Dan DiMicco, aware of your emerging expertise in strategic analysis, has employed you as an intern to assist him in evaluating Nucor's situation and future prospects. Mr. DiMicco has asked you to provide him with your views to the following questions:

1. the strength of the competitive forces in the steel industry as of late 2006

The steel industry is a particular and very challenge industry. It has many inputs and outputs to consider in the analysis of its strengths and competitive forces; in addition, these characteristics evolve according to the evolution of the inputs and outputs relationship and their impact; this means that the volatility of both supply and demand is very high, with a huge cost and price variations because of their sensitivity. For example, the cost of raw material has a huge impact in the profitability of each plant (around the 62% of the steel production cost are due to raw material). The cost of the energy could significantly change the profitability equation for each plant (it could be around the 10% of the steel production cost). Finally, with the new fashion about carbon dioxide cap-and-trade initiative is introduced a new variable to this profitability equation. For this kind of industry the impact is huge, such as the European and particularly Germany experience tell us (in supporting renewable source of energy, significantly more expensive than the abundant fossil fuel source, the cost of every industry has increased with an important impact in the economy of the strong industrial sector in Germany).

In other side we have the markets for this industry; this market could be subdivided in different sectors (e.g.: construction, Oil and Gas, transportation) and the trend of these sectors will determine the demand for products in the steel industry.

If few of these inputs has a negative impact, the industry could absorb it; but when several factors are in phase (negative or positive), the impact in the steel industry could be significant. The complete analysis is more complex, some variables produces an increase/decrease (in phase) for input and output, and its effect is very difficult of determining. This multiple interaction produces the cycles described in the case description, with its period of merges and acquisitions, and then expansion. Over these cycles the steel industry exhibits an average profitability of around 15%. Exhibit 2 shows the effect of 911 attack which has affected many inputs at the same time; it shows how Nucor (and we could assume the world wide trend or at least in the US market) has given earning and productivity; but also how the industry rebound after 2002; the sales per employee has increased 12.8% per year between 2000 and 2006; if we split this period in two, 2000-2002 and 2003-2006, the annual average variation was -3.1% and 24.6% respectively. In addition, every financial ratio has similar trend; for example Return on total assets has a variation of -30% and 99% for the same periods.

The market growth has a huge impact in the development of the industry, profitability, strategies and efficiencies. This growth has different rate in different regions. Exhibit 7 shows between 2000 and 2005 a maturity in the consumption of steel in the EU (1.5%) and North America markets (-1.5%), moderated increase in the African (7.8%), Central and South America (2.9%), Australia and New Zealand (3.3%) markets, and a strong increase in the Asia (11.3%) and Middle East (12.0%) markets.

Other consideration is the technologic evolution; changes in the steelmaking technology had revolutionized the world’s steel industry. Up until 1960, steel was produced in large-scale plants using capital-intensive basic oxygen blast furnace technology. Starting in the 1960s, the advent of electric arc furnace technology spurred new start-up companies to enter the steelmaking
business. Then the COREX technology has introduced more improvements and advantages to this industry.

The steel is a product that is essential for the actual style of life; exhibit 7 shows an increase in the steel consumption of 6.1% between 2000 and 2005, but the steel production is lightly superior to the demand according to exhibit 6 and 7. This put a lot of pressure and competence in the market. In addition, the steel industry is a key industry in any country, with a high intensive labour requirement and strategic for the economics development. Some countries provide subsidies to the steel industry producing a distortion of the natural market forces.

In addition, steel industry has an important competitor, the aluminum industry, particularly in some niches. In general, the requirements for material with more capacity (e.g.: corrosion, ductility, specific weight, elasticity) put some pressure to the steel industry. In some cases steel alloys help to extend or improve the steel capacity, but in most cases the steel is substituted by other metal (e.g.: aluminum, titanium, plastics, copper, brass, special materials).

Finally, each one of these competitive forces could work as a positive, neutral or negative force, in dependence of supply and demand context; and this explain the characteristic cycles of the steel industry.

2. The industry success factors

The principal industry success factors are the bargaining power, some degree of diversification (most of the steel production goes to the construction sector), entry barriers (for those firms in the market it could be seen as a success factor), large-scale plants, low cost location, rapid adjustment of capacity, high technology, high integration, globalization, ductility in the small scale plants, cycles (which provides many opportunities leaving the industry from the lethargy), product consistency, government support, reliability of supply, backward integration, consolidation, branded products, long contracts, free market rules, cost competitiveness, energy and raw material cost, demand, availability of raw material, availability of labor force.

3. The pro's and con's of Nucor's competitive strategy

Several pros could be identified from Nucor's competitive strategy.

- One is that the HHRR policy (staff and line people). Nucor has a rewards system that encourage its employees to develop their best to help out the company. This competitive strategy gives to Nucor a high efficiency in terms of rates per hour-worker compared with the average industry (it does not mean the cheaper).
- High and friendly competitiveness at management level.
- Nucor has developed a high efficient production process, supported by high level of research and development.
- Nucor has developed an aggressive and successful strategy in the North America market, considering expansion, acquisition and constantly technological improvements.
- Nucor has developed a strong lobby trying to keep away the cheaper (sometimes dumped foreign steel production).
• Nucor had diversified its production, developed large-scale plants with also integration with its customers. It has reach a high level of quality in most of its products, reliability in the supply and low cost (Nucor’s mission).
• The competitive strategy has allowed to Nucor to remain in the market instead of the business cycles and changes in the management, often operating with better margins than a lot of their competitions.
• Financial position.

In addition, several cons could be identified from Nucor’s competitive strategy.
• There are cheaper suppliers on a global scale. In order for Nucor Corp. to reduce their production costs, they must find a way to decrease the cost of their raw material. Nucor’s competitive strategy does not put a lot of emphasis in the optimization of the raw material cost.
• The chart structure looks very flat, high level management could be distracted in secondary issues.
• The Nucor’s strategy for going abroad is weak, slow and based on joint-ventures. It does not match very well with the risk and opportunities own of this industry.

4. the strategic issues Nucor’s management needs to address

Nucor’s management needs to address several strategic issues
• To better integrate their supply chain.
• Decrease raw material costs.
• To develop a better going abroad strategy.
• Try not to depend of the lobby results.
• Some restructuration in the management level.
• To combat the influx of imported steel to the US market by purely market approaches (e.g.: diversification, lower cost)
• To address future shortage and higher price of the energy.
• To address current and future concern on environmental care and protection.

There are a lot of companies in the steel industry. As in other industries, there has been dramatic both ups and downs, but Nucor has kept it going, often operating with better margins than a lot of their competitions. The company has survived different business cycles, dumping of cheap foreign steel in the US market, and changes in the management.

5. the attractiveness of Nucor's value chain versus it's competitors value chains

The attractiveness of Nucor in comparison with its competitor are its lower production costs, positive work force, and solid brand in the industry to compete at the top level, innovation, creativity and autonomy.
6. your recommendations as to what actions he should take to enhance Nucor’s position and future performance, especially to compete effectively against highly efficient, low-cost foreign imports.

As we shows in the first point, the steel industry faces a problem with excess capacity of steel production on a global scale. The high capacity has created a price war for steel, as well as steel dumping into the U.S. market which has diminished profit. In order for Nucor to maintain, and continue to post profits in the future they must identify areas to increase technology to lower production costs and increase throughput.

Globally, Nucor has a strong weakness that it constitutes a permanent threat; this is the cheaper steel from bigger and less cost steel production areas. Nowadays, Nucor strongly depend of the US government protection, but this create to Nucor a strong uncertainty. Several foreign industries also develop lobby to the US government and they are very interested in delivering its production to the US market.

So, Nucor has two different options, specialization or diversification; the recommendations for either of these alternatives have several common points:

And common actions:
- Going abroad could help at the same time that it diversifies market and production.
- Improve its supply chain.
- Improve the worker performance.
- Decrease raw material costs.
- Decrease energy cost.
- Improve emissions release (it looks that in the short time the cap-and-trade system will significantly increase production cost).
- Continue being a technological leadership.
- Increase in efficiency and decreasing cost (Increase production could not help, the industry has an excess capacity production and it will be difficult to sell at the current prices).
- Develop alliances with other companies to decrease cost.
- Improve and develop the lobby. Alliances with other companies could help to develop it in other regions.

The diversification strategy would provide Nucor with the fastest and most effective way to compete and being a strong leader world wide in the steel industry.