

WALDEMAR PARKITNY*

FACTORS OF CHOICE TRANSPORTATION STUDIES

CZYNNIKI WYBORU STUDIÓW NA KIERUNKU TRANSPORT

Abstract

A choice of studies, which is accurate and consistent with interests, is extremely important. The article presents the results of investigations relating to the motives of candidates for studies called Transportation, being realised at the Faculty of Civil Engineering of the Cracow University of Technology. The aim of the investigations was to examine this phenomenon. The investigations were executed by the method of questionnaires. They were realised among students of all years of stationary engineering studies (1st degree), that is to say I, II, III and IV year of Transportation studies. They had been preceded with several years of preliminary investigations, which showed interest of about 10–20% of the studied line by I year students. The analysis made on the basis of broadened proper investigations revealed that about 29% of students of all years that were questioned are interested in the studied line.

Keywords: motives of studies' choice, investigations of justification, choice of line of studies, transportation and logistics

Streszczenie

Trafny i zgodny z zainteresowaniami wybór kierunku studiów jest niezmiernie ważny. W artykule przedstawiono wyniki badań dotyczących motywacji kandydatów na studia na kierunku Transport Wydziału Inżynierii Lądowej Politechniki Krakowskiej. Celem badań było sprawdzenie tego zjawiska. Badania zostały wykonane metodą kwestionariuszy ankietowych. Przeprowadzono je wśród studentów wszystkich lat studiów stacjonarnych inżynierskich (I stopnia), czyli I, II, III i IV roku kierunku Transport. Zostały one poprzedzone kilkuletnimi badaniami wstępnymi, które wskazały na około 10–20% zainteresowanie studentów I roku studiowanym kierunkiem. Analiza wykonana na podstawie rozszerzonych badań właściwych wykazała na około 29% zainteresowanie ankietowanych studentów wszystkich lat studiów branżą, którą studiuja.

Słowa kluczowe: motywacja wyboru studiów, badania motywacji, wybór kierunku studiów, transport i logistyka

* Ph.D. Eng. Waldemar Parkitny, Institute of Building and Transport Management, Faculty of Civil Engineering, Cracow University of Technology.

1. Introduction

From the point of view of management, after epochs based on possession of supplies of raw materials, technology or capital, nowadays, it is considered that the most important enterprises' supply is the so-called human capital. That supply is particularly important in case of service firms. Those firms render immaterial services, which often cannot be checked or estimated before their realisation, and actually, just as contracting customers pay for a promise of accomplishing definite activities. Hence so important is the part of staff, its skills and competence. Forwarding and logistic firms belong to this type of enterprises.

By human capital, we understand "all immaterial supplies (attributes) associated with a man treated as an independent human individual" (Walukiewicz S. [20]). Man's human capital is, among others: his competences and experience, knowledge and abilities, health and efficiency, confidence, tolerance, loyalty, outlook on life (e.g. optimism, frankness, veracity, pessimism, secretiveness etc.).

Socha M. and Sztanderska U. notice that demand on young men work is limited, among others, by: "small professional experience (or total lack of that), which is tantamount to having at disposal a low supply of specific human capital" [17]. Szydlik-Leszczyńska A. writes that the changeability of market situation causes employers, in order to eliminate the risk, "they seek workers burdened with smaller "risk", and young men commonly are not considered to be them" [19].

For the mentioned "human capital" to be on a high level, the suitable professional preparation of future transport workers and logistics is important. Extremely essential are theoretical knowledge and future worker's forming, being realised during high studies at a technical university. The quality of future personnel is affected by the quality of candidates admitted to the studies, their skills attained in secondary school, approach to studies, and first of all – justification related to the choice of studies. The factors, which had influenced the choice of Transportation studies of students of the Faculty of Civil Engineering of the Cracov University of Technology, are presented in the article.

The Faculty of Civil Engineering is the largest department of this type in Poland. Students taking up studies at the Faculty of Civil Engineering of the Cracov University of Technology can choose a Building and Transportation specialisation as well as a Spatial Economy interdepartment direction [7]. The Transportation direction at the Faculty of Civil Engineering is being continued after suppression of the Faculty of Transportation of the Cracov University of Technology at the turn of the 1980s and the 1990s [14]. The traditional and predominant direction is, however, the Building direction.

2. Meaning of the term "justification"

According to *Encyklopedia Popularna PWN*, justification means "the whole structure of motives setting a general direction of a given individual's activity, organising its ways of behaviour, attitude and emotional reactions, endeavour to definite situations and aims as well as avoidance another ones" [4].

Jemielniak D. and Latusek D. [8] write that “justification can be a property, some special feature – in that sense, one can say that some people have justification to make definite tasks, and some do not, that some have it larger, and some smaller. Secondly, justification can be understood as a process of influencing people, inducing them (motivating) to make definite activities, using specified motives to engender desirable reactions”. The first of definitions shows that the will of realisation of certain tasks results from man’s internal needs, that is to say the reason appears as first, and then is followed by the behaviour. This is the so-called humanistic approach. The second definition focuses on persons’ reaction to certain simulations, e.g. punishment and prize. Man’s behaviour comes before the cause of behaviour. This is the so-called behavioural approach.

The approach to justification has been changing. The review of other conceptions, associated with justification from the turn of the XIX and XX century until present, is contained in the paper of Stoner J.A.F., Freeman R.E. and Gilbert D.R. [16].

The interest of investigations related to justification and building the models relevant to justification [15] can be observed with reference both to workers, and to students. Ardeńska A. and Tomik R. write: “Motivational factors are the main determinants of success during studying. By diagnosing the level of motivation influencing a desirable course of education, one can make a correct selection of applicants for studies, especially the stationary ones, financed by the national budget. One can take into account the meaning of the degree of motivation while creating new directions and teaching programmes, and diversify the educational offer as well as promotion acting, including a variety of applicants’ and students’ justification” [2].

3. Method of investigations

The results presented in the article are the result of wider investigations executed by the author of the paper. The investigations were executed by the method of questionnaires. The author realised them among students of all years of stationary engineering studies (1st degree), that is I, II, III and IV year of the Transportation direction, so they can be treated as full and credible research. A part of the questions had the character of open questions. The questions about quantitative character have had a limited number of answer variants. The obtained results have been then subjected to a statistical analysis, having in view checking the main trends relating to the justifications of the study choice.

The investigations had been preceded by several years’ survey researches, executed by the author among all students of 1st year of engineering stationary studies of the same direction. Previously mentioned inquiries have been made by the method of interview. The received results showed a big fortuity associated with the choice of Transportation studies. About 80–90% students, depending on the year group, declared a will of studying at other universities, departments or directions, pointing at the represented direction as the second or next choice, in case of failing to get into preferred university or study direction. For the part of being examined, the choice of the direction was unaware, unimportant or accidental.

4. Aim of the investigations

The aim of the investigations was, after the period of survey researches, an exact examination of the scale of the treated subject, assuming broadening of executed inquiries to all years of studies, as well as checking the justification relating to the choice of the Transportation direction by particular student year groups studying the in first year of stationary studies of the first degree (stationary engineering studies). Recognition of factors affecting the choice of studies can be helpful in university running, with stating, by university as well as department authorities, the program of studies, specialisation, which seem to be attractive for students, and professional subjects. Moreover, they may be used when planning activities associated with the recruitment for studies. It is important because, for some time, one can perceive diminishing candidates' number, subsequent to demographic depression. Unfortunately, it exerts an influence on the level of candidates admitted to study.

5. The factors of choice of study direction by applicants for studies

From the point of view of widely understood management, the suitable choice of direction is extremely essential not only for a future student because of, among others, the course of the student's studies, passed examinations and credits as well as later professional career, but also for:

- 1) university,
- 2) future employers,
- 3) national economy,
- 4) society.

Advantages for university can come, among others, from:

- 1) good results achieved by students,
- 2) high level of teaching affected by clever persons possessing a broad range of knowledge of a given field already at the beginning of the studies,
- 3) high renown of university ensuing from factors mentioned above,
- 4) smaller expenditures of the academic teachers' work, and consequently more time, which can be dedicated to scientific activity,
- 5) students' commitment in the activity of scientific sets,
- 6) possibility of running scientific investigations in co-operation with students involved in the studies,
- 7) possibility of running classes on II and III degree as well as postgraduate studies, thanks to the interest in such studies by graduates' of Ist degree,
- 8) possibility of gaining young workers etc.

With regard to the future employers of the applicants for studies, the accurate choice of the study direction is important, in particular considering e.g.:

- 1) easiness of personnel management,
- 2) easiness of adaptation of new workers knowing the trade and realities of its functioning,

- 3) knowledge of technical and organisational solutions,
- 4) costs of new workers' trainings and courses,
- 5) costs of possible material losses caused by new workers, e.g. damaged elements of the infrastructure, transport, equipment, components, materials etc.,
- 6) knowledge of the market,
- 7) innovation of solutions,
- 8) financial effects acquired by an enterprise having among workers people enjoying their job,
- 9) worker's identification with trade,
- 10) worker's identification with enterprise he works in,
- 11) enterprise's picture,
- 12) workers' professional contacts, got already during studies.

With reference to national economy management, the proper choice of studies is related to the obtainment, with such advantages like:

- 1) financial advantages arising from gaining possible future workers in a given branch for the first time – smaller fluctuations of staff between trades,
- 2) savings resulting from the lack of changes of university and directions of studies by people dissatisfied with their original choice,
- 3) better utilisation of didactic and technical potential of the university,
- 4) stability of led activities,
- 5) possibility of more precise estimation of possessed personnel supplies of the economy,
- 6) possibility of prediction of future personnel needs as well as preparation of school and training base,
- 7) easier possibility of developing national specialisation, identifiable in different countries,
- 8) larger workers' professional experience – in case of staying in the same trade throughout the whole period of professional activity.

The advantages for society are e.g.:

- 1) better use of national income, associated with stability of a number of people undertaking and continuing their studies on an originally chosen direction,
- 2) larger competence of graduates of a given direction,
- 3) better management of enterprises by graduates of a given direction,
- 4) less conflicts resulting from the incompetence of people taking up high positions in the hierarchy of enterprises,
- 5) smaller material losses caused by the lack of knowledge or experience of persons taking up high managerial positions,
- 6) smaller expenses for completing an education and updating knowledge among persons practising a given profession.

Taking into consideration the elements mentioned above, justifications of applicants for studies are very important.

It assumed that the motives associated with the choice of study direction could be such factors as (Fig. 1):

1. Family in which a young man has been brought up, which is the example and point of reference, but it also influences the candidate's aspirations and formulates definite expectations to his further fate and career, likewise enables studying or induces to undertake professional work.
2. Colleagues and acquaintances, making the group of reference, which is the group of persons, with who a definite man has frequent contact and who influences his attitudes as well as behaviour. The expectations of a group are not always conformable with the expectations and aims of the family.
3. School – the basic institution, of which purpose is teaching and formation of the man, influencing, similarly like the two previous groups, his behaviour and justification, but also preparing for future occupation, and delivering the basic information relating to the possibilities of undertaking studies.
4. External surroundings, that is to say the whole phenomena and information, which influence the perception of the world, attitudes and aspiration formation as well as making choices, including those concerning decision about further education as well as career.
5. Candidate's interest – strong internal motive, ensuing from different, not always fully realised factors as well as the candidate's ability, determining to undertake a definite effort in order to realise the dreams or intentions that lead to their realisation.
6. Consciousness of occupation – candidate's knowledge of given occupation, conditions of its execution, necessary authorisations, abilities and predisposition, likewise its disadvantages and advantages resulting from practising a definite profession. The possibility of direct and frequent observation of a chosen occupation, e.g. by contact with parents or mates, can have a big influence over consciously made decisions, referring to the direction of chosen studies.
7. Candidate's predispositions – physical and intellectual abilities of the candidate to future work in chosen occupation.
8. Job perspectives – chances for finding a job, convenience of the place of work, conditions of work proposed by the employer etc.
9. Professional perspectives – possibility of professional development, attaining practical skills, getting the rises in wages, chances for promotion, getting to know different people from the branch etc.

All of the factors mentioned above are “filtered” by chances for studying. By this term, we should understand, among others:

- 1) individual opinion of the applicant for studies about one's value and skills,
- 2) thresholds of admitting to studies, established in previous years by particular university departments, being often different for different directions of the same department, resulting from, among others, the number of points acquired in different subjects in a secondary-school final exam,
- 3) limits of accepted candidates' number for particular departments and directions,
- 4) results of preliminary examinations in case of directions on which such examinations are required, e.g. examinations in drawing at the Faculty of Architecture of the Cracov University of Technology,
- 5) financial possibilities of candidates' for studies parents,

- 6) amount of payments for studies in case of paid universities or directions, e.g. private universities, nonstationary studies at state universities,
- 7) possibility of obtaining social and scientific scholarships,
- 8) possibility of financial support on determined direction, e.g. additional financial help for students of the so-called ordered directions (e.g. to one of such direction led by the Cracov University of Technology, one can assign Energetics),
- 9) weekly, hourly charge associated with the possibility, or its lack, of undertaking paid work by students,
- 10) location of university in relation to the place of residence of the candidates for studies,
- 11) costs of accommodation in hostels,
- 12) costs of maintenance in a definite city,
- 13) cost of journey (such problems are indicated e.g. by managers of secondary schools in the Świętokrzyskie Province, where many pupils descend from not well-off families, which complicates or makes it impossible to undertake studies in larger and more expensive centres).

The pertinence of the factors assumed initially and introduced above in Fig. 1 was then empirically verified by executing the questionnaire investigations among students of different study years. Those investigations permitted to state factors of justification connected with the choice of studies direction.

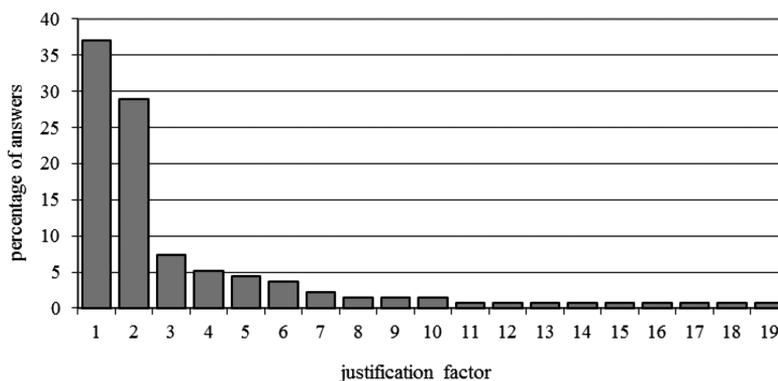


Fig. 1. Factors of the choice of studies direction and areas of choice consequences
(Source: own study)

The investigations executed among people questioned of all study years showed that, in about one third of the cases, the justification for studying was a possibility of finding a job after its completion (Fig. 2). However, visions of that work were diversified. For some people, studies are a chance for a good occupation, while for others, the motives are:

- 1) ambitions, development,
- 2) possibility of working in parents' or acquaintance firm
- 3) trade with future, wide professional perspectives,

- 4) possibility of finding far-reaching work in the whole world,
- 5) large demand for workers, lack of competition with higher education,
- 6) possibility of working in specific sectors, e.g. logistics, aviation,
- 7) perspective of founding one's own firm.

From researches carried out by Pasternak-Malicka M. [12], it appears that the youth first of all mention the demand situation by employers' side as the cause of a lack of employment, which is the lack of free places of work or the lack of enterprises creating new places of work. Because of that, one should not be surprised that the motivating factor of choosing the Transportation direction can be the perspective of finding a job. This trade characterized by, among others, a large number of enterprises, a large variety of specialisations associated with transport or logistics, large dynamics of growth, relatively large easiness of starting a personal business, as well as, in case of some specialities, comparatively low requirements towards applicants.

The perception of studies as a possibility of finding a job after their completion is also very differentiated. The large pragmatism in this range is demonstrated by students of younger generations. This factor takes first place for: 47.37% of students of I year and 40.82% of students of II year. For 14.29% of students of III year, this element is placed only in 3rd place. In case of IV year of studies, it is the 5th place (6.67%).

The second most popular motive of undertaking studies among students of I, II, III and IV years was interest in a trade (about 29% answers – Fig. 2). This is an important element because it helps in studying. It is testified by, among others, investigations run at the Gdańsk University of Technology, which showed that “students, who managed studies during I year, had already explicit interests, which fructify in making independent decision on the choice of study direction (90.5% questioned)” [13].

Almost 15% of all those studying are completely random persons (Fig. 2). 7.41% does not know why they chose that direction. Almost 7.5% have begun studies in the Transportation direction because they were not admitted to the building direction (5.19%) or another direction (2.22%).

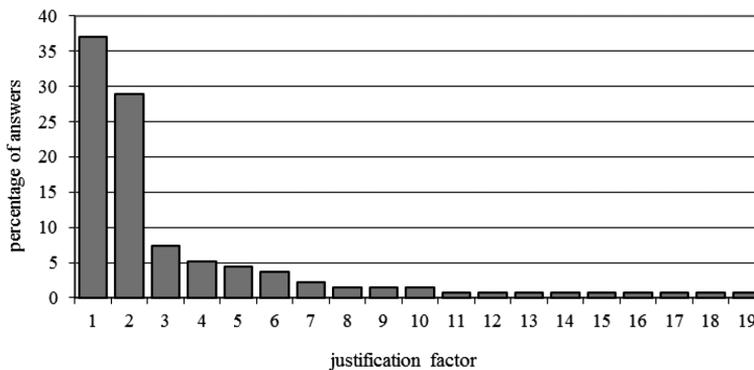


Fig. 2. Proportional disposition of number of answers according to factors motivating to undertaking studies on Transportation direction – composition of all years of studies, that is I, II, III and IV year (Source: own study)

Table 1

Numbers of factors motivating to undertaking studies on Transportation direction – horizontal axis on drawing 1 (Source: own study)

number of answer	justification factor
1	possibility of finding a job
2	interest in trade
3	doesn't know
4	was not admitted to building direction
5	opinion of university and direction
6	family
7	was not admitted to another direction
8	name of direction
9	acquaintances
10	lack of another opinions
11	information about direction, amount of wages, interests
12	renown of university, possibility of finding a good job, interest in aviation
13	intuition
14	city, optimum level of teaching, engineer title
15	ambition, will of making changes in transport
16	finishing studies on the second direction
17	very bad situation of railway transport
18	only 1 semester of physics, better perspectives for future
19	by chance

Unbeneficial and striking is the factor associated with the applicant's ignorance referring to their behaviour. Among students of all years of studies, the answer to the question: "What did motivate You to choose this direction?", reading: "I do not know" comes third in the general comparison. In case of IV year students, it was the 2 place and 20% of answers (Fig. 6); for students of III year, it was the 4 place and 7.14 % of answers (Fig. 5); for students of II year, it was the 3 place and 6.12% of answers (Fig. 4); and for students of I year – the 3 place and 5.25% of answers (Fig. 3). Observations made and studies of literature show that such situation is not exceptional. In the article entitled *Przyczyny niepowodzeń studentów I roku w nauce na Wydziale Chemicznym PG* [13], we can read that: "[...] the consequence of objective treating pupils at secondary school is learnt helplessness, incapability in solving

own life problems as well as the expectation, that others, responsible for their lot, will solve all those problems”.

In the general composition, another factor, which is the good opinion of the university and the direction, was the reason for starting studies for almost 4.5% of persons (Fig. 2). It turns out that this factor can be also essential for candidates' justification. Like it was written in the article [13]: “Students who succeeded had been accompanied by strong conviction of large meaning of graduation from a university when taking up a job (99% of statements). Additional incentive to make an effort is generally specified vision of future after finishing studies [...]”. H. Szulce, R. Świątkowski [18] come to conclusion that: “the choice of the university by a candidate is based on his faith in the high educational level of a university and its ability to train professionals according to the demand of the labour market. Therefore, the image of the university, its identity and valuable brand is of high importance. These features are created over a long period of time, being a valuable intangible asset, which requires constant attention. This attention and care for the brand value and offered services requires decisions related to areas of intended and unintended relationships, in which the university is a party, as well as to develop appropriate operating procedures”.

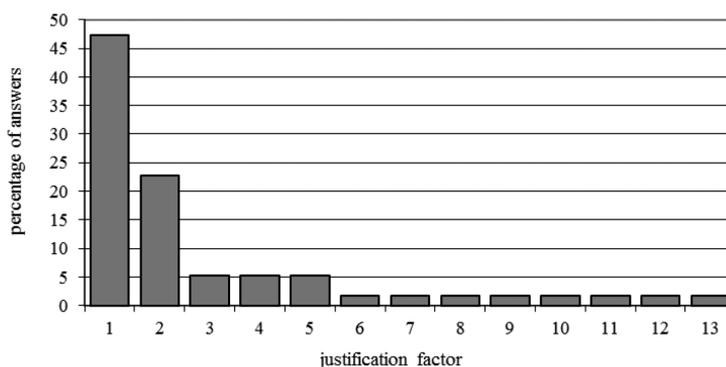


Fig. 3. Proportional disposition of number of answers according to factors motivating to undertaking studies on Transportation direction – composition of I year's students answers (Source: own study)

A part of candidates is influenced by different persons' opinions. 3.7% of questioned undertook studies being induced by family, and 1.5% of questioned – because of acquaintances' suggestion (Fig. 2).

The order of results introduced in Fig. 2 in great part is compatible with the results presented by G. Grotkowska, T. Gajderowicz, L. Winceniak and I. Wolińska in *Raport końcowy z badania: „Ocena jakości i skuteczności wsparcia kierunków zamawianych w ramach Poddziałania 4.1.2 PO KL”*. According to that report, the order of factors influencing the choice of study direction is as follows: the will of learning in compliance with interests, passion, perspectives of attractive professional work, easiness of finding a job just after finishing studies, parents' advice, professional adviser's or psychologist's influence, another reason [6].

When analysing the proportional disposition of a number of I year's students' answers according to the factors motivating to undertake studies, it is visible that the predominant factors are the possibility of finding a job and interest in the branch (Fig. 3). Several times less persons do not know why they have chosen the studied direction, they have not been admitted in the building direction or they have been guided by the opinion of the university or the direction, but different persons took into consideration different aspects like: university and direction prestige, high level of university or the complexity of study direction.

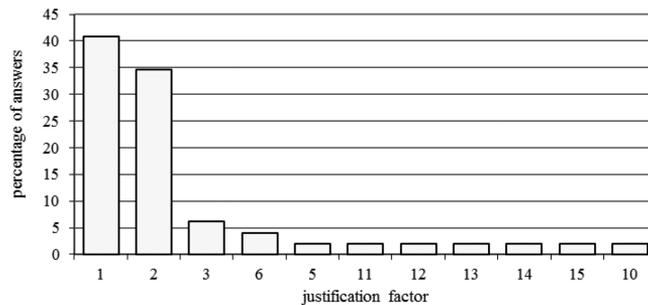


Fig. 4. Proportional disposition of number of answers according to factors motivating to undertaking studies on Transportation direction – composition of II year's students answers (Source: own study)

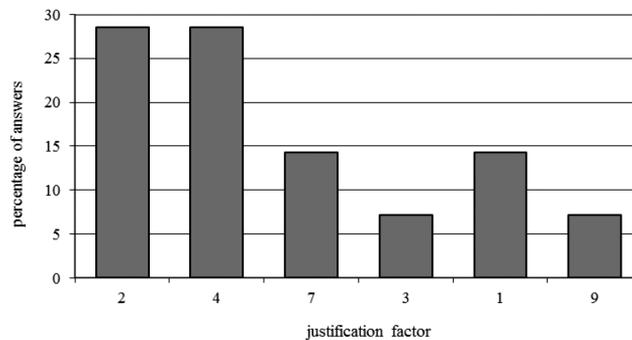


Fig. 5. Proportional disposition of number of answers according to factors motivating to undertaking studies on Transportation direction – composition of III year's students answers (Source: own study)

The most important factors of the choice of the study direction, in case of the two first places for II year students, are the same as in case of I year students (Fig. 4). However, one can notice the smaller differentiation between possibility of finding a job and interest in the trade. Further places are occupied by: lack of knowledge about the motives of direction choice, and family inspiration, though their meaning is small, about 5%. Remaining factors are on the level of about 2.5%.

Answers of III year students are much more even, although the difference between the first (interest in trade) and the second place (was not admitted to building), and then between the third (was not admitted to another direction) and fourth position (possibility of finding a job), is almost double (Fig. 5).

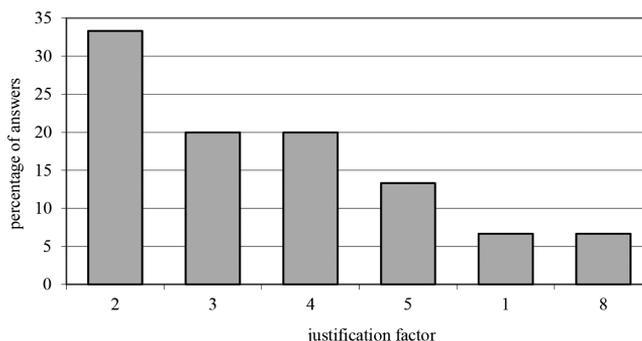


Fig. 6. Proportional disposition of number of answers according to factors motivating to undertaking studies on Transportation direction – composition of IV year's students answers (Source: own study)

Among students of IV year, the factors of justification were: interest in trade (1/3 of answers), lack of knowledge, which was the reason of choice of studies direction (so 20%), not being admitted to building (20%), good opinion of the university and the direction, and only in 5th place – possibility of finding work as well as the name of direction (Fig. 6). Comparing those outcomes, considerable distinctness in the approach to studies of I year students is noticeable.

6. Summary

The executed empirical investigations showed the pragmatic approach of younger generations undertaking education in directions assuring good professional perspectives and work, with the smaller number of students fascinated by the occupation. Comparing with those results, the composition of factors motivating to work executed by A. Grobelna and A. Mazurkiewicz [5] looks absorbing, which presents the following order: safety of employment, good conditions of work, appreciating the performance of work, good earnings, loyalty to employees, interesting work, chances for promotion and development, feeling of commitment in work, friendly help, tactful disciplining. So one may suppose that the shift in the direction of finding the so-called “good work” simultaneously with diminution of the meaning of the so-called “interesting work” becomes a more and more common phenomenon. It affects the level of studying. As E. Kusztna, O. Zaikin, A. Żuławski and R. Tadeusiewicz claim [9], people's interests are dependent on their individual preferences. According to them, students can be divided into two groups. “The first students' group is interested in achieving minimum success, which means the fulfilment of minimum requirements to credit a task (low degree of task complexity, minimum admissible mark for its working out) with maximum saving one's time. (...) The second group of students is involved (...) to reach the greatest possible success...” [9].

S.Weijers, H.-H. Glöckner and R. Pieters [21] point at, among others, the necessity of the adjustment of teaching programmes and the way of training students to required skills,

possibilities and expectations of the logistics trade. For example, among the most important skills of process managers of logistics and supply chain designer, they mention: planning and organisational skills, flexibility, problem analytical skills, cooperation skills, verbal expressional skills, initiative, target directive skills, customer orientation, expertise, persuasiveness skills. Conformity of those factors with such elements motivating the applicants to take up studies on the discussed direction as declared in the received answers: interest in branch, aspiration for goal, development, will of making changes in transport, professional ambitions, may considerably facilitate the study process and contribute to future professional successes.

Self-dependence and large justification associated with studying is also essential when using modern methods of education from a distance. Studying and training by internet develops dynamically, also as a complement of traditional forms of studying and becomes a great business. The problems associated with the aspects of teaching from a distance were introduced in the article by Onal A., Otles S. and Seylan I. [11].

The comparison of results obtained in preliminary investigations with results of questionnaire investigations shows that about 28.9% of all the people questioned declare the interest in trade as the reason for starting studies in the Transportation direction. It is a better result than in the preliminary investigations, i.e. executed among students of I year, in the first week of studying, where the obtained results were in the range of 10–20%. However, it is worth to remember that questionnaire investigations' results discussed in this article:

- 1) were executed among students of I, II, III and IV year, so among persons who have already had contact with some issues of this range and could modify their approach,
- 2) part of the opinions of justification of the direction choice made several years earlier could fall into oblivion or undergo malformation.

Large differentiation in the candidates' preparation for studying at the technical university causes difficulties for lecturers in the adjustment of classes' level to the students' level. The effect is boredom and discouragement of some students getting to again know a subject matter taught before in secondary school, e.g. at technical school. For the other part, the classes are too difficult. Those persons do not cope with the study program and resign, or are taken off the students list. Apart from persons satisfied with the chosen direction, there are also those, who cannot see their future in the branch, but they finish studies because they started them or for getting any graduation from a university. Keeping in mind their disinclination for work in the studied trade, expenditures for their education are spent in an ineffective way. To some extent, the solution for the above problems may be organised sometimes by universities' courses equalising a level in the domain of selected subjects, e.g. mathematics, physics, or adaptive camps before the first year of studies, within which one can get to know the specifics of a given branch of the economy, which can cause growth of interest of future students, but also the possibility of them giving up the studies. Such resignation is good seeing that further studying does not cause students' disappointment as well as allows to save the means for educating people who do not want to practise the acquired profession.

As a conclusion for the investigations, one can also introduce a postulate of careful selection of applicants for studies and choosing those, who would be really interested in transportation and logistics issues. It is difficult because of the demographic depression. To achieve this, it is proposed as follows:

- 1) lectures in secondary schools, which will explain the range of subject matter presented at studies in the Transportation direction and the specifics of later professional work,
- 2) co-operation with secondary schools, particularly with technical schools of transport, logistics, mechanical, electric, computer profiles, so those, who potentially already have some range of information necessary in studies,
- 3) carrying out suitably prepared promotion campaigns.

In spite of the low interest of candidates in the chosen specialisation demonstrated in the investigations, graduates of the Transportation Faculty of Civil Engineering at the Cracow University of Technology perform very well on the labour market. According to the Office of Careers of the Cracow University of Technology, 91% of graduates of this university find a job in within one year after studies [1]. As it results from the investigations [10], in the year 2013, in case of the Transportation direction, it was 96.4% (compared with the Building direction: 93.8%). 74.1% have worked in the occupation (compared with the Building direction: 85.4%). 29.6% of graduates are estimated to use the knowledge acquired during the studies in professional work in a large degree, and 40.7% in average degree.

Very good results were also reached in the previous years. The coefficient of employment of the Transportation graduates in the year 2012 worked out at 83.8% [3].

Investigations of graduates' lots after 6 months after completing studies in 2009 showed that 100% of graduates of the Transportation specialisation had work contracts, and 25% had stayed without work for between 2 and 3 months, and for between 4 and 6 months – 50%. 88.89% declared conformity of occupation with their education [22].

References

- [1] *Absolwenci Politechniki Krakowskiej mocni na rynku pracy*, (online) http://www.pk.edu.pl/index.php?option=com_content&view=article&id=566&Itemid=539&lang=pl (access: 7.10.2014).
- [2] Ardeńska A., Tomik R., *Motywacja wewnętrzna, zewnętrzna i amotywacja na studiach w obszarze kultury fizycznej*, Rozprawy Naukowe Akademii Wychowania Fizycznego we Wrocławiu, 47/2014, 70–79.
- [3] *Wyniki badania losów absolwentów rocznika 2012 po roku od ukończenia studiów – kierunek: transport*, Biuro Karier Politechniki Krakowskiej, Kraków 2013.
- [4] *Encyklopedia Popularna PWN*, Państwowe Wydawnictwo Naukowe, Warszawa 1982.
- [5] Grobelna A., Mazurkiewicz A., *Motywacja a kreatywność zasobów ludzkich w hotelarstwie – analiza studium przypadku wybranego hotelu z trójmiasta*, Modern Management Review, Volume XIX (April – June), Research Journal 21 (2/2014), 27–42.
- [6] Grotkowska G., Gajderowicz T., Wincenciak L., Wolińska I., *Raport końcowy z badania: „Ocena jakości i skuteczności wsparcia kierunków zamawianych w ramach Poddziałania 4.1.2 PO KL”*, PSDB, Warszawa 2014.
- [7] *Informator dla kandydatów na studia. Wydział Inżynierii Lądowej Politechniki Krakowskiej im. Tadeusza Kościuszki*, Dziekanat Wydziału Inżynierii Lądowej Politechniki Krakowskiej, Kraków 2016.

- [8] Jemielniak D., Latusek D., *Zarządzanie. Teoria i praktyka od podstaw ćwiczenia*, Wydawnictwo Wyższej Szkoły Przedsiębiorczości i Zarządzania im. Leona Koźmińskiego, Warszawa 2005.
- [9] Kusztina E., Zaikin O., Żuławski A., Tadeusiewicz R., *Model motywacji nauczyciela i studentów podczas nabywania kompetencji*, Zeszyt Naukowy Warszawskiej Wyższej Szkoły Informatyki, No. 9/2013.
- [10] Nowak A., *Badanie Losów Absolwentów PK 2013 po roku od ukończenia studiów II stopnia/jednolitych magisterskich*, Raport dla Wydziału Inżynierii Lądowej, Biuro Karier Politechniki Krakowskiej, Kraków 2014.
- [11] Onal A., Otles S., Seylan I., *A conceptual distance learning architecture using semantic web based multi-agent systems*, LogForum, Vol. 3, Issue 3, No. 1/2007, 1–8.
- [12] Pasternak-Malicka M., *Aktywność zawodowa młodych osób na rynku pracy i ich skłonność do podejmowania nieformalnego zatrudnienia*, Economics and Management, 3/2014, 127–144.
- [13] *Przyczyny niepowodzeń studentów I roku w nauce na Wydziale Chemicznym PG*, (online:) <http://wizja.net/przyczyny-niepowodzen-studentow-I-roku-w-nauce-na-wydziale-chemicznym-pg,k203.html> (access: 9.03.2016).
- [14] *70 lat Politechniki Krakowskiej 1945–2015*, edited by B. Skoczeń, Wydawnictwo Politechniki Krakowskiej, Kraków 2015.
- [15] Skowron Ł., *Modele SEM w badaniach motywacji pracowników*, Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania, No. 38, Vol. 2/2015, 367–380.
- [16] Stoner J.A.F., Freeman R.E., Gilbert D.R. Jr., *Kierowanie*, Polskie Wydawnictwo Ekonomiczne, Warszawa 2001.
- [17] Socha M., Sztanderska U., *Strukturalne podstawy bezrobocia w Polsce*, Wydawnictwo Naukowe PWN, Warszawa 2002.
- [18] Szulce H., Świątkowski R., *Franchising as an instrument of integration in higher education*, “LogForum”, 10 (2)/2014, 175–183.
- [19] Szydlik-Leszczyńska A., *Funkcjonowanie współczesnego rynku pracy. Wybrane uwarunkowania*, Difin, Warszawa 2012.
- [20] Walukiewicz S., *Kapitał ludzki*, Instytut Badań Systemowych Polskiej Akademii Nauk, Warszawa 2010.
- [21] Weijers S., Glöckner H.-H., Pieters R., *A different logistics manager? – differentiation in logistics business practise*, LogForum, Poznań, Vol. 4, Issue 1, No. 1/2008, 1–7.
- [22] Żyra J., Sas K., *Raport z badania losów absolwentów rocznika 2009 po 6 miesiącach od ukończenia studiów*, Wydział Inżynierii Lądowej, Pracownia Badań Edukacji i Rynku Pracy Instytut Ekonomii, Socjologii i Filozofii WFM i IS, Politechnika Krakowska, Kraków 2010.