Outline the importance of production functions in management decision-making

Business, Management

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Introduction:

This paper seeks to outline the importance of production functions in management decision-making. This paper posits that production functions play very important roles in business decision making.

First let us define what is production function is. In the field of microeconomics, Wikipedia (2006) said that a production function asserts that the maximum output of a technologically-determined production process is a mathematical function of input factors of production. It further said that considering the set of all technically feasible combinations of output and inputs, only the combinations encompassing a maximum output for a specified set of inputs would constitute the production function (Paraphrasing made).

In this sense, production function is a state or condition when product produced is maximized given the amount inputs made. This definition seems to be consistent with Wikepedia (2006) further definition as follows: " A production function can be defined as the specification of the minimum input requirements needed to produce designated quantities of output, given availabletechnology. It is usually presumed that unique production functions can be constructed for every production technology."

We also define management decision making which simply means that people in charge of the management of the firm must attain theirgoalsof delivering the needs and want of it customers not only in the short-run also in the long-run.

Using the definition of the production function as the maximum out or the minimum input requirement would be consistent with the goals and objectives of management. Having attained this state would make the interest of consuming, managers and the owners of business come into an agreement. This would attaining economic agenda which Wikipedia (2006) seemed to sustained when it explained that by assuming that the maximum output technologically possible from a given set of inputs is achieved, economists using a production function in analysis are abstracting away from the engineering and managerial problems inherently associated with a particular production process. Hence, it argued that engineering and managerial problems of technical efficiency are assumed to be solved, so that analysis can focus on the problems of allocative efficiency.

On this basis, it posited that the firm is assumed to be making allocative choices concerning how much of each input factor to use, given the price levels (Helfert, 1994) of the factor and the technological determinants represented by the production function. Thus, a decision frame, in which one or more inputs are held constant, may be used. To illustrate, it may be assumed that capital is fixed or constant in the short run, and only labour variable, while in the long run, both capital and labour factors are variable, but the production function itself remains fixed, while in the very long run, the firm may face even a choice of technologies, represented by various, possible production functions (Wikipedia, 2006) (Paraphrasing made).

To relate production function with decision-making, Wikipedia (2006) said the primary purpose of the production function is to address allocative efficiency in the use of factor inputs in production and the resulting distribution of income to those factors and that under certain assumptions, the production function can be used to derive a marginal product (Samuelson and Nordhaus, 1992) for each factor, which implies an ideal division of the income generated from output into an income due to each input factor of production. On other hand, Management decisions making involves attaining the objective to the firm. Managers are not evaluated now on how long they work but on how they attain the objectives of the firms and as to what is the objective of the firm is to produce goods and services at the least cost and deliverer the same to its customers at the maximum revenue and thereby sustain its profitability (Brigham and Houston, 2000) over the short run and the long-run. (Carroll, 1983)

The relationships of production function with decision making may be best appreciated by knowing the importance of operation (production) function to decision making.

Companies go into business to earn profit. They must however come face the competition as a big reality. Dilworth, James (1993) confirmed this when it said, " Companies compete in many ways to gain and retain customers' business. Generally customers want to do business where they expect to obtain the greatest level of satisfaction of their desires per dollar they are willing to spend. In other words, they expect to obtain greatest value." It is in this context that production function assumes its indispensable role. The greatest level of satisfaction to customers means lowest cost best quality hence producers must in parallel do compete with same. Hence, Dilworth continued, “ Operations (or production) transforms inputs that have more usefulness or value for customers.

Operations, therefore, plays major role in helping companies compete successfully. In other words for customers to perceive that a company offer them value or more utility per dollar, the company must work to improve what might b referred to as its “ value ratio.” Its value ratio is the desirability of good or services to the customer divided by the cost of goods or service. The company can improve this ratio by increasing the numerator and/or decreasing the denominator. To have a favourable value ratio, a company must meet or exceed the customers’ expectation in several measures we shall discuss below. They can be improved by improving the company’s performance in regard to these measures.” (Words in italic inserted).

Let is discuss in detail what are expected of the company which produce goods to customers? First, Dilworth said that the company must be flexible, innovative, and responsive. He explained that customers want products (goods and services) that incorporate the best picture available for the amount they are willing to spend and companies must be alert for such opportunities as new product developments, new customer desires, and trends in demand; as well as new ways to use technology to improve products, reduce costs, improve safety and make better jobs. The need for company flexibility is to enable it to quickly respond to the need of the customer and changes in the market (Dilworth, 1993) (Paraphrasing made).

Second, it is expected that the company must provide quality goods and services and work to improve them. Dilworth explained that customers want goods and services that are user friendly and meet the needs for which they are intended, hence, goods must be reliable and perform for reasonable lifetimes. He added that the work of providing goods or services must be performed consistently and with great skill.

Third, Dilworth (1993) suggested that the company must be cost efficient and keep its resources productive and that in order to be competitive, a company must keep its prices low enough so the customers get a high ratio of need satisfaction per dollar spent. He further inferred that low costs allow the company to offer low prices and still achieve sufficient profit to remain financially viable (Dilworth, 1993) (Paraphrasing made).

Fourth, Dilworth (1993) noted that the company must make its goods and service available conveniently and dependably. He explained that customers want to do business with companies that make it convenient and hassle-free to do business with them and that standard goods must be readily available at locations that are convenient for the customer. Hence, he added that services and custom goods must be offered within acceptable and competitive lead times, and the company must demonstrate trustworthiness in meeting the customer’s expectation for quality and delivery. He also observed that much of the quality and value of the company’s goods and services are determined after the customers’ decision to purchase them and that a customer wants to deal with the company it can trust to provide service before, during and after the sale. This may be reason why some companies offer extensive warranties andmoney-back guarantees to help support customers confidence. Dilworth (1993) was also aware of the fact that some companies find it advantageous to offer training, repair parts and services, toll-free telephone lines to rapidly respond to customer inquiries, and other services to add additional value for customers. (Dilworth, 1993) (Paraphrasing made)

Companies who have their managers who make decision compete among themselves as customer will evaluate said companies in regard to the performance quality as stated earlier. Companies use the production function to attain high performance in all of these qualities. If such will be done the company's goods and services would be perceived by buyers as something of value and as defined earlier they will consider the value ratio. It is in this sense that operations or production function causes the production of the goods or services. Who cannot notice the major impact on the level of quality as can be seed perhaps in change in value of the numerator of the value ratio as defined by the customer? Can we not say them that production function often has a great effect on the costs, since in many companies it uses the greater portion of the companies' resources? On the other hand, can it not affect also the denominator of the value ratio? Yes, there must be no reason to deny effect of production function to the availability of goods and services and the dependability company to make the changes in the types and amount of products it provides and to respond quickly to customers' demand.

Companies need to survive hence they must be competitive and they must achieve at least an acceptable level of performance in all of the qualitative criteria as mentioned earlier. A company may however, choose emphasize performance in one, or more of some areas above the rests in order to serve or focus to a particular customer group and stand out from its competitors (Churchill, Jr and Peter, 1995) This will be matter of strategy (Porter, 1980) which is one the undeniable management function. It must be noted that there are two measures that summarise the concept of a value ratio and receive most of the attention in the public news and media. Dilworth (1993 refer to the as the levels of quality and productivity which are often publicized and are important because they tell great deal about the performance of the individual company in providing value. He said that the quality describes a great deal about the numerator of the value ratio, and productivity helps describe the denominator. Putting in to a national level, Dilworth () explained that these measures also tell great deal about the competitiveness of a country's productive system.

It must be argued that if the United Kingdom or any country in the world wants to remain competitive in a world trade, it must have high quality goods and service, where is attain high productively of its resources. Managers of corporations and business entities face a challenge to improve quality while they also work to improve productivity. Dilworth (1993) observed that labour productivity reflects only part of the productivity picture, particularly as automation is becoming more common and provides more opportunities to substitute capital to labour. He further said that managers must wisely manage the use of material, capital and energy, and all resources. He also quoted Peter Drucker to have said that “ making resources productive is the specific task of management” (Peter Drucker, 1980). Dilworth also emphasized that productivity is broader than just achieving the greatest output per worker but rather would mean balancing all factors of production so that the greatest output is achieving fro a given total input of resources.

Conclusion:

The importance of production functions in management decision-making cannot be overemphasized. Without production function there are no competitive goods or services to deliver to customers (Kotler, 1994) and essentially, there is no business at all. Production functions in economics presuppose the maximum amount output at the least amount of cost. It is situation that is desired that must be deliberate means. Management people make decisions and they them deliberately an as necessary function of management production function will always co-exist with management decision making. People go into business for profit via decisions made as to goods and services being brought to customers. The production and delivery of the same goods and service could not just be done in any way; there is a correct way of an optimum way where relevant factors of production are carefully and wisely considered.

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