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Assignment Brief:	**COURSE WORK**

Module Three Assignments

1. What is Value chain analysis and what its main elements?

Grant, R.M. (2010). Defines value chain analysis as a process in which as firm identifies its primary and support activities that add value to its final product and then analyse these activities to reduce costs or increase differentiation.

Value chain represents the internal activities a firm engages in when transforming inputs into outputs. However, there are two main elements of value chain analysis (VCA)

a. Cost advantage. This approach is used when organizations try to compete on costs and want to understand the sources of their cost advantage or disadvantage and what factors drive those costs. Examples: Amazon.com, Wal-Mart, McDonald's, Ford, Toyota. However, to gain such advantage, a firm has to go through five analysis steps.

- ❖ Identifying the firm's primary and support activities that are undertaken to produce goods or services to be clearly identified and separated from each other such as receiving, storing, marketing and sales.
- ❖ Establishing the relative importance of each activity in the total product cost. Breaking down total costs and assigning per activity based costing is a strategic way for knowing the value chain of a product.
- ❖ Identifying activity cost drivers. Only by understanding what factors drive the costs, managers can focus on improving them. Costs for labour-intensive activities will be driven by work hours, work speed, wage rate, etc. in which different activities will have different cost drivers.
- ❖ Identifying activity links. Reduction of costs in one activity may lead to further cost reductions in subsequent activities. For example, fewer components in the product design may lead to less faulty parts and lower service costs.
- ❖ Identifying opportunities for reducing costs. When the firm knows its inefficient activities and cost drivers, it can plan on how to improve them.

b. Differentiation advantage. The firms that strive to create superior products or services use differentiation advantage approach. (good examples: Apple, Google, Samsung Electronics. However, Value Chain Analysis is done differently when a firm competes on differentiation rather than costs. This is because the source of differentiation advantage comes from creating superior products, adding more features and satisfying varying customer needs, which results in higher cost structure and can be achieved through the following.

- ❖ Identifying the customers' value-creating activities. After identifying all value chain activities, managers have to focus on those activities that contribute the most to creating customer value.
- ❖ Evaluate the differentiation strategies for improving customer value. Managers can use the following strategies to increase product differentiation and customer value:

  - Add more product features;
  - Focus on customer service and responsiveness;
  - Increase customization;
  - Offer complementary products.

- ❖ Identifying the best sustainable differentiation. Usually, superior differentiation and customer value will be the result of many interrelated activities and strategies used. The best combination of them should be used to pursue sustainable differentiation advantage.

2. What are the seven variables which production personnel ‘s should zero in?

A production variable represents the amount of productive output at a facility covered by the safeguard mechanism. It’s the quantity of an output or inputs and it can also be an intermediate product or an input. Neil Kokemuller (2018).

However, the following are the variables which production personnel should zero in

- Raw materials. The density of raw materials comes in three types
  - Powdered. This has all the types of the tree and are not consistent in their density hence it requires rollers compaction.
  - Extract. These are pure and their density is very consistent hence no roller compaction is required.
  - Root, bark, leaf branch. This is in a very raw form; it requires milling the roller compaction (double handling). If the granularity is not consistent, the process of tableting will be a challenge and will produce a product that will not conforms to quality standards.
- Tooling. Worn out or out of specific set. Manufacturer set the min/max parameters for each type which it should be in excellent condition and results documented in data base which includes the following
  - Cleaning which is essential for the removal of residue to avoid product contamination.
  - Access after cleaning, punches and dies should be visually using polishing work required if any inspection and assessments can be done using eye glasses which is recommended for high magnification cameras.
  - Repair which will allows the user to rectify any damage to the tooling before polishing.
  - Measurement is essential after polishing and repair to ensure that critical tooling dimension have stayed with tolerance.
  - Automated polishing ensures punches are evenly polished to a consistent finish which will result into a maximum productivity as risks are reduced.
  - Lubricate. When storing tolling, it’s important to protect with preservative or rust inhibitor to prevent corrosion.
  - Store. There are many ways of storing punches and dies from a specifically designed plastic storage boxes.

- Environmental variables. Moisture content which can happen when raws are delivered from nature or from the wet granulation during mixing. It needs to be known before processing in manufacturing.
- Training variables. This is important variable that can make the process of tablet manufacturing more difficult to achieve right the first time which requires complicated mathematical solution.
- Manufacturing materials. Direct manufacturing materials is a pure example of variable cost in manufacturing which the production personnel should zero on for a successful operation.
- Variable labor. A variety of labor costs often are treated as variable costs as well. However, direct labor refers to the amount you pay for employees that coincides with production. Therefor the production personnel should zero on for effective and smooth running of a company.
- Transaction fees. Some variable costs are incurred even when not included in creating goods. For example, you may need fuel or oil for machinery which are used based on the level of production

3. What is Just in Time management system? Is JIT utopia? Can it be made to work? What is its philosophic approach in terms of Batch size?

Just in time (JIT) is an inventory management method whereby materials, goods, and labor are scheduled to arrive or be replenished exactly when needed in the production process. JIT also speeds the production process, thereby eliminating long lead times and improving delivery performance.

However, according to Monden Y. (1993) JIT is defined as "producing the necessary items, in the necessary quantity at the necessary time." Here I would add the necessary quality to have a complete definition. The primary objective of JIT is to eliminate waste which Toyota President, Shoichiro Toyoda has referred to as "anything other than the minimum amount of equipment, materials, parts, space, and worker's time, which are absolutely essential to add value to the product." In effect JIT attempts to minimize ordering costs and inventory holding costs and at the same time produce high quality and variety of products to meet consumer taste and demand with minimum delay possible.

A challenging economy like South Sudan often forces small business owners to look for new and innovative ways to conduct business. Those unwilling to think outside the box may wake up to find themselves at a serious competitive disadvantage.

Inventory management is a good example. Not too long ago, business owners and managers took pride in warehouses and stockrooms full of products and raw materials ready to ship or move into production at a moment's notice.

Unfortunately, many owners don't realize the true cost of carrying inventory that must be measured against the benefits of potentially faster product delivery or greater availability.

However, one of the best ways to improve profitability is to use a process known as just-in-time inventory management. As the name implies, with JIT, inventory is ordered and received just as it is needed, rather than days (or weeks) in advance.

The idea is to manage inventory so that you have just the right material, at just the right time, in just the right location, and in just the amount needed to reduce costs.

The philosophy behind JIT is simple: Excess inventory is wasteful and should be minimized or eliminated if possible. Therefore, JIT systems aim to increase profitability and return on investment by reducing ordering and inventory holding costs. In a best case scenario, finished goods and services are produced only when needed at the point of sale and never even put into what would traditionally be called inventory.

Just in Time (JIT) is a Japanese invented competition survival production philosophy aimed at reducing total production cost by minimizing waste and at the same time continuously improving total product quality

4. How can computers aid in development, analysis and Forecasting?

A computer is a machine or device that performs processes, calculations and operations based on instructions provided by a software or hardware program. It is designed to execute applications and provides a variety of solutions by combining integrated hardware and software components. However, the following are the ways in which computers aid in development, analysis and forecasting.

- Computers streamline operations. In today's highly competitive business world, firms strive to increase productivity and reduce costs. Therefore, a growing number of companies are instituting austerity programs to cut layers of corporate management, especially on the international side.
- Computers help Companies Manage Globalized Businesses. As part of their drive to be competitive many companies now turn each of their component businesses as world-wide organizations, and plan their manufacturing and sourcing strategies on a global basis. To manage their far-flung operations effectively, firms increasingly turn to computers.
- The capital budgeting process encompasses a variety of planning activities with a time horizon of more than one year, which is an increasingly difficult and critical exercise in today's environment. Extremely volatile currency and interest rates, political upheavals, and the sudden imposition of exchange controls all pose threats to what once were secure overseas investments.
- Flow of information. The use of computers leads to efficient flow of information within and outside the organization through forecasting and analysis. In other ways the application of software will enable the management to go live hence easy access.
- Easy preparation of invoices. Through the use of computers, companies have systems which will have updated information for customers who have due invoices which will be generated automatic and delivered in time.

- Computer Systems for Handling Multiple Quantitative Forecasting Methods. A single forecasting method may not be suitable for all purposes and appropriate for all situations. Hence it is better to have separate computer programme for different methods, similar to

Holt's method. In addition, there must be an overall control programme with a "menu" of alternative methods, to cheek the results of various methods and take corrective actions.

- Various such computer-based forecasting systems have been developed of which an organization is to determine the most useful and will widely be used.
- Quick decision making. The use of computer in aids development through analyzing and forecasting the variables and factors for both growth and demise. Hence after analysis, it will result into quick decision by the management.
- Fast and quick identification of customer's needs. The use of computer in the forecasting is vital in the sense that an organization or company will easily identify their needs in which such information will be directed to the production/manufacturing department for action.

Conclusion:

In today's world, we all recognize the transformation that computers have wrought in the workplace and in our lives. In just the few years since the personal computer brought new power to our desktops and workbenches, the changes have been stunning.

5. Describe the role of supporting computerized system in book keeping, processing and delivering of orders from customers?

Small and medium sized businesses can now buy 'off the shelf' accounting programs at remarkably low cost. Larger businesses will often have customized programs made for their business. The accounting programs carry out functions such as invoicing, dealing with payments, paying wages and providing regular accounting reports such as trading and profit and loss accounts and balance sheets.

The introduction of computerized accounting systems provides major advantages such as

- speed and accuracy of operation, and, perhaps most importantly, the ability to see the real-time state of the company's financial position. In my experience I have never seen a business that has upgraded to a computerized accounting system return to paper based accounting systems. A typical computerized accounting package will offer a number of different facilities. These include:
    - On-screen input and printout of sales invoices
    - Automatic updating of customer accounts in the sales ledger
    - Recording of suppliers' invoices
    - Automatic updating of suppliers' accounts in the purchases ledger Recording of bank receipts
    - Making payments to suppliers and for expenses
    - Automatic updating of the general ledger
    - Automatic adjustment of stock records
    - Integration of a business database with the accounting program
    - Automatic calculation of payroll and associated entries
- Computerized accounting programs can provide instant reports for management, for example:
    - Aged debtors' summary – a summary of customer accounts showing overdue amounts
    - Trial balance, trading and profit and loss account and balance sheet
    - Stock valuation
    - Sales analysis

    - Budget analysis and variance analysis
    - VAT (value added tax) return
- Payroll analysis. When using a computerized accounting system, the on computer, input screens have been designed for ease of use. The main advantage is that each transaction needs only to be inputted once, unlike a manual double entry system where two or three entries are required. The computerized ledger system is fully integrated. This means that when a business transaction is inputed on the computer it is recorded in a number of different accounting records at the same time.

However, the main advantages of a computerized accounting system are listed below:

- Speed data entry onto the computer with its formatted screens and built-in databases of customers and supplier details and stock records can be carried out far more quickly than any manual processing.
- Automatic document production. Fast and accurate invoices, credit notes, purchase orders, printing statements and payroll documents are all done automatically.
- Accuracy. There is less room for errors as only one accounting entry is needed for each transaction rather than two (or three) for a manual system.
- Up-to-date information. The accounting records are automatically updated and so account balances (e.g. customer accounts) will always be up-to-date.
- Availability of information. The data is instantly available and can be made available to different users in different locations at the same time.
- Management information. Reports can be produced which will help management monitor and control the business, for example the aged debtor's analysis will show which customer accounts are overdue, trial balance, trading and profit and loss account and balance sheet.
- Legibility. The onscreen and printed data should always be legible and so will avoid errors caused by poor figures.
- Efficiency. Better use is made of resources and time; cash flow should improve through better debt collection and inventory control.
- Staff motivation. The system will require staff to be trained to use new skills, which can make them feel more motivated

- Cost savings. Computerized accounting programs reduce staff time doing accounts and reduce audit expenses as records are neat, up-to-date and accurate.
- Reduce frustration. Management can be on top of their accounts and thus reduce stress levels associated with what is not known.
- The ability to deal in multiple currencies easily. Many computerized accounting packages now allow a business to trade in multiple currencies with ease. Problems associated with exchange rate changes are minimized.

In summary if you have not computerized your accounting you should seriously consider doing so to enable an institution progress rapidly in both financial, marketing and management aspects.

6. What is flexible manufacturing system? Can use of computers facilitate it and why?

Jerome H. Lemelson (1923-97), defines flexible manufacturing as a method of producing goods that is readily adaptable to changes in the product being manufacture, both in the type and quantity. Machines and computerized systems are configured to manufacture different parts and handle varying levels of production.

It's vital for a use of computer because of the following: -

- Error reduction. Some manufacturing systems requires higher degree of data accuracy to run properly. Therefore, with the use of a systems, materials bills, inventory and operational information can be achieved in a high level of accuracy though there are minimal human's interventions to monitor the systems and report automatically on the results.
- Speed. With the use of computers, assignments and reporting are performed automatically and immediately without any delay with people based transactions which will depends on the environment which allows additional speed in operations.
- Flexibility. Once using systems in manufacturing and assigned, changes to various operations can also be performed easily which eliminates barriers to changing operations and enables easy accessibility of market conditions.
- Integration. Integrating factory floor operations with enterprise software enables employees to do higher value function for their companies. Therefore, it's important to use system to facilitate integration.
- Reduced manufacturing costs. The use of computers and systems in an organization will result into reduced costs of manufacturing.
- The use of systems will result into increased labor productivity as a result of efficiency and timing factor which later resulted into boosting production.
- With the use of systems, it will result into reliability since there will be much trust developed since there is machine efficiency in operation.

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