

Communication media in the aspect of Competitive intelligence of selected University - research of Pardubice University.

Abstract

This paper is focused on the analysis of communication methods, with the aim to utilize the rate of individual communication media of selected stakeholder groups (applicants of researched University). The constituent part of this article is an example of benchmarking of the most frequent communication tools, websites and social networks. The major source is based on individual phases of a processing cycle, such as management of data collection, processing, and data analysis. The aim is to simplify University fast orientation in rapidly growing marketing communication and stabilize the competitive position. Data is taken from a questionnaire among students. The method of competitive intelligence is utilized on this data as a result of the research. These results could be applied for targeting within marketing of other universities. The paper should bring some new view on what communication channels are stakeholders using within the area of education in universities.

Keywords: Marketing, Competitive Intelligence, University

JEL Classification: I21, I25, M31

1. Introduction

Universities are trying to direct themselves and therefore gradually get involved in individual managing approaches. In order to succeed, it is necessary to have strategic management and a stable relationship with all involved parties (stakeholders), as reported in [11, 12]. Ho and Hung in their publication [8] suggest setting up a suitable marketing mix and strategy for tertiary education institutions based on market segmentation. In their own research they specify 5 major groups of University candidates, for whom they define suitable marketing strategies [9]. Susniene and Purvinis [17] are devoted to the issue of stakeholder analysis (detailed distinction of interests and needs). As reported in Soukalova [16], Universities (further Universities only) are focused on individually targeted groups with their main aim to strengthen the overall image of School, through higher volume of provided information in regard to differentiation among all competitors.

While observing University management practices, it is clear, that many authors are concerned about suitable marketing strategy in the area of University education. Their focus is devoted to strategic marketing and pointing out importance of planning in marketing [6, 13]. Authors who are involved in future marketing are emphasising the importance of integration of strategic planning [15] and advertising, with the aim to incorporate marketing communication and give a successful reputation to the University. Highly regarded authors are pointing out the importance of connection of all forms of marketing communication in a single process. It is reported that the marketing communication approach is enhancing efficiency based on synergy [7, 18]. This approach is similar to a business sector approach which shows the fact that knowledge of identical and non-conforming factors for individual segments of consumers allows them to focus and to choose an effective marketing tool, especially in advertising and promotion. This leads to the reduction of the costs for these activities. All these activities are usually dependent on financial analysis in a region [5]. The less money in the region the less possibility to create any marketing strategy; this doesn't apply only to universities.

Communication is an integral part of the comprehensive approach of university's target audience which should be clear from information mentioned above. However, we don't know if communication media has crucial influence on the final decision of candidates when choosing the university. This is the reason why we tried to identify the crucial channels of communication. We also tried to propose inclusion of acquired knowledge into comprehensive university access, by using Competitive Intelligence [10] methods with benchmark comparison of competitive universities. The entire effort aims to facilitate fast orientation of a university in the changing environment of marketing communication and consolidation of its competitive position.

In a 2013 pilot survey, the authors of this article were devoted to the issue of selecting particular content of the notice, which was targeted on a carefully chosen group of stakeholders – such as University applicants. In 2014 the main purpose was to show how the University is able to segment the market of potential students and prepare a very precisely contented promotional notice in order to efficiently target selected groups.

While observing University management practices, it is clear, that many authors are concerned about suitable marketing strategy in the area of University education. Their focus is devoted to strategic marketing and pointing out importance of planning in marketing. [5, 12] Authors who are involved in future marketing are emphasising importance of integration of strategic planning and advertising with an aim to incorporate marketing communication, and give a successful reputation to the University. Highly regarded authors are pointing out the importance of connection of all forms of marketing communication in a single process. It is reported that the marketing communication approach is enhancing efficiency based on synergy [6, 18].

2. Methods

2.1. Questionnaire

The main purpose of this article was to find out utilization rates of media communication within a selected group of stakeholders. The questionnaire has been used in order to provide sufficient data and secure their processing. The whole project was implemented by the University of Pardubice – Faculty of Economics and Administration (FES UPa) during the academic Year 2014/2015.

To avoid inaccurate answers during the survey, all the questions were closed with the exception of one. The questionnaire was divided into 3 separate parts:

- Factors playing a major part in University selection; respondents were asked to select the power of influence during their decision making.
- Media were without doubt the most commonly used source during their decision process; applicants were able to choose more than one answer without having to select the strength of influence in their decision making.
- Last part of questionnaire was focused on identification/personal details of applicants.

Questions were addressed to students of Year 1 of the present Bachelor studies during winter and summer semester within 2 subjects. There were 488 students asked to complete the questionnaire. The rate of return was approximately 72% (71% of them were female and 29% male respondents). Further ID of all respondents was adjusted.

During processing of the answers, there wasn't significant sign of dependency on individual characteristics of respondents, which would have had any kind of influence. It wasn't necessary to divide students into separate groups and judge them individually.

2.2. Benchmarking and Competitive Intelligence

We found from results obtained by questionnaires, that the most usable communication media are electronic ones. We decided to compare these electronic channels of the researched university with its competitors. Sophisticated market access was evident during monitoring of universities' behaviour, especially with both the volume and pressure of competitors rapidly growing. Due to high complexity and sophistication of newly utilized ways of accessing, Universities are trying to resolve the problem in order to make the information system more secure, which should lead to smooth and complex data processing, and their efficient application in marketing focus on targeted groups. Apart from that it also leads to utilization of Competitive Intelligence (competitive coverage, further CI). CI is an interdisciplinary specialization, and one of the Business Intelligence disciplines. It is the systematic and ethic process of data collecting, analysing and using the information, which can influence the intention of the organisation and their function. CI is also used as a system of decision making support [1]. Therefore, we propose to analyse the success of the communication's channels and to ensure continuity with the other

instruments of the marketing mix. We also propose to show the advantage of incorporation of the individual steps within the context of the whole competitive intelligence concept, as described below.

This paper focuses on helping the university to consolidate their competitive position through the appropriate selection of communication channels. Based on the version of Francois Jacobiac [3], benchmarking is the method of comparing competitors, which is very useful within the competitors market [2, 14]. For this particular purpose, the Faculty of Economic and Administration, University of Pardubice, was compared with the Faculty of Management and Informatics at Hradec Kralove University (FIM UHK) and other similar faculties as a direct competitor in terms of location and specialty.

During benchmarking, every single type of information could play a vital role. Simultaneous comparison of competitors is considered as a tactical tool, rather than a strategic weapon. It logically implies that permanent monitoring is the key. That involves setting of a similar information system, as competitive Intelligence requires. On the other hand, benchmarking does not allow society to predict any opportunities and threats coming from its environment. And therefore it is convenient to combine comparison with other methods of Competitive Intelligence, such as competitive analysis, which allows the getting of a general overview [3].

3. Intelligence Analysis of information obtained

Authors of this article were devoted to the issue of selecting particular content of the notice, which has been targeted on a carefully chosen group of stakeholders – such as University applicants in the 2013 pilot survey. In 2014, the main purpose was to show how the University is able to segment the market of potential students and prepare a very precisely contented promotional notice in order to efficiently target selected groups.

One of the questions from this survey is built on previous research and is trying to find out what impact the selected factors has had on University choice. During the survey it has been confirmed that assurance of a potential career ladder had the most influence, followed by distance of commuting together with level of funding. For our respondents, the difficulty of admission process and chance of obtaining work based experience, played the significant role.

3.1. Media used by University applicants

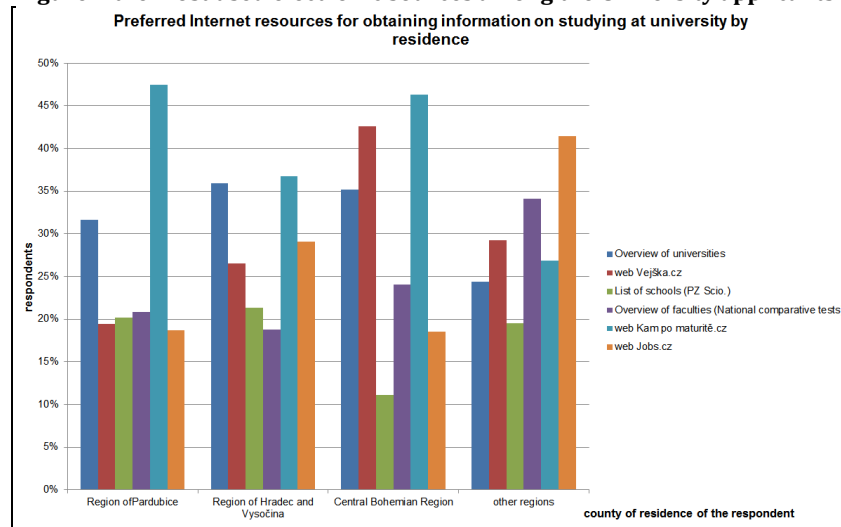
Current research has distinctly started to focus on media and sources of information and their impact on the University selection process. Media plays a big role in sharing information. It is very important to choose a correct source of social network, clearly the most popular one among the young people due to the funding costs [4, 8, 16].

During the analysis of 'media used for survey and collecting information' on available Universities, it was found that the most useful media is clearly the internet (95% respondents), followed by 49% respondents using catalogues and only 12% using newspapers and magazines during their research. This fact shows how importantly a University needs to focus on sources being published on the internet. At same time it shows the fact, that the press still plays vital role among the media; especially in the form of supporting materials which are distributed across High Schools, exhibitions, or simply made available at University open days (45% of respondents have used both internet and printed materials).

As mentioned above the internet played the key role in media usage. Therefore it is important to find out which other sources, apart from www sites of the University, were students mostly using and focus on. From the research made at UPa (see fig. 1.) it is clear, that the most exploited engine used is 'Where to go after High School graduation' (www.kampomaturite.cz) with 41% (mostly used by students from Grammar Schools and Business Schools), Summary of Universities – MSMT (Ministry of Education, Youth and Sports) 33% (preferred by students from other High Schools). Other sources showed very similar utilization rates with a total value of 22%. From all answers given, it is clear that the Scio

websites are rarely used among all respondents and there is no sign of students using the website of national comparative sample testing.

Figure 1 the most used electronic sources among the University applicants



Source: Authors

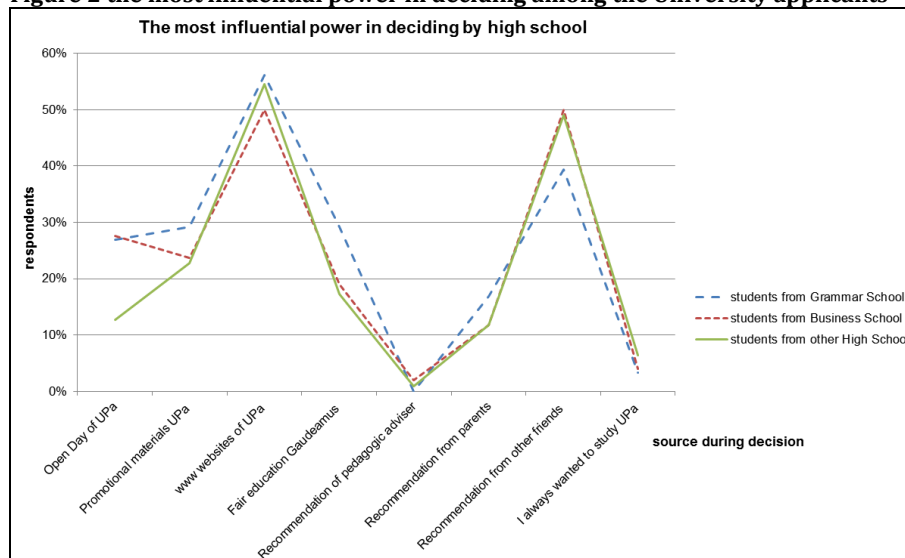
The most common Internet sources to obtain information about University education based on locality

This corresponds to the fact that prestige of the University didn't have a major effect on respondents. The above information can be useful in the future for funding purposes (but not only these) within mentioned internet sources. Continuous monitoring should be assured in order to follow up the development of the applicant survey and long term prognosis within CI.

3.2. Influence of Media during decision making

Based on research with most influential sources, information obtained through www websites of UPa with 53% votes ended in first place (commonly voted by students from Grammar School), and very closely followed by 47% of respondents who got recommendation from other friends (another group of stakeholders), (stated by students from Business School and other High School). 25% received promotional materials UPa and 23% Open Day (Further OD only). 6% of respondents said Open Day and promotional materials had the same influence on them. Lower impact had: exhibition of Postgraduate studies and lifetime education Gaudeamus - 21%; recommendation from parents or idea: 'I always wanted to study UPa' had only 5% and the least respondents were influenced by an educational consultant, only 1% (see figure 2).

Figure 2 the most influential power in deciding among the University applicants



Source: Authors

During more detailed research based on influence of locality, was found that the resident address of the respondent doesn't have significant impact, with exception of respondents who live within easy reach of University. 14% show influence of parents and distance. In general we can say that, the financial situation of the family is taken in consideration. We could see minor differences in friend references, which had a slightly higher impact in a particular area than www websites of University, (which led over friends' references in all other areas).

4. Benchmarking specialized in electronic information resources

The next part of the article is going to focus on utilizing tools of competitive intelligence, particularly internet sources and social networks due to their popularity. For comparison, FES UPa and others similar faculties in Czech Republic have been used.

4.1. Use of Web Site

SEO tool is easily accessible either for feedback purposes or optimization of selected websites for search engines. During analysis of secondary data, it has been found that total force value of a selected University website reached 61% (65% source code) and backlinks leading to the domain FES UPa was 613 254. Website Alexa rank has gained in average popularity [2].

In table 1, we can find results of University comparison optimization done by SEO (March 2015). The table header contains the name of Faculty and evaluation indicators. Strength of website indicates total score in optimization test. The stated percentage value of comprehensive analysis is in the column source code. Other columns Seznam/Google indicate the placement of websites Seznam and Google after entering the first 4 words from the website title. Except for FES UPa and FIM UHK, Faculty websites are all located in first place. A further column indicates the number of backlinks leading to the tested domain, where the utmost values confirm FES UPa. Index Alexa rank reflects website turnout, where the lower value corresponds to bigger popularity among users. It wasn't possible to find out these data for FES UPa. The last monitored index is the age of domain converted to years. It wasn't possible to find out these data for OPF SU [2].

Table 1. Evaluation of optimization of selected Faculties

Name of Faculty	Power of page[%]	Source Code[%]	Seznam/Google	Backlinks	Alexa rank	Age of domain
EKF VŠB-TUO	62	67	1/1	216 189	88 752	18,3
EF JČU	61	72	1/1	10 942	99 907	18,2
EF TUL	61	65	1/1	12 242	158 364	13,8
FES UPa	61	65	1/4	613 254	-	17,2
OPF SU	59	60	1/1	419 162	137 511	-
FEK ZČU	58	70	1/1	42 008	75 844	17,8
FIM UHK	55	45	2/2	415 704	149 940	14,4

Source: modified by [2]

4.2. Monitoring of Social Media

Most benefits of Social Media for CI are connected with profile monitoring individual faculties of University. For the purpose of monitoring single electronic and communication activities some of the analytic tools which have been used, help to easily understand how competition is behaving on Facebook. It is possible to identify changes made and therefore improve results of Facebook marketing. Particularly for this article, outputs of available tools have been used, which are suitable for competitive Intelligence.

One of the available tools is LikeAlyzer, which enables the testing of web presentation of Faculty websites on Facebook. It generally rates profiles and highlights strengths/weaknesses. It also monitors the popularity of interaction as well as response time of users. Another available tool is AgoraPulse Barometer, which calculates the average per-cent rate for several criteria based on the last 50 contributions. Due to that, it is possible to compare data as viral and organic search of (not only) fans, amount of clicks, sharing of uploaded content and other statistics. CScore is tool used for analysis of Facebook pages and it is free of charge. This tool indicates the criteria which is key in decision making in terms of success and popularity of the pages. It focuses on the relation between inserted contribution and fans reaction time as well as viral content from the perspective of quantity and quality of answers, score and popularity of web pages etc.

Currently the total profile score of FES UPa on Facebook using the search engine LikeAlyzer is 53% to the date 03/2015, the monthly increase of 'Like' is 2,26%, and amount of contribution per day is 1,78 which puts the University in first place.

Table 2 shows score of individual profile web pages of selected University Faculties on Facebook through LikeAlyzer. In the table header, the name of the Faculty is stated followed by testing indicators. The first indicator shows total percentage of website score.

Table 2. Comparison of Faculty profile evaluation on Facebook via LikeAlyzer

Name of Faculty	Total evaluation [%]	Like amount	Monthly increase likes [%]	Amount of contribution per day	Timing of contribution	Length of contribution
FIM UHK	83	2 598	1,60	1,07	0	1
OPF SU	62	2 631	-1,20	1,55	0	0
EKF VŠB-TUO	58	2 068	1,12	0,84	1	1
EF TUL	56	1 641	-0,60	0,52	0	1
FES UPa	53	1 039	2.26	1,78	0	1
FEK ZČU	43	722	0,65	0,68	0	0
EF JČU	38	2 004	0,50	0,64	1	0

Source: modified by [2]

5. Conclusion

The paper describes research study aimed at identifying the communication channels that are used by a selected stakeholders group in an examined university. Especially we describe the

communication channels that have greatest influence for the decision of university choice by the applicants.

The authors of the paper set an aim to identify communication channels that have an impact on decision-making of applicants that want to study at the university with the intention to find ways how to facilitate increasing university competitiveness to help select the most appropriate media for communicating with applicants. This aim was carried out successfully.

The first step was the preparation and realization of research between the university students. Based on the questionnaire investigation we identified factors that most affect the respondents in their choice of university, and the media which has been most used for university choice.

Given the fact that the most commonly used medium and the medium with the highest degree of influence on the final decision was web sites (53%), the authors also focused on exploring these pages within the comparison of competing universities in the form of benchmarking with the use of SEO tools. It was found that the examined university is in a slightly better position within the context of the benchmarking.

The authors also examined the competitive position of the Facebook profile which was not included in the survey due to the fact that Facebook profile was not used in the time when respondents were deciding on their university. It was found out that the examined university received an overall lower rating in comparison to FB using the LikeAlyzer tool. Significant growth of attractiveness and interest is obvious compared to the competitor during March 2015. This type of information may indicate a degree of success of individual activities on social network for the University.

More detailed examination of the data obtained by questioning brought these findings: overview of the schools on the site of Scio and the "Overview of the faculties provided for the national comparative tests" are almost never used by the respondents in contradistinction to the most used sources of information "where to go after graduation" (Kam po maturitě - service) (41%). It is also interesting that the educational adviser was identified as a source of information only by 1% of respondents. The results obtained were subsequently also tracked by distance of the place of residence of the respondents from the university, and by the type of secondary school which they studied. This research has yielded interesting information, useful to the University for better targeting of potential students.

The final recommendations of the authors is to incorporate the above work with the data in the various phases of the intelligence cycle such as controlled data collection, processing and intelligence analysis of obtained data. This information can be used within competitive intelligence. This recommendation is based on research that has found, that universities have a growing need for a more sophisticated approach to the market.

For further research, it could be interesting to focus on other tools to analyse the electronic media, which is missing in this paper. It is possible to compare their contribution in the context of the competitive intelligence of the universities, which can be useful for other business entities.

Another important communication channel influencing the decision-making of university candidates are friends. There is also an interesting possibility for the analysis of this group of stakeholders, which may be a separate research question for further examination.

References

- [1] BARTES, F. 2012. *Competitive intelligence: základ pro strategické rozhodování podniku*. Vyd. 1. Ostrava. Key Publishing, 317 s. ISBN 978-80-7418-113-9.
- [2] CEPLOVÁ, M. 2015. [online]. *Konkurenční zpravodajství v neziskovém sektoru*. Available on <http://hdl.handle.net/10195/60925>
- [3] FOURCHET, L. 2002 [online] *Benchmarking and Competitive Intelligence* Available on <http://www.frost.com/prod/servlet/market-insight-print.pag?docid=JEVS-5N2FNP>

- [4] GARCIA-ALSINA, M., ORTOLL, E., LOPEY-BORULL, A. 2011 Emerging applications of competitive intelligence in the universities. In PROFESIONAL DE LA INFORMACION 20(5), 503-509.
- [5] JIRAVA, P., KAŠPAROVÁ, M., KŘUPKA, J. 2015. Modelling of Municipal Debt in the Pardubice Region. In 19th International Conference on Current Trends in Public Sector Research Location, pp. 117-124.
- [6] HAMMOND, K. L., HARMON, H. A., & WEBSTER, R. L. 2007. University performance and strategic marketing : an extended study. *Marketing Intelligence & Planning*, 25(5), 436-459.
- [7] HAYES, T. 2007. [online] Delphi study of the future of marketing of higher education. *Journal of Business Research*, 60(9), 927-931. Volume 60, Issue 9, September 2007, Pages 927-931, ISSN 0148-2963, Available on <http://www.sciencedirect.com/science/article/pii/S0148296307000537>
- [8] HO, H. F., & HUNG, CH. CH. 2008. Marketing mix formulation for higher education : An integrated analysis employing analytic hierarchy process, cluster analysis and correspondence analysis. *International Journal of Educational Management*, 22(4), 328-340.
- [9] PŘIKRYLOVÁ, J., JAHODOVÁ, H. 2010. *Moderní marketingová komunikace*. 1. vyd. Praha, Grada Publishing a.s. 303 s. ISBN 978-80-247-3622-8
- [10] RAPP, A., AGNIHOTRI, R., BAKER, TL., ANDZULIS, J. 2015 Competitive intelligence collection and use by sales and service representatives: how managers' recognition and autonomy moderate individual performance In *JOURNAL OF THE ACADEMY OF MARKETING SCIENCE* 46(3), 357-374.
- [11] RUPP, Ch., KERN, S., HELMIG, B. 2014. [online] Segmenting nonprofit stakeholders to enable successful relationship marketing: a review. *International Journal of Nonprofit and Voluntary Sector Marketing*. Available on <http://onlinelibrary.wiley.com/doi/10.1002/nvsm.1492/full>. DOI: 10.1002/nvsm.1492.
- [12] SAGINOVA, O., & BELYANSKY, V. 2008. Facilitating innovations in higher education in transition economies. *International Journal of Educational Management*, 22(4), 341-351.
- [13] SCHÜLLER, D., CHALUPSKÝ, V. 2011. [online]. Internal marketing communication of higher education institutions. *Economics and management: 2011.6*. Available on https://www.researchgate.net/publication/228465854_internal_marketing_communication_of_higher_education_institutions
- [14] SICAKOVA-BEBLAVA, E. 2015 Civil Service Education: Basic Concepts, Typology and the Example of the Slovak Practice. In *PROCEEDINGS OF THE 19TH INTERNATIONAL CONFERENCE: CURRENT TRENDS IN PUBLIC SECTOR RESEARCH*, pp. 54-60.
- [15] SIMONOVA, S., SPRYNC, O. 2011. Proactive It/Is Monitoring For Business Continuity Planning. In *E+M Ekonomie a Management*, Volume 14, Issue 3, pp. 57-65. ISSN 1212-3609.
- [16] SOUKALOVÁ, R. 2012. *Současná role komunikace vysoké školy s cílovými skupinami*. Zlín: VerBuM, 2012, 115 s. ISBN 978-80-87500-14-9.
- [17] SUSNIENĚ, D. a PURVINIS, O. 2013. [online]. Empirical insights on understanding stakeholder influence. *Journal of Business Economics and Management*. Available on <http://www.researchgate.net/publication/269379452>. DOI: 10.3846/16111699.2013.785974
- [18] SVĚTLÍK, J. 2010. *Marketingové řízení školy*. (2. vyd.) Praha: Wolters Kluwer. 2010. ISBN 978-80-7357-494-9

