

# Nucor steel case study

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There are many competitive forces that are affecting Nucor Corporation. Some of the primary ones are the market size, number of rivals, and pace of technological change. The market size is shrinking because of the increase in competing international steel companies. The number of rivals in America is declining due to higher labor costs than in foreign countries. There is a very fast pace of technology in the steel industry and it seems that the company, that obtains the newest technology, flourishes. This is due to the difficulty in lower costs of steel production.

Better technology is one of the only ways to decrease costs because labor is pretty much at a set cost and all that is left is the cost of iron and making the steel. If a company can get its hands on a new technology that allows it to under price its competitors then it has a big advantage in the steel industry. Nucor's main rivals in the steel industry are AK Steel Holding Corporation, Mittal Steel Company, and U. S. Steel. The five forces for the steel industry are the buyers, substitutes, suppliers, threat of new entrants, and rivals. The buyers have a fairly strong power on the steel producers.

This is because of the low switching cost between competitors. Unless a contract is signed between a steel company and its buyer, there is little cost to the buyer if it wants to switch to a different steel company. There are not very many substitutes for steel, as steel is a commodity, so the substitute power is weak. Steel is a one of a kind item in that it is very strong and very versatile in its use. It is used in buildings, automobiles, bridges, garage door openers, and many other everyday objects. Suppliers also have a weak power in the steel industry.

The suppliers are supplying iron to steel companies. Iron is very common and many companies sell it. Also, steel companies frequently integrate backwards and provide their own iron to their steel mills. The threat of new entrants is very weak due to high entry barriers and the current struggling competitors. The rivalpower is moderate to strong because there are a fair number of steelmaking companies. Also steel dumping occurs, but I will be talking about that later. According to this analysis, Nucor is in a three star industry, so it seems to have an okay chance at surviving.

It is not the best industry to be in, but Nucor still has been able to flourish due to its organizationalphilosophyand technological innovation. 2) The driving forces behind the steel industry are industry growth rate, globalization, technological change and manufacturing process innovation, exit of major firms, and frequent change in cost. The steel industry is falling. There is a declining demand for steel and many companies have already gone bankrupt or are on the verge of going bankrupt. Some of these companies are Bethlehem Steel and Ling-Temco-Vought.

The steel industry is very difficult to compete in because more steel is being produced than there is demand for it. Globalization is also a problem for the steel industry in America. Due to globalization it is getting easier for competing companies to send their products to other countries. This causes a problem for companies like Nucor because America has strict labor laws. In other countries labor is exploited and workers are paid very little, while in America, companies must pay their workers a minimum wage.

One good thing that America does do is provide tariffs on incoming steel products to help American companies better compete with the international companies. Some countries are subsidiaries to the steel companies in their countries. This means that the governments have a vested interest in the company and want it to succeed. The companies can then sell products, like steel, at a much lower price due to the incoming funding from the government. China has been accused of this and America has taken action to alert the World Trade Organization to settle the matter, but this is only one step to “leveling the playing field” with China.

The technologies for making steel are constantly changing and this allows for more efficient and therefore cheaper steel products. It seems that the companies, who obtain these technologies, obtain a significant head start in the industry. Like I said before, many companies are going bankrupt and are leaving the exiting the industry. Since steel is a commodity it leads to very volatile prices and can change quite frequently due to demand. By looking at Exhibit 1, you can see how the average price per ton decreased from \$425 per ton in 2000 to \$354 per ton in 2001.

This exhibit shows how many tons of steel Nucor sold during certain years from 1970 to 2006. It is interesting to see that Nucor's net income was fairly low during the years of 2000-2002, but increased to \$1, 121. 5 million. This is because of Nucor's many acquisitions during the low period. Just a few years later in 2004, the price of steel was back up to \$595 per ton. These driving forces very easily impact the steel industry's competitive structure in a bad way. These driving forces make it very difficult for steel companies to compete in this industry. 3)The prospects for future profitability of the U.

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S. steel makers are very unattractive. Unless America can successfully combat China's enormously, inexpensive, production ability, I do not see any American steel company surviving. China just has too big of a production ability and has the workforce to do it cheaply. Nucor will have to expand in this industry in the United States to survive. If the WTO negotiations with China go well then American steel companies may have a chance in the steel industry. If they do, then America can increase tariffs on incoming steel products and give American steel companies a chance to survive.

Future profitability looks grim for American steel companies because of what I described before. China has been accused of subsidizing its steel companies, therefore funding them to make it possible to “dump steel” which is the process of selling steel at prices below the cost of making it. China would do this because then it would eventually under price foreign competitors and run them out of business. This, supposedly, happened back in 2000-2001 and devastated the steel industry in America, causing many companies to go bankrupt or be bought by other companies.

Nucor was lucky enough to have survived this fall out and acquired many steel plants at low prices. The steel industry did bounce back in 2005-2006 and this allowed Nucor to grow quite rapidly due to its previous acquisitions. If America can again survive the big Chinese power, then Nucor will succeed, but right now it looks bleak for the American steel industry. 4) Nucor has adopted a low-cost strategy based on four parts. These parts are acquisitions, technological innovation, plant innovation, and joint ventures.

The acquisition part of the Nucor strategy is that it has acquired many different steel companies in 2000-2001, when the steel industry in America was suffering. Because of the low time in the steel industry, Nucor could purchase steel companies at lower prices than normal. This helped its low-cost strategy substantially because it allowed Nucor to grow yet still remain a low-cost steel producer. Exhibit 2 shows Nucor's financials, and very accurately illustrates the hit Nucor took during the low period of 2000-2003.

This was a perfect time for Nucor to buy other steel companies, as this was one of the only ways for it to grow. Nucor invested heavily in new technologies. Investing in new technologies is very important for steel companies to do, as it is very easy to reduce costs if the company has a foothold on a new technology. Nucor focused on the introduction of disruptive technologies to give it an advantage in the market as compared to its competitors in terms of product quality, cost per ton, and market share. One example of this is the Castrip process.

This new process produced flat-rolled, carbon, and stainless steels in very thin gauges. It allowed Nucor to produce steel in fewer steps, and helped produce savings in its operating expenses, therefore increasing Nucor's net income. The Castrip process needed lower-quality scrap steel, which decreased costs of the scrap steel, and required 90% less energy. Also this new process cut green house gases by 80%. Nucor also increased its capital investments on the newest machinery to provide more efficient steel plants.

By providing its workforce with the best possible technology, Nucor was able to max out production yet still retain a safe working environment. The

implementation of hard working plant managers, produced hardworking managers that are aggressive enough to implement methods to improve product quality while keeping costs low. Nucor's last strategic part was its joint ventures. By investing in joint ventures, Nucor was able to grow internationally without the full capital risk. Some examples of this were its joint ventures in Brazil, Australia, and Trinidad.

The joint venture in Brazil was between Companhia Vale do Rio Doce and Nucor. The goal was to produce an environmentally friendly pig iron plant that used eucalyptus trees as fuel. The use of eucalyptus trees as fuel removed 2,400 pounds of carbon dioxide from the atmosphere for every one ton of pig iron produced. Another joint venture was three other companies in Australia. This plant used a new technology process called Hismelt. This new process converted iron ore to pig iron at a lower cost and higher quality than previously known pig iron producing technologies.

The Trinidad plant was acquired in 2007 and was originally in Louisiana. The plant was moved to Trinidad because of the constant supply of natural gas as fuel therefore lowering costs. This plant reduced scrap metal dependence by as much as 25%. It also allowed for a higher quality production of sheet steel. Nucor's four-part strategy has led to a competitive sustainable advantage as seen in exhibit 2 between the years of 2004-2006 when its net income soared to more than \$1,757.7 million. Nucor used a cost-based advantage to achieve its competitive sustainable advantage. Nucor employed an organization philosophy consisting of decentralization, individually operated plants, a three layer structure, good compensation practices for its employees, and good employee relations. Nucor's <https://assignbuster.com/nucor-steel-case-study/>

decentralized structure allowed for its employees to make quick decisions that did not have to go through all of the bureaucratic steps like that in a centralized company. A decentralized company relied on higher quality employees that could analyze a situation and react quickly and successfully. The individually operated plants were akin to the decentralized company.

Each plant was individually responsible for its profits. The three layers consisted of the executives at the headquarters located in South Carolina, the general managers that ran the plants and talked to the executives, and the hourly employees that did most of the labor at the plants. The general managers ran the plants individually from each other and were expected to reach, at least, a 25% return on its total assets. If a general manager failed this, the executives would interfere and had no hesitation in replacing an unsuccessful general manager.

The individual plants allowed for team like competitions between plants to see who could be the best performer. Nucor was nonunion, but provided salaries based on competing plants' salaries in the area. Nucor offered a generous compensation bonus to good work that differed for each worker. Hourly workers received bonuses if they produced more than the standard number of tons. Department managers earned annual bonuses depending on percentage of net income to dollars of assets. Nucor also had great employee relations. Nucor offered 401k plans by matching up to 25% of employees' contributions.

Medical and dental plans were very common for Nucor employees. There was also a tuition reimbursement of up to \$2, 750 for any employee. For the



children of employees, Nucor would provide a scholarship up to \$2,750, which would encourage employees to stay until they went to college. As seen here, Nucor treated its employees very well to reduce employee turnover and attract the best employees. Nucor required a high human capital if it were going to use a decentralized structure. The high quality employees that Nucor attracted helped Nucor execute its low-cost strategy, and led to superior results. Nucor's leadership, great strategy, and execution were what led to why Nucor was so successful in the steel industry. The great leader that Nucor relied upon was Kenneth Iverson, who changed Nucor from a nuclear energy company into a steel company. As seen in the last question, the decentralized structure helped Nucor react to problems quickly due to the ability of employees to take the authority to solving problems. To be a great company, you need all three. This was evident in the case of Nucor because it was turned around and became a very successful company in a very different and difficult industry than where it started. The SWOT analysis of Nucor is as follows. The strengths of Nucor are its strong market position, historically based position, increased production capacity, and strong technological focus. Nucor had a strong market position that allowed it to flourish in the steel industry. The strong market position is shown by its ability to stay out of the red during hard times. This is seen in exhibit 1. Nucor continued to have a positive net income, even during the low period between 2000 and 2002, as seen in exhibit 1. Nucor's historically based position has given it a long-standing presence that is known to most steel consumers.

This has helped Nucor because it tells the consumers that Nucor has been able to provide quality steel year after year. As seen in exhibit 1, Nucor has increasingly produced steel starting at 207, 000 tons in 1970 to 22, 118, 000 tons in 2006. This growth is enormous and not once did Nucor's steel sales fall below its previous year. Nucor's strong technological focus has allowed it to become a power in the steel industry. It used electric arc furnaces when they were a new technology and encouraged further innovation into the steel production methods.

Some weaknesses of Nucor are that it is mainly located in America and that the steel industry is already very developed. The fact that Nucor is mainly in America limits its growth. Nucor cannot compete with international companies so it is best to stay in America, but that continues to limit its growth because Nucor can only sell so much steel in the United States. The steel industry is very developed due to the early demand for the high amounts of steel back when the steel industry started. Now demand has lessened and the developed companies are fighting to stay alive. Nucor's opportunities are joint ventures and new technologies.

Nucor has taken advantage of some of its joint ventures in Brazil and Australia. This is good because it allows for an expanded production line and further integration backwards. New technologies are a good way for Nucor to grow as it can decrease its costs and therefore increase its net income. This is a necessity for Nucor due to its "prison-like" existence in America. The threats on Nucor are foreign competitors and decreasing demand. Foreign competitors are growing in the developing nations like India and China.

These nations are very large and China already produces one third of the steel in the world.

Decreasing is also a problem, which is caused by the increasing amount of suppliers. Nucor's distinct competencies are its highly successful strategy and high quality human, technology, and leadership capital. 8) My assessment of Nucor's stock is that it has done the best out of its American competitors as shown in exhibit 3. Exhibit 3 is a comparison of the stocks of Mittal Steel (MT), U. S. Steel (X), AK Holding Steel Company (AKS), and of course Nucor Corporation (NUE). As shown, exhibit 3 shows these four stocks from 1999 to 2009. Mittal Steel did surpass Nucor during the years of 2007 and 2008, but currently Nucor is the highest.

This is good because it shows the reaction to the recession, and it shows that Nucor bounced back the best. I personally would not purchase any steel stock because I believe that the growing steel industries in China and India will over power the American steel companies. However, if I had to invest in a steel company, it would in fact be Nucor. 9) Nucor needs to address the growing steel industry in Asia. Daniel DiMicco needs to do something to ensure that Nucor survives. I would recommend further investment in new steel technologies, and if it comes to it, Nucor may have to change industries again, like it did back in 1970.

DiMicco may want to make sure that he is not “ keeping all of Nucor's eggs in one basket” by staying in the steel industry. Moving into the energy industry may be a smart move as there is a definite need for alternative energy. Nucor's current, increasing net income could help invest in

alternative energies that would help Nucor become sustainable. 10)The biggest recent event is the possibility of China potentially steel dumping, which would under price Nucor substantially. This would lead to the downfall of Nucor. Another current event is the new technology of producing “ Green Steel” (<http://news.n.msn.com/business/article.aspx?cp-documentid=1090378>). This is a new technology that takes waste plastic and converts it into steel. Since plastic is mainly carbon, it is possible to produce steel from the waste plastic. This would solve the problem of what to do with the plastic that is no longer used and help produce cheap steel that also lowers emissions. Lower temperature is needed in this new process therefore reducing the energy needed. This new technology converts waste into very much needed, and useful steel.