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Union Pacific Strategic Audit

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Union Pacific Strategic Audit

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Abstract

Union Pacific is the largest domestic railroad in the United States, responsible for nearly all of the rail-based shipping in the 23 states making up the Western two-thirds of the country. The company provides a crucial link in the global supply chain. By utilizing internal and external analysis tools, this report seeks to understand how Union Pacific's business model and strategies have led them to create and sustain competitive advantages against other big competitors in the transportation industry. The analysis utilizes tools such as PESTLE, Porter's Five Forces, and SWOT analyses. Following the application of the analysis, strategic recommendations are offered for Union Pacific's next steps.

Keywords: Union Pacific, railroad, transportation, PESTLE, Porter's 5 Forces, strategic audit

Strategic Audit

Background

The Union Pacific Railroad Company (UP) ranks 163 on the Fortune 500 and in the fourth quarter of 2022, the railroad's net income sat at 1.64 billion dollars. In 2022, the company had an operating revenue of 24.9 billion dollars (List of Fortune 500 Companies, 2022). UP's mission is to "build America for generations by connecting our nation's businesses and communities all over the world". The company aims to deliver North America's most reliable, efficient, and safe supply chain solutions. It has upheld this promise and remained trusted, as it has been a key part of serving the country through several economic crises, supporting US military personnel through conflict, and pushing forward in times of natural disaster (UnionPacific).

The company accounts for 32,452 miles of railroad track across 23 states, with 7 border crossings. With 7,476 locomotives and 51,583 railcars, UP ships over 8 million carloads annually (UnionPacific). UP ships commodities under three diversified business groups: industrial, bulk, and premium. Some of these commodities include forest and agricultural products, food and beverage, automobiles, coal, and chemicals, and UP is one of the biggest intermodal shippers for trailers, trucks, and containers in the country.

Timeline

For over 120 years, UP has been an indispensable connection in the transportation network of the Western portion of the United States. Union Pacific was founded on July 1, 1862, when the Pacific Railway Act was signed into action by Abraham Lincoln. The company was directed to "construct a railroad line from the Pacific coast, at or near San Francisco, or the navigable waters of the Sacramento River, to the eastern boundary of California" (Dharma, 2022). The company broke ground in Omaha, Nebraska on December 3, 1863, and began building westward (Union Pacific). The building completion of the Transcontinental Railroad marked one of the highest accomplishments in American history. UP did not find immediate wealth but had a large advantage in the amount of land it acquired. The company used this to its advantage and invested in continual expansions. The company's history consists of many prevalent milestones that have gotten it to the point it is at today: building its first bridge across the Missouri River in 1872, connecting to the Pacific Northwest in 1884, rolling out 9000 class Union Pacific steam locomotives in 1926, developing transportation control systems in 1969, signing a merger and becoming the largest rail company in the US in 1996, completing the largest rail construction in modern times in 1999, and much more. Union Pacific's line of track now reaches as far North as Eastport, MT, and as far South as Brownsville, TX (Lyman, 1994).

Figure 1: Union Pacific System Map

PESTEL Analysis (Macroenvironment)

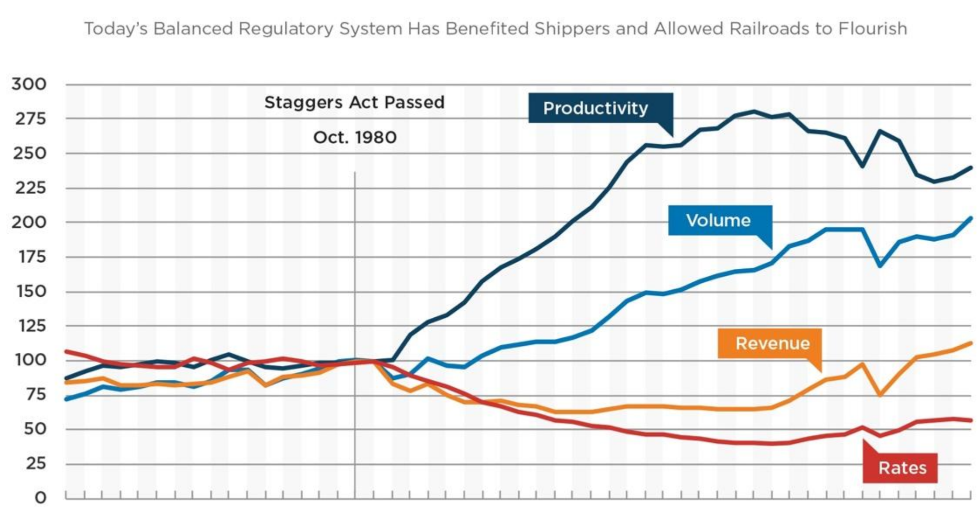
A PESTLE Analysis is a tool that is utilized to gain an understanding of the macro picture of the industry environment. It provides information on six main external factors: political, economic, social, technological, legal, and environmental. Through using a PESTLE analysis, companies can form impressions of varying factors that may pose an impact on new business or the industry, such as business prospects, risks, and opportunities in new environments (University of Sydney, 2023).

Political/Legal

Union Pacific faces many political factors that must be accounted for to sustain its operations. A large factor affecting the railroad industry is changing policies, many having to do with safety and accountability. In early 2010, there were several large-scale rail incidents across the United States and Canada, counting one that killed almost 50 individuals. As a result, the government overrode the strong opposition from the industry and passed several new safety rules, including the implementation of positive train control systems (*U.S. Department of Transportation,* 2023). However, thousands of derailments continue to occur per year. In the wake of the recent derailment in East Palestine, Ohio, a new agenda was drawn up for overhauling rail safety. Some of the new proposals include having a minimum of two crew members on each running train and implementing electronically controlled pneumatic brakes on certain types of trains. On the contrary, the railroad industry as a whole has tried to delay, block, and reverse the implementation of any new safety regulations, with the argument they are cost-prohibitive and lacking proof to ensure safety improvement (Cama, 2023).

The Federal Railroad Administration (FRA) is the major regulatory body that oversees the railroads. It is responsible for administering rail funding, creating and enforcing safety regulations, and researching rail improvement strategies.The FRA established a “zero tolerance” for railroad injuries, accidents, and fatalities. The FRA continues to intensify and expand its safety efforts and for Union Pacific, this has meant implementing safety action plans, comprehensive safety reviews, specific safety directives, and more (*U.S. Department of Transportation,* 2009).

Figure 2: Freight Railroad’s Performance Since the Staggers Act



Economic

The railroad industry plays a crucial role in the economy as it serves nearly all industrial, retail, wholesale, agricultural, and resource-based sectors. One example in which the industry is keeping the economy on track is employment. The railroad provides high-paying jobs that surpass the national average per full-time employee in wages, fringe benefits, and total compensation. As a result of the high wages, professional growth opportunities, and technical training, a large number of railroad workers remain in the industry their whole careers (*Freight Rail & Economic Regulation,* 2023). Additionally, the railroads support over a million additional jobs for businesses that provide services and goods to the railroad.

Without current railroad capability, the United States would not have the ability to participate as heavily in the global economy. Nearly 40% of carloads and intermodal units being carried account for international trade. The railways play a major role in increasing trade and integrating markets (Association of American Railroads, 2023).

Finally, the railroad provides several economic benefits in comparison to other forms of transportation. Primarily, trains can hold the capacity of several hundred trucks, resulting in less highway congestion and fewer taxes needed to fund highway maintenance and construction. Additionally, the decongestion of highways allows for goods to move faster and more easily. This improves both commerce and the economy (*Interstate Rail Defense Network,* 2023).

Although there are many economic benefits as a result of the industry as a whole, unions threatening to go on strike pose a major concern. A national rail shutdown could lead to billions of dollars per day in lost output, as it would be impossible for other transportation modes to account for the existing rail traffic. There are neither enough truck drivers nor trucks to have the ability to handle rail volume. In November 2022, the unions went on strike and rejected several deals the White House proposed with changes. One of the main frustrations was the point-based attendance policy that penalized workers for personal and sick time. Other points of aggravation have been job cuts, pay, and other changes to working terms and conditions. Union strikes are cause for a potential recession, however, a recession in and of itself would not have as heavy of an impact on the railroad industry as many others. There are so many companies, individuals, and entities that rely on rail. Regardless if a recession does occur, and consumer buying preferences and habits shift, the railroads will continue running and remain a reliable transportation solution.

Sociocultural

As a result of Covid19, many consumers altered their buying behaviors. As e-commerce continues to grow, transportation logistics are needing to shift to meet customer demand. An increasing number of customers expect same-day delivery on purchase. To meet this demand, companies are seeking the most efficient way to ship goods. Attention has focused on the "last mile", which has increased intermodal transportation (Northwestern, 2021).

When considering demographics in the transportation and logistics industry, jobs are highly gendered. Women have been historically underrepresented, especially in leadership positions. Women account for 15% of the 498,200 transit and ground transportation workers (ILO). Additionally, only 85 women were promoted, for every 100 men. This number was even smaller for women of color. There is a lack of outreach in promoting rail opportunities to women, an overarching masculine culture, and an absence of career mentorship for women. A major barrier women face is workplace violence. This poses a barrier for women attaining and progressing to have successful careers within the industry (ILO). Policies and codes of practice have been implemented to support prevention, awareness, responsibility, and accountability.

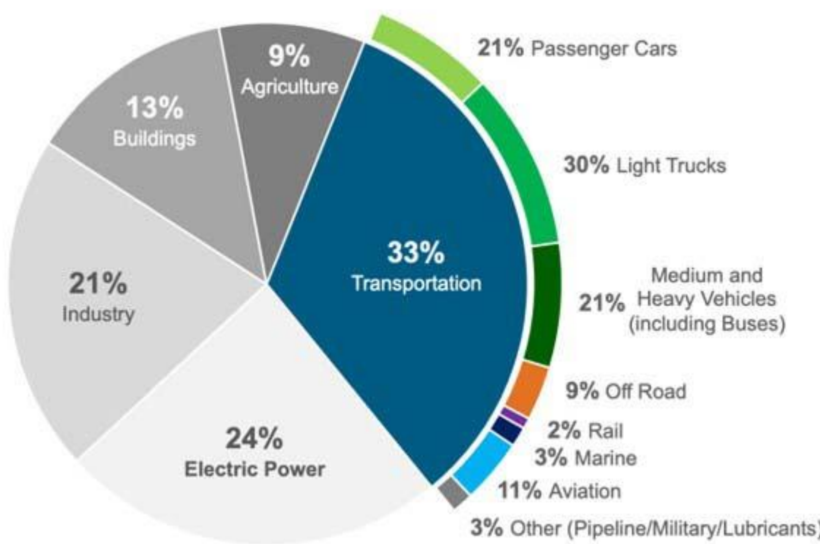
Technological

With technology continuing to advance, there are ongoing innovations for rail technology in the industry. Through the use of Big Data, the advancements are devoted to increasing safety and security, strengthening service efficiency, decreasing maintenance costs, and improving the passenger experience. Advanced data analysis software and algorithms allow railroads to collect data that is being used toward improving safety, while next-generation automation is continuing to reduce the impact of human limitations and error. Railroads now have access to databases with trillions of bytes of information on the condition of equipment and track, as a result of deployed smart sensors and ultramodern track inspection technologies (AAR). As railroads continue to gather more data and alter the data that analyzes it, the capability to maximize efficiency and magnify safety will continue to grow.

Environmental

Now more than ever, companies are focused on ensuring their products and operations follow environmentally sustainable business practices. This poses a huge benefit for the industry, as railroads are the most environmentally friendly transportation option to ship goods. In 2018 the Environmental Protection Agency stated that transportation made up the largest segment of greenhouse gas emissions. Passenger vehicles accounted for 59% of transportation-related emissions. Trucking followed as the second largest contributor at 23%. On the other hand, U.S. freight railroads accounted for solely 2% of transportation-related shipping, and 0.6% of the total United States greenhouse gas emissions for the year (Union Pacific). Additionally, railroads have four times greater fuel efficiency, compared to trucks on a ton-mile basis. Union Pacific can move a ton of freight 444 miles with one gallon of diesel fuel, resulting in a 75% less carbon footprint compared to trucks (AAR). Overall, the industry is working toward sustainable shifts and practices. Within the past 20 years, Union Pacific has increased fuel efficiency by 19% through advancements in training, employee involvement, and locomotive technology. Additionally, in 2019, UP utilized over 650 million fewer gallons of fuel and emitted over 7.3 million tons fewer of carbon dioxide, in comparison to 2000.

Figure 3: 2019 U.S GHG Emissions



Porter's Five Forces Analysis (Industry-Specific)

A Porter's Five Forces Analysis will be utilized to assess the five competitive forces that shape Union Pacific's overall strategy. The idea of Porter's Five Forces refers to the notion that competition is often viewed too narrowly by managers. Therefore, the Five Forces state that companies are not only competing with direct competition but also fighting for profit against broader subgroups. These include the threat of new entrants who grab new attention in the industry, customers and suppliers that have bargaining power, substitute products and services that can place a constraint on profitability and growth, and rivalry among existing competitors. By looking at these structural drivers of profitability, companies can determine the best industry to compete in and the resources that are required for success (The Five Competitive Forces, 2008).

Industry Rivalry

Within the railroad industry, there is intense competition. 50 years ago, there were 63 Class 1 railroads in the United States and now there are only 6. As many of the railroads felt the pressure of federal regulation, they turned to mergers to reduce costs (American Rails). Union Pacific competes alongside BNSF Railway, CSX Transportation, Norfolk Southern, Canadian National, and Canadian Pacific. Of these 6 Class 1 railroads, 4 control 83% of America's rail freight. Union Pacific and the BNSF share a duopoly of the Western half of the United States. Rail competition remains important to avoid supply chain crises and high inflation, as there must be several companies within the industry to ensure no one railroad has total price control and cannot begin charging customers unprecedented amounts.

Threat of New Entrants

The threat of new entrants is not likely in the railroad industry. All of the Class 1 railroads have been established for decades, so a new entrant would have no competitive advantage as there are high barriers to entry, immense capital requirements, necessary access to large distribution channels, legal implications of governmental policies, and they would face learning curve disadvantages (AAR). In the intensely competitive environment of the railroad industry, it would be impossible for a new entrant to gain any prevalent market share and economies of scale. Although there are no threats of new companies, there are threats of new equipment and technology.

Threat of Substitutes

Although rail transportation poses benefits and strengths, there continues to be competition from other modes of transportation and service providers. However, the threat of substitute services is a low risk. The trucking industry is the closest substitute to the rail industry.

Trucking does not have to abide by the strict regulations that the rail industry faces and the cost of switching for customers is low. However, Union Pacific has capitalized on this and has heavily increased intermodal shipping to move shipments seamlessly between trains and trucks (Union Pacific). Overall, trucking does not compare to rail transportation when it comes to some of the major concerns of customers, being efficiency, environmental sustainability, and safety.

Customer Power

With only 6 major railroad companies to choose from, customers have medium decision power in the railroad industry. Although there are few options, there are more variables to consider when determining the bargaining power of customers, such as how many buyers each company has, the customer's significance, and how costly it would be for the railroad company to replace an existing customer if they turned to other options. The customer buyer power is greatest when the offerings are undifferentiated, the buyers are large, and there are low pain and switching costs for the customer. The important drivers that customers are seeking are sustainability, safety, and cost-effective transportation solutions (AAR).

Supplier Power

Railroad companies can have multiple suppliers within their supply chains, as the switching costs remain low. Additionally, there is low product differentiation, as customers are seeking very similar products, which results in downward price pressure. Suppliers must maintain fast delivery time, qualified staff, high capital, physical enlargement of the suppliers' production plant, access to different transport modes, and cluster localization to remain competitive (Ahi, 2018). Therefore, the bargaining power of suppliers within the railroad industry remains low.

Current Strategy and Objectives

Union Pacific's goal is to provide value to over 10,000 of its customers by delivering products in a reliable, safe, environmentally responsible, and fuel-efficient manner. Both Union Pacific's ESG and corporate strategy are to be the best freight railroad in all of North America and also to leverage expertise and enable growth across the supply chain. UP has six main pillars that are the basis of fulfilling its strategy and goals. First, it is committed to building foundations. The forefront of this effort is to put safety first across all activities to protect company culture, communities, and the workforce. The second pillar is investing in the workforce and helping employees develop skills that will enable them to grow, move into positions across the company, and become experts in their roles. The next pillar is driving sustainable solutions through capital investments. The company works to create economic opportunities, identify and market shovel-ready sites for better rail access, provide businesses environmental benefits, haul sustainable products, and promote local growth. The next two pillars are championing environmental stewardship and strengthening local communities. Finally, as of last year, UP added a pillar for health, well-being, and safety. It identified this as one of the most prevalent ESG issues that needed to be focused on and deep-dived into what it could do for a safer overall rail experience (Union Pacific).

Competitive Advantage

Union Pacific has several competitive advantages that allow it to stay ahead of other major railroads in the industry. Primarily, UP offers consistent service to more markets than any other railroad, granting customers more ability to optimize with rail. Additionally, it serves nearly twice as many major markets as its nearest competitors in North America. Internationally, it serves 40% more international intermodal markets than rivals.

Additionally, Union Pacific works hard to leverage the network strategically to provide both flexibility and savings for its customers. Internationally, this means saving on drayage costs and reducing empty loads through export match-back and domestic repositioning. Domestically, this focuses on greater capacity, reliable capacity and pricing, and more flexibility. In around 80% of lanes, both international and domestic, UP's service beat the competition by three or more hours.

Finally, UP delivers on the aspect of consistency. When looking at a recent 12 month shipping schedule, the average shipment arrived 15 hours ahead of schedule (Union Pacific). Another one of Union Pacific's greatest competitive advantages is its intermodal service across the border. It has the capacity, expertise, and service to offer unmatched transit times and market access across all major lanes. UP offers three ways in and out of Mexico: Mexico direct, border direct, and streamline passport. Finally, Union Pacific also helps ocean carriers fill capacity. Its services reach more ports than any competitors, and it takes pride in the close relationships with ocean carriers and cargo owners, to help fill the greatest capacity.

Lastly, Union Pacific remains competitive with its ESG practices and goals. Specially targeting climate change, UP is taking deliberate steps to reduce negative environmental impact. The company releases a science-based climate action plan annually, which outlines actionable measures as to how it will achieve climate and environmentally related goals. Union Pacific is targeting zero emissions by the year 2050 (Union Pacific).

Strategic Recommendations and Current Resources

Following the analysis of Union Pacific Railroad, a few key recommendations surfaced that the company could implement changes to continue its competitive advantage.

Expansion

Union Pacific currently utilizes over 32,000 miles of track, 8,300 locomotives, commercial facilities, rail cars, and equipment. The company's capital totals 3.2 million dollars (Union Pacific). These economic investments have created a substantial economic opportunity for the company over the last decade. However for continued success, UP will have to continue investing in infrastructure and growth. The more Union Pacific can invest back in real-time, the better infrastructure there will be going forward. The continual growth of the company in turn also results in growth for the local, regional, and national economy. One specific investment example is infrastructure replacement. Track, signage, bridges, and more should be reinspected and replaced promptly. Union Pacific should also continue to upgrade locomotives, rail cars, and equipment to continue to deliver for customers and enhance safety. Lastly, the company should continue to increase capacity and build upon commercial facilities. This, along with network expansion, will assist in serving new locations.

Addressing the Issues of the Industry

Undoubtedly, there have been some issues at the forefront of the news about problems affecting the railroad industry. The first that cannot be overlooked is the issue of derailments. Although the derailment in East Palestine, Ohio, opened many eyes to this issue, it is unfortunately a recurring problem that has been happening for decades.

The first thing Union Pacific needs to do is invest further in inspection objectives. All tracks should be inspected at least quarterly by qualified contractors (Union Pacific). Additionally, consistent maintenance should be performed on all tracks, as internal rail defects due to fatigue remain a serious issue. Every employee working on the railroad should be aware of potential hazards and defects. Furthermore, Union Pacific should continue investing in current technology as well as new technological advancements that promote safety. Positive train control, nationwide differential global positioning system, ground penetrating radar, passenger equipment safety, and on-board control monitoring systems are all important investments for safety measures that should continually be analyzed for improvement (Ohlhaber, 2023).

Finally, Union Pacific should ensure they have a firm course of action if a train accident would result in a hazardous material release. There should be firm plans set with emergency response, to ensure they are fully prepared and have the proper information to minimize damage and potential loss of life. Furthermore, Union Pacific should look into investing in explosive-resistant coating to enhance the protection of rail cars. It is used to prevent puncture and it also has self-sealing properties to minimize the severity of holes in tank cars (U.S. Department of Transportation, 2023).

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