Quality management for E-services

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Abstract: This paper was designed to give a general overview of the importance of quality management for e-services; this topic was chosen because today's products and services have fundamentally moved to digital form and are offered via the Internet. Given the importance and boost of the Internet in the internationalization of services and businesses, the purpose of this paper was to identify the conceptual issues surrounding service quality management -in services provided via the Internet- and to emphasize the importance of e-Service quality in the lives of customers. This paper defines the Quality Management Framework after a brief introduction that describes the adoption of electronic services in people's everyday routines and the necessity for quality management. The author then explains what e-services are, how they are classified, and the benefits they provide to users, as well as evaluating the quality of e-services. Finally, this paper summarizes the advantages of e-services, the importance of e-service quality management, and future domain development activities.
Keywords: Quality management framework, E-services, E-services quality

1. Introduction

Electronic service, abbreviated as e-service, is a generic word for services delivered using information and communication technology. The phrase "e-service" has a wide range of uses and can be found in a variety of fields. The rapid expansion of e-commerce has had a significant impact on how businesses are conducted. The characteristics of the global electronic market provide businesses with unique opportunity to reach a bigger audience. Companies generally find it difficult to contact their customers on a global scale, but with e-tailing, they have more opportunities to do so, which is why competition among online merchants is heating up (Zhilin Yang, Robin T. Peterson, Shaohan Cai, 2003).

Utilizing the most recent developments in information and communication technologies: e-government for government services, e-commerce as an alternative to traditional shopping, e-

education or long distance education for students who are unable to attend regular classes due to time or location constraints, multimedia centers, and virtual reality 373 libraries for people wishing to expand their cultural knowledge on demand, and remote working that lets employees to do jobs from the comfort of their own home. It is no longer news that the Internet and advanced technology have changed how we conduct our everyday duties, how we live, how we do business, how we shop, how we learn, how we interact, and how we spend our time.

Alternatives to traditional service delivery include flexibility, speed, and creativity. One of the most important concerns to address with the introduction of electronic services is usability. Because of the diversity of people and the requirement to use a computer to access electronic services, usability is a problem. Existing quality standards for products and services must be changed to give tools to analyze, assure, and improve the quality of e-services in order to improve usability. The quality management framework is defined by the definitions and descriptions of quality management ideas and terminologies.

2. The quality management framework

There is a view that the high-quality management leads to strong long-term financial performance for a corporation. Some researchers try to measure the quality of the management by reversing this relation. They claim that the organization is managed well, because it has a high economic performance. This approach is misguided because it incorrectly assumes the relation to be two-sided. Meanwhile, good results can be caused by a variety of factors, unrelated to the quality of management.

The decision-making process to improve the functioning of all aspects of the firm, taking into account stakeholder needs and expectations and the act of overseeing various operations and duties inside a company to guarantee that the products and services given, as well as the means employed to produce them, are consistent is known as quality management. It assists the company in achieving and maintaining a targeted level of quality.

There are four main components to quality management, which are as follows:

- **Quality Planning -** The process of determining the project's quality criteria and determining how to meet them.

- **Quality Improvement** - The deliberate alteration of a process in order to improve the outcome's confidence or reliability.
- **Quality Control** - The ongoing endeavor to maintain the integrity and dependability of a process in reaching a goal.
- **Quality Control** - The systematic or planned actions required to provide sufficient reliability so that a certain service or product meets the defined requirements.

Quality management is to guarantee that all stakeholders in an organization collaborate to improve the company's procedures, products, services, and culture in order to achieve long-term success based on customer satisfaction and the Quality Management Framework (QMF) aids in putting this multifaceted relationship between the company and the services it provides into context. The Quality Management Framework includes the following terminology and their definitions (Baker, E. R. and Fisher, M. J., 2008):

- Object (entity);
- Process;
- Requirements;
- User;
- Evaluation;
- Measure and Measurement;
- Quality

In the context of the QMF, an object or entity is any product, service, process, activity, or other thing to which quality can be applied. The quality of an object (entity) is inextricably linked to the quality of the process that was used to create or distribute it (entity).

The main objective of producing a product or providing a service is to meet requirements. The degree to which the final product or service meets initial specifications has an impact on its quality. The user specifies his or her criteria and is the one who will benefit from the product or service. The user has the ability to provide feedback on the product or service that is being offered.

Evaluation is a qualitative procedure for determining how well requirements have been met. Quality metrics are developed and calculated in order to enable quantification in the quality management process, which is a quantitative process.

The degree to which the item (entity) meets the user's criteria is referred to as quality.

The quality documentation serves as a record of progress and ensures that development continues even if the development team changes.

The following activities make up quality management:

•**Quality assurance** - Establish quality procedures and standards within the organization.

•**Quality planning** - Determine which procedures and standards are appropriate for a given project and make changes as needed.

•**Quality assurance** - Ensure that the software development team adheres to procedures and standards.

•**Quality control** - This should be handled separately from project management.

There are many methods and standards to improve E-services quality including: ISO 9001:2015 standard the international standard for quality management, was created by experts from all over the world to assist you in putting quality at the center of your business.

ISO 9001 is based on seven important concepts to assist you in this endeavor. You will be able to reap the benefits of more consistency, improved client happiness, and stronger performance if you follow these rules.

In a nutshell, the seven quality management concepts are:

1. **Engagement of people:** Getting your employees to participate in the management system
2. **Customer focus:** Concentrate on your customers and their requirements.
3. **Leadership:** Recruit and train a competent management staff.
4. **Process approach:** Establish a process-oriented culture.
5. **Improvement:** Encourage continuous improvement.
6. **Evidence-based decision making:** Make decisions based on facts.
7. **Relationship management:** Develop supplier connections that are mutually beneficial.
8. The ISO 9000 series of quality standards, including ISO 9001:2015, are based on these concepts.

3. E-services definition

Different writers have described e-Services over time: Javalgi & Co. defined them as "those services that can be given electronically," while Boyer & Co. defined them as "interactive services delivered on the Internet employing advanced telecommunications, information, and multimedia technology."

In general, digital services are a set of actions that are conducted using information technology over the Internet to generate, search, gather, store, process, provide, and distribute digital information and products at the request of users. We propose the term "hybrid services"

to generalize e-services based on traditional activities when only a small number of processes are supplied online and the final result is delivered offline, in order to distinguish between different types of services. As a result, e-services can be classified into two categories: hybrid and digital.

4. E-services classification

All of this is to say that an e-Service is defined by being delivered via the Internet; being web-based does not require person-to-person communication, but it must still be interactive in nature; act as an information service providing quality through better information and content; and, finally, the facilitation for self-service where the user effectively performs work previously performed by the service provider. (Bengtsson, 2010).

Considering the differences between traditional service and e-Service, three aspects which stand out must be mentioned. These are (Hongxiu Li, Reima Suomi, 2010):

1) The absence of sales staff. In e-Service, there is no service encounters between the customers and the sales staff as in the traditional service.
2) The absence of traditional tangible element. In e-Service, service process is almost completed in the virtual environment with some intangible elements.
3) Self-service of customers. In e-Service, customers conduct self-service in purchasing and realize control in business process.

Consumers use internet services for a variety of reasons, one of which is the convenience they provide. To begin, the authors stated product differentiation: consumers can quickly compare qualities and pricing of various products on the web without having to travel, and so the availability of e-Services decreases their search expenses. The Internet enables product differentiation technologies and procedures, which are a powerful tool for businesses to enhance consumer switching costs; this can raise barriers for new entrants and boost customer value. (Gratzer M., Winiwarter W., 2010).

Using the advantages of the electronic services we can classify them (table 1) in two main categories: e-services for individuals and e-services for organizations.

Table 1. E-Services Classification

E-services	For citizen	For firms
e-tax services	√	√
e-job services	√	√
e-health services	√	√
e-government	√	
e-declaration services	√	√
e-banking service	√	√
e-insurance services	√	√
e-financial advise services	√	√
e- acquisition services		√
e-commerce	√	√
e-library	√	
e-ticket services	√	
e-learning services	√	
e-booking services	√	

Figure 1. Table with E-Services Classification

Source: (Lorena BATAGAN, Adrian POCOVNICU, and Sergiu CAPISIZU, 2009).

E-services are one of the most dynamic parts of today's society, as well as a hot topic in academic circles (Balog, A., Badulescu, G., Badulescu, R. and Petrescu, F., 2008).

Networked technologies have resulted in e-services. In fact, networked ICT technologies like the Internet and mobile networking are having a significant impact on how e-services are developed, created, and delivered (Quality Management Principles, n.d.).

5. E-services quality

A rising body of scholarly work has begun to investigate the quality of e-services and consumer relationships, with an emphasis on online purchasing. The service quality construct inspired the concept of e-service quality. There are still no approved models or standards for

measuring and measuring the quality of electronic services (Seth, A., K. Momaya and H.M. Gupta, 2005). However, e-service quality expectations are not as well developed as those for traditional service quality (Parasuraman, A., V.A. Zeithaml and L.L. Berry, 2002). The overall judgment of a single service firm that arises from comparing that business's performance to the customer's general expectations of how firms in that industry should perform is defined as service quality (Parasuraman, A., V.A. Zeithaml and L.L. Berry, 1988).

The basic goal of service quality management is to ensure that services meet the quality criteria that clients have requested or expected. Customer satisfaction is influenced by a wide range of actions and challenges, including accessibility, timeliness, and explanations provided to clients about what they found, what they did, and why.

Although several models contain mediating aspects like attitude toward online purchase, which bridges customer happiness and internet purchase intention, technology acceptance and continuation models disregard the consumer's active engagement in e-service creation (Zarei, G.; Asgarnezhad Nuri, B.; Noroozi, N, 2019).

e-service quality models, on the other hand, are founded on a common understanding of the relationship between e-service quality and outcome variables including customer satisfaction, repurchase intentions, and word-of-mouth (Kim, J.; Lennon, S.J, 2017).

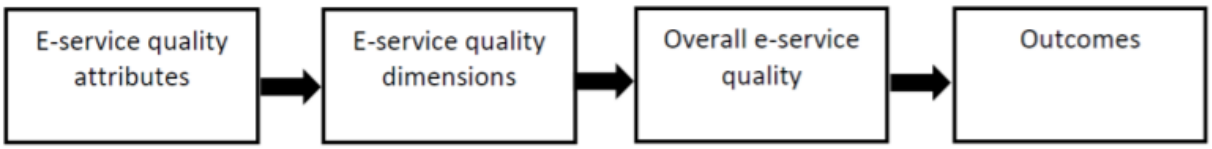

Figure 2. Conceptualization of e-service quality

The means-end chain theory (Jung, Y.; Kang, H., 2010), which explains how customers evaluate experiences—from quality attributes to quality dimensions—is an important theoretical underpinning for e-service models. It indicates that we should use the linear relationship shown in Figure 1 to explain how a client decides to continue using an e-service (repurchase intention).

According to (Gounaris, S., S. Dimitriadis and V. Stathakopoulos, 2005), various factors influence e-service quality perception, and multiple studies have sought to describe e-service quality in recent years, the majority of which have focused on dimensions present in various parts of client contact in e-services. Some of the significant literatures that have succeeded in

designing and validating measuring criteria for perceived e-service quality are examined in this study, and the most appropriate scale is selected.

6. The importance of E-services in Quality management circle

According to Dr. Shyamal Gomes a quality circle is a group of employees who perform comparable tasks and gather at regular intervals, frequently with management, to discuss work-related issues and provide comments and ideas for improvement, such as in production processes or quality control.

Therefore E- services raises the quality of company's products and services, enhancing the value of company’s brand and ensuring the trust of customers. Using help desk software from companies like pro software can improve the quality of customer relationship management even more.

7. Conclusion

E-services provide users with speed, efficiency, flexibility, and innovation. They are usually open 24 hours a day, 7 days a week, and can be accessed from any location. Because e-services are primarily paperless, they have a lesser environmental impact than traditional paper-based government services.

The combination of technology acceptance models, e-service models, and the customer experience concept allows us to explain customer behavior when initial customer expectations are focused on two e-service attributes—functionality and ease of use—but after the consumer has used the e-service, his or her expectations change, and he or she perceives e-service quality through a larger number of e-service attributes combined in five e-service attributes. The intention to continue using the e-service is based on the transformation of customer experience into customer satisfaction, which is mediated by e-service quality and customer experience.

Even when it comes to online services, quality is a "must" if you want to earn your customers' trust and loyalty. This is because service quality has a significant impact on customer

satisfaction. In this setting, increasing the quality of e-Services - in order to please and retain customers, gain a competitive edge, and grow a business - is becoming a difficult task.

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