ECONOMICS ASPECTS OF ELECTRONIC BUSINESS

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Abstract. The most important goal for the modern organization becomes an increase in the worth of the business successfully applying competitive means. Thus organizations are forced to seek alternative means of resolving business problems. In nowadays organizations can no longer afford basically to lose their money in e-business initiatives without developing and using suitable means to measure the effectiveness of such investments. This paper reports on the study of electronic business, the adaptation of different instruments which could be one of the possible mean in addressing the problem of increasing effectiveness in an organization. Scientific results show the lack of possibilities to evaluate the business’s effectiveness. The paper aims to find out of the importance of creating integrated performance measurement system for measuring the influence of electronic business decisions on organization’s effectiveness.

Keywords: electronic business, effectiveness, performance measurement, information technology.

1. Introduction

The economic environment in which businesses find themselves nowadays is possibly the most turbulent in history. In fact, it is dominated by three powerful influences: globalization, the information and knowledge revolution, and change of organizations structure (Booz Allen Hamilton 2002). As the world enter the new century, business conducted over the Internet (which we submit as e-business), with its dynamic, sharply increasing, and highly competitive characteristics, promises new opportunity for the creation of wealth.

In scientific literature, e-business is usually studied from the technical (information and communication technology (ICT)), organizational, managerial (Pastuszak 2004) or legislative aspects, while there is a small amount of studies that deal with the economics aspects and with the corresponding measurement (Hasan, Tibbits 2000). It is quite hard to find academic research on this topic. The measurement the benefits arising from the implementation of information technology is usually an extremely complex task (Ahmad et al. 2004; Ginevičius et al. 2004). Evaluating e-business activities and initiatives creates two most important challenges. First of all, the all encompassing and conceptual nature of e-business makes it complicate to develop means that will solely measure the effectiveness of e-business ventures. Actuality, many specialists argue that organizations make a mistake in trying to distinguish e-business from the rest of business. To cope with this challenge, a more holistic approach to e-business measurement is needed. Using performance measurement system to develop e-business means is a concrete step in this direction (Melymuka 2001). The second challenge lies in identifying the main measures. If several e-means are available, and if an organization tried to implement every one of them, they would be lost in the flood of e-means data. One suggested approach to cope with this challenge is to combine several measures into some aggregate mean that can be tracked simply (Chatterjee and Segars 2006).

But still many scientists have questioned whether traditional performance measurement systems are fit for e-business (Laudon and Traver 2008). There is a wealth of suggestion presented to practitioners about how to develop generic performance measurement systems. Much of this is based on the balanced scorecard (BSC) and parallel multi-dimensional frameworks. Some Lithuanians researchers offers methods (like multicriteria) which could be adopted to evaluate the e-business performance, but they consist that when various multiple criteria methods are used to evaluate a particular object, conflicting results are naturally obtained (Ginevičius et al. 2008; Ginevičius 2006; Ginevičius et al. 2005; Tamošiūnienė 2006). But it still surprising to find a lack of scholastic literature in the field of works which has been done in determining how performance measurement systems ought to be adapted for online business. What little empirical study has been conducted in this field has pointed to widespread disappointment amongst e-businesses with existing approaches to performance measurement (Marr, Neely 2001).

As Straub et al. (2002) argue “the unique characteristics underlying the web may in some cases require new metrics, or at least the careful evaluation of existing ones to facilitate the development of innovative solutions to emerging problems”.

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and Neely’s (2001) research paints a picture of e-businesses measuring many different dimensions of performance. Yet, they report near worldwide disapproval with existing measurement systems. This leads the authors to “question the appropriateness of existing performance measurement systems in today’s digital economy” (Marr and Neely 2001).

In the second part of the XX century and particularly during the last few decades the rapid expansion of information and communication technologies (ICT) (Damaskopoulos et al. 2008; Davidavičienė 2008; Gatautis 2008; Toločka 2005) and the saturation of its technologies into the daily organisational activities, at the same time the flattening and networking of organisational structure enabled many researchers who do research on new types of organisations, to understand that ICT has become one of the main reasons to move from business to e-business (Paliulis et al. 2003; Sarapovas et al. 2006).

Most scientists dealing with e-business admit that there is a no universally accepted definition of e-business. Accordingly, the term e-business is used interchangeably (Fillis et al. 2003) and/or is mistakenly taken with the term e-commerce and other related expressions. E-business means different things to different people and the term has been variously defined (Rodgers et al. 2002). According to one of the first definitions by Kalakota et al. (1999), e-business refers to business models built around networking technologies. Turban et al. (2002) continued by stating more specifically that e-business is not just buying and selling of goods and services, but also serving customers, collaborating with business partners, and conducting electronic transactions in an organizations. Weill and Vitale (2001) also have a broad opinion of the role of e-business: “... the conduct of business and business processes over computer networks based on non-proprietary standards.” Also there more different definitions of e-business, but to make the term e-business clearly understood, in this study we adopted the definition used by IBM (Van Hooft, Stegwee 2001) A secure, flexible and integrated approach to delivering differentiated business value by combining the systems and processes that run core business operations with the simplicity and reach made possible by Internet technology. E-business is really a powerful vehicle for different kinds of development in an organisation. It can be used for effectively managing the transformation of a traditional business strategy that represents the old economy into a new e-economy that symbolises a modern and creative business approach (Van Hooft and Stegwee 2001).

King and Clift (2000) argue that e-business will be business as it comes to be generally understood. The definition of e-business and the arguments over imply that e-business is more than just information technology. It is about thoughts what clients need. E-business is using the internet and other information and communication technologies (ICT) to raise business performance and success. The most significant purpose of e-business is its interconnectivity and system interaction. As a result of e-business computerization, many human being functions are eliminated from different processes such as unnecessary keyboard input, intervention and internal reprocessing of electronic business information. Efficiency improvement resulting from faster processing and reduced errors is then realised in routine data processes and business interactions. Furthermore, e-business allows service providers to interact with their suppliers and customers and in exchange this improved relationship results in increased loyalty, increased profits and a competitive advantage (Rodgers et al. 2002). The main e-business achievement is to realize how customers work as well as adapting the management of the business. It is a simple yet dominant concept which connects customers, employees, suppliers and distributors to the business systems and information that they need (Van Hooft and Stegwee 2001; Rodgers et al. 2002).

2.2. Difference between e-business and e-commerce

In broadest sense, the term e-business is typically understood as the application of information technologies (IT) into a business process. Despite a variety of terminological shortcomings, the con-
Except of e-business extends the more narrow understanding expressed with the term “e-commerce”. The later usually relates to the process of selling, buying, or trading products, services, and information via computer networks as it naturally eliminates some not strictly commercial applications, for example as communication, administration, conducting electronic transactions in an organization, etc. (Laudon and Laudon 2002). For many organizations, after the development of e-mail and websites, and after that huge step has been the development of e-commerce. While the focus of this study is not on e-commerce but relatively on e-business it is essential to give explanation the difference between these two terms. Although e-commerce focuses mainly on transactions with a organization’s customers, e-business expands the connectivity of the company to consist of its suppliers, employees and business partners. That’s why this expanded connectivity builds e-business solutions much more prominent than in the use of e-commerce. So e-business is seen as the next wave in the technological revolution created by the Internet (Rodgers et al. 2002).

Also there more difference, for example e-commerce refers principally the buying and selling activities over the internet. Mostly it contains such transactions as making payments, tracking delivery of orders and placing orders on the Internet. In an e-commerce operations, and individual remotely has access to products, electronic information, or services, typically in a client/serveice based environment, via the Internet, proprietary intranet, or extranet. Thus, e-commerce transactions involve human being relations when the information is processed by the consumer and then stored in databases. Therefore, e-commerce activities are measured as contact driven procedures since the consumer needs to get in touch with the organizations. It makes the organizations process slower when compared to an e-business approach. E-commerce fundamentally raise the amount of information accessible to prospective customers, thus improving an organization’s market competences. The focus of e-commerce is naturally on the customer side as well, all other stakeholders of the business, as well as suppliers and employees, are usually not the most important concern for e-commerce. Another feature of e-commerce is that it is naturally limited to customer/service software with high degree of structure functionality. It therefore relies on client to serve or port to port information flow (Health Industry Today 1999).

From the other side, e-business infrastructure is more technologically advanced than e-commerce. E-business usually refers to the use of the Web and Internet-related technology to connect the extended organization. As talked about earlier, this extended organization goes beyond customers/clients to consist of such entities as suppliers, workers, and regulatory authorities. For that reason, e-businessencompasses e-commerce. E-business permits for the sharing of files among different localities and organizations, as well as the remote relation of suppliers and customers (Rodgers et al. 2002)

As argued above, e-business and e-commerce are two different terms. Whilst e-commerce uses the Web to connect customers with organizations, e-business consists of the Web as well as other instruments required to interconnect information systems and data streams, both internal and external. Also e-commerce necessitates human being interactions for from filling during the purchasing process. Nevertheless, e-business allows many processes to be entirely automated, thus improving the efficiency of business process and removing the error of human being interface.


Even if it has long been accepted that performance measurement has a significant role to participate in the efficient and effective management of organizations, it remains a critical and much debated issue. Important management time is being devoted to the issues – how and what must we evaluate – while significant research effort, by academics from a wide assortment of management disciplines, is being expended as this study seeks to enhance understanding of the topic and related issues (Neely 1999).

From the beginning it is important in answering the question, “what is performance measurement?” it is helpful to begin with definitions which have been used in the most of literature. To cite Neely et al. (1995) “Performance Measurement is a topic often discussed but rarely defined”. Following their statement regarding definitions, Neely et al. (1995) went on to suggest definition of performance measurement. It was: “Performance measurement can be defined as the process of quantifying the efficiency and effectiveness of action.”

This definition is good, but their very precision importances that they do not convey what is now being ticketed in the literature and in practice as “performance measurement” (Neely 1999). In most scientific literature for example, the literature reviews shows:

Performance measurement refers to the use of a multi-dimensional set of performance measures. The set of measures is multi-dimensional as it con-
sists of both financial and non-financial measures, it includes both internal and external measures of performance and it often contains both measures which compute what has been achieved as well as measures which are used to help forecast the future (Bourne et al. 2003). Also singular authors tell that performance measurement cannot be done in isolation. Performance measurement is only appropriate in a reference framework against which the efficiency and effectiveness of action can be judged. In the past, performance measurement has been criticized for judging performance alongside the incorrect structure of reference and now there is widespread support for the belief that performance measures must be developed from strategy.

In this paper are emphasize Neely et al. (1995) proposed definitions of performance measurement — the process of quantifying the efficiency and effectiveness of action.

Also it is important to realize why measuring an organization’s performance is required and essential. An organization functioning without a performance measurement system is like an airplane flying without a compass, or a CEO operating without a strategic plan. The reason of measuring performance is not only to know how a business is performing but also to permit it to perform better. The ultimate aim of implementing a performance measurement system is to improve the performance of an organization so that it may better serve its owners, workers, customers, and stakeholders.

But the problem is of how organizations should evaluate their performance has been challenging management theoretic and practitioners for many years. Financial measures have long been used to assess performance of organizations. However, by the early 1980s, there was a growing realization that, given the improved complexity of organisations and the markets in which they participate, it was no longer appropriate to use financial measures as the single criteria for measuring success. Following review of the development of management accounting systems is highlighted many of the deficiencies in the way in which management accounting information is used to deal with businesses (Kennerley, Neely 2002). They highlighted the disappointment of financial performance assesses to reflect changes in the competitive conditions and strategies of modern organisations. While income remains the dominant goal, it is considered an insufficient performance measure, as measures must reflect what organisations have to manage in order to profit (Bruns 1998).

The difference between tradicional and e-business also requires and different measurement meansand systems. As the shortcomings of tradi-

tional measurement systems have prompted a performance measurement revolution (Eccles 1991; Neely 1999). Attention in consultancy and practitioner academic communities has turned to how organisations can replace their existing, traditionally cost based, measurement systems with ones that reflect their current objectives and environment. Many authors have focused attention on how organisations can design more appropriate measurement systems. Based on literature, consultancy experience and action research, numerous processes have been developed that organisations can follow in order to design and implement performance measurement systems (Bourne et al. 1999). Many frameworks, such as the balanced scorecard (Kaplan and Norton 1992), the performance prism (Kennerley and Neely 2000), the performance measurement matrix (Keegan et al. 1989), the results and determinants framework (Fitzgerald et al. 1991), and the SMART pyramid (Lynch and Cross 1991) have been proposed that support these processes. Bourne et al. (2003) also proposes the major performance measurement systems in use today are: Activity-based Costing and Management, Economic Value Added (EVA), Quality Management and Customer Value Analysis/Customer Relationship Management. The objective of such frameworks is to help organisations classify a set of measures that reflects their objectives and assesses their performance appropriately. The frameworks are multidimensional, explicitly balancing financial and non-financial measures. In addition, a wide variety of criteria has also been developed, representing the attributes of effective performance measures and measurement systems. These include the need for measures to relate directly to the organisation’s mission and objectives, to reflect the organization’s external competitive environment, customer requirements and internal objectives (Kaplan and Norton 1993).

Indeed as Kennerley and Neely (2002) observed, the introduction of financial performance measures, such as cash flow and return on investment, reflected the changing marketplace in which organisations competed. At the turn of the century sole traders were giving way to owner managers who needed to assess the return on their investment in plant and premises. The performance measurement revolution has prompted many organisations to implement new performance measurement systems, often at considerable expense. Nevertheless, unlike the environment in which organisations operate, many measurement initiatives appear to be static. Senge (1992) argues that, in nowadays’s complex business world, organisations should be able to find out how to cope with
continuous transform in order to be successful. Eccles (1991) recommends that it will develop into increasingly necessary for all major businesses to estimate and transform their performance measures in order to adapt to the speedily changing and extremely competitive business environment. Lots of authors support the need for suggestion on measures to guarantee that they are updated to reflect this permanent change (Meyer and Gupta 1994). Conversely, there has been small amount of evidence of the extent or effectiveness with which this takes place. Furthermore, the literature suggests that unsuccessful management of the development of measurement systems is causing a new measurement “crisis”, with organisations implementing new measures to imitate new priorities but failing to reject measures reflecting old priorities resulting in uncorrelated and not consistent measures (Meyer, Gupta 1994).

To sum up, conducted literature review, demonstrates the lack of research and methods to measure the effectiveness of e-business so this study will allow paper’s authors to continue consideration of this problem and find the optimal solution.

4. Conclusions

The days of the Internet boom era it between 1994 and 2001, when cheering shareholders were purely glad to see their organizations set up shop on the Internet, are over. Particularly after the Dot.com bust, organizations can no longer afford basically to sink money in e-business initiatives without developing and using suitable means to measure the returns from such investments. As more and more organizations is trying to invest significant resources to e-enable their organization activities and transform traditional ways of doing business, the need to evaluate the success of such transformation efforts has never been felt more.

The review of literature illustrates that a single effective e-business performance measurement system does not exist. However, it may be in the process of being discovered by the actions of organisations. Through their evolving practices, however emergent, tentative and experimental, these organisations are discovering the steps that may constitute an approach to developing more effective e-business performance measurement systems. Consequently, it should not be surprising that organisations are still looking for effective e-business performance measurement systems. As the e-business environment is dynamic and unpredictable, e-business practice is emergent, tentative and experimental. Installing a new and sophisticated performance measurement system to accommodate the requirements of e-business is potentially highly costly, time-consuming and disruptive. It is only natural that organisations which perform in online environment needs one simply added, not highly costly performance measurement system for measuring e-business ventures.

References


