

OPPORTUNITIES TO INCREASE OF ESTABLISHMENT'S COMPETITIVENESS APPLYING RESOURCES OF INFORMATION LOGISTICS IN THE CONCRETE COMPANY'S ENVIRONMENT

Kristína Ignáčová

TU of Košice, Faculty BERG, Logistics Institute of Industry and Transport, Park Komenského 14, 043 84 Košice, Slovakia, kristina.krizanova@student.tuke.sk

Keywords: competitiveness, information logistics, information flow, website

Abstract: This article solves the problem about ensuring and managing of the information flow by the institution for higher education – the Technical University of Košice (TUKE) and one of its faculty, the Faculty of Mining, Ecology, Process Control and Geotechnology (FBERG). It is paid attention to the university's official website and its complicacy. TUKE homepage is chosen for the primary source of information and the article explains the opportunities of its improvement for the purpose of streamlining the information behavior of both organizations. The implementations of concrete solution's offer expects an increasing of organizations's competitiveness that will promote the status and awareness of the organizations in society.

1 Introduction

Information offer via the organizations's web presentations are now becoming a basic communication tool between organizations and society. For this reason is searching of information in an electronic environment a part of everyday human information behavior. Therefore is appropriate to pay attention to the way of their providing and promotion. In this case goes a promotion of university hand in hand with raising the quality of learning, academia, researches and care for graduates's future.

Offer of institutions for higher education is wide. A competition is a mover of any business and refers to a situation in a market in which firms or sellers strive independently for the patronage of buyers [1]. Competitive are products, firms, nations, offers and services that meet the quality and prices standards of the local and world market [2]. Information flow in the speech, documentary and other forms is between the external environment and internal logistics environment, and its main function is the realization of management function [3]. Information offer via the organizations's web presentations shows over the years a progress. Nowadays user requirements are dynamic, interaction, usage of multimedia elements, searching concepts and variables, own account, online interfaces, electronic payments etc. Older website types are static pages. These meet only the requirements of easy obtaining of informations.

2 Analysis of the actual status of Technical university of Košice and Faculty BERG

The establishment of Universitas Casoviensis in Košice in 1657 was essential for education enhancement of Hungarian dwellers. 105 years after this establishment was the technical education promoted to the higher level.

In 1952 came to the establishment of the Košice Technical College. Since 1991 is this institution of higher education renamed as Technical University of Košice (TUKE). In spite of this rich history has the university never been named "Slovak" or "State", however it was planned. Pre-war events following the Vienna Arbitration caused the college moving to Bratislava, the basis for the Slovak Technical University in Bratislava [4].

TUKE offers education in wide variety of study programmes with a practical use in the region of its Alma mater. It is also necessary to say that the study is provided by nine faculties. The comparison of specifications of faculties technical universities in Slovakia, Czech Republic and Poland found, that the TUKE faculties's and their institutes's structure are unique. It can be said that five of nine faculties are unrepeatable and could be used for "building blocks" in creating competitive advantage.

In this case are TUKE and FBERG reviewed independently, but both are staff and line organizational structure. Information flow is excessively complicated due to numerous subordinate departments. [3] Vice-deans of FBERG are responsible not only for scientific and research activities but also for many flows that provide informatisations and promotion of university in society.

TUKE accepted in 1996 the border of the students number (9000). This number increased until 2009 (to more than 17600). Equally important are facts about FBERG. The number of registered FBERG students is falling and doesn't meet planned number of admitted applicants, however the real number of admitted applicants is sufficient to meet the planned number.

Over the academic years 2007/2008 – 2012/2013 were variable numbers of study programmes in both organizations. For example, in the 1st level of internal and external form changed TUKE this number every academic year. As for the FBERG, it wasn't retain same number in two from six academic years.

OPPORTUNITIES TO INCREASE OF ESTABLISHMENT'S COMPETITIVENESS APPLYING RESOURCES OF INFORMATION LOGISTICS IN THE CONCRETE COMPANY'S ENVIRONMENT

Kristína Ignáčová

Since 2004, Academic Ranking and Rating Agency has rated the quality of slovak higher education insitutions. TUKE and FBERG have been included in this ratings. There are several categories to rate: Science and research, Education, Funding and Reputation. Both organizations are classificated in so called class "TECH" separately. The FBERG achieved the best rate in the first year of rating (4th place). The most unfavorable rate came five years after that (17th place) and this fact causes a soft regress in global evaluation about the TUKE in this class. After 2010 are realized evaluations just about the faculties of higher education institutions. The last ranking of FBERG achieved 11th place – the year 2013.

2.1 Character of information support

In the organizations's legislation are included, among others, methods to ensure information systems. The aim of the operating instructions for computer network TUNET and TUKE information system is to establish a compact agenda for building and operation for information support. The homepage for TUKE is www.tuke.sk.



Figure 1 Homepage design in October 2005 [5]



Figure 2 Homepage design in February 2014

From a first look is clear that a university communicates with applicants via heading: Challenge for your future. Except design changes it comes to content changes too. There were also added separate sections as: For students, For employees, For applicants, News, University Highlights, etc. Quite positive is the fact that over the years it has come to changes. TUKE has its own sources for ensuring a web page. The server www.tuke.sk is created and operated not by some external supplier, but by one part of TUKE, by the Institute of Computer Technology. The common web presentation part of almost every institution of higher education is redirection to its, so called, "fan page" on social network Facebook. Nowadays, this redirection is missing from TUKE homepage and furthermore it also doesn't exist any serious TUKE fan page on this social network.

Another, but no less important is the fact that homepage www.tuke.sk is included in the "Webometrics Ranking of World Universities". This ranking web of universities contains about 12 000 web presentations of universities from over the world. According to recent data (March 2014) the homepage is ranked 3rd place within Slovakia. In the global ratings surpasses TUKE homepage nearly 90% of all evaluations (1199th place).

2.2 Results of opionons and preferences from TUKE applicants

The main goal of survey was focused on the information problem and it connected potential applicants for the study with the content of available information and technology. The survey was realized during the Open day TUKE in November 2013 and contained 7 questions. For the purpose of the bachelor thesis there got onto 50 potential TUKE applicants. Two from completed questionnaires were classified as invalid. Nowadays, the number 48 of real applicants presents only 1% of applicants for 1st level of internal and external forms. In spite of this fact are survey results considered for general valid.

First question was focused on kind of faculty in which are applicants interested. The most of applicants, 33%, is going to apply on the Faculty of Electrical Engineering and Informatics. According the survey is the FBERG the second favourite faculty, where is going to apply 22% of applicants. The server www.tuke.sk was chosen for information source by most of applicants in the second question. The third question divided applicants into two groups – applicants, who have ever visited TUKE homepage and applicants, who hadn't visited TUKE homepage yet. A first group covered 85% of applicants and could continue in survey. The rest of applicants were requested to give back a survey. Answers on fourth question are quite unexpected because the most of applicants browse the section – For students. Only 30% of them are interested in the section – For applicants. Answers on next question reveals the facts about the satisfaction with TUKE homepage clarity. Almost 60% of

OPPORTUNITIES TO INCREASE OF ESTABLISHMENT'S COMPETITIVENESS APPLYING RESOURCES OF INFORMATION LOGISTICS IN THE CONCRETE COMPANY'S ENVIRONMENT

Kristína Ignáčová

applicants are with homepage clarity satisfied. It is also necessary to add result of sixth question, that according survey results takes each visitor some benefits from the homepage visit, but most of them would rather find out more information. The last survey question asked for study programmes which are offered by the FBERG's Logistics Institute of Industry and Transport. It was asked for the ability to arouse interest and the following selection, which was based only on naming of study programmes. Study programmes of a Logistics Institute (Traffic management of raw materials, Industrial logistics, Transport logistics of company) are chosen only by few of applicants. Other study programme (Technology and transport management) arouses the interest in most of applicants.

3 Weaknesses specify and appropriate solution's offer

Opportunities to increase the competitiveness of the TUKE and FBERG with applying resources of information logistics couldn't be neglected. Changes in information logistics and information behaviour could increase the competitiveness of organizations and bring benefits in competitive environment of universities. The informedness, availability and clarity of informations is the "primary language" of communication between organization and society. An effective way of competitiveness increasing is ability to meet expectations of this communication.

3.1 Dynamic strategy as method to ensure and manage informations on web page

The main aim TUKE homepage is to express – who the university is and what it offers. Web environment of competitive institutions tries to influence and persuade a user. At first sight is clear that other universities try to express why the university is so special and that also exists a value added for study there, although, it should be paid for the study. This effect is caused by information logistics strategy.

As standards for TUKE homepage should be set up dynamic elements, visitor interaction (e.g. to provide storage already visited links), modernization of homepage structure and visual character of documents (e.g. header and other multimedia variation, attractive graphic elements).

It is also necessary to point out that the page footer contains redirections to websites of the faculties. A benefit for website clarity could be relocation of this redirections on the top or sides of web document.

When it comes to redirections more - What kind of source should more inform about interesting cooperation among university and organizations? At the homepage could be added not only information about cooperations, but also links to web pages of companies, scientific and research institutions, etc., that TUKE or faculties worked or still work with. A creating serious TUKE fan page on

social network and redirection from TUKE homepage will be advantageous in many ways for ensure information flow.

TUKE should pay attention to its network's infiltrations and potential infiltrations that parasitize in data mediums of students, academia and TUKE guests. An quality antivirus software with many security solutions can provide access to all information flows.

3.2 Stimulating awareness of the university

An effective and targeted promotion is an useful and essential way of stimulating awareness of the university in society. A possible solution to relieve responsibility vice-deans of faculties is ensuring a competent person at keeping awareness and promotion study at the TUKE.

When it comes to ensuring of information flow, there aren't noticed any promotional incentives or advertisement in radio, TV, newspapers or on billboards. Also survey results show that nobody of the applicants chose radio, TV or the book "Before starting the university" for information source about the university and study programmes. This fact is important because it is spent fund for promotion and advertising of studium at TUKE every year. According to recent data (academic year 2012/2013) it was spent more than 100 thousand Euro for this purpose. To imagine, 490 Euro costs advertisement for 30seconds that is aired at a time 12:00PM to 6:00PM on radio (the Funradio). An 1minute TV advertisement costs 1500 Eur and is shown at 8:10PM on RTVS, etc.

Some ways of the university promotion could be effectively keep also on the TUKE homepage. For example, publishing of parts of academic works and knowledges are opportunities for increasing awareness of the university in society. As a feedback to explorations and evaluations about TUKE could be added own statements and alternatively, what for steps will be taken to improve evaluations's results.

3.3 Promotion through students, study programmes and TUKE uniqueness

In the long term is number of foreign students at TUKE around 120 – 160 for one academic year. TUKE and FBERG should add into their activities also ways, that will help to increase the interest of students from foreign countries. Of course, it takes time and demands skilled academia, translations, approving of study programmes, etc. However, far more important are opportunities, that these students bring with. They can share skills and experiences in their homeland and therefore will be TUKE promoted in abroad without any (targeted) funds for advertising and promotion.

The Institute of Information and Prognoses of Education informs that planned numbers of admitted applicants at FBERG are significantly greater than numbers of registered applicants in the long term. In terms of information logistics can be made several steps

OPPORTUNITIES TO INCREASE OF ESTABLISHMENT'S COMPETITIVENESS APPLYING RESOURCES OF INFORMATION LOGISTICS IN THE CONCRETE COMPANY'S ENVIRONMENT

Kristína Ignáčová

to improve this, at first sight, - information problem. A making decision about admitting, delivering of application process results and registration should be organized in the fastest as possible. In this case is necessary to avoid other offers of competitive universities - to inform and organize registration earlier.

The competitiveness of the university is influenced by naming of study programmes, that was also demonstrate by result on the last question of survey. Actually offer of study programmes of the Logistics Institute of Industry and Transport, in survey selected according the naming, shows signs of unattractivity. Because of this fact, it is profitable to think about naming of this study programmes. In this context is important to mention the reliability to graduate the study programm, what is related with request of the permanent (or increasing) number of study programmes.

When it comes to offer of study programmes closer, it could be modified way to the first contact (via the Internet) between the university and applicant.

Quite common on the web presentations are unusual expressions about definition of study programmes. A bulleted list is nowadays used rarely and it is modified to direct speech of students or academia. In student's direct speech can be mentioned benefits, projects, interesting excursion, favourite subjects, etc. Through this way can an applicant feel more addressed and can more understand the definition of study programme. It is called cooperation in this context.

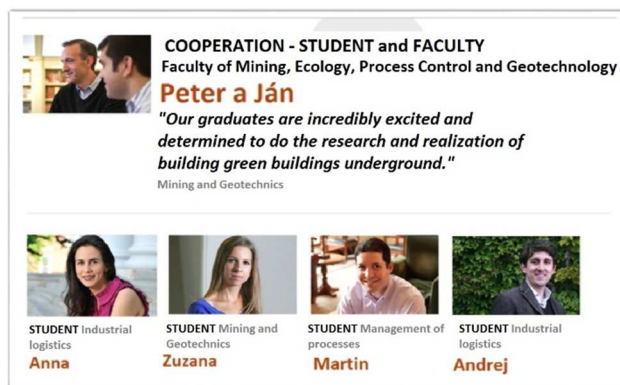


Figure 3 Cooperation – student and faculty (engl. version)

Searching of information via some search engine is very popular. This way of searching can be implemented in method for inform about study programmes offer. A search engine can be programmed for searching according to requested word, faculty, forms of study, subjects, etc. The basic character of displayed document can show faculties in frames colored according faculty's specific colours. In the frames can be included also short definitions about each study programme.

The other opportunity for TUKE homepage is to offer a test. This test could explain applicant's study interest according his/her answers on test's questions. Answers should lead to a concrete study programme and

this result can be used as direct recommendation for studium at TUKE.

Conclusion

Increase of competitiveness of TUKE and FBERG is possible by implementation of improving changes in application by resources of information logistics, which are presented in this article. It has been shown that primary assumption for browsing informations is availability and clarity of information sources. Fulfilling the basic postulates brings appropriate answers to information requirements and satisfaction with need for information. This action ensures the relevance of the information flow and also the purpose of information logistics. The implementation of modern, attractive and interactive ways of TUKE web communication can meet the habits and expectations of information behavior of young generation of today's society. The most of mentioned changes can be realized immediately and without special costs. This is possible because the TUKE information support and web presentation are ensured by TUKE staff. The significance of ensuring this kind of communication is proved by the fact, that over 85% of applicants visit the TUKE homepage www.tuke.sk.

References

- [1] <http://stats.oecd.org/glossary/search.asp>
- [2] <http://www.businessdictionary.com/definition/competitiveness.html>
- [3] BALOG, M., STRAKA, M.: *Logistické informačné systémy*. Bratislava: EPOS, p. 208, 2005.
- [4] <http://www.tuke.sk/tuke/univerzita>
- [5] http://www.tuke.sk/legislativa/sekcia-pre-zamestnancov/dizajn-manual/tuke_dizajn_manual_verzia_1-11-2005.pdf
- [6] PORTER, E. M.: *Konkurenční výhoda*. Praha: Victoria Publishing a.s., p. 626, Translated form am.original: Competitive advantage., 1993.
- [7] STRAKA, M., BALOG, M., IŽOLOVÁ, J.: *Informačná logistika a informačné systémy*. Košice: Edičné pracovisko – Fakulta FBERG, p.110, 2010.
- [8] CEDERHOLM, D.: *Webdesign s webovými standardy*. Brno: Zoner software s.r.o, p. 256, 2004. Translated from am. original: Web standard solutions: The mark up and style hand book.
- [9] PÓLYA, A.: *Webové stránky a netradičné formy vzdelávania v informačnej spoločnosti*. Bratislava: Ekonóm, p. 80, 2008.
- [10] http://www.tuke.sk/legislativa/sekcia-pre-zamestnancov/prevadzkovepredpisy/PvP_TUKE_PSI_S_09_Pocitacovej_siete_TUNET_a_IS_TUKE_Vyd01zmk01.pdf
- [11] <http://www.w3.org/Consortium/mission>
- [12] <http://webometrics.info/en/Europe/Slovakia>
- [13] ECCHER, C.: *Profesionální webdesign techniky a vzorová řešení*. Brno: CP Books, a.s., p. 420, 2005.

OPPORTUNITIES TO INCREASE OF ESTABLISHMENT'S COMPETITIVENESS APPLYING RESOURCES OF INFORMATION LOGISTICS IN THE CONCRETE COMPANY'S ENVIRONMENTKristína Ignáčová

- [14] STEINEROVÁ, J., GREŠKOVÁ, M., ILAVSKÁ, J.: *Vyhľadávanie informácií a organizácia poznania v elektronickom prostredí* [online]. Bratislava: FIF UK, 2010. <<http://stella.uniba.sk/texty/VIOPvEP.pdf>>
- [15] STEINEROVÁ, J., GREŠKOVÁ, M., ILAVSKÁ, J.: *Informačné stratégie v elektronickom prostredí*. Bratislava: Univerzita Komenského v Bratislave, p. 192, 2010.
- [16] BASL, J.: *Podnikové informačné systémy - podnik v informačnej spoločnosti 2.*, výrazne prepracované a rozšírené vydanie. Praha: Grada Publishing, p. 283, 2008.
http://books.google.sk/books?id=woSiPpuZAaMC&hl=sk&source=gbs_ViewAPI&redir_esc=y
- [17] RUSSEV, S., Russev, R.: *Informačná podpora manažmentu výrobných podnikov*. Bratislava: Univerzita Komenského Bratislava, p. 168, 2011.
- [18] http://www.tuke.sk/tuke/univerzita/organizacna-struktura-tu-v-kosciach/TUKE_org_struktura_od_1_6_2012.pdf
- [19] KUBASÁKOVÁ, I., KAMPF, R., STOPKA, O.: *Logistics information and communication technology*. *Komunikácie* 16 (2), p. 9-13, 2014.
- [20] LOUČANOVÁ, E.: *Inovácie ako podmienka konkurencieschopnosti drevospracujúceho priemyslu na globálnom trhu*. In *Inovace: jediná účinná cesta k úspechu v globálnej ekonomice*. Praha : Soukromá vysoká škola ekonomických študií, s.r.o., p. 102-105, 2005.
- [21] DANILÁK, Michal: *Ochrana informačného systému školy pred počítačovými vírusmi*. In: *Informačné systémy pre manažérov a školy: Zborník príspevkov z odborných seminárov*, Košice: Dom techniky ZSVTS Košice, spol. s.r.o, p. 72-79, 1994.

Review process

Single-blind peer reviewed process by two reviewers.