier that would be willing to work with them.

Bargaining Power of Buyers

Buyers have moderate power in the transportation industry as they have several options for railroad companies. There are currently seven Class I railroads to choose from. What makes the railroad industry unique is that though there are railways across the United States, none of the Class I railroads have primary corridors that span across the entire United States. Because of this, buyers often must pursue a mixed method of transportation so that the transportation journey is shared, in part, with trucks. In general, rail is used for long distances and trucks are used for short distances ("Shipping by rail vs truck in 2021, 2021). This mixed-method is especially necessary when transporting goods across the U.S. because, again, none of the Class I railroads have tracks that connect the East and West coasts.

Figure 2. National Rail Network Map



Credit: Joshua Wayland, Arcgis.com

Threat of New Entrants

The threat of new entrants in the freight transportation industry is very low because of the high barriers to entry. The cost of starting a transportation company, whether it be rail, air, or trucks, is high enough that usually only a major company that is looking to integrate further into its supply chain would be successful. Amazon is one of a few large companies to accomplish this.

Threat of Substitutes

There are a limited number of substitutes for railroads when it comes to hauling freight, including transportation by water, air, or road. Many have pros and cons. Trucks are primarily used for short-haul, planes are the quickest, though they cannot hold as much as a train, and boats are not a plausible option when hauling freight across land. Trains are useful for long-haul

freight as it is the most fuel-efficient over long distances and can be faster than trucks since railroads operate on their own rail highways.

Industry Rivalry

In both the microenvironment (Class I railroads) and the macroenvironment (freight transportation), there is a high degree of industry rivalry (*Railroads face fierce competition*, 2022). Both are made up of complex relationships because most buyers will use a combination of transportation modes as appropriate in their supply chain. BNSF handles this by being an industry leader that invests heavily in technological research and development.

Current Strategy

BNSF's vision is "to realize BNSF's tremendous potential by providing transportation services that consistently meet our customers' expectations" (BNSF, n.d.). To fulfill this vision, BNSF makes an annual capital investment plan that maintains current assets, supports growth, and funds development. For 2022, the amount of the investment is $3.55 billion. Maintenance is $2.71 billion, equipment acquisition is $259 billion, and the bulk of the investment at $580 billion is set aside for expansion and efficiency projects ("BNSF announces plan for 2022 capital investments", n.d.). Essentially, the strategy is to expand tracks and develop more efficient equipment and technologies to lower overall costs.

Competitive Advantages

Currently, BNSF's competitive advantage comes from its position as the largest Class I Railroad (*Company overview*, n.d.) and its position as a member of Berkshire-Hathaway, Warren Buffet's conglomerate. BNSF operates on a rail network length of 32,500 miles, making it the largest railroad in the U.S. In addition to this, BNSF is a company of about 34,000 employees. With this type of infrastructure and the resources that come from a large employee base, BNSF holds a strong position against other Class I Railroads as it can manage larger volumes of carloads and has the capital to invest in greater infrastructure and development. In 2009, Berkshire-Hathaway acquired BNSF for $44 billion. With the added security of being a part of Berkshire Hathaway's portfolio, BNSF has continued to outgrow its primary competitor, Union Pacific.

Resources to Maintain a Competitive Advantage

The key for BNSF to maintain its competitive advantage is to continue to invest heavily in building infrastructure and technological development. Though it leads the nation's railroads as the largest railroad measured by freight volume and number of employees, Union Pacific is close behind. Union Pacific has 32,452 route miles compared to BNSF's 32,500 and has about 32,124 employees compared to BNSF's 34,000. By continuing to build infrastructure, BNSF can expand its available network and have more routes available for its cargo routes. However, the most important of the two is technological development. There is a lot of technology that goes into making the locomotives more efficient and the tracks less pliable to natural elements.

Projected Roadblocks

Rising labor constraints would be the greatest roadblock for BNSF. Building infrastructure takes a lot of labor and specialized knowledge. To stay ahead of the competition, BNSF would need to hire more employees to keep up with the rising competition it faces from UP. Labor would be especially required for the development of new technologies. The level of knowledge required is highly specialized and generally requires advanced degrees. If BNSF can avoid this issue, then the company will maintain its competitive advantage and remain the leading railroad in the U.S.

References

BNSF. (n.d.). *The history of BNSF: A legacy for the 21st century* [Pamphlet]. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.bnsf.com/bnsf-resources/pdf/about-bnsf/History_and_Legacy.pdf

BNSF 2018 / 2019 corporate sustainability report. BNSF Railway. (n.d.). Retrieved May 2, 2022, from https://www.bnsf.com/in-the-community/environment/sustainability-report/index.html

BNSF announces plan for 2022 capital investments. BNSF Railway. (n.d.). Retrieved May 2, 2022, from https://www.bnsf.com/news-media/news-releases/newsrelease.page?relId=bnsf-announces-plan-for-2022-capital-investments#:~:text=28%2C%202022%20%E2%80%94%20BNSF%20Railway%20Company,a%20strong%20and%20reliable%20railroad.

Company overview. UP. (n.d.). Retrieved May 2, 2022, from https://www.up.com/aboutup/corporate_info/uprrover/index.htm

Economic impact. BNSF Railway. (n.d.). Retrieved May 2, 2022, from https://www.bnsf.com/in-the-community/economic-impact.page

Elliott, D. (2020, August 6). What is precision scheduled railroading? Breakthrough. Retrieved May 9, 2022, from https://www.breakthroughfuel.com/blog/precision-scheduled-railroading/

Environment: BNSF annual review 2020. Environment | BNSF Annual Review 2020. (n.d.). Retrieved May 2, 2022, from http://www.bnsf.com/about-bnsf/bnsf-

review/2020/environment.html#:~:text=BNSF%20is%20actively%20addressing%20environmental,%24345%20million%20toward%20remediation%20efforts.

Federal Railroad Administration. U.S. Department of Transportation. (2019, July 16). Retrieved May 2, 2022, from https://www.transportation.gov/briefing-room/safetyfirst/federal-railroad-administration

Freight facts and figures. Bureau of Transportation Statistics. (2019). Retrieved May 2, 2022, from https://data.bts.gov/stories/s/Moving-Goods-in-the-United-States/bcyt-rqmu/ *Freight Rail Facts & Figures*. Association of American Railroads. (2022, April 25). Retrieved May 2, 2022, from https://www.aar.org/facts-figures

Fuel efficiency. BNSF Railway. (n.d.). Retrieved May 2, 2022, from https://www.bnsf.com/in-the-community/environment/fuel-efficiency.page

Hampton, D. J. (2022, January 26). *BNSF unions can't strike over attendance policy, judge rules*. NBCNews.com. Retrieved May 2, 2022, from https://www.nbcnews.com/news/us-news/bnsf-unions-cant-strike-attendance-policy-judge-rules-rcna13548

Hatch, T. (n.d.). *Rail insider-Buffett's secular bet on BNSF & the 'Rail Renaissance'. information for rail career professionals from Progressive Railroading Magazine*. Progressive Railroading. Retrieved May 2, 2022, from https://www.progressiverailroading.com/bnsf_railway/article/Buffetts-secular-bet-on-BNSF-the-Rail-Renaissance--22103

How technology drives the future of Rail. Association of American Railroads. (2022, April 13). Retrieved May 2, 2022, from https://www.aar.org/article/the-future-of-rail/

Industry research: Pestel Analysis. LibGuides. (n.d.). Retrieved May 2, 2022, from https://libguides.libraries.wsu.edu/c.php?g=294263&p=4358409

Nattysmasher. (2022, March 10). *The largest and most profitable railroads in the U.S*. Sounding Maps. Retrieved May 2, 2022, from https://soundingmaps.com/the-largest-railroads-in-us/

O'Donnell, P. (2021, May 2). *Why Warren Buffett puts BNSF ownership on par with Berkshire Hathaway's Apple Stock*. Dallas News. Retrieved May 2, 2022, from https://www.dallasnews.com/business/local-companies/2021/05/02/why-warren-buffett-puts-bnsf-ownership-on-par-with-berkshire-hathaways-apple-stock/

Porter, M. E. (1979). *How competitive forces shape strategy*. Harvard Business Review. Retrieved May 2, 2022, from https://hbr.org/1979/03/how-competitive-forces-shape-strategy

Rail unions are bargaining over a good job made miserable. Labor Notes. (2022, February 2). Retrieved May 2, 2022, from https://labornotes.org/2022/02/rail-negotiations-are-about-good-job-made-miserable

Railroads face fierce competition. Association of American Railroads. (2022, April 13). Retrieved May 2, 2022, from https://www.aar.org/article/railroads-face-fierce-competition/

Shipping by rail vs Truck in 2021. USA Truckload Shipping. (2021, August 17). Retrieved May 2, 2022, from https://usatruckloadshipping.com/shipping-by-rail-vs-truck-everything-you-need-to-know/ Suppliers.

BNSF Railway. (n.d.). Retrieved May 2, 2022, from http://www.bnsf.com/suppliers/index.page

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, *Railroad Workers,* (2022, April 18) on the Internet at https://www.bls.gov/ooh/transportation-and-material-moving/railroad-occupations.htm (visited May 2, 2022).

Unions turn to arbitration in effort to strike down BNSF attendance policies. Trains. (2022, March 24). Retrieved May 2, 2022, from https://www.trains.com/trn/news-reviews/news-wire/unions-turn-to-arbitration-in-effort-to-strike-down-bnsf-attendance-policies/

Wayland, Joshua. (2014). National Rail Network Map [Map]. Arcgis.com. Retrieved May 2, 2022, from https://www.arcgis.com/home/item.html?id=96ec03e4fc8546bd8a864e39a2c3fc41