

# Cost - Driving Strategy Under the Use of E-Business to Achieve a Competitive Advantage in a Digital Economy Environment

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## Abstract

The study has aimed at identifying the developments the modern business environment, i.e e-business, witnessed; it also identify to which extent accounting information systems contribute to the achievement of competitive advantage of economic advantage through cost leadership strategy, which represents one of strategies of achieving competitive advantage. This strategy is significant and links to accounting work in digital economy environment and shifting toward e-application in business environment.

The study has illustrated a set of fields which can be used in e-business environment in order to reduce the costs of economic units' products in digital economy environment; industrial, marketing, administrative and finance cost may be reduced.

In addition, the study has explained a set of accounting methods contributing to the achievement of cost strategy's goals and competitive advantage of economic unit. The most important methods are as follows: activity-based cost system (ABC), value chain (VC), product life cycle (PLC), just on time product cost system (JIT) and target cost (TC).

Research study has found that working in e-business environment have various advantages which can contribute to the reduction of product costs. It has also concluded that IT environment required by e-business can be used, thereby shifting towards e-accounting. Accordingly, designing a central database containing the data of applying cost management strategies is a necessity; this database also provides positive relationships among all accounting methods, thereby achieving the general goal, i.e the achievement of competitive advantage of economic unit through the reduction of product costs; product prices can be reduced at the markets.

**Keywords:** cost driving strategy, e-business, value chain, target cost, digital economy

## 1. Introduction

Economic units have taken advantage of various continuous and successive developments, which modern business and IT environment and communication techniques witnessed, in order to practice economic activity. The so-called e-commerce environment, e-marketing and e-investment emerged. Thus, digital economy, which depends on internet or digital information including digital customers, companies and products, appeared.

Practicing economic activities in information and communication technology (ICT) environment contributes to the achievement of various benefits; the most important advantage is the reduction of product costs; accordingly, economic units can achieve the competitive advantage through the markets in which they work. Consequently, this study answers the following question:

**How can the economic units benefit from working in e-business environment in order to achieve the competitive advantage through the reduction of product costs in the digital economy?**

This research study is important because it highlights the importance of accounting work in e-business and the role of cost leadership strategy in achieving the competitive advantage of economic units in digital economy environment.

Accordingly, the goals of research study illustrate accounting dimension of achieving the competitive advantage of economic units in e-business environment; they also identify the methods and fields of using e-business environment in order to achieve cost leadership strategy of economic units in digital economy environment.

To achieve the purposes of research study, the main following hypothesis is examined and tested: 'cost leadership strategy can be achieved through the integration among modern administrative accounting methods in the digital economy environment in the light of applying e-businesses'.

In this research study, thesis, scientific periodicals and books related to administrative accounting and e-business have been examined; and the descriptive method has been used in order to achieve the purpose of the study. Research plan includes three subjects:

- The role of accounting in achieving the competitive advantage of economic units through the application of e-business in digital economy environment;
- The fields of using e-business applications in order to achieve cost leadership strategy of economic units in the digital economy environment; and
- The integration among accounting methods which achieves cost leadership strategy in the light of applying e-business in the digital economy environment.

## **2. The Role of Accounting in Achieving the Competitive Advantage of Economic Units through the Application of E-Business in Digital Economy Environment**

The advantages of using information and communication technology have undoubtedly encouraged the economic units to enter the digital environment and practice e-business. Accordingly, the economic units have established websites in order to meet the requirements of working in modern business environment. Thus, the economic units have practiced their various economic activities in the digital economy environment.

Applying e-business have achieve various advantages as the following:

- Access to global markets and dealing with a large number of economic units and customers all over the world and easiness to communicate with each other;
- The production of products and provision of services in accordance with the standards identified by the customers and at low cost;
- The possibility of using new models of commercial business;
- Reducing the time required between the emergence of the idea and its commercial application due to the improvement of communication techniques, coordination and collaborative work; and
- Reducing the costs of communication and developing the use of collaborative work tools such as e-meetings and the possibility of sharing the information from the house.

Using e-business systems such as e-commerce, e-investment and e-marketing in the digital economy environment affects the accounting works because accounting information systems are significant, main and formal elements of economic units. Consequently, data coordination, integration and exchanging between accounting information systems and all data subsystems in the economic units shall be occurred in order to arrive to the information which helps decision makers.

Thus, accounting work in the light of using e-business in the digital economy environment needs to expand the fields of designing accounting information systems; the possibility of communicating with various computer networks including the internet shall be taken into account. Establishing communicable website of economic unit, therefore, becomes a necessity.

In addition, technical means of data storage and input shall be provided in order to facilitate e-exchanging of the data among economic units via internet. As a result, stored data can be updated via economic unit's website.

Moreover, special software of e-accounting which is compatible with various electronic applications shall be used by economic units via internet. E-accounting disclosure shall be used; it includes the design of financial reports and statements which can be published on the internet; such reports and statement must contain the data pertaining to e-businesses.

The accountants shall be trained to work in e-business environment; they shall also know all means and devices used in information technology plus the method of operating accounting information system.

Besides that, control procedures of the data and information pertaining to the works performed by the economic unit shall necessarily be increased, due to the increase of the risks of using e-commerce. The processes of exchanging the data inside and outside the economic unit shall be facilitated by using various types of communication networks such as intranet, extranet and internet in the performance of accounting work. In addition, accounting databases shall be designed in order to create coordination and coherence relations among

various departments and sections, thereby recalling and processing the accounting data easily. Internal electronic control programs, especially data security and confidentiality programs, shall be designed and used.

The competitive advantage is one of the most important strategies which the economic units seek to achieve in order to ensure their survival and growth in the light of the great competition. The economic units, therefore, shall continuously know the methods of using of all fields achieving the competitive advantage; e-business is one of the most significant fields because it is one of the modern development in the digital economy environment. Thus, the accounting role can be effective in achieving the goals of the economic units which apply e-business and the competitive advantage. The accounting information systems also contribute to the reduction of the cost through cost leadership strategy.

### **3. The Fields of Using E-business Applications in Order to Achieve Cost Leadership Strategy of Economic Units in the Digital Economy Environment**

Cost leadership strategy aims at achieving the lowest cost in comparison with competitors. However, the acceptable level of quality shall be maintained. For achieving this purpose, strategic analysis of the costs of the activities of production process shall be conducted in the manner that achieves the competitive advantage of the economic unit in the market. Accordingly, when price demand elasticity is provided in the markets, the costs may be reduced, thereby increasing the sales and achieving the profits. Consequently, controlling the costs is an important dimension which can achieve the competitive advantage of the economic unit. The methods of reducing the costs of the activities of the economic units are not fixed or permanent. The economic units, therefore, shall improve and develop methods, conduct continuously researches on cost reduction and discover more efficient methods of cost reduction (Bates & Lee, 2008, p. 317).

Since modern business environment are continuously changing and developing and working in economy environment increase the competition among the economic units in local and international markets, the economic units shall search for the fields of reducing the costs of their products; this can achieve the competitive advantage of the economic units in the opened commercial markets. The researcher believes that the fields of reducing the costs of the products of the economic units working in e-business environment may reduce the industrial and marketing, administrative and finance costs as the following:

- Reduction of the industrial costs (production costs): they include the costs of direct materials and wages and indirect industrial costs (other service costs). It can be said that working in e-business environment can reduce the industrial costs through the following:
  - The costs of direct material can be reduced by using e-business which can obtain the best prices with less effort; applying e-commerce allows to obtain the largest number of offers submitted by other economic units;
  - The cost of direct wages can be reduced by excluding some operations which do not need workers; its impact is obvious and significant in the case of e-commerce, e-services which do not require workers and the use of automatic manufacturing through the robot (i.e automating all manufacturing processes);
  - Indirect industrial costs: they are the expenses paid for producing various products or the economic units such as the cost of dynamics, depreciation and maintenance of machines, in addition to renting, lighting and insurance of the machines; these costs can be reduced through working in e-commerce environment in which the need to buildings and their relevant costs becomes less.
- Reduction of marketing costs: they are the costs incurred by the economic unit after the completion of production process; they include the costs of marketing studies and researches, advertisement, promotion, distribution and transportation in addition to other costs linked to marketing activity. Some studies have illustrated that e-commerce can contribute to the reduction of marketing costs; (Al-Obaidi et al., 2011, p. 15) the costs can be reduced by the following:
  - Reduction of product advertisement;
  - Reduction of the salaries, wages and bounces of employees working in advertisement department;
  - Reduction of the costs of training programs and courses held by advertisement department;
  - Reduction of the economic unit's stock;
  - Reduction of the costs of salaries and wages of the employees working in the warehouses;
  - Reduction of the costs of travel to the target markets; and

- Reduction of the expenses of insurance of warehouses, office equipment, and the consumption of devices and machines used in the warehouses.

In addition, the economic unit seeks to reduce the salaries, wages and bounces of the employees working in department of marketing research through the use of e-commerce. E-marketing is one of the most important activities of e-commerce performed via internet; it is a new image of marketing concept used in business enterprises. Moreover, marketing position organizes and facilitates product exchange and flow from the producer to the costumer through the use of certain methods and tools, thereby achieving the desired benefits to the parties of marketing process. Internet based marketing is used to practice all marketing activities such as advertisement, selling and distribution in addition to promotion, marketing research plus design of new products, pricing and e-payment.

- Reduction of administrative and financing costs: they are the costs related to the services provided to all departments of the economic unit such as written tools and publications, wages of the employees working in the administrative and financing departments, auditors' fees, banking interest and commissions, depreciation of buildings and furniture. It is noted that the costs of these services can be reduced when applying e-business, especially with regard to the written tools and applications and the wages of the employees working in the administrative departments. Moreover, e-commerce reduces the time duration between the payment and obtaining the products and services, thereby contributing to the reduction of the costs of money investment.

One of the relevant studies has indicated that e-commerce plays an important role in reducing the costs through the improvement of data flow and work coordination. It also contributes to reduction the costs of research on the information related to the potential buyers and sellers in the markets.

However, new costs can arise when working in e-business environment; they include the costs of purchasing computers and software and maintenance and depreciation of devices plus the costs of subscribing to internet. But, working in e-commerce environment contributes to the reduction of the costs of wire and wireless communications; internet is cheaper than value-added networks and the establishment, maintenance and updating of websites.

#### **4. Integration among Accounting Methods Which Achieves Cost Leadership Strategy in the light of Applying E-business in the Digital Economy Environment**

Various accounting method can achieve cost leadership strategy but they require the integration of application in the light of high and multiple techniques which can be provided by the economic units while practicing their activities in e-business environment. The most important accounting methods which can be used for achieving cost leadership strategy in the light of applying e-business in the digital economy environment are outlined as the following:

- **Activity-Based Costing (ABC) System**

It indicates that the cost can be calculated according to a set of the commercial activities of the products, thereby creating an opportunity to reduce the costs; it can exclude the activities which do not add a value.

ABC system identifies clearly and accurately the opportunities to reduce the costs; it outlines the processes and stages the product has to undergo; this may reduce the costs. Reducing the costs of activity or stopping the performance of the excessive activities is the main goal of ABC system, especially in highly competitive units. By applying ABC system, some e-businesses and application can be excluded and replaced. Consequently, the losses can be limited.

- **Cost Reduction by Using Value Chain (VC) System**

It is a method which strategically analyses the activities and evaluates their added value; it also provides the information detecting the deficiencies of the products, redesigning the product or changing the materials used in the product. In addition, it helps the economic units change the methods of production, or correct the activities and processes. Then, reformulating and reshaping value chain can contribute the reduction of the costs (Al-Zaitari, 2010, p. 66); E-Systems provide the information required for reorienting and decision-making.

- **Cost Reduction by Using Product Life Cycle (PLC) System**

It is one of the most important methods of strategical administrative accounting which help the economic units reduce the costs. Japanese Institute of Certified Public Accountants believes that the costs of the product consists of the following: 1. Initial costs (such as the costs of research and development, planning and design), 2. Regular costs (such as industrial costs and sales costs), 3. Final costs (such as the costs of maintenance, repairing and

depreciation of the asset). It also indicates that controlling the costs of early stages of producing the products reduces highly the costs while still maintaining product quality. This systems supports greatly cost leadership strategy. (Ameen, 2012, p. 131).

- **Just In Time (JIT) Production System:**

Using JIT system in e-commerce environment improves the performance of the economic unit, thereby achieving competitive advantage. This system also reduces the costs, improves the productivity and quality. In addition, it decreases the time periods required from the receipt of customer request to the delivery; JIT system can be used for reducing the following costs (Al-Ma'adidi & Al-Hadeedi, 2009):

- The costs of inventory and production;
- The costs of suppliers and processors;
- The costs of activities which do not add a value to the customers ( i.e customer satisfaction); and
- The costs related to the time periods

- **Reduction of the costs by Using Target Cost System:**

It is defined as one of the strategical tools reducing the costs of the product during its life cycle (Brausch, 1994, p. 45). This system aims at reducing the costs of a life cycle of a high quality product; this goal can be achieved by reducing the costs of planning and development stages of the product. (Kato, 1993, p. 33).

Fitzgerald (1997, p. 64) indicates that target cost is one of the best innovation systems of cost management because it reduces the costs and develops the products while still maintaining the high quality of the products; it also achieves continuously customer satisfaction and the highest ratio of sales and profits.

Based on the above mentioned, the fields and advantages of integration among the accounting methods required for reducing the costs in the light of applying e-business in the digital economy environment can be illustrated as follows:

- Using internet makes business organizations able to link the activities altogether; it makes the special data of the activity accessible at all inside and outside positions of the economic units, thereby facilitate data collection and exchange of cost leadership strategy.
- Product lifecycle is a central axe of applying most of cost leadership strategy's methods. Designing a central database containing all data of product lifecycle, therefore, becomes a necessity; the data can be easily exchanged and coordinated according to the need of cost leadership strategy. The digital economy provides widely the data of various activities performed by different sectors, thereby taking the required procedures for controlling the costs.
- Analysing the costs of product lifecycle at the same time of applying target cost system can reduce the costs of product lifecycle; reducing the costs can be achieved by directing the efforts towards the activities of early stages of product lifecycle i.e before the stage of production. In addition, using value chain system reduces the costs during the stages of product lifecycle through excluding the activities which do not add a value, thereby shortening product lifecycle and reducing the costs of the product.
- The integration among the systems of value chain and just in time production may achieve the goals of activity – based costing system; unnecessary activities can be excluded while working in e-commerce environment in order to reduce the costs of research, development, purchasing, selling and stock.

## 5. Results

Accounting information systems are significant and official in the economic unit. They, therefore, affect highly the accounting work; accounting information systems coordinate, integrate and exchange the data with all branch systems in the economic unit in order to obtain the data, helping decision-makers.

- Accounting plays an effective role in achieving the goals of the economic units which work in e-economy environment; e-accounting information systems which may achieve the competitive advantage of the economic unit provide appropriate information;
- Accounting plays an effective role in achieving the goals of the economic units which work in e-economy environment; e-accounting information systems which may achieve the competitive advantage of the economic unit reduce the costs;

- Since modern business environment is continuously changing and developing, and working in e-business environment increase the competition among the economic units in local and international markets, the economic units shall continuously search for the fields of reducing the costs of their products in the manner that achieves the competitive advantage in the opened commercial markets;
- Working through e-business in the digital economy environment contributes to the reduction of the costs of the products. Thus, industrial costs are reduced by using e-techniques and robots in manufacturing the products;
- Working through e-business in the digital economy environment reduces the costs of marketing and contributes to use e-marketing;
- Working through e-business in the digital economy environment reduces the administrative and financing costs by using e-investment; and
- There are many accounting methods which achieve the goals of cost leadership strategy. they aim at reducing the cost of the products and achieve the competitive advantage of the economic units.

## 6. Recommendations

Because of various advantages of working in e-business in the digital economy and IT environment, a central database containing all data shall be designed in order to apply the methods of cost leadership strategy and provide positive relations among these various methods. Consequently, the general goal, competitive advantage of the economic unit, can be achieved by the reduction of the costs of the product, thereby reducing product prices in the market.

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## Website

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