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CHALENGES FACE BY MANUFACTURING SECTORS (CASE STUDY COMMUNICATION ASSOCIATE INTERNATIONAL)

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ABSTRACT

Communication Associates was formed in 1982 with an aim of manufacturing attenuators and cable equalizers used in cable and television industries. It is recognized and respected in the industry as an emblem of quality, reliability and service. Though the company has been facing some financial difficulties that originate from increased competition and technological changes, it has future plans to extend its manufacturing capabilities in Asia and in other parts of the world. Through a dedicated and responsible work force, the company has been able to make good on its main goal of meeting their customers' needs in regard to quality and time of delivery. Many customers in the cable industry recognize the company's cable products since they have established a solid niche. The company is able to access information from their major customers; therefore, they are always aware of and prepared for the kind of order to expect. The company uses both process and batch production depending on the product. These products undergo similar processes in molding and testing with minimum adjustments being made during change over. The company uses JIT as a tool to measure orders and inventory. This, for the most part has helped the company deliver ordered products on time.

Keywords: Manufacturing, customer satisfaction, competition, JIT

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Introduction

Communication Associates (CA), Inc was formed in 1982 with an aim of manufacturing attenuators and cable equalizers used in cable and television industries. The C.A. logo is recognized and respected in the industry as an emblem of quality, reliability and service. Communication Associates has received the highest supplier ratings and scorecards for its performance, measured by quality, service, price and delivery. The company's target is to extend this same level of performance to meet its customers' needs. By the year 2007, the company's manufacturing facilities were located in United States, Mexico and China; however, the company has closed the facilities located in Mexico and China for the time being (Feitzinger, E. and Lee H. 2008).

Though the company has been facing some financial difficulties that originate from increased competition and technological changes, it has future plans to extend its manufacturing capabilities in Asia and in some other parts of the world. It is noted that Communication Associates Inc (C.A) has enjoyed a monopoly in the manufacturing of cable products in southeast of United States for more than 25 years. C.A cable products are widely known for their quality and reliability (Groover, P. (2007). Through a dedicated and responsible work force, the company has been able to make good on its main goal of meeting their customers' needs in regard to quality and time of delivery (Groover, P.2007).

Existing manufacturing system

While the company mainly manufactures attenuators and equalizers, other products that are manufactured in small quantities include test probes, test fixtures, splitters, couplers, inductors and bypass chokes. The manufacturing of these products are made on order such that a customer gives specification of the product's characteristics through its sales and marketing department. The specifications of the ordered part are then forwarded to the engineering department where the proper steps are carried out to design the product. If the ordered parts already exist in the production line, the order then goes to the production department. Unlike auto companies like Honda, whose quantity of products depend on statistical data, in this case production depends solely on orders. Similar to craft production, where a customer gives characteristics and details of the kind of product he/she wants and within a specified period of

time, the product is designed, tested and ready for mass production within three weeks. In the case of C.A, I would refer the techniques used by the company as customization (Liker, J. (2003).

Many customers in the cable industry recognize the company's cable products and due in part to its track record in the manufacturing of such, they have established a solid niche. However, the company makes sub-assemblies for the major products because they can easily predict the next set of order. On the other hand, the company is able to access information from their major customers; therefore, they are always aware of and prepared for the kind of order to expect. The company uses both process and batch production depending on the product. Batch production is utilized for the case of major manufactured products i.e. equalizers and attenuators. These products undergo similar processes in molding and testing with minimum adjustments being made during change over (Jones, T., Daniel R., and James P. 2003). The company uses JIT as a tool to measure orders and inventory. This, for the most part has helped the company deliver ordered products on time. Macola software is used in this case. Depending on the quantities of the product and time of delivery, changeovers are affected to meet deadlines. Combined with well-trained workers who focus on quality, customer satisfaction keeps the company running. Unlike big companies like Toyota, which by use of TPS continue to be more flexible in production, C.A. seeks to maintain its customers by focusing more on quality which is every worker's responsibility. New employees undergo on-the-job training for at least two weeks before being allowed to work independently. C.A.'s production system is easily learned as only few processes are automated. The production process is divided into positions whereby workers perform repeated tasks; therefore, on-the-job training is much easier with regard to work on the factory line. (Liker, J. 2003).

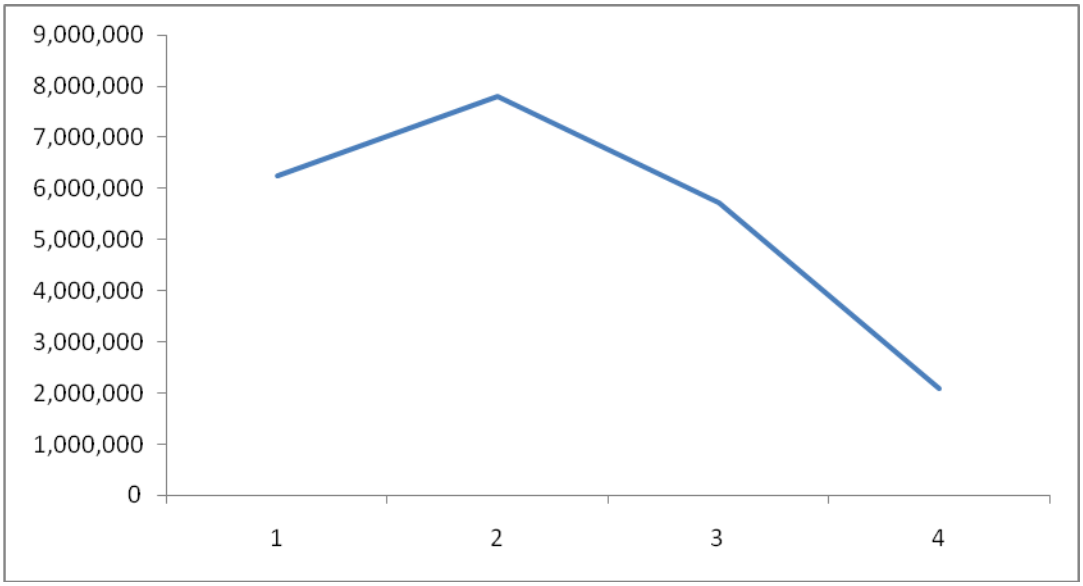
The manufacturing facility has no automated material handling and identification technologies. The storage systems are based on catalogs which have proven to be far more effective due to the small size of the products. Transport systems are basically non-powered industrial trucks. Because the company does not manufacture bulk products, powered transport equipment is rendered useless (Nicholas, M. 2005).

Methodology

During my interview with some employees in the engineering department it was found out that the company has no manufacturing strategy at the moment. The employees continue to do what they have been doing. Basically there is no R&D at the company, new projects and products are developed solely on the needs of the customers' order. It is further noted that the company has no sales personnel out in the market as it relies on their existing customers.

Results and discussion

Figure 1 shows the quantity of products sold



The graph clearly shows that the company has been experiencing manufacturing problems in the past four years. The problem is mainly from competition and change in technology. There are many challenges facing the company at present including competition, management problems, change of technology, off-shoring as well as production problems. Competition is deemed the major problem at this time. Chinese manufacturers have introduced similar kinds of products at relatively lower prices, and many companies opt to buy from Chinese manufacturers; nevertheless, C.A. has made a good name through quality and reliability allowing the company to survive in its niche. Consequently, certain corrective measures are needed in the company for it to remain in the market. Management is another problem that has retarded the company growth for a long time. Until the end of the year 2006, the management of the company was in the hands of the owner, which to some extent hindered growth of the company. In the early 2007,

the owner hired the company's president who later quit the job after only one year due in part to management issues.

The evolution of fiber optic cable also negatively affected the company. This technology uses less of the company's products; therefore, the market for the C.A's cable products is diminishing at a high rate. Other companies that manufacture fiber optics products have so come into the picture and have claimed a share of the market. It appears that the company was not ready for the transition. There is an urgent need to address this issue before it becomes a major problem. This can only be done through investing in research and development.

C.A. has in the past tried off-shoring some of its processes, but this did not work for them. The company did have a plant in Mexico which was closed in 2007 due to lack of market for its products. The whole process of off-shoring was meant to reduce the cost of labor but, the organization failed to take into account all the risks that accompany off-shoring. Due to the lack of experienced executives, simple cost/benefit analysis was used to make decisions. It is noted that the company's annual expenses are higher than its annual benefits for the past two years; this is due to competition from Chinese manufacturers which has forced the company to adjust prices on their products. The company is unable to adjust its expenses in turn. All full time employees in the company enjoy full insurance coverage which to some extent contributes to high annual cost of production.

The company manufactures mainly customized products which mostly have rendered many manufactured products obsolete whenever a specific customer pulls out. Customization helped the company maintain many customers, but due to increased completion and change in technology, it becomes a disadvantage to the company. If customization was done along with research and development, the company would be in a more favorable situation. Though one may blame the company's management for poor forecasting and decision making, retailers and manufacturers also are to be blamed for valuing prices of products ahead of keeping the workers employed.

Conclusion

It is evident that the company's annual revenue is decreasing rapidly as shown in figure 1; therefore, urgent measures have to be taken to save the company from becoming insolvent and hence close down. The management failed to take actions during its prime stages. The proposed strategy would have worked best 10 years ago when the company was making huge profits; consequently, the company has to deal with the current situation as soon as possible if it is to remain in the market for the next two years. CAPDM strategy suggested would be costly at the moment, but the company can reap benefits at the long run.

The company has the potential to turn around and this is evidenced by the year 2007 (illustrated in figure 1) when the new president was hired. The total revenue drastically increased compared to previous years. This is an indication that the company's management has contributed a lot to its poor performance. The owner misappropriates the company's funds leaving none for expansion and development. According to internal sources, the owner who manages the company has not developed a model or a strategy that can correct the current situation, leaving the employees uncertain of their future in the company. Many good workers have left the company, and the condition continues to deteriorate.

Recommendation

Since, the company faces multiple problems which may require the introduction of several manufacturing strategies to perform better and survive in the market. One thing the company's management has failed to do over the years is invest in research and development. Despite the change in the technology, the company made no effort to improve its products; therefore, the company needs to come up with product development strategy preferably one like Communication Associates product development methodology (CAPDM). The objective of the strategy is to improve the current products and invest in research and development. Another key objective is to maximize manufacturing flexibility to speed up launching of new products and to increase engineering design in volume assembly. The strategy will further address the need to continuously improve the product quality and to adjust production quickly to meet demand fluctuations while minimizing overhead costs and capital investment needed to keep up with shorter product life cycles.

The first step during implementation of this strategy would be hiring experienced personnel in engineering and in production that will retrain workers on the new strategy; furthermore, the old equipment that has lost calibrations should be fazed out to increase repeatability and ensure quality and reliable products are manufactured. Supervisors in production and in the engineering department will gather information from the marketing and sales department to figure out which products would be prioritized. Breakeven analysis would be important to develop and explore the annual cost of production. This can be further compared to estimated annual benefits in order to know the best methodology to use. Members of research and development teams also can be given an opportunity to visit the company's major customers to gather more information on how best the company can improve its products to satisfy the customers. In addition, company resources, strengths and weaknesses, position in the industry, assessment of competitors' moves and forecasting of future customer motives and behavior need to be analyzed.The company can further outsource non-technical business activities in order to create space and minimize overhead expenses. It is definite that the company has to redouble its effort in order to achieve flexibility at its manufacturing plants. All this can be accomplished while accommodating continuous improvement concepts.

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