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Improvement of methodical approaches to higher schools' marketing activity assessment on the basis of Internet technologies application

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Abstract

The paper substantiates the necessity of higher schools marketing activity developing on the basis of Internet technologies; suggests the technique of comprehensive assessment of functioning and quality of the site as the main tool of marketing activity on the Internet, substantiates the stages of its implementation and provides the approbation results; suggests strategic directions for the improvement of functioning and quality improvement of a higher school site, which makes it possible to improve the efficiency of their marketing activity on the basis of the Internet technologies application.

Keywords

Marketing activity; Higher schools; Internet technologies; Integral evaluation of assessment indicators; Quality indicators; Functioning indicators

Introduction

Growth of the competition in the educational services market conditions the necessity of marketing approaches applying in the organizations of higher professional education. Decrease of the number of potential applicants – population in the age of 17, rapid development of the

Internet technologies, and growth of the number of Internet users brought new peculiarities in the organization of marketing activity of businesses including higher schools. Development of a higher school marketing activity on the basis of the Internet technologies application makes it possible to intensify the processes of information promotion on the activity of a higher school on the Internet, shape a positive image of the educational institution and loyal relations with the subjects of the educational services market.

The above-stated provisions actualize the necessity of developing theoretical concepts and practical recommendations on the development of marketing activity of higher schools on the basis of the Internet technologies application and improvement of methodical approaches to its assessment.

The works of the domestic and foreign researchers are dedicated to the development of theoretical aspects and practical recommendations on the improvement of marketing activity of higher schools on the basis of the Internet technologies application.

Scientific study of the questions of marketing communications, marketing theory and methodology including the problems of higher schools' marketing activity development on the basis of the Internet technologies application was done by such domestic and foreign scientists as (Armstrong & Kotler, 2007; Romanov et al., 2011; Isaenko & Tarasov, 2012; Tarasova & Shein, 2012; Tarasova & Voronin, 2008; Hackley, 2013; Shimp & Andrews, 2013; Johns & Ryan, 2013; Stelzner, 2012).

Thus, at present there have been accumulated certain theoretical studies on the development of marketing activity in the organizations of higher professional education. But in the conditions of the intensive development of the Internet and growth of the competition in the educational services market it is necessary to solve the problems of improving the efficiency of higher schools' marketing activity on the basis of the Internet technologies application and improvement of methodical approaches to the assessment.

Materials and Methods

Theoretical and methodological basis of this research served fundamental and applied works of the domestic and foreign scientists in the field of marketing, marketing communications and Internet marketing. The set tasks were solved on the basis of structural and functional, comparative and logical analysis, situational approach as well as on different technique of graphical interpretation of information and marketing studies.

For the solution of the set tasks, we applied dialectical, systemic and comprehensive approaches to the study of economic phenomena and processes; general scientific methods (observation, analysis, synthesis), methods of economic and mathematical modeling; expert assessment methods; statistical methods of analysis (average numbers method, index method), and

sociological studies method. The informational basis of the study was the official information of the Federal Service of State Statistics (Rosstat), articles in the specialized periodical editions, the Internet resources, the results of the selected study done by the researchers and data of the Internet analytical systems including Google Analytics.

Results and discussion

On the basis of the study of theoretical aspects and methodical approaches to the assessment of higher schools' marketing activity we suggest the technique for the comprehensive assessment of the functioning and quality of a higher school site as the main tool of its marketing activity on the Internet, which makes it possible to carry out the assessment from the position of both internal and external users as well as experts on the basis of the data received during the analysis of the site's characteristics, expert evaluation and survey. Figure 1 presents the stages for the implementation of comprehensive assessment technique of the functioning and quality of a higher school site.

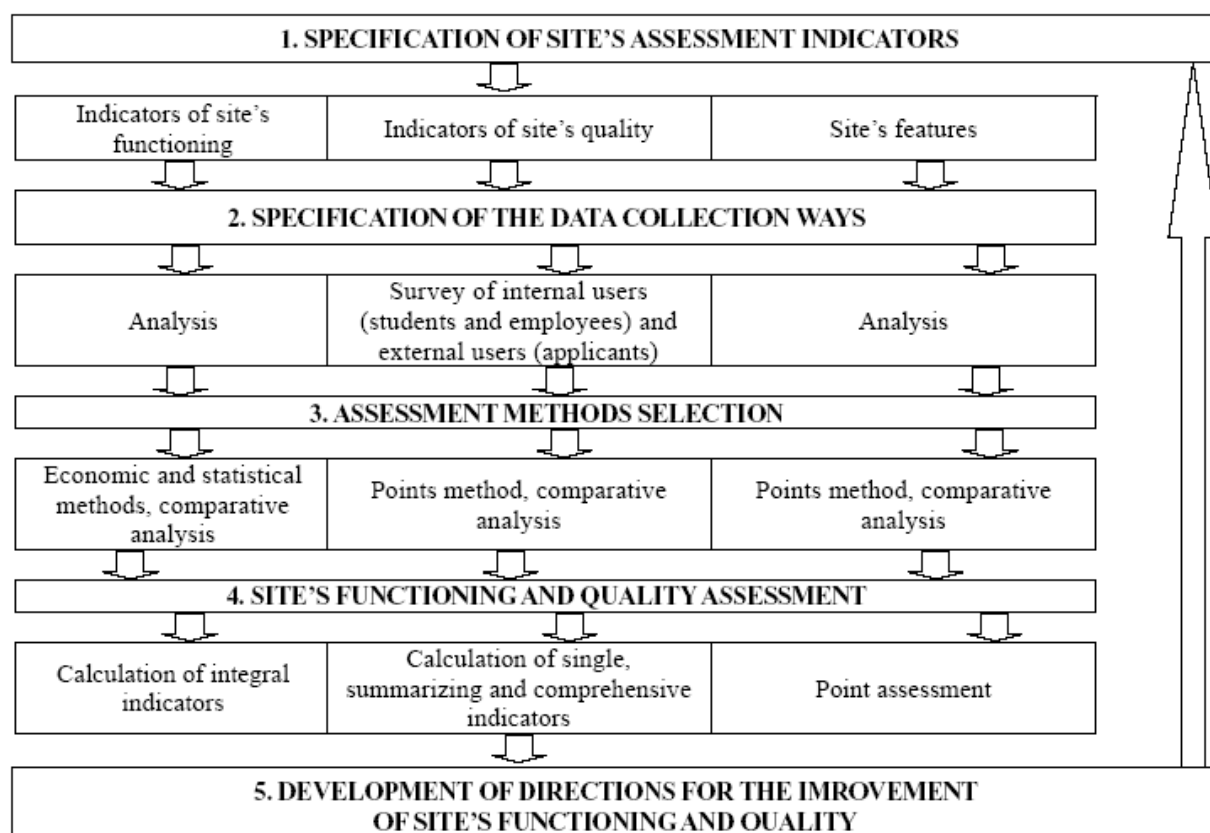


Figure 1. Stages for the comprehensive assessment technique implementation of the functioning and quality of a higher school site

The suggested technique for the comprehensive assessment of the site's functioning and quality contains five stages: specification of assessment indicators, specification of data collection ways, assessment methods selection, site's functioning and quality assessment and development of directions for the improvement of site's functioning and quality.

The technique includes three directions of the assessment: assessment of the site's functioning on the basis of data, obtained through the analytical systems and indicators determined by calculations; assessment of site's quality, site's point assessment by independent experts by the selected features.

Specification of methods, ways and tools of assessment is determined by the chosen by us directions of study (technical component, informational component, usage convenience, design, interactivity, marketing component).

The results obtained on the basis of the assessment make it possible to determine strategic directions and work out measures on the improvement of a higher school marketing activity on the Internet as well as on the improvement of its site functioning efficiency.

The assessment of a higher school site functioning by its technical component is done on the basis of the analysis of technical features of the site (web server, SMS, software code, mistakes codes etc.); analysis of the information security (access rights, resistance to SQL injections, resistance to scenarios intrusion etc.).

Site assessment by its informational component envisages: the analysis of the information openness in accordance with the legislative norms; the analysis of the resource informational content (information for applicants, students, news, information on the higher school, cultural events etc.). Site's usability is determined by the following parameters: navigation, font and formatting, optimality of structure etc.

Higher school site's assessment by its marketing component envisages: design analysis (color spectrum, style integrity, individuality, quality of content and page-proofs); resource interactivity analysis (feedback, registration, surveys and voting, news, forum, guest book etc.); SEO analysis – search optimization (TITS, PR, references to the resource, availability in catalogues, keywords, page-proofs, content uniqueness); SMO analysis – mass media optimization (widgets, RSS, availability in social networks); resource visits analysis (visits counters, visitors, geography of visits, route, returns frequency etc.); advertising materials analysis.

At the first stage we have specified assessment indicators of a higher school functioning and quality. The choice of the assessment indicators by each component is determined by their special importance from the point of view of site's functioning and quality (Table 1).

Table 1. Assessment indicators system of a higher school site's functioning and quality

Components	Indicators of functioning	Quality indicators
Technical component	average number of page downloads per minute; size of the site's main page	intuitively understandable and remembered site's address; time and speed of site's pages downloads; correct functioning of site's elements (references, menu, search etc.); stability and reliability of site's functioning (absence of mistakes); site's dynamics level (reaction on user's actions)
Informational component	total number of site's pages at the end of the year; number of PDF format files; number of scientific articles and materials (synopsis); average number of news published on the site per month	site's informational content; satisfaction with received information; completeness of the provided information; actuality of the provided information; relevance of the site's informational content to educational topics; comprehensibility of the site's information; usefulness of the provided information; reliability of the provided information; objectivity of the provided information; worthiness of the provided information
Usability	number of sections and subsections of the menu; number of the levels of nesting (structure depth)	convenience of information search; relevance of the site's information search system; site navigation convenience; orientation on site's pages; site's structure logics; site's structure optimality; site's accessibility for disabled
Design	number of graphical elements	color balance; content balance; formatting perception; fonts perception; graphics quality; design quality; general perception of site's design
Interactivity	number of photos in photo album; number of interactive elements on the site; number of on-line applications	site's interactivity; interaction with site; interaction with site's users

Marketing component (optimization)	number of internal references (average per year); number of references from the site (average per year); number of references to the site (average per year); number of referring sites (average value per year); number of referring sites from education sphere; TITS – Yandex pages authority indicator; PageRank (PR) – Google pages authority indicator	Site's connection with other sites, portals, thematic resources, social networks; Site's position in Yandex; Site's position in Google
Marketing component (visits)	number of visits (average value per day); number of unique visitors (average value per day); number of the reviewed pages (average value per day)	

At the second stage they specify data collection ways. To collect the initial data we used the capacities of the Internet analytical systems and services including Google Analytics. To assess the site's quality we carried out the survey of the site's internal users (students, employees) and external users (applicants). To assess the site by its main features we carried out the survey of experts (site's web developers) according to point scale.

At the third stage they select the assessment methods. For the assessment we used the following methods: economic and statistical, comparative analysis and point method.

At the fourth stage they carry out the assessment of a higher school functioning and quality according to the chosen components: technical component, informational component, usability, design, interactivity and marketing component.

Transformation of the site's functioning assessment indicators by the selected components in the normalized assessments is done through the calculation of deviations from the average of all values in the units of standard deviation.

The integral indicator of a higher school site's functioning assessment is determined on the basis of the sigmoid function. Table 2 presents the results of the calculation of the integral indicator of the Belgorod University of Cooperation, Economics and Law site functioning assessment (versions 2007, 2009, 2011, 2012) by the selected components.

Table 2. Results of the calculation of a higher school site's functioning integral indicator assessment

Integral indicator	site 1	site 2	site 3	site 4	
Components	2007	2009	2011	2012	2013
	I1	I2	I3	I4	I5
Technical	0.5473	0.5066	0.2408	0.6025	0.5853
Informational	0.2124	0.3569	0.5279	0.6944	0.7373
Usability	0.2175	0.2862	0.5032	0.7420	0.7577
Design	0.2181	0.2561	0.5693	0.7151	0.7584
Interactivity	0.2112	0.2924	0.5740	0.7103	0.7373
Marketing	0.2499	0.3443	0.6081	0.5204	0.7618
Site in general	0.2605	0.3450	0.5442	0.6144	0.7374

Another important direction of site's assessment is the assessment of its quality. We have carried out the survey of the main users of the higher school site: applicants, students and employees.

The results of the applicants' survey showed that the choice of the educational institution is seriously influenced by the information obtained from the Internet as the majority of the surveyed have permanent access to the Internet and use it in their everyday life and visited the official site of the higher school. The results of the students' survey showed that the student highly value the site, visit it with the view of browsing the time-table and they suggest to adapt the site to mobile devices and create a virtual tour.

The suggested by us technique of a higher school site's quality assessment envisages the calculation of single, summarizing and comprehensive indicators. As a result of the studies done we have calculated index values ($i_{s,i}$) of site's functioning assessment indicators through the ration of the obtained single values of the parameters of the present and previous versions of the higher school site. The summarizing indicator of a higher school site's quality is calculated according to the formula:

$$K_j = \sqrt[n]{\prod_{i=1}^n i_{s,i}}$$

Where K_j – summarizing indicator of site's quality assessment,

$i_{s,i}$ – single indicator of site's quality assessment,

n – number of indicators.

Comprehensive indicator of site's quality assessment is calculated according to the formula:

$$K = \sqrt[6]{K_t \times K_{inf} \times K_{usb} \times K_{int} \times K_{vis} \times K_m},$$

where K – comprehensive indicator of a higher school site's quality assessment,

K_t – summarizing indicator, characterizing technical component,

K_{inf} – summarizing indicator, characterizing informational component,

K_{usb} – summarizing indicator, characterizing usability,

K_{int} – summarizing indicator, characterizing site's interactivity,

K_{vis} – summarizing indicator, characterizing site's design,

K_m – summarizing indicator, characterizing marketing component.

Table 3 presents the results of the calculation of summarizing and comprehensive indicators of a higher school site's quality assessment from the position of students, employees and applicants of the Belgorod University of Cooperation, Economics and Law.

Table 3. Summarizing and comprehensive indicators of a higher school site's quality assessment

Indicators	Internal users		External users
	Students	Employees	Applicants
Technical component	1.08	1.22	0.97
Informational component	1.04	0.99	0.96
Usability	1.20	1.16	1.18
Design	1.04	1.04	1.04
Interactivity	1.31	1.10	1.30
Marketing component	1.16	1.06	0.97
Comprehensive component	1.14	1.09	1.06

The obtained results of the comparative analysis make it possible to make a conclusion that the comprehensive indicator of a higher school site's quality assessment from applicants' position is lower than one from the position of employees and students, which points to the necessity of developing the directions for the improvement of the functioning and quality of a higher school site, intensification of a higher school marketing activity on the basis of the Internet technologies application. To prove the coherence of the respondents' opinions on the obtained data they calculate the concordance coefficient, which proves their coherence. In the course of the study we obtained average assessments for three groups of respondents by the selected components. Figure 2 presents an average assessment of a higher school site in the versions of 2011-2013, given by applicants, students and employees.

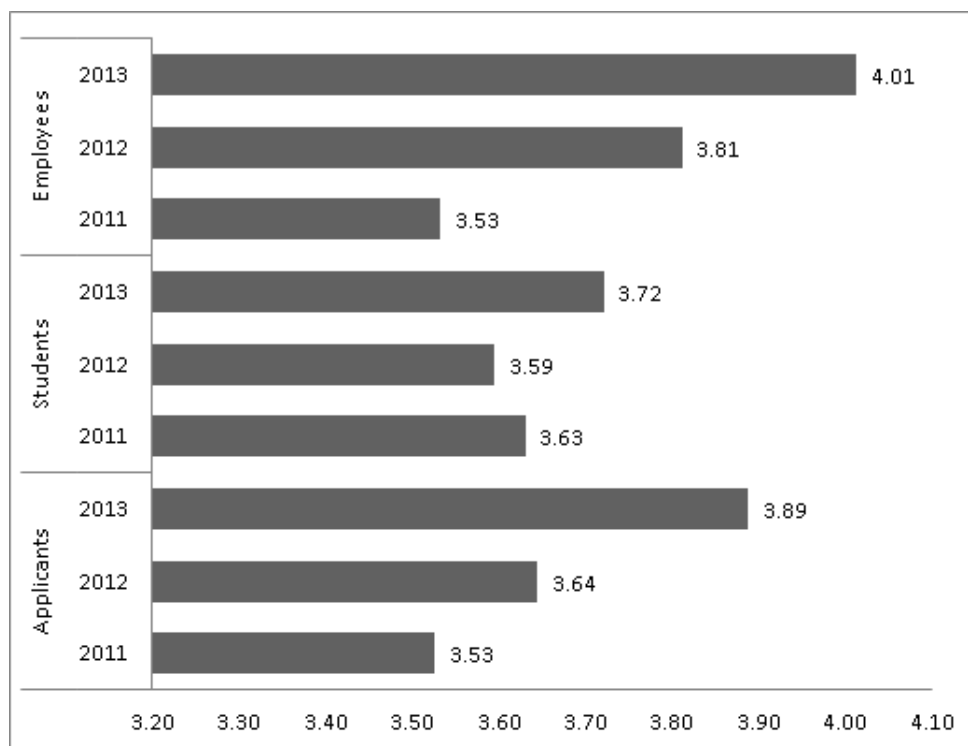


Figure 2. Average assessment of a higher school site's versions during 2011-2013

Figure 2 shows that 2013 version of a higher school site received the largest number of points and the highest average assessment from applicants, students and employees. Alongside with the assessment of a higher school site's functioning and quality we suggest to carry out its assessment according to the most important features by each component. Site's features are specified through its expert analysis. Points, reflecting the level of feature's importance, are selected through expert analysis of factors, which influence the usability, design, indexing and ranking with the use of the search systems. Point assessment of sites by their features makes it possible to consider their functional development.

Conclusions

The suggested technique of the comprehensive assessment of site functioning and quality includes three directions of the assessment: assessment of site functioning on the basis of the data received through analytical systems and indicators, determined by calculations; site quality assessment, site point assessment by independent experts according to the selected features. Specification of methods, ways and tools of assessment is determined by the chosen directions of the study (technical component, informational component, usability, design, interactivity and marketing component). The results of the assessment on the basis of the suggested technique of the comprehensive assessment of a higher school

site functioning and quality would make it possible to make substantiated marketing decisions on the improvement of marketing activities.

The assessment of different versions of the Belgorod University of Cooperation, Economics and Law site makes it possible to conclude that 2007 and 2009 version sites did not possess interactive elements; hence the sites were performing not communicative but rather representative function of the higher school on the Internet. Moreover, while the first versions of the site were developed, they did not take into account its marketing component, i.e., optimization to search systems. The results of the assessment on the basis of the suggested technique of the comprehensive assessment of a higher school site functioning and quality as the main tool of marketing activities on the Internet make it possible to substantiate strategic directions and practical recommendations on its improvement.

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