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Comparative Analysis of the Supply Chain of Chrysler and Fiat

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Abstract

This paper examined the automotive supply chain of the Chrysler Limited Liability Company (LLC) and Fabbrica Italiana Automobili Torino (Fiat Company). An organization must consider the pipelines found within the each aspect of the supply chain. In efforts to reduce cost and multiply satisfaction, one must consider coordination, cost, and effectiveness. Performance optimization must be evaluated to eliminate the probability of the bullwhip effect. Proper monitoring and controlling should be executed within a reasonable time to minimize cost and produce an accurate forecast. Controlling the transmission of schedule instability and inventory fluctuations could reduce negative effects. (Bhaskaran,1998).

Stable production schedules would produce a more accurate and cost effective model. If a schedule is stable then, actual production requirements are similar to forecast production requirements. An organization should formulate, implement, and evaluate varying measures to yield productivity. The implementation of varying models and processes at a constant would produce a more stable supply chain.

Literary Review

Theoretical Framework

Organizations must adhere to customer demands, quality control, risk management and regulatory dimensions (Petroni,2000). Varying methods may be utilized to produce accurate forecast for production. Accurate measurements are detrimental to the overall bottom line of an organization. An organization may utilize a linear-weighting model or mathematical-programming model Linear-Weighting models and MP models are prominently used methods for supplier selection(Gnanasekaran, Velappan, & Sivasangari, 2008). Supplier selection is an important aspect of profitability for an organization.

Steps within the decision-making process must be executed within an appropriate time. However, the decision-making process may be difficult and/or complicated (Min, 1994; and De Boer et al., 1998). Due to the different perceptions of decision-makers, quality is to be considered as both a quantitative criterion and as a qualitative criterion (Gnanasekaran, Velappan, & Sivasangari, 2008). A composition of quantitative and qualitative criteria must be entertained simultaneously (Weber et al., 1991). The lack of complete information is called the Grey Relational Analysis. If an organization fails to meet the quantitative and qualitative criterion then, a problematic situation may arise. Distribution data and customer demand forecast may be effected by incomplete data. An accurate forecast will minimize the probability of an ineffective supply chain.

Supply chain is defined as a series of manufacturing plants that transform raw material into finished product. Each plant in the supply chain receives material from the preceding plant and sends material to the succeeding plant in the supply chain. Within the supply chain, pipelines are utilized. These pipelines are identified as the stream of information, materials, components, and assemblies that are associated with a particular product or tight family of products. The entire supply chain of an organization is composed of pipelines (Bhaskaran, S. 1998).

Understanding supply chain pipelines and performance could help an organization select an appropriate degree of vertical integration. The flow of information and materials, propagation of dynamics (gradual changes in production rates), and stability are major components within the supply chain. An organization must observe and monitor the productivity and effectiveness of each activity to ensure market success. Increased competition, rising consumer expectations, growth in product variety, and quick response expectations have all contributed to industry, focusing on lean manufacturing and supply chain management (Bhaskaran, S. 1998).

The automobile industry has witnessed great triumphs and devastations since the initial introduction of the Model T by Henry Ford. The Model T altered transportation and production measures and caused others to become more innovative individuals. Mass production has proven to be the most effective tool in the manufacturing aspect of supply chain. Organizations whom exploited techniques displayed from the Ford Motor Company have observed longevity and profitability. However, the lack of risk management and transparency within any company could impact the organization negatively. Producers of automobiles must be sensitive to quality control, risk management and regulatory dimensions (Petroni, 2000).

Successful automotive companies have transformed risk managers into risk strategists. Risk strategists are responsible for devising a concept that properly utilizes internal and external

resources. The growth of knowledge and status by risk strategist would minimize outsourcing of these vital individuals (Hoffmann, 1995). An increase in profits and reduction of expenditures is the ultimate business goal.

In addition, supplier selection is a vital aspect of the efficiency of a supply chain. The organization must investigate reliable resources for the manufacturing of their product. The main objective of the manufacturer is to reduce inventory cost and improve product quality. Proper supplier selection may improve the competitive position of the firm. Hence, the selection of the best supplier is crucial to the success of an organization. The organization must select a supplier that provides high-quality materials, reduce cost, provide excellent services to satisfy customer demands, as well as, the delivery of the quantity of materials at a reasonable time(Gnanasekaran, Velappan& Sivasangari, 2008).

Supplier management is a key subject of supply chain management(Goffin,1997). The cost of raw materials and complimentary parts constitute for product cost and sales revenue on purchasing. An organization must meet customer demands at a realistic price. Customer demand are equivalent to prompt delivery, best price, superior quality products, and superb after-sales service(Gnanasekaran, Velappan,& Sivasangari,2008).

The application of suitable decision system technologies are a significant support to the solution of planning complexities within the supply chain. The capability of reverse logistics is contingent upon figures found within the pipeline. Reverse logistics is the process of removing new or used products from their initial point. Observation of the economical impact and the quality evolution of decision making are detrimental in the accuracy of forecast(Hernández, Poler, Mula,& Lario, 2011)

In the dawn of Italian industrialization, Fabbrica Italiana Automobili Torino or FIAT SPA (henceforth FIAT) was founded in Turin, Italy in 1899. FIAT is the largest family-owned corporation in Italy. Its logo has become a great status symbol due to a history of the superior cars the Company produces and the prestige of its history and tradition (Camuffo & Volpato, 1995). Nearly a decade later, car production had become the main concern of Italy. During World War II, FIAT manufactured military equipment and vehicles for the government. Subsequent to the death of its founder, FIAT was the largest automobile firm in Italy.

Although, the first product was cars, the company dove into the production of retailing, chemicals, civil engineering, commercial vehicles, ships, airplanes, trains, agricultural tractors and construction machinery. The development of these product lines increased profitability and the brand name of the company. Among its automotive names are Ferrari, Maserati, and Lancia.

In 2009, Fiat realized it had to diversify the products that were offered to accommodate customer demand. In the last twenty years, the FIAT group has established a linkage in industrial, commercial, and financial synergies (Petroni, 2000). FIAT is the leading industrial group. FIAT operates in 62 countries within 888 organizations. The FIAT operates nearly 211 production facilities. 94 of the organizations are international (Petroni, 2000).

Even though, the FIAT group has experienced great triumphs, a combative reconstruction of their supply chain has been completed. The defense strategy of FIAT was to diminish worker cruelty, massive strikes, labor disruptions, and the decline of domestic sales. FIAT opted to offer automobiles internationally to counteract loss and stagnation (Maielli, 2005). FIAT exploited the opportunity to utilize the distribution channels of another automobile organization to maintain sales. It gained a partnership with Chrysler LLC.

Chrysler Corporation one of the leading manufacturers in the automobile industry. Chrysler's strength has been in sport utility vehicles, pickup trucks and minivans. The Chrysler Corporation originated in Detroit, Michigan. Walter P. Chrysler founded the company in 1923. One year later, Chrysler produced their first car. After the acquisition of Maxwell-Chalmers, Chrysler utilized information within their relationship with Buick (Ni, M. S. (2007)). Buick was major competition for Chrysler.

Due to newly found competition, Chrysler Corporation opted to change their supply chain. Since the production of automobiles increased, Chrysler identified alternatives. Options that minimized cost, created value, and displayed customer fulfillment were vital for selection. Chrysler was able to produce innovative and creative products such as the automatic transmission and push button control layouts for cars. After acquiring Dodge and Plymouth, Chrysler became a top automotive company in the US.

Although the Chrysler Corporation and FIAT reached a consensus, FIAT once partnered with General Motors. In which, General Motors purchased 20% of the FIAT automobile business. However, General Motors released dealings with FIAT. FIAT was awarded \$2 billion. The \$2 billion received from General Motors helped resuscitate the market recovery of FIAT. FIAT is not a global competitor like Volkswagen. FIAT has a strong presence in Italy. Reputation and customer satisfaction may promote or hinder efforts for an organization. FIAT has also been the leading producer in Brazil. Even though, Chrysler Corporation is not significant outside of North America, does not seem to gain any global trading advantages in the alliance. However, The Chrysler-Fiat deal may intrigue the interest in the Chrysler Corporation from Nissan.

However, Chrysler noticed major losses because of car design and style. So, the company altered their production line. To defend the position of the firm, Chrysler Corporation also, created a line of "300" coupes and convertibles in order to compete with Ford's Thunderbird. They also looked into expansion in Europe. The organization also formed an overseas venture, Chrysler Australian Ltd. which they surfaced a special Royal model for Australians. Varying combative measures placed Chrysler Corporation in a competitive situation among the automobile industry.

Chrysler LLC witnessed difficulty in establishing its financial stability in the spring of 2007. In which, Daimler completely traded its 80 percent ownership to Cerberus Capital Management LP. Daimler was shortchanged in the stake tradeoff. Unfortunately, Daimler loss \$29 billion of its previously made investment to acquire the Chrysler Corporation. However, Cerberus Capital option to repurchase the deal was seemingly foolish. The miscalculation of the profitability in the automobile industry caused Cerberus great frustration. No tangible benefits were available to the company because of the role it played in the global financial crisis of 2008-2009. Even though, Chrysler Corporation asked for a bail out from the government of North America. The constant upgrade and continuation of quality practices and regulatory measures has ensured the position of Chrysler Corporation.

Cost problems, high oil prices, and the recession aided Chrysler's ruin. Soon after, Chrysler partnered with Fabbrica Italiana Automobili Torino or FIAT SPA (henceforth FIAT). The alliance with FIAT looked more stable regarding the companies' global operations, corporate compatibility, and long-term synergies. FIAT as well as, other European automobile makers saw Chrysler as a great market asset and opportunity. Undervalued stocks were sold under distress from the financial crisis of 2008-2009 (Jacobson,2010).

After the formation of the Chrysler and FIAT strategic alliance, new ownership restructuring plans were enforced for Chrysler. Also, FIAT made alterations to fit Italian labor laws, change negative perceptions, and solve market share problems. During World War II, FIAT manufactured military equipment and vehicles for the government. Subsequent to the death of its founder, FIAT was the largest automobile firm in Italy. But, Chrysler was lower on the “food chain” after the introduction of Japanese companies in North America. The cruelty FIAT showed to workers caused massive strikes and labor disruptions. General Motors (GM) acquired 20 percent of FIAT. However, the affiliation was short lived. Since, Chrysler and FIAT adjusted its structure, leadership, cost, target market, strategies to remain a relevant in the automobile industry.

FIAT should not import small or low-priced cars, or even mid-level cars from Europe, as the strong European currency makes that a money-losing proposition. If Fiat could manufacture in the U.S., it could build some variations of its cars for Chrysler. However, the pipeline for information may be ineffective. Timing is a major constraint for information transfer among two separate entities. The timing of Information from FIAT pertaining to technology, engine production, and transmissions production for new Chrysler Corporation products could take an enormous amount of time.

The partnership provided a return on investment for the American taxpayer by securing the long-term viability of Chrysler brands in the marketplace, sustaining future product and technology development for our country and building renewed consumer confidence, while preserving American jobs. Since the Chrysler Corporation sales declined, employee lay-offs were implemented. Chrysler sales decreased faster than the other Detroit manufacturers. Chrysler once suffered because of past emphasis on trucks, weak front-drive car entries, and a weak

reputation for quality. Negative news scared away potential customers. In addition, Ferrari and Maserati cars were sold in puny numbers in past data. U.S., but in tiny numbers. However, the opportunity for FIAT to sale more models would double after the production of Alfa models.

The alignment between Fiat and Chrysler did not exactly save Chrysler. But, it provided FIAT with an entry into the U.S. The agreement also gives FIAT 35% of Chrysler Corporation. In addition, it gave Chrysler Corporation access to its technology. FIAT had publicly shown interest in a production base in North America for its Alfa Romeo brand. FIAT gained the access to U.S. plants to produce and manufacturer automobiles.

FIAT has a strong position in small cars and in their engines and transmissions, as well as in luxury cars and diesel engines. Access to technology information acquired by FIAT is a huge help for Chrysler. But the American company would still need the money and ability to create new cars even with FIAT technology. The alliance might help Chrysler if it desires funding from the American government in competitive efforts. FIAT needs a manufacturing base if it intends to reenter the American market.

The Chrysler-FIAT agreement has the ability to compete with GM, Ford, Toyota, Volkswagen, and Daimler. However, the success of the agreement is based sole upon the transferability of information. The Chrysler/FIAT partnership is innovative and suitable for longevity in the automobile industry. The agreement has potential for a powerful standing among domestic and international automobiles. The Chrysler Corporation has provided FIAT with numerous strategic benefits, including access to products that complement their current portfolio; a distribution network outside North America; and cost savings in design, engineering, manufacturing, purchasing and sales and marketing. This transaction will enable Chrysler to

offer a broader competitive line-up of vehicles their dealers and customers that meet emissions and fuel efficiency standards, while adhering to conditions of the Government Loan.

The supply chain of FIAT and Chrysler Corporation have both been altered greatly in the past ten years to maximize profitability. The partnership between the two organizations are actively affecting the automobile industry of today. The strategic alliance between the two organizations have helped each to become a more recognizable and lucrative brand. The adherence of customer demands, quality control, risk management and regulatory dimensions (Petroni,2000) has provided each company with longevity.

Supplier selection has proven to be a great integer. Tactical strategies such as, the merge has afforded FIAT and the Chrysler Corporation with a more accurate process to manufacture and deliver automobiles cost effectively. Unfortunately, the Chrysler Corporation is not maximizing on the opportunity to globalize their brand. FIAT and the Chrysler Corporation acknowledge the error in their individual management chain. Their integrated processes and transfer of information has exponentially aided the companies in their efforts to become successful.

The constant flow of information and materials, propagation of dynamics, and stability have altered the effectiveness of the supply chain. The observation and monitored productivity of activities have aided the life span of FIAT and the Chrysler Corporation(Mukhopadhyay, T., Kekre, & Kalathur,1995). The Chrysler Corporation and the FIAT Group are major figure heads within the automotive industry. If the two organizations continually improve their processes and produce tactical measurements then, they both will remain prevalent in the automobile industry and endure brand recognition and profitability.

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