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VOESTALPINE AG:

An Analysis of the Voestalpine Group and its Development from a State-Run World-War II Steel Manufacturer to a Fully Privatized International Success

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ABSTRACT

This paper provides a historical overview and assessment of steel manufacturing in Linz, Austria, focusing on Austria's leading steel manufacturer Voestalpine AG. The purpose of this paper is to analyze the history of the Voestalpine Group and understand how steel manufacturing in Linz transitioned from a state-run World War II steel manufacturer to a fully privatized international company. This paper not only analyzes the historical development of Voestalpine AG, but also discusses the drivers behind privatization in Austria. Further, an analysis of the group's current operations is performed. Current operations with respect to the nature of both their external and internal environment will be evaluated. The evaluation of the group's external environment will be performed based on the Andrew's framework, analyzing the implications of technology, ecology, economics, industry, society, and politics. An analysis of the global steel manufacturing industry is performed using Porter's Five Forces Model, determining the industry's attractiveness and Voestalpine AG's strategic position relative to its major global competitors. The group's internal resources will be evaluated using a framework developed by Jay Barney. To accompany the analysis, both primary and secondary sources will be utilized, including an interview with a local student who had an internship at Voestalpine AG. Using the results of the analysis performed in this paper, recommendations for the Voestalpine Group to maintain a strategic position in the steel manufacturing industry are provided. Further, implications for managers in the steel industry will be discussed with the purpose providing insight behind key factors of successful operations within this highly competitive and ever changing industry.

INTRODUCTION

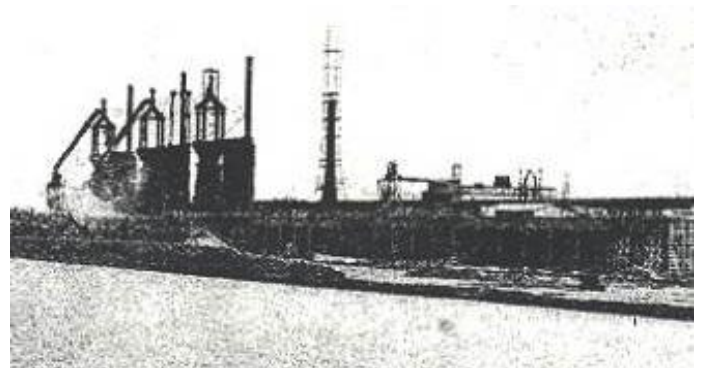
The steel manufacturing industry is a vital materials producer for an endless number of products used all over the world. Products that contain steel are essential for today's functioning society; everything from transportation products and buildings, to manufacturing equipment and cooking utensils requires steel as an essential material in their production. Headquartered in Austria's third-largest city, Linz, Voestalpine AG is an international Austrian holding company for a group engaged in producing and distributing steel products, and supplies railway infrastructure and services. The Voestalpine Group uses their trademarked Linz-Donauwitz procedure to produce steels and special steels used in automotive, white goods, energy, and tool industries. Today, the Voestalpine Group is a fully privatized global leader in steel production that is continuing to grow in the competitive steel manufacturing industry. However, prior to the privatization of Voestalpine AG, steel production in Linz was run by the State, and holds a rich history dating all the way back to World War II (1938). Historical analysis of steel manufacturing in Linz provides insight on the establishment of Voestalpine AG and examines the company's transition from being run by the state to becoming a fully privatized company. An assessment of the Voestalpine Group's current operations analyzes its current market position with respect to its external operating

environment based on the elements of technology, ecology, economics, industry, society, and politics. An assessment of the group's internal resources (human, physical, and organizational) provides insight on Voestalpine AG's ability to achieve a sustained competitive advantage. Provided are recommendations to help Voestalpine AG maintain its strategic position within the industry. Managers can use the strategy behind the Voestalpine Group's successful operations as a benchmark to improve future steel manufacturing operations in the increasingly competitive and demanding steel manufacturing industry.

HISTORY OF STEEL MANUFACTURING IN LINZ, AND THE DEVELOPMENT AND PRIVATIZATION OF VOESTALPINE AG

Steel manufacturing in Linz commenced during World War II as a part of the national-socialist war industry. It was founded in 1938 as the Reichswerke Hermann Göring plant, a subsidiary of the state-owned Reichswerke Göring-Werke facility, which was founded in Berlin in 1937 and then later merged with Alpine Montan AG. Large steelworks construction commenced in 1939 and continued throughout World War II (Reference for Business, 2012). The construction of the Linz steel plant as well as steel production was a substantial, labor-intensive undertaking; it was not possible without forced labor. Foreign civilian workers, followed by forced laborers and prisoners of war were brought to Linz to construct and work in the Hermann Göring plant. Concentration camp prisoners were also used from 1942 to help satisfy the increasing demand for steel during the war. By 1944 foreign laborers constituted two-thirds of the plant's workforce; this did not include prisoners of war and concentration camp prisoners (Voestalpine, 2011). The Linz Hermann Göring plant held five large companies that manufactured steel used for several applications; the Eisenwerke Oberdonau produced armaments and was given the highest priority. Because of the Hermann Göring plant's heavy involvement in producing steel and armaments used by the Axis Military Alliance, it was heavily targeted. In 1944 the Linz plant began to be bombed and attacked by Allies (Voestalpine, 2011).

Figure 1: View of Original Linz Plant in 1948
(Voelstapine, 2012)



Following the defeat of the Axis alliance in 1945, marking the end of World War II, the Linz Hermann Göring plant was confiscated as German assets by American troops. Shortly following the plant's confiscation, it was re-named "Vereinigte österreichische Eisen- und Stahlwerke AG" (VÖEST), detached from Alpine Montan AG, nationalized, and handed over to the Austrian Government. Following nationalization, VÖEST undertook a period of rebuilding from the Allied attacks, and further expansion; it experienced success with sheet metal manufacturing and became an "export-oriented model enterprise of Austria's nationalized industry" (Encyclopedia of Austria, 1994). 1949 marked a substantial step for VÖEST, as the plant became the world's first steel mill with oxygen converters. Oxygen converters allowed steel to be produced more quickly and efficiently through a process trademarked the Linz-Donauwitz Procedure. This procedure boasted substantial progress and success for VÖEST and fostered a long period of growth and internationalization.

VÖEST constructed its first steelmaking plant outside of Austria in 1958 in Rourkela, India; a co-operative project with Germany's Fried Krupp Company. During this time (1959), VÖEST replaced its public management with organizational customary bodies that consisted of management and supervisory boards (Voestalpine, 2011). The period from 1945 and 1973 marked a period of success and growth for VÖEST, permitting it to expand operations and gain a presence on an international scale. In 1973, VÖEST merged with "Österreichisch-Alpine Montangesellschaft," Wien, forming VÖEST-ALPINE AG (Voestalpine, 2011).

Following the merger in 1973, VÖEST-ALPINE AG began to experience a serious downturn due to repercussions of the international economic crisis (oil) reaching Austria. The crisis altered the industrial environment. Manufacturers began to use steel more efficiently and began to look into alternative materials, and steel-using industries such as ship building entered the recessions resulting in a serious drop in demand for steel. Low-cost steel producers began to enter the market, further threatening VÖEST-ALPINE AG's operating position (Reference for Business, 2012). In attempt to sustain operations during this economic downturn, VÖEST-ALPINE AG consolidated various companies and integrated them into their operations. In 1977, the company re-organized its operations into four segments: finished products, industrial plant construction, processing, and steel works. VÖEST-ALPINE AG also initiated a comprehensive diversification strategy to further save its operations. This strategy included entering ventures such as microchip development and participation with American steel companies. Unfortunately these diversification ventures proved unsuccessful. This failure was accompanied by other internal and external influences that resulted in further losses and VÖEST-ALPINE AG continued to accumulate operating deficits. As a result, plant closures commenced, which led up to the crash of VÖEST-ALPINE AG in 1985 (Voestalpine, 2011). In attempts to recover from the crash, VÖEST-ALPINE AG developed a new organizational structure, which included new programs to streamline operations; an investment program was also authorized. In 1987, the group approved investment in an environmental protection package and founded the "Stahlstiftung" (Steel Foundation) to aid in supporting employees who lost their jobs (Voestalpine, 2011). The addition of the Stahlstiftung changed the group's name to VÖEST-ALPINE STAHL AG.

1988 brought changes in political perceptions about large conglomerate corporations in Austria, which resulted in some fundamental reorganization in attempts to improve efficiency. ÖIAG, the state-owned Austrian holding company that gained control of the plant since the Americans gave it back to Austria, was divided into separate companies, one of which was VÖEST-ALPINE STAHL AG. At this time, the Austrian government decided to partially privatize ÖIAG (Reference for Business, 2012). VÖEST-ALPINE STAHL AG was then placed under ÖIAG's wholly owned subsidiary Industrie- und Beteiligungsverwaltungs-GesmbH (IBVG) in 1989, which was then converted into Austrian Industries AG (AI) in 1990. AI was broken up in 1993 creating three groups with the goal of privatization; VÖEST-ALPINE STAHL AG was one of them (Voestalpine, 2011). This was the first step towards the privatization of Voestalpine AG. Today, ÖIAG is Austria's investment and privatization agency; it is a holding company that operates closely with industries and is free of any political influence (ÖIAG, 2012).

In 1995, VÖEST-ALPINE STAHL AG went public, obtained a new ownership structure, and made its initial public offering on the Vienna Stock Exchange (Net Industries, 2012). Following its IPO, the company began to focus on further expanding its operations and increasing its product portfolio. During this period of growth, VÖEST-ALPINE STAHL AG successfully improved operating efficiencies by expanding processing capabilities and implementing updated technologies into steel production. The company also achieved success in product innovation such as "sour service plates" for tubes (Voestalpine, 2011). These successes allowed the company to transform from a steel production group to a successful steel processing group aimed to extend its value chain into engineering and processing activities (ÖIAG,

2003). At this time, VÖEST-ALPINE STAHL AG also decided to pursue an umbrella brand strategy and changed its name to Voestalpine AG to separate itself from its original roots solely as a steelmaker (Voestalpine, 2011).

ÖIAG fully privatized Voestalpine AG in 2003 by issuing the remainder of government-owned shares. This offering comprised of a public offering in Austria, and to institutional investors and qualified institutional buyers in the US (ÖIAG, 2003). Voestalpine AG's full privatization was confirmed in 2005. Following its privatization, Voestalpine AG commenced geographical expansion into Eastern Europe, China, Brazil, India, and Great Britain up until the 2008-2010 economic crisis (Voestalpine, 2011). However, the group was able to react comprehensively to the recession, sustain operations, and quickly re-attain profits once the economy began to recover. Today, Voestalpine AG continues to be a world leader in the steel manufacturing industry.

DRIVERS BEHIND PRIVATIZATION IN AUSTRIA

Privatization of a company indicates the shift of responsibility from government to the private sector (Poole, 2008). Throughout the World War II period and for the following years of economic recovery, the government, or public sector, has had a very strong influence in the Austrian economy. Major industries such as aluminum, chemicals, mining, oil, and steel were nationalized in order them to sustain operations during the post-war recession (Aiginger, 1998).

However, over the past two decades, privatization has become increasingly prominent as a key element of structural policy reforms in the majority of the European Union, Austria included (Belke & Schnieder, 2004). Governments have decided to sell their majority stakes and privatize major firms in attempts to achieve the following objectives: to raise state revenues, reduce government influence in the local economy, raise investment capital for the company/industry being privatized, promote shared ownership, improve efficiency, expose firms to market competition, and introduce greater competition (Price Waterhouse, 1989). Giving up public sector ownership within companies frees up capital and gives governments more money to invest back into the state via such projects as stimulus packages, improving education and infrastructure, and reducing national debt. Further, private ownership reduces government influence on the local economy, allowing business to react freely to market conditions without being influenced by government regulations. Privatization also increases channels to raise investment capital; globalization has more closely connected the world and has opened the doors for private firms to sell shares to international investors. Opening companies up for global investment also promotes shared ownership, which can help companies improve operations, expand geographically, and help them achieve a competitive advantage and greater returns, a great benefit not only to the firm but also the nations in which it operates. Privatization accompanied with globalization, in theory, is beneficial for both the privatized company and the consumer because it promotes increases in efficiency. Being open to more investment channels gives access to operating structures, equipment, and technologies that have global influence. For example, shareholders from developed countries can implement new skills, techniques, equipment, and technologies that can improve the firm's efficiency and reduce costs. These cost reductions can also be relayed down to the consumer in the form of reduced selling prices. Lastly, privatization induces greater competition by introducing a global spectrum of market competitors. Increased competition emphasizes the importance of improving efficiencies so firms can keep costs low and remain competitive. Opening up to market competition also threatens and essentially eliminates any local monopolies that a previously government-owned firm may hold, which in turn drives down selling prices, enhancing consumer value. These drivers behind privatization have made private firms have a major presence in today's global markets.

VOESTALPINE AG TODAY

Today, the fully privatized Voestalpine AG is an internationally successful holding company that consists of a group of highly specialized and multidimensional companies that develop, process, and produce specialized steel products. The group's most well-known invention, the Linz-Donauwitzer procedure, still sets the standard in producing the highest quality steel products. The group holds representation by over 500 group companies in more than 50 countries on all five continents. During the last fiscal year, Voestalpine AG generated revenues of EUR 12.1 billion and employed over 46,000 workers worldwide (Voestalpine 2012). The group is actively listed on the Vienna stock exchange (VIE) as VOE and is currently valued between EUR 20 and 30 (The Wall Street Journal, 2012).

The companies representing the Voestalpine group operate under four core divisions: Steel, Special Steel, Metal Engineering, and Metal Forming. Each of these operating segments has achieved global leadership status. The Steel division produces and processes flat steel products such as hot and cold rolled steel, electro and hot-tip galvanized steel, organically coated plate steel, electrical steel strip, and is also involved in heavy plate production. Steels produced in this division are commonly used in automotive, white goods, and construction industries (Reuters, 2012). Voestalpine AG's Special Steel division manufactures tool steel products, including: long steel products (primary output), medium-wide strip steel, open die forgings, and drop forgings. Products manufactured in this division are used in the automotive, aviation, and consumer goods industries. The Special Steel division also offers energy technology such as components for gas and steam turbines (InsideView, 2012). The Metal Engineering division specializes in producing welding filler materials, seamless tubes, pre-stressing steel, rails, and semi-finished steel products. These products are used mainly in developing transportation infrastructure such as railways. This division also provides services for railway production such as engineering, planning, transport, logistics, and installation (Yahoo Finance, 2012). The group's Metal Forming division produces solid and hollow welded tube sections, as well as custom roll forming of special tubes and sections. Products manufactured in this division have applications in construction, automotive supply, transportation, storage, and furniture industries. The Metal Forming division processes materials other than steel such as plastics and composites (graphite, fibreglass, etc.) into components, modules and systems for the automotive industry. Further, this division also supplies precision parts and safety technology components (Bloomberg Businessweek, 2012). Voestalpine AG sells its products mostly in North America, Asia, Brazil, and European countries; including Austria where the group's headquarters is located.

Voestalpine AG's headquarters remains at the original manufacturing plant in Linz, Austria. Although the facility has been modernized significantly, it is conscious about its history and has come to terms with its past, both morally and significantly, through the good and bad. The group has made significant amends for exploiting forced and slave labor during the darker times of its past (Eder, 2012). Voestalpine AG Linz (Voestalpine Stahlwelt) remains one of the city's largest employers, which brings substantial purchasing power and local economy reliance on the facility's operational success. The Linz facility is the major producer in the special Steel Division. In January 2012, the Voestalpine Stahlwelt facility opened up an interactive museum to showcase the country's history, steel applications and innovations, and explain the Linz-Donauwitzer process and how it is implemented.

Figure 2: Inside Voestalpine Stahlwelt's Interactive Museum (Voestalpine, 2012).



ANALYSIS AND EVALUATION OF VOESTALPINE AG'S CURRENT OPERATIONS

The analysis and evaluation of the Voestalpine Group's current operations have been performed on two fronts. First, the external nature of the group in the steel manufacturing industry will be assessed to determine the influence of key external factors such as technology, ecology, economics, industry, society, and politics. Second, Voestalpine AG's internal resources, which include physical resources, human resources, and organizational resources, will be analyzed and evaluated to determine the group's ability to achieve a sustained competitive advantage.

To supplement the assessment of Voestalpine AG's current operations, primary research was conducted by engaging in conversation about the Voestalpine Group with students who studied at Johannes Kepler University (JKU) in Linz, Austria. Conversations were held with eight students aged 20 to 25, all of whom were studying Social Sciences. The purpose of these conversations was to gain an impression of how well known Voestalpine AG's operations were among locals and how the group influences the local economy, and its dependency on external influences. Common views from these conversations will be discussed in the "Economy" and "Society" sections of this analysis. Further, an interview was conducted with Ms. Pia Hase, a local student studying business at JKU who recently completed an internship at the Voestalpine Group's headquarters in Linz. She provided valuable information relating to the internal and external assessment such as the group's operating structure, source of resources, important policies, demand for products and its dependence on external factors. Her input will be mentioned throughout the analysis section of this report.

The External Context of Voestalpine AG and the Steel Manufacturing Industry

To evaluate the external nature of Voestalpine AG and the steel manufacturing industry, the initial step of the "Concept of Corporate Strategy," a framework developed by Kenneth Andrews (1980) will be utilized. This step of the Andrews framework evaluates the nature of a company's external environment based on the elements of: technology, ecology, economics, industry, society, and politics.

Technology

The competitive nature of the steel manufacturing industry is fuelled by rapid technological change (Manning & Fruehan, 2001). Advancements in technology have allowed for companies to produce steel products of higher quality, more efficiently, at lower cost, and with less waste by-products. Because steel is the foundation for a wide array of products, buyers want to purchase steel with the highest value possible, that is, a high quality product at the lowest offered price. That being said, blast furnaces

remain the backbone for iron extraction, the main raw material needed to make steel (Manning & Fruehan, 2001).

Voestalpine AG is highly invested in innovation, and is setting very high standards with technologies in the fields of environment, energy, and raw material efficiency (Eder, 2012). Ms. Hase also added that the group's trademark innovation, the Linz-Donawitz procedure still sets the standard for producing the highest quality steel in the industry. Voestalpine AG has a patent on the procedure so it is a source of competitive advantage; the group focuses innovation around producing low quantities of highly customized quality steel products.

Ecology

The steel manufacturing industry faces a wide range of ecological concerns, especially in today's movement towards sustainability. Steel production is extremely resource intensive as it is derived from iron, which is mined from the earth. Further ecological concerns are related to the industry's high-energy requirements, and by-products from production; a substantial amount considering that more than 725 million tonnes of steel are produced each year worldwide (Manning & Fruehan, 2001).

Ms. Hase also mentioned that Voestalpine AG is taking initiatives to reduce energy consumption by harnessing the heat from the blast furnaces and re-using it to heat water required in the production process. Further, the Voestalpine Group also owns its own power plant to supply energy to the operating facilities.

Economics

Economic trends are increasing demands for steel production. Modernization in today's globalized world is causing substantial infrastructure growth in developing nations, which in turn is driving up steel demand (David, 2011). Due to steel being an input good, its increasing demand will in turn help local economies in two ways: first, local businesses are also dependent on steel to manufacture their products, and second, the steel industry is a major employer.

The students interviewed were all very aware of Voestalpine Stahlwelt's economic importance in Linz, as the city's largest operation and major employer. Ms. Hase also contributed by mentioning that Voestalpine AG is a quality leader, but not a cost leader. As a result, the group's sales of basic steel have been decreasing, but this is offset by an increased demand for special and customized steels.

Industry

To provide insight about external industry factors of the steel manufacturing industry on a global scale, an analysis utilizing Porter's Five Forces Model (1979) will be used. This model determines the attractiveness of an industry based on its competitive intensity. The model will discuss the following external elements: threat of new entrants, threat of substitutes, competition, supplier bargaining power, and buyer bargaining power.

Threat of New Entrants

The steel manufacturing industry is extremely capital intensive. High fixed costs pose as a barrier for new players trying to enter the market. Further, the steel manufacturing industry is dominated by an oligopoly of well-established companies that have developed a vast network of global operations and distribution. If new competitors tried to enter the market, they would have to have very deep pockets,

and would lose time trying to build their operations and distribution to a competitive level. The threat of new entrants in the steel manufacturing industry is low.

Threat of Substitutes

Today, steel is still a staple input good required to construct a wide array of products from household goods to infrastructure. Further, innovation is still expanding steel applications. However new technologies and innovation are generating composite products that can act as substitutes for steel. Substitutes include titanium, aluminum and other metal alloys, as well as composite materials such as graphite, fibreglass and carbon fiber. It is important to note that although these materials mentioned are substitutes, they are not perfect substitutes. For example, aluminum is a sufficient replacement in automotive manufacturing, but not in building railways (Bruyerson et. al., 2009). Overall the threat of substitutes is still low.

Competition

The steel manufacturing industry is highly competitive, and international competition is expected to increase (PRWEB, 2012). With innovation driving corporate success, companies are constantly competing to develop new, higher quality, customized steel products that can be produced more quickly, with fewer resources and less waste. Voestalpine AG's major competitors are ArcelorMittal, Tata Steel Europe Limited, and ThyssenKrupp Steel Europe AG (Hoovers, 2012). That being said, Ms. Hase clarified that although competition in the steel industry is high, the competition largely affects basic steel for the Voestalpine Group. Their patented Linz-Donawitz procedure gives the group a major competitive advantage in producing high quality special steel products.

Supplier Bargaining Power

Steel manufacturing companies synthesize their own steel products through the organization's own special process. Hence, the only major supplies required is the iron ore that is mined from the ground. Supplier bargaining power in the steel manufacturing industry is medium. Well-established steel companies have fully integrated their operations and own their own mines, virtually eliminating the need for any major suppliers (Equitymaster, 2008). Supplier influence does persist for companies that are not fully integrated. There is competition between mines that keeps ore prices down especially with today's modern transportation infrastructure and global connectedness. However, steel supplies are extracted, not synthesized; this increases supplier bargaining power in two ways. First because the supply is a resource that is extracted from the ground, mines must go to the supply; this makes supplies fragmented and different mines dominant in different regions. Second, because supplies cannot be synthesized, the availability of iron ore can affect the price (Bruyerson et. al., 2009).

Buyer Bargaining Power

The overall buyer bargaining power of steel is relatively high. This is because steel, in a general sense, is not differentiated, which makes the market price-sensitive. Price sensitivity is also increasing due to the emergence of low cost steel manufacturers in India and China. However, some well-established companies can enjoy a premium because of quality and brand value (Bruyerson et. al., 2009). Ms. Hase contributed by mentioning that Voestalpine AG has high brand value for innovation and quality. As a result, demand for the group's basic steel is decreasing due to low cost competitors, but the demand for special steels continues to increase due to its premium quality.

Society

Society relies heavily on steel in the construction and manufacturing of necessary products and infrastructure that are essential parts of everyday life in today’s modern world. Everything from buildings, cars, railways, and machinery, to appliances, tools, sports equipment, and toys all require steel to be produced, products which today’s society depends on. From talking to local Linz students, it is very apparent how much Voestalpine AG influences residents in the city and surrounding communities. Not only does the local society rely on Voestalpine Stahlwelt as a major employer, its establishment during the Second World War resulted in the displacement of surrounding cities, adding them to Linz (Eder, 2012). The major employer also provides bus service to take workers into Linz and the surrounding communities once their 8-hour shift is complete.

Politics

For the most part, governments have a favorable policy for steel manufacturers because it is a major industry and helps drive local economies. However, there are some regulations regarding resources, such as allocation of ore mines and land acquisitions. Further, political issues and regulatory clearances are apparent, which cause problems for new entrants (Equitymaster, 2008). There are also regulations in production; products must fulfill industry quality requirements for products to be approved for sale. Because the main source of Voestalpine AG’s competitive advantage comes from the Linz-Donauwitz process, which sets the industry standard for quality, it is extremely important that the group focuses on quality and provides public evidence that their products conform to the highest standards. Lastly, in today’s movement towards sustainability, environmental regulations are increasingly prominent, especially in the resource intensive steel manufacturing industry. Energy consumption and waste output are becoming increasingly regulated.

Assessment of the Voestalpine Group’s Internal Resources

Voestalpine AG’s internal resources will be analyzed and evaluated by using a framework developed by Jay Barney called “Looking Inside for Competitive Advantage” (1995). This framework determines a company’s ability to achieve a sustained competitive advantage by evaluating the organization’s internal resources. The Voestalpine Group’s internal resources (strengths and weaknesses) will be assessed based on the following criteria: value added, rareness, imitability, and organization. A summary of the results is presented in the table below:

	Physical Resources	Human Resources	Organizational Resources
Adds Value?	✓	✓	✓
Rare?	✓	✓	✓
Inimitable?		✓	✓
Organized Appropriately?			✓

Physical Resources

The Voestalpine Group’s physical resources add value to the organization. Implementing the most innovative technologies and advanced machinery into their state of the art facilities definitely adds value to the production process by improving efficiency and lowering costs. These physical resources are rare; not necessarily in terms of them being unavailable, but the capital required to obtain them. It is extremely resource intensive, time consuming, and expensive to acquire the resources that Voestalpine

AG holds. However, if obtained, the group's physical resources can be imitated. So although they do assist achievement of a competitive advantage, physical resources are not the primary factor.

Human Resources

Human resources also add value to Voestalpine AG's operations. The large scale of the group's operations requires a highly qualified workforce. Special skills required in the Voestalpine Group's workforce are rare, but the group has designed arrangements to contract desired employees. For example, in Linz, Voestalpine AG has established reciprocal arrangements with Johannes Kepler University and with various nearby technical colleges to hire candidates that fit the group's high requirements (Eder, 2012). Ms. Hase also mentioned that Voestalpine AG has its own human resource company that supports and trains employees specifically for the group's operations. Having their own human resource company makes it difficult for competitors to imitate the Voestalpine Group's human resources. However, human resources are still not the group's primary source of achieving a competitive advantage. Although Voestalpine AG's rare and inimitable human resources add significant value, reciprocal employment arrangements appear to be inconsistent between subsidiaries; human resources have the potential to be organized more appropriately.

Organizational Resources

Voestalpine AG's strongest source of a sustained competitive advantage is derived from organizational resources. The key driver behind the group's operational success is the process in which their steel is manufactured, the Linz-Donauwitzer procedure. Invented in Linz, this process fuels the Voestalpine Group to continually set the industry standard in producing high quality, customized special steel products. It has allowed the group to achieve global leadership status in all four of its divisions. The Linz-Donauwitzer process is a rare organizational resource that cannot be imitated; it is exclusive to Voestalpine AG, as the group has the process protected by a patent. The Linz-Donauwitzer process is also organized appropriately as it is fully integrated throughout the entire group's international steel manufacturing facilities.

IMPLICATIONS FOR MANAGEMENT

Several key factors have contributed to the success of Voestalpine AG within the steel manufacturing industry. First, the group has developed a sustained competitive advantage through innovation, especially through their patented Linz-Donauwitzer procedure. Competition within the steel manufacturing industry is increasing as low-cost global competitors emerge and compete for limited resources. Innovation is integral in this industry to successfully differentiate products and generate brand value. The Voestalpine Group invests heavily into innovation and has stretched the boundaries for steel in both quality and applications. Secondly, Voestalpine AG has effectively reduced operating costs and efficiency by re-using energy sources and constructing their own power plant. Also, the group holds a significant amount of capital, which is extremely advantageous to grow market share in the industry. Starting as a government-owned manufacturing facility permitted access to significant government funding so that Voestalpine AG could establish itself and expand. Already having a strong presence upon privatization likely attracted substantial investment, further increasing the group's capital. Voestalpine AG is also extremely selective in their hiring process and invests heavily into their employees. Having a skilled workforce that has been trained specifically for the group's operations further aids in Voestalpine AG's strong performance.

Overall, the Voestalpine Group has successfully established itself as a global leader in the steel manufacturing industry. Utilizing innovation as a driver, the group continues to be successful in this increasingly competitive industry. Voestalpine AG has been able to exploit its strengths, especially the

Linz-Donauwitz process, to establish recognition as a leader in quality steel production. Managers can use factors of Voestalpine AG's successful operations and adapt them to their own operations to strengthen corporate success.

RECOMMENDATIONS

After completing the internal and external analysis, some recommendations have been formulated for Voestalpine AG to assist the group in sustaining operations in both the short and long term. First, the group should continue to invest heavily into technology and innovation. Using the Linz-Donauwitz procedure as their backbone, Voestalpine AG should strive to continue being the world leader in producing customized, special steel products of the highest quality. That being said, because the group is losing demand for basic steel to low cost manufacturers, Voestalpine AG should shift their focus to their special steels and engineering divisions. Demand for the group's special steel products continues to rise.

Second, because today's society is increasingly active in attempting to preserve the environment, Voestalpine AG should continue to research and invest in sustainable initiatives. Improving the sustainability of their operations would be beneficial for the group as shareholders are more attracted to environmentally conscious firms. Also, environmental regulations are becoming increasingly strict; the Voestalpine Group should be aware of this and take action to prevent any fines or switching costs in the future.

Also, iron-ore is a limited resource, and global competition in the steel manufacturing is continuing to rise. It is recommended that Voestalpine AG attempt to secure long-term contracts with mines in order to ensure supplies in the future. To take things one step further, due to Voestalpine AG's substantial size and capital, it might be wise to look into searching for coal deposits and mining their own ore.

Lastly, Voestalpine Stahlwelt's (Linz) reciprocal arrangements with local educational institutions have been extremely successful in attaining employees with desired skill sets. However, because these arrangements are only done in Linz, the distribution of skilled workers across the group's subsidiaries may become fragmented due to the presence of new global competition. It is recommended that further reciprocal arrangements be made between the subsidiaries and educational institutions in which they operate. This will contribute to the skill level of Voestalpine AG's workforce throughout the entire group.

CONCLUSION

CEO Wolfgang Eder states: "modern life would be inconceivable without steel as a construction material" (2012), and as globalization increases and technology improves, international competition is constantly striving to increase market share and generate a competitive edge. Overall, the Voestalpine Group has boasted remarkable success since its foundation in 1938; it has a rich history that has shaped the company to how it stands today. The group is very conscious about their history, even through the darker times. Voestalpine AG is an example of a company originally run by the state that successfully transformed into a fully privatized industry leader. Its global leadership in special, high quality steel is majorly attributed to the group's patented Linz-Donauwitz procedure, which still contributes to their competitive advantage today. Voestalpine AG should continue to drive forward with technological advancements while making attempts to reduce their impact on the environment. Lastly, securing long term supplies and further recruiting skilled employees would aid in the group's success in the long run.

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