

## MANAGING SERVICE QUALITY WITHIN THE KNOWLEDGE-BASED ECONOMY: OPPORTUNITIES AND CHALLENGES

Ion Plumb<sup>1</sup> and Andreea Zamfir<sup>2</sup>

<sup>1) 2)</sup> *The Bucharest Academy of Economic Studies, Romania*

E-mail: [ionplumb@yahoo.com](mailto:ionplumb@yahoo.com)

E-mail: [zamfir\\_andreea\\_ileana@yahoo.com](mailto:zamfir_andreea_ileana@yahoo.com)

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### Abstract

The knowledge-based economy, along with the impact of information society technologies, presents the service organizations and their customers with many potential opportunities as well as challenges. Therefore, this study explores how the knowledge-based economy could influence the quality management of service organizations. The study reveals that the actors within the service sector have vast new opportunities in terms of communication and value co-creation, but in the same time, the requirements regarding the quality of provided services trigger various problems for managers. The originality and value of this study consist of identifying logical connections between changes in the society, changes in the services, and changes in the service quality management. The findings of this study reveal that service quality management, as an integral part of the management of services, became more important within the knowledge-based economy as compared to the traditional (industrial) economy. Service quality management is knowledge-driven, it relies on people's continuous development, network-intense collaboration (sharing ideas and knowledge), and value co-creation to attain sustainable competitive advantage. The study was carried out by combining a wide variety of sources, such as research papers, conceptual papers and literature reviews. Our conclusion justifies the effort invested in improving service quality management and also has relevance for service organizations' managers in a very sensitive area like the service quality management.

**Keywords:** management, service quality, knowledge-based economy, online services.

**JEL Classification:** L80, L15, L86, M10, M15, O14, O33.

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### Introduction

Information technology and internet are transforming service quality management within the knowledge-based economy. The service organizations have a direct contact with their clients and provide new genres of services through networks. Therefore, the aim of this study is to investigate how the knowledge-based economy could influence the quality management of service organizations and which are the main opportunities and challenges for service providers in the quality management area. The manner in which service quality is managed within the knowledge-based economy is a highly debated topic these days because of its role within the process of improving service management.

The research was conducted using evidence provided by articles (such as research papers, literature reviews, and conceptual papers) as well as books. In order to answer the research

question we have delineated the background of service quality as a significant constituent of service organizations' management within the knowledge-based economy. Moreover, changes in conceptions on service quality management within the knowledge-based economy were identified in this study, revealing the main opportunities and challenges for service providers. The study has illustrated the influence of the knowledge-based economy on the service quality management by identifying logical connections between changes in the society, changes in the services, and changes in the service quality management. The research question was answered by analyzing published sources, evaluating and interpreting evidence within the context of the knowledge-based economy. Answering the research question was difficult due to the variety of approaches, concepts, definitions, and criteria employed, as well as factors influencing the service quality management within the knowledge-based economy.

## **1. Background**

The knowledge-based economy, in conjunction with the impact of information society technologies, presents the service organizations and their customers with many potential opportunities as well as challenges. They have vast new opportunities in terms of communication and value co-creation, but in the same time, the requirements regarding the quality of provided services trigger serious problems for managers.

The rapid development within society of the use of information and communication technology has meant a revolution in the way businesses work, as indeed it has changed the way in which many people work. Information technology generally means the convergence of computers, hardware, software, telecommunications, Internet, electronics and the resulting technologies and it can be measured through the inventory of applications that organizations have (Ruiz-Mercader et al., 2006). Information and communication technology includes networks, computers, other data processing and transmitting equipment, and software (e-Business W@tch, 2007). Nowadays people need to have skills and competences to be able to use information and communication technologies. The development of the knowledge society is raising demand for the key competences in the personal, public and professional spheres. The way in which people access information and services is changing, as are the structure and make-up of societies. As a result, the way of doing business has to change, and for the organizations within the sector of services this could be a real challenge.

Recently, high-tech services enabled through service-value networks in the high value areas have emerged (Qiu, 2008). Examples of such high-tech services are: online information and knowledge service; IT outsourcing to post-sales training; and on demand innovations consulting such as work helping customers reengineer products, automate business processes, improve goods and services delivery efficiency, and design and deploy supportive IT systems. Electronic services are quintessential new genres of service for the knowledge-based society and economy (e.g. Internet-based economic activities), contributing to overall productivity and growth. According to Chan and Hsu (2009) e-services are subject to a three-dimensional extension, that is up (reaching the population), down (personalization) and transformational (new business designs). As Qiu (2008) observes, traditional service providers (e.g. airlines, travel agencies, etc.) are transforming themselves into service-value networks to gain competitive advantages because the quality

of their provided services largely depends on very large-scale public information infrastructures and complex services systems in order to satisfy the diverse needs of worldwide customers. Knowledge-based services are delivered by highly educated and informed employees responding to specific diagnosed customer demands, by offering and delivering customized value-added solutions and relations (Dubosson and Fragniere, 2008). The emergence of new types of services creates a new business environment where service providers are facing both opportunities and challenges in managing service quality.

## 2. Changes in conceptions on service quality management

The knowledge-based economy, characterized by the focus on knowledge, people, and virtual networks, as well as the transformations of services determines changes in the way service organizations are managed. Moreover, service quality is a central issue for service organizations' managers. We can assert that within the knowledge-based economy the service quality management is knowledge-driven, it relies on people's continuous development, network-intense collaboration (sharing ideas and knowledge), and value co-creation to attain sustainable competitive advantage.

Service quality management, as an integral part of the management of services, became more important within the knowledge-based economy. Providing quality services has been identified as one of the most difficult long-term strategies for establishing a business (Yoon and Ekinci, 2003). Today's leading companies operate on a global basis, cooperating with suppliers, partners and a multitude of stakeholders in order to deliver service and/or product packages (Paton and McLaughlin, 2008). Service providers who understand the needs and interests of customers thoroughly are capable of incorporating customer knowledge into the operation of the organization when enhancing the service intensity. This is not only helpful for the integration of the relationship and input of resources, but also has a positive effect on the improvement of customer satisfaction (Lin, 2007). Therefore, service quality management may be a key factor for the success of service organizations within the knowledge-based society.

We may advocate that changes in service quality management within the knowledge-based society have their roots in the new so-called "service-dominant logic". In this service-dominant logic service is seen as a process, while in the previous goods-dominant logic services were seen as units of output (Vargo and Lusch, 2004; Vargo and Lusch, 2008). This new approach is driven by an intrinsic purpose of doing something for and with another party, hence it is customer-centred and customer-responsive (Lusch et al., 2006).

The service-dominant logic is more a philosophy rather than a theory, in the sense that it involves changing the way of thinking about it in some fundamental way. As Vargo and Lusch (2008: 258) asserted, the main changes are: (1) "from thinking about the purpose of firm activity as *making something* (goods or services) to a process of *assisting customers in their own value-creation processes*"; (2) "from thinking about *value* as something *produced* and sold to thinking about value as something *co-created* with the customer and other value-creation partners"; (3) from thinking of *customers as isolated entities* to understanding them in the context of their own *networks*"; (4) from thinking of *firm resources* primarily as *operand* (i.e. tangible resources such as natural resources) to *operant* (i.e. usually, intangible resources, such as knowledge and skills); (5) "from thinking of *customers as targets* to thinking of *customers as resources*"; and (6) from making *efficiency primary* to increasing *efficiency through effectiveness*".

This approach has various effects on the management of services. It implies relationships between the service organization and its potential clients, and collaborative work with them and with other partners, which leads to co-creation of value (Lusch et al., 2006). The value co-creation in the service-dominant logic is illustrated in Figure 1. In service-dominant logic, knowledge and skills are key resources for competitive advantage (Vargo et al., 2008: 148) derived from collaborative competence which enables firms to adapt to dynamic and complex environments (Lusch et al., 2007). All participants in the value co-creation process are dynamic resources, which both devolve and evolve in scope and effectiveness (Lusch et al., 2006).

Ultimate value is not created (or added) by the provider of the service, but rather co-created with the customer and determined by the customer's assessment of value-in-use. Thus, the firm can only make a value proposition (an offer of value creation) and then, if it is accepted, value is co-created with the customer (Lusch et al., 2006). The changes in the way of thinking about value creation have implications on service organizations, their clients and the entire society in the sense of accentuating the role of collaboration between actors involved in the process of providing and receiving services (Vargo and Lusch, 2008).

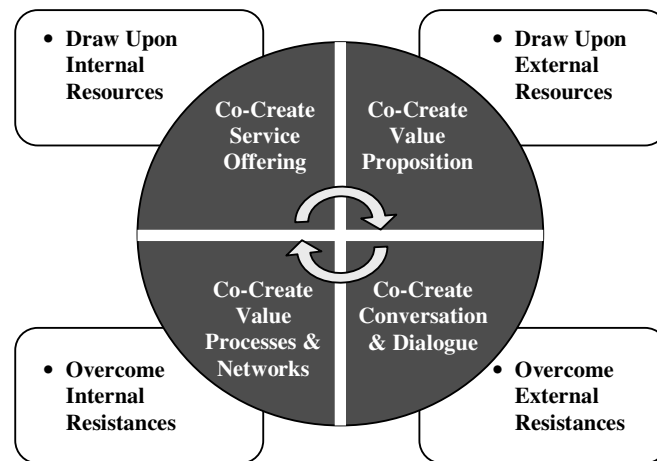


Figure 1 Value co-creation in service-dominant logic

Source: Vargo and Lusch, 2008: 257

All these changes in the way of thinking about service, value creation and the management of services itself seem to influence the practices in the service quality management within the knowledge-based economy. The managerial objectives, resources, relationships and methods used are all changing. Furthermore, business processes are changing due to the information and communication technology development, and their increasing / widening acceptance in day-to-day life. The application of information and communication technology in business processes leads to e-business. This is defined by the E-Business W@tch (2007: 263) in the broad sense, relating both to company external and company internal processes, considering that it includes external communication and transaction functions, but also information and communication technology-supported flows of information within the company. Thus, e-business currently symbolizes new ways of

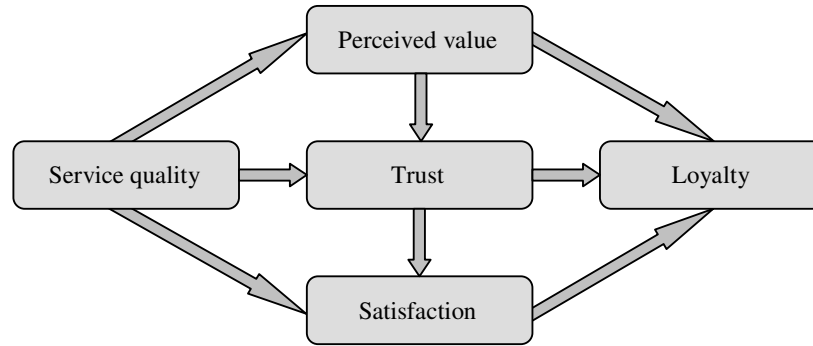
conducting business, where electronic networks of companies make e-business an inter-organizational activity to a large extent. The performance of the inter-organizational alliance and the ability of the partners to create value in such networks would therefore depend on their relationship competency. With better knowledge of how to influence their business networks, service organizations could increase their influence and their outcome of such relationships (Eikebrokk T. R. and Olsen D. H., 2007). According to Fuentelsaz et al. (2002: 303), “in the virtual plane the effort must be made in the direction of studying those activities that are conductors or generators of value, seeking to support and promote them with a view to sustaining this value creation”. However, the same effort is made even though the company provides services in a traditional manner (face-to-face contact with clients). This may be important because traditional business is not excluded by e-business. The distinctive features of the knowledge-based economy allow service organizations to generate value in an electronic way that is an alternative, and not an impediment, to business of a “conventional” type (Fuentelsaz et al., 2002). Regardless of the manner of providing services, however, people (employees, clients, partners, and competitors) are connected via open networks (e.g. Internet) and management has to take this fact into account.

The concept and practice of service quality management therefore acquire a particularly relevant role within the knowledge-based economy. Furthermore, this concept is not a new one, but has in fact been the subject of specific attention on the part of management science. As Lovelock (1991) suggested, as competition intensifies in the service sector, the need for meaningful competitive differentiation is sharpened and, to an increasing degree, this differentiation stems from the quality of services to customers. Moreover, the current global economic crisis generates profound changes of service quality management. The clients are confronted with the reduction of liquidity and therefore they are more selective when they choose services, in the sense that they search and choose those services with the best correlation between quality and price. Meanwhile, the current economic crisis resulted in a reduction of demand for services, particularly in the case of services that are not vital (e.g. travel services, restaurants, theatres, museums etc.). Therefore, today service quality is not just an element of differentiation in the market, but a necessary factor for the survival of service providers.

Service quality is often correlated with perceived value, trust, satisfaction and loyalty (Figure 2). For instance, Cronin and Taylor (1992) investigated the relationship between service quality and customer satisfaction and their subsequent effects on purchase intentions and concluded that perceived service quality leads to satisfaction, and that satisfaction, in turn, had a significant positive effect on purchase intent. Furthermore, if a service organization has the objective to outperform its competitors and thus gain competitive advantages, then it is crucial to offer relatively greater perceived qualities and particularly those important to customers (Bei and Shang, 2006).

Customer satisfaction has been linked to affective reactions in the service encounter and to customers' perception of the success of the outcome (Härtel et al., 2008: 24). As Hsu (2008) observes, customer satisfaction mediates the relationship between perceived quality and customer loyalty. Customer satisfaction results from customers' good experiences and thus, if people do not attain their expectations, they will become dissatisfied (Kim et al., 2008). In this context, it is important that managers keep the service level higher than the customers' deserved expectations to avoid dissatisfaction (Yoon and Ekinci, 2003).

Dissatisfied customers hurt the long-term profits and success of service organizations due to: (1) failure of the customer to return for future business; (2) reduction in the customer's frequency of visits; and (3) negative word-of-mouth advertising (Davis, 1991). Therefore, managers may consider improving not only service quality and customer satisfaction, but also perceived customer value in their offerings. Ignoring customer value may cause lowered customer satisfaction and reduced repeat business. Basically, service organizations' efforts for improving service quality and customer satisfaction should be conducted holistically, including value enhancement (Kim et al., 2008).



**Figure 2 Conceptual framework used for loyalty, trust, value, satisfaction and service quality**

Source: Adapted from Harris and Goode, 2004: 141

As regards electronic services, customer satisfaction is even more important, because networks allow sharing knowledge between customers. According to Hsu (2008), one customer's negative experience with a service provider can be disseminated among many potential clients, which is not the case in traditional service environments. As a result, understanding the factors that influence online customer satisfaction is very important for online service providers. One of these factors is trust, which has a positive impact on customer loyalty, customer satisfaction, and perceived value. When customers cannot physically examine the quality of a service, they have a higher level of uncertainty about the purchase outcome and more hesitation in making the purchase. Trust can decrease the perceived risk of using a service (Hsu, 2008). The production, exchange and analysis of information facilitates value co-creation by allowing providers and clients to more accurately view, assess, and negotiate the terms of their relationship. From this perspective, information is positioned as a necessary conduit for sustaining interacting networks of people and technology (Blomberg, 2008: 213). In order to deliver superior service quality, an online service provider must first understand how customers perceive and evaluate its service quality. According to Hsu (2008), specific areas in which the online service organizations' improvement can have a significant impact include the performance of customer service, the correctness of order fulfillment, the attractiveness of the Web site, and on-time delivery. That is, the online service provider have to answer customers' complaints and queries properly, to process orders accurately, to deliver products on time, and to improve the appearance of the site. The reason for this is that at the heart of value co-creation is the ability to gain knowledge about other parties in the service system.

Information about the operations of partners, service providers and clients enhances the ability to deliver highly efficient and effective service (Blomberg, 2008: 221). In this sense, as Yoon and Ekinici (2003: 20) observed, service performance should be close to or higher than the desired expectation to improve perceived quality or customer satisfaction. Furthermore, the use of an expectation scale along with the measures of overall satisfaction and service quality would provide a better diagnostic capability in assessing service quality and customer satisfaction. Such a practice would provide more valid information and improve managers' decision making for developing service strategies (Yoon and Ekinici, 2003).

### 3. Practical implications

The diversity of the service sector makes it difficult to produce useful generalizations concerning the quality management of service organizations. Moreover, today's new business environment includes advanced information and communication technologies, accelerated business globalization, increased automation, and rapid technological innovations. As a result, emphasis in the service sector has evolved from a traditional labour-based business to sources of innovations, collaboration, and value co-creation (Qiu, 2008). These factors are essential for managing service quality within the knowledge-based economy.

Knowledge is the fundamental source of competitive advantage within the knowledge-based economy and the core driver for innovations in service organizations. It is brought about by the transformation of information, by making sense of data. Thus, information becomes really important for both service organizations' managers and their clients, as it allows them to make relevant, coherent and fast decisions. Furthermore, the speed of information exchange, the accessibility of information, the search possibilities and storage of information are significant factors that contribute to a rational decision-making process. However, information overload may fail to influence the decision-making process in a positive way, due to the abundance of irrelevant details. Therefore, it is important to carefully and effectively manage information by taking into account perceptions of the value of information (Dubosson and Fragniere, 2008). If the information is perceived as being valuable we may assume that the response to that information will be prompt. This will result in an amplified innovation capacity, flexibility and adaptability to market requests. The periods of time needed for innovation and dissemination of innovation have become increasingly condensed due to the speed of knowledge, products and technology renewal and due to the contemporary instantaneous connection possibilities to new information. Development and dissemination of innovations is a source of competitive advantage, but it generates significant costs which are hard to undergo by service organizations in the current economic crisis. However, efforts towards innovation investment should be continued because innovation can lead to service quality improvement and also can accelerate the process of overcoming the current economic crisis.

Development of information and communication technologies has created the premises for better collaboration and communication between service organizations, on one hand, and between them and their clients, on the other hand. It has facilitated the delivery of global services and thus, service providers perform in a global environment, confronting new opportunities for profit while facing world-class competitors (Cunningham et al., 2004: 421). Managers can use information to redesign the service concept so as to appeal to

specific target customers and to enact to some extent different co-production processes, leveraging knowledge of what customers value most (Anderson et al., 2008). Contrasting with the materialism of the industrial revolution, service promotes value rather than material, and hence reflects a sustainable foundation for the knowledge-based economy (Chan and Hsu, 2009).

The “service-dominant logic” (Vargo and Lusch, 2004; Vargo and Lusch, 2008) entails changing the paradigm of value-added to value co-creation, of value delivery to value propositions. Value co-creation phenomena appear when particular types of entities, with their own resources and capabilities, interact in particular ways, transforming knowledge intensively. According to Chan and Hsu (2009) new value propositions and value co-creation are generated by growth of internet-based economic activities, which comes from three main sources: the growth of digital connections of clients and organizations, the addition of new digital connections, and the interrelation of layers of digital connections along and across a person’s and an organization’s life cycle tasks. Thus, using networks (digital connections) will allow service organizations to provide quality services because networks integrate clients and value-oriented organizations.

Information and communication technologies can offer the degree of flexibility and adaptability of services to the clients’ needs. Moreover, if effectively integrated in the service process, new technologies could actively support the development of strategies related to innovation, collaboration and value co-creation, playing a key role in providing competitive services. Since customers’ perception of service quality depends very much on the interaction between the customer and the service provider, the knowledge shared through networks could improve this interaction, which may lead to attaining customer satisfaction and loyalty.

### **Conclusions and further research**

The study reveals that the knowledge-based economy is profoundly changing the service quality management, in the sense of it being knowledge-driven, and relying on people’s continuous development, network intense collaboration (sharing ideas and knowledge), and value co-creation so as to attain sustainable competitive advantage. This conclusion is based on the premises that: (1) the knowledge-based economy is characterized by the focus on knowledge, people, and virtual networks; (2) the rapid development within society of the use of information and communication technology has meant a revolution in the way people and service organizations work; (3) business processes are influenced by the information and communication technology development and its broaden acceptance in day-to-day life; (4) the new service-dominant logic, in which service is seen as a process, is customer-centred and customer-responsive; and (5) the service quality management needs to be adapted to the new realities of services within the knowledge-based economy so as to allow the co-creation of value for customers.

Another conclusion of this study is that service organizations and their customers have new opportunities within the knowledge-based economy but, in the same time, the requirements regarding the quality of provided services trigger serious problems for managers. The main opportunities identified in this study are related to communication, network-intense collaboration, value co-creation and customized value-added solutions delivery to attain sustainable competitive advantage. Service organizations must face challenges materialized in changing customer demands for service quality, the need for acquiring and developing



skills and competences so as people to be able to use information and communication technologies, and the need of transforming the traditional service organizations in modern service organizations, based on information and communication technology. All these opportunities and challenges are reduced and respective, increased by the current global economic crisis. Overcoming the economic crisis can be achieved through investments for innovation, which within the service sector may favourably influence service quality and customer satisfaction.

Our conclusion justifies the effort invested in improving service quality management and also has relevance for service organizations' managers in a very sensitive area like the service quality management. We suggest that further research should be done in this direction in order to identify and evaluate specific aspects of managing service quality for different contexts of service organizations and for different types of services provided within the knowledge-based economy. Another direction for further research could be to test the conclusions of this study by interviewing service organizations' managers and comparing the results of this study with those revealed by the experience of service sector's managers.

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