

Business plan on statistical quality control in a business plan

[Business](#), [Management](#)



Introduction

Fashion industry is a highly lucrative and competitive business. It will be vital for the craft business to adopt statistical quality control, which ensures that the products are of high quality, and consumers are fully satisfied with what they receive. This can be achieved by employing certain quality characteristics following statistical guidelines, as well as, conducting statistical analyses on the products quite often. The location of the business and the capacity of the facility are vital in the overall cost management of the business. Additionally, coming up with a favorable work system design and business management are crucial components of successfulness of the craft business. Therefore, adopting a realistic statistical quality control that include capacity planning, a hybrid planning, a favorable working system design, as well as, inventory planning and proper management will be crucial for the business.

Quality Characteristics

In large corporations, it is impossible to inspect the products and all aspects of production aspects. The corporations, therefore, design a way of maximizing the monitoring of products to ensure that quality is maintained while defects are eliminated. The business will adopt a strategy of quality based on high skills and craftsmanship to ensure that the products are of high quality and consistence. Similarly, such qualities will ensure that the business penetrates the market and maintain its customers by producing top quality products (Yang, 2012).

Descriptive statistics will be used to describe the quality characteristics of

the products produced by the business. Qualities such as central tendency and variability of the products will be analyzed. One of the characteristics of the products will be to meet the customers' specifications in relation to the designs, fitness and occasions. Therefore, central tendency such as mean will be adopted. Similarly, measure of variability using standard deviation and range will also be considered.

The mean of the products will be measured to determine the central tendency of the set data. According to Longman and Mullins (2004), is crucial for the management to know the central point of a set of data. This will be vital in calculating the costs of the products. For instance, it will be crucial for the business to measure the quantity of fabric needed to produce a given product, especially where mass production is involved. This will be possible through the use of a mean grade resulting from the central point of a set of data.

Range and standard deviation will be used to measure the rate of variations that can be allowed in products. Standard deviation provides information on how variations can be spread across data provided by the mean calculation (Yang, 2012). The standard deviation will be calculated by finding the difference between large and small observations. For example, the standard deviation will be used to measure the rate of color variations allowed in a given fabric or design. Additionally, distribution of data will be used to measure the quality of the products. The business will strive to ensure that the products' data are symmetric in that same number of observations should be above and below the mean. In connection to the measurement of

the quality of the products using mean, standard deviation and distribution of data, it will be vital to conduct these statistical analyses often. This is because products are produced in relation to customers' specifications; thus the analyses will be carried out every time a new product is produced.

Capacity Planning and Facility Location

Imbalances arising from capacity and facility planning can be devastating to a business, especially a new one (Beach, Mulhemann, Price, Paterson & Sharp, 2000). Acquiring capacity in excess can lead to low returns, expensive facility loss, as well as, loss of customer loyalty. Therefore, it is crucial for a business to implement strategic tool designs to evaluate the capacity required for the business. Similarly, it is crucial to ensure that the location of the business is favorable to both customers and business. For instance, the business should be located at a geographically suitable place in which the market and products can be easily accessed.

It will be crucial for the craft business to have a given concept to follow in capacity planning, location analysis, as well as, concepts used in location analysis. According to Beach et al. (2000), capacity planning refers to the process of instituting an output rate to be needed in a facility. Strategic issue will include the appropriate time and amount of capital used to acquire new and additional facility and equipment. Tactical issues will depend on the workforce inventory, as well as, the frequency of the equipment use. In regard to the business, the acquisition of equipment such as electronic sewing machines will depend on a range of different factors such as; the

capital available, the employees' ability to use the equipment, the frequency of the machine use and the output rate of the machine.

Considering that there is no fixed way of measuring capacity and the business has a range of products in one industry (fashion), it will be vital to adopt an aggregate unit of capacity. This will ensure that a common unit of output is established based on sales per week or per month. Calculating capacity utilization will be crucial for the business. This will measure the rate of available capacity being used effectively. The rate will be measured in relation to the actual size of output divided by the capacity available (Yang, 2012). For example, the business will have to measure capacity utilization by dividing the actual production of craft designs by the actual capacity and equipment available in the business.

Considering that large amounts of money will be invested in business, it will be vital to implement capacity planning concepts that are favorable to the business. Long range strategies will be incorporated in the business' facility plans. They will be based on the ideas of how the business can compete in the marketplace. Efficiency operation of the available equipment will significantly depend on the capacity of facilities available for business. Therefore, determining how much long-range production capacity the business needs will be on top of the capacity planning list. Similarly, determining when and whether additional facility is needed to boost the business will also be a vital consideration (Longman & Mullins, 2004).

The location of the business facility will be based on the desire to operate nationally. The factors to be considered will include the concentration of targeted customers. For instance, the business will target movie producers thus the business will be located in an area with high production houses, as well as, fashion houses. The availability of construction site and costs will also be vital just as the availability of transportation. Proximity to labor and community considerations such as taxes will be considered.

Chase Aggregate Plan

The craft business being formed will be trading in an extremely competitive fashion industry. Considering that the business is new, there is the likelihood that demand for the products will be on a constant fluctuation. Additionally, fluctuations would be caused by the fact that crafts are categorized as luxurious commodities; hence customers would probably not buy them in times of economic difficulties. It is, therefore, imperative for the business to come up with a strategic plan that will ensure that it remains competitive at all times whether in high or low seasons.

Beach et al. (2000) point out that aggregate planning is adopted to ensure the challenges of forecasting the future demand of products are eradicated through the adjustment of production capacity. The business will adopt chase aggregate plan. The chase strategy advocates for production that equals the future demand. On the other hand, level strategy advocates for a constant flow of output rate despite the forecasted demand. The rationale behind the adoption of chase aggregate plan will be based on the fact that the craft business is seasonal; thus the output rate will depend on the

available demand. Similarly, chase aggregate plan will be crucial because most of the products manufactured will be based on customers' order and specifications.

Work System Design, Project Life Cycle and Management

The work system design of this business is founded on the elements of processes, data, tools and organization. These system designs will be crucial in ensuring that the business is managed efficiently and effectively. Failure to apply these elements would ensure that the business do not operate properly (Longman & Mullins, 2004). Data refers to the information and knowledge that will be placed in the business plan. Tools refer to the equipment, facility and the efforts that will enable the business to operate effectively. Organization refers to the manpower (people) involved in the business to ensure that it runs efficiently. They include the employees and managers of the business.

The project life cycle began at the conceptualization stage, whereby an initial plan is invented to creating the prevailing business plan. The plan is rendered and conceived, as well as, the fabrication of the project by preparing detailed plans, such as the budget, estimated costs, and risks of the business and the area of operation. The planning stage is then followed by the operation strategy, which analyzes how the business will operate. The statistical analysis follows before the project is implemented. The key elements of the project management include; defining the scope of the business, budgeting, analyzing the business value and benefits, as well as, timelines of the implementation.

Key Concepts of Inventory Planning

Keeping track of inventory is a crucial step in any business (Yang, 2012). The inventory in the business will range from the raw products that will be used in making the costumes, finished products, and spare parts for the machines. The inventories will be divided in the above three categories. Inventory planning will involve analyzing market demands, thus knowing when to order for new raw materials and the quantity that should be ordered. The business will adopt a continuous order model, which works on a fixed order quantity basis. The fixed order quantity is based on a predetermined safety level, which triggers reordering.

Conclusion

Statistical analyses of quality characteristics of the business play a critical role in ensuring that the products are of high quality and can compete in the market. Descriptive statistics involving central tendency of mean, standard deviation and distribution of data will be adopted for this purpose. Implementing capacity planning and facility location concepts that are favorable to the business is also an integral part in quality control. Capacity planning will be based on the output rate targeted by the business in relation to the available facilities. Facility location will depend on factors such as market and supply availability. The implementation of a chase aggregate plan will also be vital in ensuring that productions are carried out in relation to forecasted demand. Lastly, adopting a favorable work system design, as well as, inventory planning is crucial in ensuring that the craft business is effectively and efficiently run.

References

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