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The students' opinion – an influential element in formulating the managerial Program of the university

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Abstract: In the new market economy the universities have to formulate their strategy in correlation with the educational activity which corresponds to their educational profile or domain. In this context, the necessary information in order to formulate the strategy comes from the outside as well as from the inside of the university, being then correlated with the national and international educational policy and with the supply and demand on the labor market. The purpose of the present study was to identify the decisional factors in choosing a university and the analysis of the students' opinions regarding the most important aspects of higher education. The study was carried out by means of the questionnaire method at the Technical University in Cluj-Napoca during the 2007-2008 academic year and it allowed the gathering of the students' opinions on how they perceive the educational activity, the teaching system and the informational system. The analysis of the answers gave us access to the profile of the problems to be studied.

Keywords: university management, students' opinion, organizational culture.

INTRODUCTION

Both at national and international level, the main concerns of the universities are directed towards providing the quality of the teaching body, attracting students, achieving an educational offer as attractive as possible and as close as possible to the students' expectations, creating a positive educational culture, accomplishing the knowledge transfer at the highest level possible. At the Technical University in Cluj-Napoca these preoccupations are stated in the Strategic Plan for the 2008-2011 period, in the following objectives: 1. attracting as many students as possible; 2. orientation towards quality and stimulating performance in education and research; 3. agreeing with the European educational orientation and adapting the educational offer to the requirements of the labor market; 5. creating an academic environment based on a responsible partnership with the students and with the employees of the university (http://www.utcluj.ro). In order to reach these strategic objectives, the university management has to have information from both the inside and the outside of the university.

In this area of expertise the literature contains numerous studies presenting the importance of the internal informational resources in the rapid adaptation of the universities to the demands of the market, in the adaptation of education and of the educational offer to the European orientations, to the students' needs and expectations, as well as of the employers and of the labor market. (Plumb et all., 2003; Stoenoiu et all, 2008).

In order to adapt higher education, efforts need to be made in creating a positive attitude towards change, an organizational culture focused on progress (Johns, 1998, p.527, extras din Kiernan M.J. 1993 „The new strategic architecture: Learning to compete in the twenty-first century").

The efforts of change should also point at the way in which the structure of the teaching plans is made and at the teaching methods.

The students' satisfaction with the teaching techniques, the methods used and the evaluation procedures, the stimulation of a positive attitude towards the need to study, the creation of possibilities of training and development for the teachers, these are all factors which influence the students' performance (Păun and Stanciu, 2008; Lupşa-Tătaru, 2007; Moodie, 2007; Ford, 2007; Chiorean and Stoenoiu, 2008; Sminia, 2009; Stoenoiu & Bolboacă, 2009).

The instruments for the evaluation of knowledge are considered to be methods of measurement of the educational performance, allowing students to acquire feed-back in real time while the university or the department can record and evaluate statistically the accomplishments of the course (Lupşa-Tătaru and Constantin, 2008; Deniz and Ersan, 2001). A series of studies published in the literature of this area of expertise emphasize the importance to be given to the subjects of education by using means which would permit "orientation towards beneficiaries"(Gronroos, 1983; Normann, 1988; Duponey, 1990; Bacali, 1999; Bruhn, 2001; Kotler, 2006; Schönwetter et. all, 2009).

The purpose of the present study was to gain information from the inside of the Technical University in Cluj-Napoca, directly from the students, regarding the educational activity, their attitude towards the educational process, their expectations concerning the requirements of the student status, the informational process and the presentation of the courses.

MATERIALS AND METHODS

The study was carried out by means of the questionnaire method, which allowed the gathering of the data concerning the opinions of the students from the Technical University in Cluj-Napoca with respect to the educational activity. In order to establish the size of the group of subjects we used Eq(1) [Balaure, 2000].

$$n = \frac{t^2 \times p \times (1-p)}{e^2} \qquad (1)$$

where n = sample size; t = degree of confidence, the coefficient that corresponds to the probability with which the research results are ensure (degree of confidence is reflected in the statistical tables of the student distribution to be equal to 1.96 for a threshold of 5% significance) default scientist; p = proportion of components in the sample who have researched feature; e = error limit intake (materiality) was chosen equal to 5%. Since it is difficult to estimate the value of the parameter p, we established that 0.5 is the value of this parameter**.**

The size of the necessary group of subjects was thus obtained as being 384.16 ≈ 385. The volume of the group of students given by Eq(1) represents the volume of the group, in the hypothesis of the dichotomic answer referring to the searched characteristic (the question).

The admission of students in the group of subjects was made in accordance with the following steps:

- The proportion of students from each faculty was calculated taking into consideration the proportion at the level of the university;
- The year of study of students included into analysis was randomly chosen;
- The majors were chosen from all of the majors existing in the faculty for the year of study included in analysis;
- The group / groups of students included in the study were chosen.

The study was based on three objectives and five hypotheses as follows:

Objective no. 1 – An analysis from the student's perspective and from the point of view of the informational resources

- Hypothesis no. 1. The teachers communicate the changes in the system (question no. 1);

Objective no. 2 – An analysis from the student's perspective of aspects concerning the educational process (assessment of the information in the courses, of the teaching and evaluation methods)

- Hypothesis no. 2. The students asses the information in the courses, the teaching and evaluation methods (question no. 2);
- Hypothesis no. 3. The students asses the quality of the information and the possibility of putting it into practice (question no. 3);
- Hypothesis no. 4. The students asses the written support as a variant of presenting university courses (question no. 4);

Objective no. 3 – Assessment of the way in which class attendance can benefit the student

- Hypothesis no. 5. The students estimate that by attending courses they have learned the fundamental principles, the generalization or the theories (question no. 5);

The questions in the questionnaire of the study are:

S1. Your information on the requirements of the student activity comes from..... a) teachers b) written matters from the management of the faculties and departments c) older students d) acquaintances	a) the explanations based on a provided written support b) the explanations and the notes of all the information c) the explanations based on slide shows, with later references to bibliography d) the explanations based on video projections
S2. Assess the importance of the following..... a) information given in the written courses b) teaching methods c) evaluation methods d) the teachers' achievements mirrored by the number of publications e) national and international recognition of the teaching body	S5. Asses how, by class and laboratory attendance you have...? a) gained knowledge with practical usefulness (terminology, classification, methods or directions) b) learned the fundamental principles, generalization or theories c) learned to apply the course materials (development of thinking abilities, of problem-solving abilities or of the decisional process) d) developed your speaking skills (by participating in discussions, presentations) e) developed your writing skills (exam reports, lab reports etc.) f) learned to research and use resources in order to answer questions or solve problems
S3. What do you appreciate in the university courses? a) the quantity of the information that is being passed on b) the quality of the information c) the possibility of putting knowledge into practice d) the interactive communication e) the recommended bibliography	
S4. Which of the following variants of course presentation do you think is best?	

RESULTS

471 questionnaires were distributed and 402 were completed and returned. The sample group error was 4.89% (as shown by Eq(1)).

In questions with importance scale type answers, the number of the answering persons was quantified for every question and possible answer, according to the variants and they are shown in Table 1. For every variant of answer a relevance degree was established, from 0-1 (f_i), as follows: Not at all = 0; Low = 0.25; Average = 0.5; High = 0.75; Very high = 1 (Table 2). The analysis consisted of the following stages:

- stage 1: the number of subjects from each variant (v_i, where i = 1:5) was multiplied with the established score (f_i, where i =0:1);
- stage 2: the results from stage 1 were divided by the sum of subjects.

I calculated the following formulas (http://en.wikipedia.org):

$$\bar{X} = \frac{f_0 v_0 + f_1 v_1 + f_2 v_2 + f_3 v_3 + f_4 v_4}{f_0 + f_1 + f_2 + f_3 + f_4} \quad (2)$$

$$Std = \frac{f_0 (v_0 - \overline{X})^2 + f_1 (v_1 - \overline{X})^2 + f_2 (v_2 - \overline{X})^2 + f_3 (v_3 - \overline{X})^2 + f_4 (v_4 - \overline{X})^2}{f_0 + f_1 + f_2 + f_3 + f_4 - 1} \quad (3)$$

$$Z = \frac{(\overline{X} - 0{,}5)\sqrt{n}}{\sqrt{\frac{f_0 (v_0 - 0{,}5)^2 + f_1 (v_1 - 0{,}5)^2 + f_2 (v_2 - 0{,}5)^2 + f_3 (v_3 - 0{,}5)^2 + f_4 (v_4 - 0{,}5)^2}{f_0 + f_1 + f_2 + f_3 + f_4}}} \quad (4)$$

Where: v_i - the associated knowledge (awareness);
f_i - given the number of responses associated with the degree of knowledge, v_i;
X = observable and awareness of associated questions.
Z - calculated value of Z test;
TRUE - true value of the proportion of the population;
p – probability that the difference is not significant.
If: Z < 0 then p = NORMSDIST(Z)
Z > 0 then p = 1 - NORMSDIST(Z)

The results obtained after the two stages are presented in Table 2.

Tab. 1

The situation of the number of answers and no answers to questions

Question	Not at all	Low	Average	High	Very high	Total Answers	Non answers	TOTAL
1a	37	81	130	108	36	392	10	402
1b	59	123	147	51	9	389	13	402
1c	25	63	14	134	51	388	14	402
1d	44	101	147	68	22	382	20	402
2a	9	32	120	43	72	386	16	402
2b	8	42	90	145	102	387	4	402
2c	9	43	130	137	66	385	17	402
2d	50	119	130	58	27	384	18	402
2e	31	83	128	100	42	384	18	402
3a	46	101	162	52	22	383	19	402
3b	9	31	97	139	110	386	16	402
3c	17	46	76	116	130	385	17	402
3d	21	69	113	106	76	385	17	402
3e	31	96	140	82	31	380	22	402
4a	27	76	136	94	53	386	16	402
4b	26	73	128	98	60	385	17	402
4c	35	76	94	67	31	303	18	321
4d	34	84	118	98	50	384	18	402
5a	7	50	41	130	43	381	21	402
5b	7	47	168	130	31	383	19	402
5c	4	57	172	109	29	382	20	402
5d	43	106	144	72	17	382	20	402
5e	29	106	134	93	18	380	22	402
5f	17	64	136	123	43	383	19	402

Tab. 2

The values obtained after calculating according to the importance criterion for questions S1-S5

v_i	1	2	3	4	5	$\sum v_i$	f_0v_0	f_1v_1	f_2v_2	f_3v_3	f_4v_4	$\sum v_i*f_i$	$\sum v_i*f_i / \sum v_i$	TRUE	$\sum f_i(v_i-0.5)^2/\sum v_i$	Z	p
f_i	0	0.25	0.5	0.75	1												
1a	37	81	130	108	36	392	0	20.25	65	81	36	202.25	0.51594	0.50	0.07669	1.139902	1.271636E-01
1b	59	123	147	51	9	389	0	30.75	73.5	38.25	9	151.5	0.38946	0.50	0.07166	-8.144436	2.220446E-16
1c	25	63	115	134	51	388	0	15.75	57.5	100.5	51	224.75	0.57925	0.50	0.08070	5.495235	1.955749E-08
1d	44	101	147	68	22	382	0	25.25	73.5	51	22	171.75	0.44961	0.50	0.07084	-3.700384	1.076672E-04
2a	9	32	120	153	72	386	0	8	60	114.75	72	254.75	0.65997	0.50	0.08242	10.948083	0.000000E+00
2b	8	42	90	145	102	387	0	10.5	45	108.75	102	266.25	0.68798	0.50	0.10126	11.621421	0.000000E+00
2c	9	43	130	137	66	385	0	10.75	65	102.75	66	244.5	0.63506	0.50	0.07792	9.493858	0.000000E+00
2d	50	119	130	58	27	384	0	29.75	65	43.5	27	165.25	0.43034	0.50	0.07894	-4.858620	5.918460E-07
2e	31	83	128	100	42	384	0	20.75	64	75	42	201.75	0.52539	0.50	0.07731	1.789443	3.677172E-02
3a	46	101	162	52	22	383	0	25.25	81	39	22	167.25	0.43668	0.50	0.06935	-4.705191	1.269620E-06
3b	9	31	97	139	110	386	0	7.75	48.5	104.25	110	270.5	0.70078	0.50	0.10460	12.196787	0.000000E+00
3c	17	46	76	116	130	385	0	11.5	38	87	130	266.5	0.69221	0.50	0.12175	10.808392	0.000000E+00
3d	21	69	113	106	76	385	0	17.25	56.5	79.5	76	229.25	0.59545	0.50	0.09140	6.195311	2.920365E-10
3e	31	96	140	82	31	380	0	24	70	61.5	31	186.5	0.49079	0.50	0.07007	-0.678302	2.487900E-01
4a	27	76	136	94	53	386	0	19	68	70.5	53	210.5	0.54534	0.50	0.07934	3.162278	7.827670E-04
4b	26	73	128	98	60	385	0	18.25	64	73.5	60	215.75	0.56039	0.50	0.08360	4.098070	2.084177E-05
4c	35	76	94	67	31	303	0	19	47	50.25	31	147.25	0.48597	0.50	0.08395	-0.842659	1.997096E-01
4d	34	84	118	98	50	384	0	21	59	73.5	50	203.5	0.52995	0.50	0.08431	2.021124	2.163340E-02
5a	7	50	151	130	43	381	0	12.5	75.5	97.5	43	228.5	0.59974	0.50	0.06234	7.797435	3.219647E-15
5b	7	47	168	130	31	383	0	11.75	84	97.5	31	224.25	0.58551	0.50	0.05369	7.222264	2.574607E-13
5c	15	57	172	109	29	382	0	14.25	86	81.75	29	211	0.55236	0.50	0.05596	4.325905	7.600987E-06
5d	43	106	144	72	17	382	0	26.5	72	54	17	169.5	0.44372	0.50	0.06839	-4.206397	1.298187E-05
5e	29	106	134	93	18	380	0	26.5	67	69.75	18	181.25	0.47697	0.50	0.06365	-1.779150	3.760754E-02
5f	17	64	136	123	43	383	0	16	68	92.25	43	219.25	0.57245	0.50	0.06968	5.371666	3.909264E-08

Green = a 5% risk of being in error, the mean observed responses are statistically significant;
Red = can not show any statistical difference between the observed and average value of 50%.

The results obtained by adding up the importance of the items from every question are graphically presented in Figures 1-5:

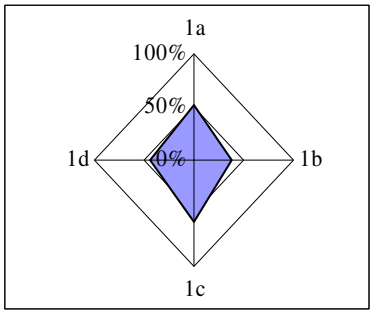

Fig. 1. The range of the answers to question S1

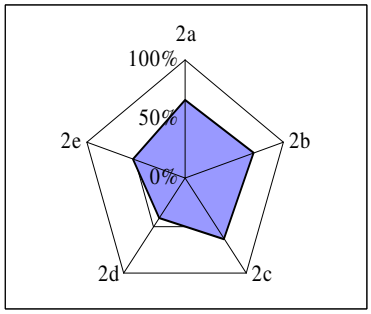

Fig. 2. The range of the answers to question S2

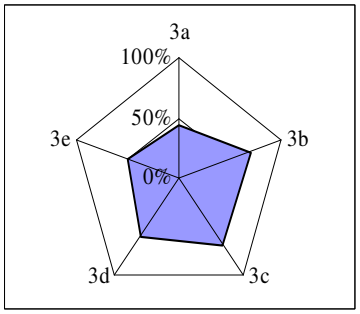

Fig. 3. The range of the answers to question S3

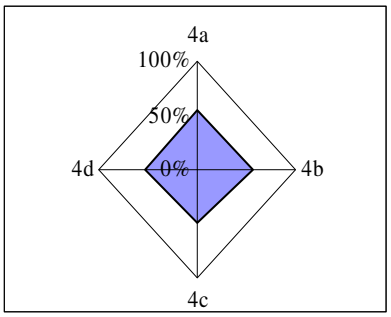

Fig. 4. The range of the answers to question S4

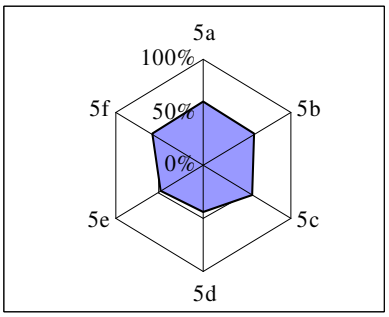

Fig. 5. The range of the answers to question S5

RESULTS AND DISCUSSION

It is important for a university to know its advantages, allowing it to focus on preserving them and on permanently improving them.

After the processing of the data, excluding the "Not at all" variant, the following results were obtained:

- (Hypothesis no. 1) *Information on the changes in the system offered by the teaching body:* state that: 57.92% they are informed on the requirements of the student activity by older students, 51.59% state that they are informed by the teachers;
- (Hypothesis no. 2) *Students' assessment of the information in the courses, the teaching and the evaluation methods:* 68.80% the teaching methods and 63.51% the evaluation system;
- (Hypothesis no. 3) *Students' assessment of the quality of information and the possibility of putting it into practice*: 70.08% appreciate the university courses because of the quality of information and 69.22% because of the possibility of putting it into practice;
- (Hypothesis no. 4) *Students' assessment of the written courses as a way of presentation:* 54.53% state that they appreciate the explanations based on a written support;
- (Hypothesis no. 5) *Students' assessment of class attendance as important in learning the fundamental principles, the generalization or the theories:* 58.55% state that they have learned the fundamental principles, the generalization or the theories;

Besides the direct results brought by our study in the informational process of the university management, it was also based on considerations regarding the contribution of the university, through the younger generation, to the shaping and development of society.

The influence of the university on the development of the students' personality and career should materialize in the teachers support, encouragement, guidance and coordination.

The university management should reflect on J. Berleur's words: "university is not only a place for learning a profession: it can be a place for experiencing life, the place where the student builds his/her autonomy and identity" (Berleur, 1994, p.25).

CONCLUSIONS

All hypotheses were validated. In the calculations made by establishing the importance factor for every variant of answer the range of the answers was found, as well as the percentage of the answering students. For questions 1a, 3e, 4c may not show any statistical difference between the observed and average value of 50%. For questions: 1b, d, 2d, 3a, 5d, e was obtained: the risk of 5% of the average error in responses is observed (statistically significant) less than 50% and high for questions: 1c, 2a, b , c, e, 3 b, c, d, 4a, b, d and 5 a, b, c, f.

Although the results are optimistic, they can be improved through university management, which has the difficult task to create conditions and to watch over the way in which the bridge between the teachers and the students is created, in order to carry out the managerial policies and the objectives included in the strategic plan of the university.

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