

E-service Quality of Faculty Web Portals: Exploring the Students' Perspective

Ivan Vuljak, Renata Mekovec

Faculty of Organization and Informatics

University of Zagreb

Pavlinska 2, 42000 Varaždin, Croatia

{ivan.vuljak, renata.mekovec}@foi.hr

Abstract. *New trends in online market expose the need for companies to deliver high levels of service quality in order to achieve important marketing outcomes. Consequently, many instruments that enable measurement and evaluation of users' perception of delivered e-service quality are developed.*

There are many measurement instruments that can be used for transaction-based services (like online shopping, Internet banking), but instruments for information-based services are rare. Faculty web sites are acting as web portals (information-based web portals) that offer access to a wide range of information and applications. Therefore, the objective of this article is to investigate and assess the quality of e-service provided by faculty web portals. Results of the performed study show that respondents were most satisfied with the quality of information provided on faculty web portal, and least satisfied with web design.

Keywords. e-service quality, measurement scale, faculty web portals

1 Introduction

There is a considerable diffusion in defining the term e-service quality and the main reason lies in various types of web services. Consequently, the e-service quality definition, as well as included dimensions, differs according to the specific type of e-service (type of web site). In addition, a global (universal) measure for e-service quality is difficult to develop.

Internet portals are websites that provide a wide range of information or services that a particular user might want to use [1]. Therefore, Internet portals can be seen as gateways to information and services provided on the web [11].

Several Internet portal's properties can be distinguished [6]: (1) mission, (2) depth of content, and (3) target users. According to their mission

Internet portals can be categorized in two groups: the transaction-based Internet portals (mission is to make a profit) and the information-based portals (mission is to distribute information). Content of Internet portals can be split horizontally or vertically, so "hortal" and "vortal" can be differentiated. Hortal offer a wide range of content and services to a large number of users. Vortal target their content and services to a smaller, particular group of users. According to targeted users, Internet portals can be arranged in business and general portals. Business portals target a group of users and offer vertical information, and most commonly are transaction-based. General portals target a wide range of users, and offer wide range of information. Usually, general portals are information-based.

University and faculty web sites nowadays are acting as web portals that offer access (gateway) to various information and applications. Therefore, "a reliable scale is needed in order to be able to understand, effectively measure, and ultimately improve service quality in university web portals" [10].

Quality of service provided via Internet has been intensively studied over the last decade. Various domains were investigated, like online shopping service, Internet banking service, online travel service (booking), e-government services, etc. Despite this, dimensions of transaction-based web services are not unitarily defined.

Although various instruments and models for e-service quality are developed and validated, only a few of them are concerned with evaluation and investigation of service provided via faculty web portals. This article will thus be aimed at investigating and better understanding of various issues regarding assessment of service quality, as well as various aspects of users' perception of provided service.

There are several justifiable reasons to perform the described investigation: (1) today's students are members of Millennials (or also known as Generation Y) and are familiar with Internet as a basic communication media, (2) nowadays students are

“demanding” high level of service quality, (3) understanding of student’s perspective and perception of provided service will help faculties to better meet students’ needs, and (4) satisfied students are the best marketing tool that can help faculties to recruit new ones.

2 Background

In order to be successful an Internet portal must attract a large amount of traffic (and users) and have customers that are very satisfied with the provided service. By integrating web portals within existing business companies hope to create a cost-effective channel to communicate with users. Numerous studies have shown that higher level of perceived web site quality, as well as customer service, is leading to a possibly increased profitability [3].

In the research of online services, various instruments and measurement dimensions have been proposed according to website properties, and could be used on various website types. Web Assessment Index [7] was introduced as an instrument for the assessment of efficacy of commercial web sites. Index included four dimensions: (1) accessibility, (2) speed, (3) navigability, and (4) content. In addition, authors stressed that proposed index can be used to assess various web sites. However, this Web Assessment Index is mostly focused on web site quality, not on the service provided via a particular web site.

2.1 Transaction-based web portals

Some newest instruments developed to measure service quality provided via transaction-based web sites (web portals) are: E-S-QUAL scale (2005), PeSQ scale (2007), e-travel service quality scale (2007), instrument for e-retailing website service quality (2009), and EXQ scale (2012).

E-S-QUAL scale was introduced as an instrument for assessment of the quality of service delivered by an online web shop site [8]. E-S-QUAL is a four-dimensional, 22-item instrument. Four identified dimensions are: (1) efficiency (refers to the simplicity of using a particular web site and the web site speed), (2) fulfillment (refers to satisfaction with availability and delivery of items), (3) system availability (refers to technical functioning of a particular site), and (4) privacy (refers to protection of users’ information). To measure users’ recovery-service experience, a subscale E-RecS-QUAL was created. E-RecS-QUAL consists of three dimensions: (1) responsiveness, (2) compensation, and (3) contact.

Result of the study presented in [3] is the PeSQ scale that characterizes the perceived quality of e-service. According to results of the presented study the perceived quality can be seen as a multidimensional construct that encompasses (1) web design, (2) customer service, (3) assurance, and (4) order management.

According to the study presented in [4] online customers place emphasis on (1) information quality, (2) security, (3) website functionality, (4) customer relationships, and (5) responsiveness when considering e-travel service quality. In addition, perceived e-travel service quality is a strong predictor of online customer satisfaction and loyalty intention.

Service quality provided via e-retailing websites can be measured in six dimensions: (1) website usability, (2) information quality, (3) reliability, (4) responsiveness, (5) assurance, and (6) personalization [9].

Reference [5] presents the development and validation of a multiple-item scale for service experience (EXQ). It introduces a construct named “service experience” which is broader than service quality construct. Service experience includes emotional dimensions of service quality, functional dimensions of service quality, as well as customers’ social content. The findings of the described research suggest that customers base their perceptions of service experience in four dimensions (authors named it POMP concept): (1) product experience, (2) outcome focus, (3) moments-of-truth, and (4) peace-of-mind.

2.2 Information-based web portals

Although the instruments for assessment of e-service quality provided via information-based web sites (portals) are rare, they represent valuable knowledge.

According to [6] the instrument for measuring service quality of general portals encompasses four dimensions: (1) usability, (2) privacy and security, (3) adequacy of information, and (4) appearance. In addition, appearance and adequacy of information influence the satisfaction of customers of general Internet portals.

The study presented in [12] determined five dimensions of service quality perceived by users of information-presenting web portals: (1) usability, (2) usefulness of content, (3) adequacy of information, (4) accessibility, and (5) interaction. Furthermore, accessibility and usability were identified as two major aspects of efficient system for information retrieval and delivery. In addition, service quality in turn influenced user satisfaction.

Tate et al. [10] investigated users' perception of service provided via university web portals. They revised an existing instrument named e-Qual (used in various domain of e-services) suggesting that perceived service quality in university web portals encompasses similar dimensions to those that were identified in other e-service quality studies. Finally, they proposed a modified instrument that consists of four dimensions: (1) usability, (2) content quality, (3) service interaction quality, and (4) transaction quality and safety.

3 Method

In order to investigate service quality perceived by users of faculty web portals we performed an investigation among the students of Faculty of organization and informatics. Online questionnaire was used to collect data. The study included 70 participants that were randomly selected.

3.1 Questionnaire

The questionnaire was composed of two parts. The first part of the questionnaire encompasses four constructs: (1) efficiency, (2) web design, (3) information quality, and (4) reliability. The 21 items used in constructs were adapted (or modified) from service quality literature. Items used for *efficiency* construct were adapted from E-S-QUAL scale [8]. In addition, items used for *web design* construct and *reliability* construct were modified according to the original items used in netQ scale [13]. Items used for construct named *information quality* were created according to Barnes and Vidgen research [2]. Overall satisfaction with provided e-service was measured using one item scale, according to [8]. Respondents used five point scales to mark their agreement/disagreement with a particular item, where 1 corresponded to *strongly disagree*, and 5 corresponded to *strongly agree*.

Furthermore, the second part of questionnaire encompasses questions regarding age, gender, period and frequency of using faculty web portals.

3.1 Data collection

Respondents were individuals who have been using the web portal of Faculty of organization and informatics in Varaždin (undergraduate second-year students). In total, there were 70 responses collected. Of all respondents, 21 were male and 49 were female. Majority of respondents used faculty web portals 1-3 times per week (29 respondents) or 4-6 times per week (28 respondents).

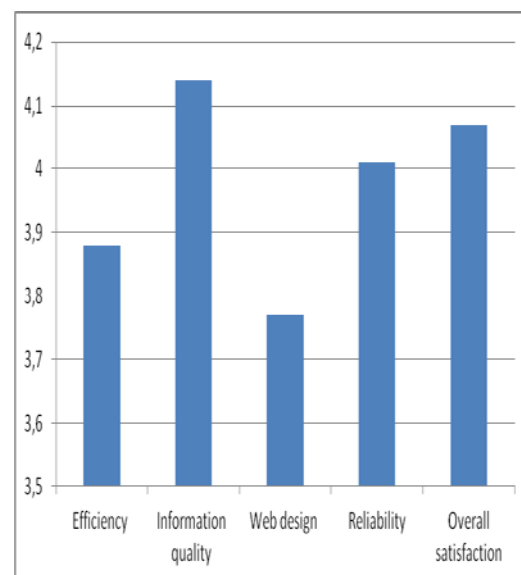


Figure 1. Average scores according to quality dimensions and overall satisfaction, N=70

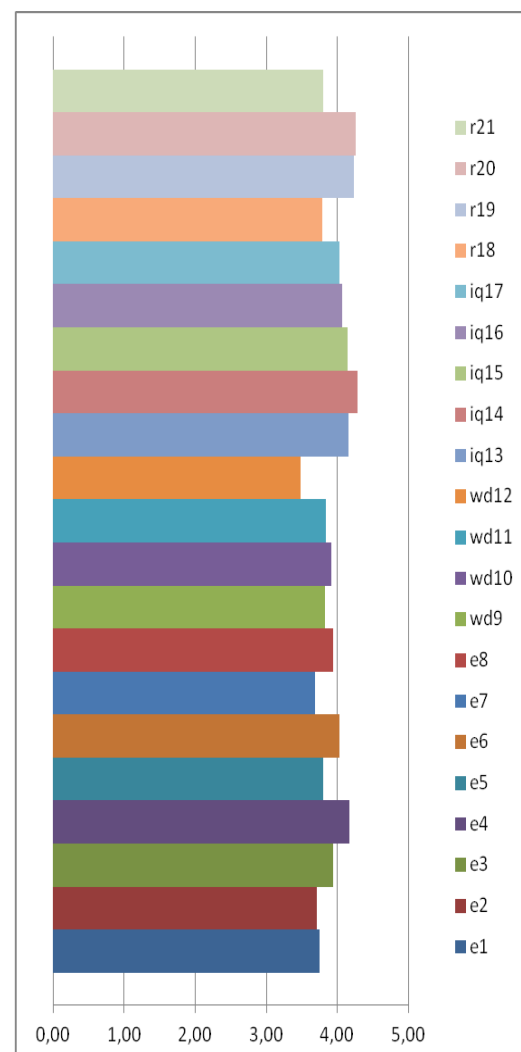


Figure 2. Average scores according to questionnaire items, N=70

4 Results

To measure e-service quality four measurement scales were used. Scale *efficiency* encompassed eight items (labeled e1-e8) that referred to respondents' perception whether the web site is well organized, easy to use and navigate. Scale *web design* consisted of four items (labeled wd9-wd12) that referred to respondents' perception of web site design and layout. Scale *information quality* encompassed five items (labeled iq13-iq17) that referred to respondents' perception whether the information provided on web site are reliable, relevant, accurate and up to date. Scale *reliability* consisted of four items (labeled r18-r21) that referred to the consistency of web site design, accessibility of web site, usage of spyware or adware.

Fig 1 presents the average score for four measurement scales and overall satisfaction. Overall satisfaction was measured using one-item scale: "I am satisfied with level of service quality provided on this web site."

According to the presented scores respondents are most content with the quality of information provided on faculty web portal (average: 4.14), and least content with web site design (average: 3.76). Fig 2 presents more detailed information; it presents average scores according to all items of the questionnaire.

Cronbach' alpha coefficient was used to test internal consistency of the scale items. All the coefficients were above 0.80, except for the scale Reliability where the coefficient was 0.66. Although this coefficient was under the proposed 0.70, further analyses include this measurement scale (since our study presents a preliminary research).

In order to investigate the relationship between proposed measurement scales that influence users' perception of provided e-service quality and overall satisfaction with service quality, a correlation analysis was performed. To check the normality of the distribution of the measurement scales we used the Kolmogorov–Smirnov test. Since the prerequisite of variable normality was fulfilled, the Pearson correlation coefficient analysis was used.

Results of the performed correlation analysis are presented in Table 1. Presented results indicate that

there are significant positive relations between users' overall satisfaction with service quality and all proposed service quality dimensions (measurement scales). The strongest relationship is identified between users' satisfaction with provided service quality and users' perceptions of the efficiency of the faculty web portal. We used t-test and one-way ANOVA to test the difference in answers of respondents according to gender, period and frequency of usage of faculty web portal. There were no significant differences identified.

5 Conclusion

The most important outcomes of service quality are customer satisfaction, loyalty and positive word-of-mouth. In order to manage, as well as to improve service quality, companies need to be able to measure it and understand its connection with those identified outcomes.

Results of the preliminary study presented in this article can be beneficial for Faculty of organization and informatics, but also for every faculty web portal. Respondents were the most satisfied with (1) quality of information provided on faculty web portal, and with (2) reliability of faculty web portal. This implies that current information (amount, presentation and organization) met the needs of included respondents. In addition, easiness of web portals usage suits them, as well as the web site accessibility and users' privacy protection. On the other hand, respondents are the least satisfied with web site design, e.g. with innovativeness, creativity and professionalism of web design.

Furthermore, results of the correlation analysis can be more generalised, therefore some beneficial conclusion can be made. Individuals who use faculty web portals include their perception of (1) efficiency of web portal, (2) web design, (3) quality of provided information, and (4) reliability of web portals in their overall evaluation of the quality of provided e-service. There are identified positive correlations between overall satisfaction with e-service quality provided on faculty web portals and the four named quality dimensions. The obtained results suggest that an individual who perceives higher level of efficiency of

Table 1. Results of correlation analysis, N=70, p<0.01

	Efficiency	Web design	Information quality	Reliability	Overall satisfaction
Efficiency	1				
Web design	0.70	1			
Information quality	0.80	0.66	1		
Reliability	0.77	0.59	0.72	1	
Overall satisfaction	0.79	0.54	0.63	0.68	1

web portal; is more satisfied with web portal's design; perceives higher level of information quality; and is more satisfied with web portals reliability; will be more satisfied with overall provided quality of service.

Despite the fact that there are many studies that are related to information systems and electronic commerce, researchers (but also other involved stakeholders) cannot afford to rest on current knowledge with respect to the study of on-line service quality [6].

On-line services are continuously changing and evolving, and further studies are required in order to better understand all involved issues and problems. In such manner, the presented result could be used to find better solutions and new suggestions for improvement of the communication of faculty and students using faculty web portals.

To summarize, the presented research is only a preliminary study. Future research could be directed to make valid, tested revisions of the presented instrument.

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