**ASSIGNMENT 1**

1. BRIEF SUMMARY

Information Revolution is inevitable for companies and most managers are aware of that. However, they do not know that how this information creates a value by using Information Technology (IT). The value includes lowering cost and making differentiation related to products. This article guides the managers in a way that how IT should be used for value creation. Moreover, the revolution leads to change the scope of competitive advantage in three ways that are Strategic Significance, Changing the Nature of Competition and Competing in the Age of Information.

**Strategic Significance:**

IT alters operations that enable companies to make product by using two important concepts. These are value chain and system. The value chain includes activities be divided strictly that contributes to make product. The value chain supports companies to make lower cost and differentiation of their products. Another important term is value system. Basically, value system is wider concept of value chain in a way that value system comprises supplier and buyer as well. The common points of these concepts are coordination of operations and its trade-offs. Depending on companies’ goals and nature of industry, trade-offs and competitive scope can be different. IT improves performance of value chain since costs of IT operations such as processing and storage is less than before, and IT creates more coordinated linkages between activities. It generates more gainful actions by balancing physical and information-processing constituents. Customers are willing to get more information about products. Thanks to IT, more information can be generated in order to increase customer satisfaction. Furthermore, IT changes balance of physical and information-processing. Information-processing activities get more popular and useful for companies and degree of information-processing dependency is related with type of industry that company belongs.

**Changing the Nature of Competition:**

The five competitive forces that are power of buyers, power of suppliers, threat of new entrants, threat of substitute products and rivalry among existing competitors determine industry performance. IT affects the five forces, so IT is important to take competitive advantage among companies. Also, IT reshaping relationships of company and customer as a part of bargaining and it affects whole channel between supplier, company and buyer. In addition to change in industry structure, IT can create competitive advantage in accordance with core factors that are cost and differentiation. The lower cost and differentiation of products creates advantage depending on type of industry. Moreover, IT can generate new businesses by using advancement of technology, derived demand and building new businesses with the help of old business.

**Competing in the Age of Information:**

The following five steps have been suggested to managers. The first one is assessing information intensity. Company should determine information intensity regarding value chain and product. The second concern is about industry structure. The five competitive forces should be evaluated as a part of companies’ industry structure. The third one is about determination of the most value-added operations in value chain. The managers can make distinction between operations regarding their contributions to company. Also, the managers take consideration into competitive scope. The fourth concern about competing is consideration of new businesses. The manager should think of entrance in new businesses. The last one is a plan including investment decisions and new operations.

To conclude, as we have said in the beginning of the summary, Information Revolution is inevitable but impact on the business does not clear at all. If the company is out of IT, the company must adopt new IT environment. However, it loses competitive advantage and it has to follow other companies that adopts IT earlier.

1. There are six Strategic Business Objectives of IS that are operational excellence, new products, services and business model, customer and supplier intimacy, improved decision making, competitive advantage and survival.

Operational excellence:

Information Technology can provide excellence operation. Department of Defense studies is example from the article.

New products, services and business model:

Information Revolution creates new services regarding advancement in technology. In the article,

McKenson’s drugstore with terminals can be example of new services to customer. Sulzer Brothers’s new diesel engines is example of new product and Sears is example of producing new business model.

Customer and Supplier intimacy:

Linkage between the company and supplier can be improved by Information Technology. This leads to increase coordination between them. In this article, Xerox, Westinghouse Electric Supply Company and American Hospital Supply that interact buyer and supplier are examples from the article.

Improved decision making:

IS enhances performance of buyer in industry that be able to produce purchased goods. Automated bills for materials and vendor quotation files are examples of improved decision making in a way that the buyer can make better decision regarding make-or-buy decision.

Competitive advantage:

Canon creates competitive advantage by building low-cost copier assembly process. Sulzer Brothers’s new engine can be example of differentiation that leads to competitive advantage.

1. I am working on a company in Defense Industry. My company produces critical and highly technological products. Also, it grows rapidly regarding number of workers and projects. To overcome challenges related with increase in number of projects and coordination of different department and their workers, my company has wide range of applications and tools to enhance the linkages between processes in value chain. The processes have developed by using systems of Information Technology. Due to that factor, Information intensity of the value chain is high in my company. Also, the highly technological products comprise many information itself in such a way that they can communicate with each other and they include the related information about itself and can be understood by the users. Therefore, the company has information content of the product. Thus, the company is located in the upper right-hand corner of the information intensity matrix regarding information intensity of the value chain and information content of the product.
2. IS alters the operations the company has regarding strategic significance. This implies IS provides better value chain activities by considering lower cost and more effectiveness thanks to advancement in technology and creating huge amount of data. IS makes the coordination of activities easier. Also, they are still valid in today’s business environment regarding use of huge data. Thanks to big data, making better decision is possible if the manager have used these data wisely since the more knowledge means the more power including competition, bargaining etc. In accordance with time spirit, there has been a change in the strategic value of IS since then. In 1980s, Information Technology is in its infancy because the companies are at the beginning of the adaptation periods regarding improvements in Information Technology. However, the today’s companies have remarkable experiences and knowledge about processes, product development, value chain optimization and so on. Moreover, today’s companies have more information intensity products rather than physical ones since many qualified people select the job such as Data Science including information intensity and analytics using huge amount of data and techniques. Therefore, intensity of manufacturer producing physical goods is decreasing rapidly compared to information-intensity in the company. Nowadays, Pace of change grows rapidly and its direction towards information based.
3. **a)** To describe my company, same information about my company in Question 3 is given as follows:

I am working on a company in Defense Industry. My company produces critical and highly technological products. Also, it grows rapidly regarding number of workers and projects. To overcome difficulties related with increase in number of projects and coordination of different department and their workers, my company has wide range of applications and tools to enhance the linkages between processes in value chain. The processes have developed by using systems of Information Technology.

Type of my company is between machine bureaucracy and professional bureaucracy regarding organizational structure since my company is dominated by a centralized management and centralized decision making referring to machine bureaucracy. However, it is knowledge-based organization depending on expertise and knowledge of professionals referring to professional bureaucracy.

My company culture comprises type of products manufacturing, how and where it should be produced and for whom the products should be produced. Type of the product is highly technological and critical. The products are produced in fabric by job shop scheduling. Moreover, they are manufactured for Turkish Army Forces.

Newly graduated students can be considered as constituency of my company since my company can recruit them as newly professionals. Also, investor of my company is example of constituency because my company have influenced them economically.

When we consider politics, resistance is important term to deal with. According to professional point of view in my company, resistance does not exist at all since they are modern and adaptive to today’s business environment in such a way that they can deal with changes in order to develop job processes. Mostly, common viewpoints can be exist in accordance with decision making thanks to company structure.

**b)** Differentiation is the main business strategy of my organization regarding competitive strategy. The most important department of my organization is R&D. It implies that newly functional products often are needed by the customers and they do not concern about price of the products since the products are used for critical purposes. In addition to main strategy, highly detailed documentation and instructions about roles, processes can be considered as supportive strategy to achieve desired goals. It encourages the professionals to adopt documents and perform synergistically because they obey the same instructions in documents.

**c)** There are mainly two types of information systems that are stand-alone systems and enterprise applications. Firstly, we can continue with stand-alone systems. Basically, subcomponents of stand-alone systems are Transaction Processing Systems, Business Intelligence systems such as Management Information Systems, Decision Support Systems and Executive Support Systems. In my company, Transaction Processing Systems exist such that my company can keep track of records of routine transactions thanks to Transaction Processing Systems. It serves operational level of management. Management Information Systems (MIS) does exist in my company in a way that company’s performance can be reported by using MIS and it serves middle management. Non-daily activities can be provided by Decision Support Systems (DSS) regarding decision making of issue and it serves middle management. The last one of stand-alone systems is Executive Support Systems. It exists in my company such that it can address critical aspects like financial status of firm to senior managers. That means it supports senior management. In addition to stand-alone systems, the company has Enterprise applications. Firstly, we can start with Enterprise Systems in my company. Every record related to activities of production, sales, finance and quality are stored in data repositories in order to use analytic works. Supply Chain Management (SCM) exists in my company such that orders and services can be shared with suppliers to improve performance of the company and suppliers. I am not sure certainly about my company’s Customer Relationship Management Systems, so I cannot give information about that. The last one of enterprise application is Knowledge Management Systems (KMS). Since my company core activities are related to R&D, all works about R&D has stored by using the detailed documentation and using web-based applications that allows the stakeholders to integrations at works. KMS can capture knowledge and experience within company and includes Intranet in the company.

**d) i.** My company does not fully utilizes the capabilities of its information systems since different kinds of information systems exist in my company, but the professionals in my company does not entirely give information about what they have and how we can use them. Most workers do not aware of types of information systems, so they do not use them to improve their daily or critical activities affecting effectiveness and efficiencies of their works. Thus, we can say that knowledge sharing is a bit weak within company regarding information systems. I think that it happens due to lack of teamwork and collaborative work environment related to managerial assets.

**ii.** The information systems support business strategy of my company such that as we said earlier, main business strategy of my company is differentiation. For instance, Knowledge Management Systems (KMS) enable the professionals in R&D department to apply knowledge and expertise so as to design product and create value on activities. Other types of information systems such as Transaction Processing Systems make the daily activities easier that increases R&D works’ efficiency.