

Qualification as a Success Factor in the Labor-Market: The Faculty-Specific Attributes of the Employment of the Budapest University of Technology and Economics Recent Graduates

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Abstract: Due to the increasing expansion in higher education and the boom in the number of students, new challenges of employment have emerged. In the labor-market, different tendencies of fresh graduates can be highlighted, so it is essential to identify which success factors of the labor-market are relevant to the different training fields. A certain group of former BME students was chosen as a sample group and special variables, which can appear as important attributes of entering the labor-market, gender and field of studies were applied. We based our analysis on the BME career tracking survey that had been taken for 10 years among the graduates, with the purpose of examining main influencing factors of entering the labor-market and the correlation between these factors and further variances of qualification. We can declare that there are significant differences between the different fields of studies. Thus, in the center of our research is the detailed examination of the relationship between the factors of course duration and employment in the acquired professions in relation to the faculties. Despite the results of our correspondence maps painting a rosy picture of the situation for the recent graduates, due to the differences between the faculties, several tasks related to the qualitative aspects of the labor-market demand emerge for the higher education institutions and the students.

Keywords: engineering; recent graduates; qualification; labor-market indicators; correspondence map

1 Introduction

After the political transition in Hungary, the rapidly increasing output of higher education had considerable effects on national economic and social factors, such as: the increase in GDP per capita, rising tax income, acceleration of the increase in GDP due to income growth, lower level of corruption, increasing scientific performance, higher life expectancy, more active participation in politics, higher

commitment to social activity and higher level of social mobility [1]. At the same time, the labor-market has been changed, new challenges emerged, which demand great preparation of not only the recent graduates and their employers [2] — which we targeted to analyze — but also the whole society. To understand this, the factors which are in relation with the labor-market indicators and positively influence them should be recognized.

After the political transition the increasing expansion in higher education [3] and the boom in the number of students became typical; on the basis of the surveys in the Hungarian Central Statistical Office, between 1990 and 2005 the number of students in the higher educational system was quadrupled. The ratio of full-time students was also almost trebled, which incident was further enhanced by the Bologna Process in 2006. Meanwhile, the number of both the applicants and the students being accepted showed an increasing trend, which means that the young people did not meet such entrance barriers which could have kept them from entering higher education [4]. The appreciation of human resources value and the increase of investment in the human capital predicted that the possibility of claiming a higher social status and a greater social and financial honor are linked to higher qualification [5].

Since 1998, the employment rate among the graduates has been as high as 72-76% in Hungary. However, in the OECD member states the employment rate of people with higher education is on average 9% higher than the rate of people with secondary education; its ratio differs between countries. In Hungary the difference between the employment rates of the people with higher and secondary education is 12%, which is higher than the OECD average [6]. We must not lose sight of the fact that on the basis of the surveys published by the Hungarian Central Statistical Office, in the last two decades the number of job seekers (registered ones) increased by 64% (a bigger jump was observed in 2009), but what is even more annoying is that the number of the unemployed among the recent graduates had doubled; moreover, we face an even higher number¹ of unemployed highly qualified recent graduates nowadays. Therefore, the boom in the number of students in the higher education system has created a new situation on the labor-market on both the input and output sides as the unemployment of recent graduates has already appeared and it keeps increasing.

Taking notice of the above trends, it is necessary to identify the success factors of the labor-market which are relevant to the different training fields. These success factors provide information for the participants about the effectiveness of each training course in the higher education system and Lifelong Guidance (LLG) for young people.

¹ Rate of recent graduates among the unemployed entrants increased from 3% to 6% between 1998 and 2002, then to 9% in 2003; today it is 16%. [8]

For this, it is essential to give a picture of the Hungarian higher education system in brief pointing to the main indicators of employment, such as job search duration, employment in the acquired professions and income.

In the last years, among recent graduates besides the growing unemployment mentioned above, the average duration of job searching also increased. The following figures clearly illustrate the main indicators of the labor-market among recent graduates in the relevant training fields in Hungary. (See Figures 1, 2, 3)

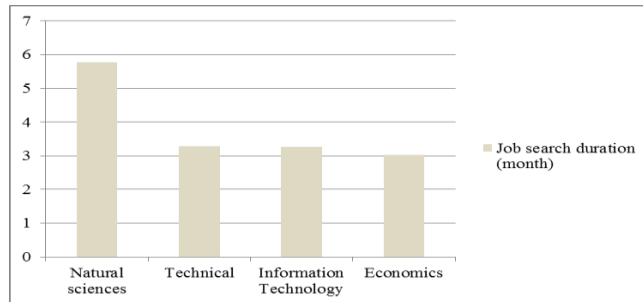


Figure 1

Job search duration among year 2007 graduates (N=2371 people), Source: [7]

Besides job search duration, professional qualifications and job matching are also important factors of the utilization of the university degree because the knowledge acquired becomes valuable only on a high level of compliance. In the training fields examined the Hungarian average values are:

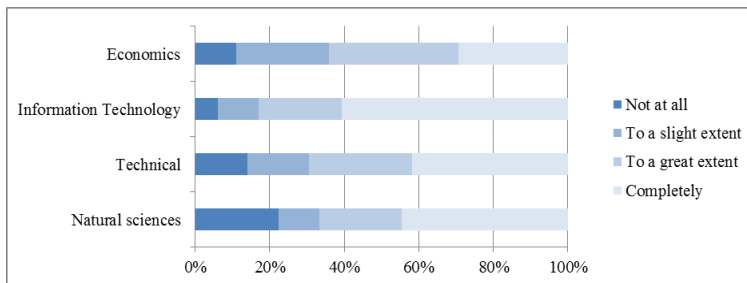


Figure 2

Year 2007 graduates employed in the acquired professions (N=4341 people), Source: [7]

The level of obtainable income on the labor-market can also be a result indicator of attaining a degree in relation to the training fields; see Figure 3 below:

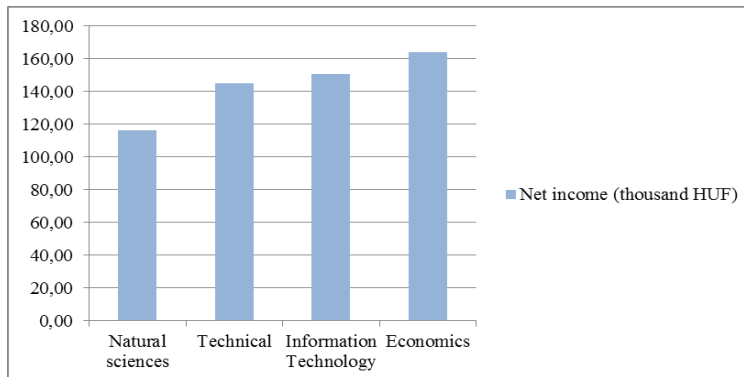


Figure 3

Amount of the average net income of year 2007 graduates (N=2691 people), Source: [7]

In the last years, in the private sector there was an increasing demand for professionals with certain qualifications and openness to employing recent graduates. In the survey published by the Institute for Economic and Enterprise Research of the Hungarian Chamber of Commerce and Industry focusing on the recent graduates of 2011, 42% of the examined companies already employed or planned to employ recent graduates within a period of one year [1]. As we are associates of a higher education institution (BME), for us it is essential to know about the chances of our BME recent graduates. At the BME there is a tradition of scientific analyzing and using results of different student surveys [9] [10]; we considered a certain group of former BME students appropriate for being a sample group, and we based our survey on a career tracking survey that had been taken for 10 years among the graduates of the university.

2 The Research

2.1 The Sample Group

Our research targeted to examine the BME recent graduates—who attained their first university degree there—as recent entrants in the labor-market. As we intended to introduce the real, average situation of the employment, we deliberately avoided the time and effects of the economic crisis. Thus, we specialized in surveying the groups of students who graduated between 2003-2007 in the training fields of engineering, science and economics.

Gender and field of studies² were chosen as the main variables influencing chances of getting a job among the BME graduates. We assume that these special variables can appear as important in the attributes of entering the labor-market of students from similar training fields of different higher education institutions as well.

During the survey period, using selected degree courses of the BME—full-time and correspondence university-level first degree courses—slightly more than 8600 students attained a degree. In 2005-2009 during the surveys of the career tracking system, the number of respondents was 1732 people, thus the average response rate was 20%. However, from statistical aspects it cannot be considered as a random sample; regarding its ratio and size the sample itself seems to be outstanding, and it assures a solid basis of our estimates and drawn consequences. As the statistical population is known, we examined whether—according to the variables gender and field of study—the sample can be considered representative. Certainly, as we could not guarantee perfect concordance, we produced statistical weight numbers associated with our observations, which reflect the ratios in the statistical population. We carried out weighting processes annually because during this period the number of economics students on the GTK had started to increase and the ratio of men to women changed; it was different from the already running engineering management degree course. For dependable annual results we produced statistical weight numbers on an annual basis. Thus, the sample can be considered representative, from the aspects of gender, field of study and the ratio of graduates per year, as well. As for the reliability of the sample, we faced another problem. In TTK the population, thus the size of the sample group, was too small. Regarding the whole sample, this faculty can be considered representative as well, but groupings—especially by several criteria—resulted in some cases to low sample numbers that would distort the sample indicators. Thus, we took TTK into account only when we managed to get comparable results and we made comparisons, mainly between the faculties on the basis of only one variable.

2.2 The Purpose and Methodology of Our Research

The present study gives an overview of the second phase of our research on BME recent graduates. Our purpose is to examine each influencing factor of entering the labor-market; furthermore, the correlation between certain factors and further variances were found. However, in our previous survey [11] —which is the basis

² Faculties we examined are the Faculty of Civil Engineering (ÉMK), the Faculty of Architecture (ÉPK), the Faculty of Economic and Social Sciences (GTK), the Faculty of Mechanical Engineering (GPK), the Faculty of Transportation Engineering and Vehicle Engineering (KJK), the Faculty of Natural Sciences (TTK), the Faculty of Chemical Technology and Biotechnology (VBK) and the Faculty of Electrical Engineering and Informatics (VIK).

of our present work—we emphasized the examination of basic tendencies that could be indicative of annual trends; there was missing analysis between certain elements. Thus, the identification of potential intervention points was also missing. Now, we intend to fill this gap with our present study. As for the sample we had, it was considered reasonable to examine the correlations between certain grouping variables and taking a job in the labor-market. For that purpose, in order to analyze association and correlation we chose certain criteria such as gender, field of study, status, job search channel, employment in the acquired professions, number of workplaces, job search duration, the position, job satisfaction, managerial perspective, income and the level of mobility.

In the given five-year period, studies were made with different coding systems, thus some factors became necessary to re-code so as to make them completely comparable. While applying Pearson's chi-squared test (χ^2) we found that a certain category did not contain sufficient elements, thus, according to professional criteria we had to merge some categories. We considered correlations in relation to the p-value, and in case we found correlations, we determined the closeness of them by Cramer's V.

However, the test of independence and Cramer's association coefficient describe the existence and the closeness of the relationship well; they are not able to represent the nature of the relationship. Thus, we extended our research by applying a multivariate exploratory method (correspondence analysis). This allowed us to establish the relationship between the categories of certain quality criteria; whether the increasing incidence of a certain category of criterion implies the increasing incidence of another category of criterion or vice versa. The method is an exploratory research; the main thing is that the rows and columns of the correspondence table are interpreted as points in a multi-dimensional space which points then are represented in a reduced two or three-dimensional space [12]. Depending on the situations of these points (categories of criteria) we can decide whether the belonging variables attract or repel each other.

3 The Most Important Results of the Basic Research

3.1 Gender, as a Grouping Variable

We highlighted the correlations of the gender because we found it relevant in relation to the social status, the job search channels, the job search duration, employment in the acquired professions, the leadership perspective, the position, the level of salary and income and the level of mobility.

It is important to record that from the aspect of gender the university faculties are not homogeneous, there are significant differences between the faculties and the degree courses. From this aspect, the BME is quite a “masculine” institution. Therefore, it is not surprising that in the given period the ratio of the male-graduates was 75%. We found more diversity in the genders in relation to the different faculties. The faculties of VIK, GPK and KJK are not popular among women; the ratio of them was below 10%. In the faculty of GPK we can see that the ratio of female-graduates is above 10%, which is mainly due to its product designer course; see Figure 4. The degree courses of the TTK are a little bit more popular among women; the ratio of them was 20%. As for engineering jobs, architecture, chemical engineering and biotechnology were the most attractive fields for women, also civil engineering was popular among them. At the faculty of VBK, slowly, the trend becomes the opposite as the ratio of women to men is near 2/3. At GTK the ratio of men to women is 50%.

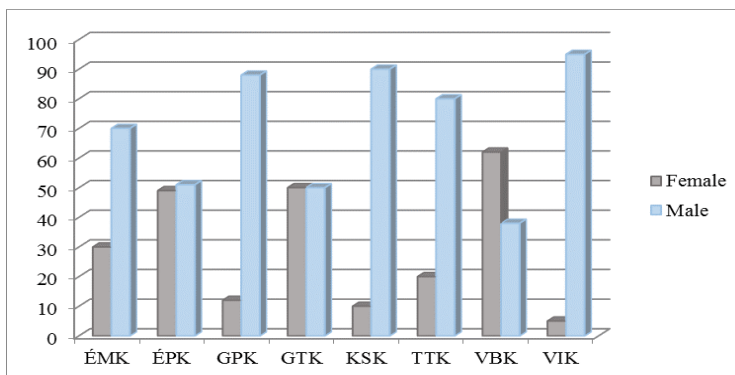


Figure 4

Ratio of men to women in relation to faculties (%)

On the basis of the studies relevant to this topic it can be concluded that for the salaries in relation to genders the determination of the differences became almost compulsory. Regarding the present survey, as for the monthly salaries, we face huge differences in the range of the smallest—some thousand Hungarian Forints—to the highest amounts such as some million Hungarian Forints as well. Thus, in order to examine correlations we had to create categories according to the amounts of salaries. Because of the standard deviation of the average salaries we applied a non-proportional scale; for the smaller amounts we applied narrow intervals and for the higher amounts we applied wide intervals.³

³ For comparability, by the official inflation data of The Central Bank of Hungary we converted the salaries in earlier years to 2009.

Figure 5 below illustrates the ratio of salaries of women to men. The figure shows the relative frequency of each salary category in relation to genders.

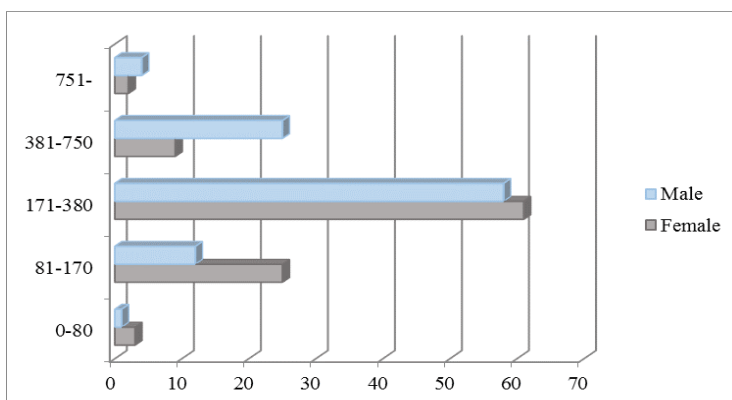


Figure 5

Average monthly salaries in relation to genders

It is obvious that until 89.2% of women have a monthly salary of a maximum of 380 thousand Hungarian Forints, only 10.8% of them are above this level; among men who take place above the level of salary mentioned this ratio is 30%. Women are more dominant in the categories of lower salary levels, demonstrating our assumption about horizontal segregation and, therefore, gender-based discrimination in pay.

In view of the fact that in relation to faculties there is huge heterogeneity in the ratio of men to women, the above difference can be originated from the difference between the salaries of each profession. We examined this difference in relation to faculties as well, which confirmed our previous assumptions. Two years after entry into employment, the gap between the salaries of men and women is already appreciable. Except for VBK, all the faculties' men have a higher income; see Figure 6. We found the smallest difference at VIK, but for the ÉMK-ÉPK graduates the amount of the difference is between 60 thousand to 80 thousand Hungarian Forints. The huge differences between the faculties are also illustrated below. During the given period the VIK graduates had the highest income, and then came the GTK graduates; finally, the VBK and ÉPK graduates, as well. (Because of the small size of that, while analyzing the results, we did not take TTK into account.) As for the trends in results, we found them to coincide with the self-declared net monthly salaries of the recent graduates [7], except the VIK graduates, who have almost a twice higher income than the average in the field of engineering. It reflects the outstanding positive esteem and the great demand for the VIK graduates in the labor-market.

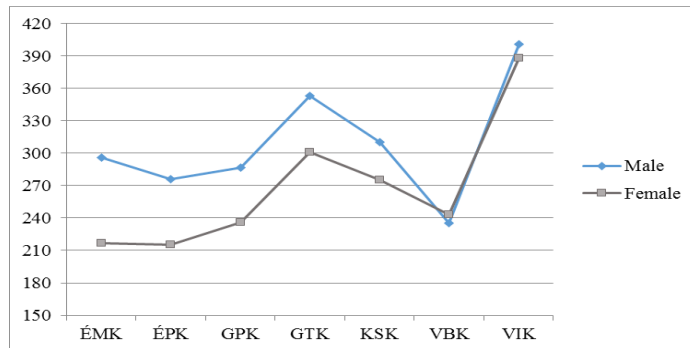


Figure 6

Average monthly salary in relation to faculties and gender (in thousand Hungarian Forints)

3.2 The Faculty, as a Grouping Variable

As for employment in the acquired professions, we presumed serious differences among the results of the different faculties. With Pearson's chi-squared test (χ^2) we demonstrated that a correlation exists; moreover, there is a modest correlation between employment in the acquired professions and the training field (faculty). Efficiency of employment in the acquired professions is seen in the figure below (employed in the acquired professions [yes], or not [no], or employment complies with the acquired professions only in certain aspects [partly] [see Figure 7]).

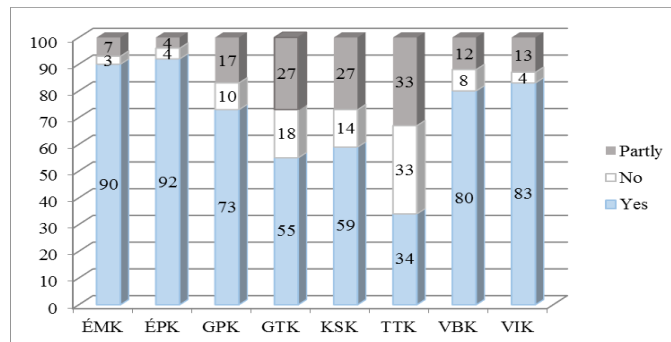


Figure 7

Employment in the acquired professions in relation to faculties (%)

The lowest proportion of those who could find work in the acquired professions is the TTK graduates; they are forced to be employed in professions partly other than those for which they are qualified. For them, the ratio of being employed in professions other than those for which they were qualified is 33%. We did not face such a high ratio at any other faculties; moreover, this proportion is higher than

the Hungarian average (14.4%) [7]. The highest proportions of those who could find work in the acquired professions are the ÉMK-ÉPK graduates; their ratio is above 90%. The VIK and also the VBK graduates—with their volume limited—also have a relatively high proportion. The GPK and KJK graduates hold the middle ground, and beside the TTK graduates, the GTK graduates have the worst results with their ratio of 18%— which is 7% higher than the Hungarian average [7]. From this aspect, creating jobs which promote functional flexibility and where the recent graduates can utilize their various competencies is worth considering; hence, it would be desirable to establish the so-called post-Fordist model [13].

Employment in the acquired professions forecasted positions potentially available, but we considered it to be important to examine positions in relation to the faculties. In this case, testing of the relation showed one of the strongest associations. The ratio of each position in relation to the faculties is shown in Figure 8, below:

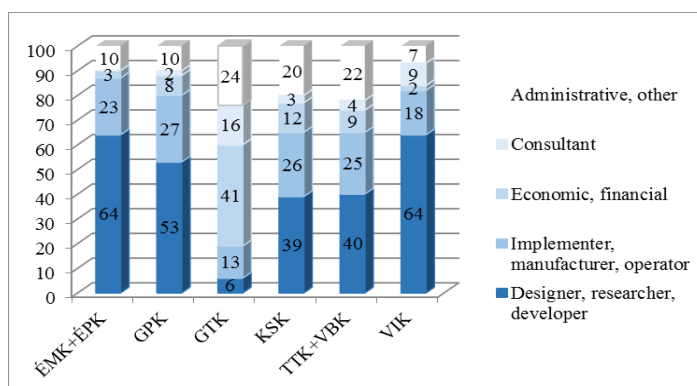


Figure 8

Types of jobs in relation to faculties (%)

At designer, researcher and developer positions the VIK, the ÉMK, and ÉPK graduates seem to be very good; in these jobs 60% of them are employed. The GPK graduates come second, followed by the KJK, the VBK and TTK graduates. In the last three groups it is typical to have a constructor, manufacturer or operator position, while as for the GTK, graduates are rather employed in economics, finance, commerce, sales representative, administrator and other similar positions. This category also includes the highest number of consulting jobs in which the VIK graduates are also employed, but in a smaller proportion. In administration jobs we found a high number of TTK, VBK and KJK graduates; in these jobs VIK graduates are employed in the smallest proportion.

4 The Results of the Supplementary Study: Introducing the Differences between the Faculties

According to the examinations introduced above, we can declare that in relation to certain criteria there are significant differences between the faculties. Thus, in the center of our research there is the detailed examination of the relationship between the factors of course duration and employment in the acquired professions in relation to the faculties. Due to the lower level of vocational maturity and so-called post-adolescence, one of the most frequently mentioned mistakes of the credit system—which is famous for its flexibility—is the lower level of student motivation in fulfilling course requirements [14]. These trends result in extended course duration. Furthermore, the credit system functions as an escape route from entering the labor-market. [15]

4.1 Associations of the Course Duration

As for the course duration, we could use only a part of our database because respondents were asked about the starting year of higher education only from 2007. Without taking college courses into account, we had a sample of 1026 people. According to the time spent between the starting and ending years of the courses, regarding the five-year university courses we created four groups. Hence, we organized the samples into the groups of the five-year long, the six, the seven and the eight-year or longer courses. Taking a test of independence between the grouping variable of faculties and course duration, the result of Pearson's chi-squared test (χ^2) was 181.4, and the p-value was 0.000, which shows that in relation to the course duration there is a significant difference between the faculties. This is a moderate strong association, where the Cramer's V-value is 0.243. Taking a correspondence analysis, we found the following results (see Figure 9).

On the map numbers 1—4 mean the categories of course duration: 1=five years, 2=six years, 3=seven years and 4=eight years or more. The rows of the initial contingency table contain the faculties, and the columns contain the categories of course duration⁴. The two-dimensional presentation reflects 96.26% of the total inertia (nth part of the calculated χ^2 -value); thus it represents the complete table well.

⁴ Results for the TTK have not been considered because of its small amount of elements in the group. We rather indicated it as additional information only.

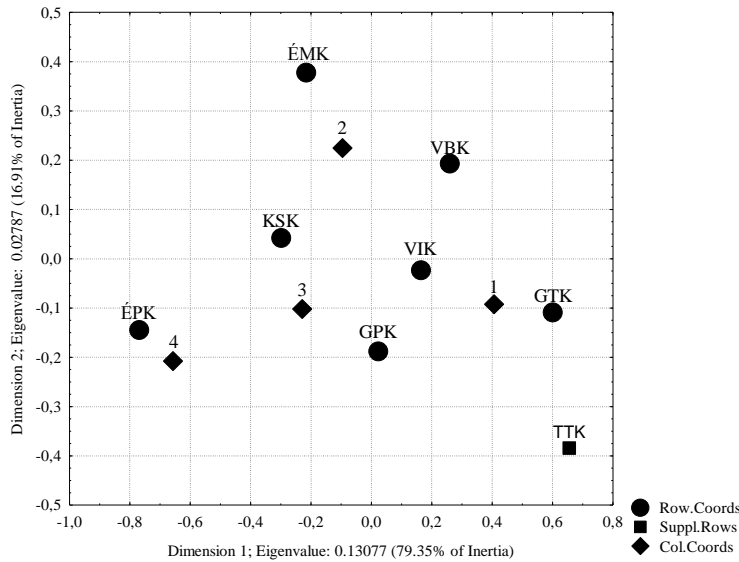


Figure 9

Correspondence map of the relationship between course duration and faculties

The values of the quality show that for both the row and column categories, almost all points are represented well by the first two principal axes and the points are close to the plane that is stretched by the two principal axes. Regarding the faculties, the quality value of the KJK only, and regarding the time, the quality value of the category 3 (course duration is seven years) is below 90% and these points are farther from the plane. According to the inertia, the standard deviation of row values is due to the difference between the ÉMK and GTK graduates, while the standard deviation of the column values is due to the difference between the categories of standard course duration and three-year longer course duration. Interpretation of the first principal axis is based on the difference between ÉMK and GTK graduates, with coordinates with opposite signs, while from the aspect of rows the two endpoints of the second principal axis are the GPK and ÉPK. Regarding the column coordinates, the two endpoints of the first principal axis are the categories of the standard course duration and the significantly prolonged course duration, while the second principal axis makes a difference between the categories of the one-year longer course duration and the three or more years longer course duration.

Figure 9 shows that GTK (and also TTK) is closer to column category 1 and ÉMK is closer to column category 4. On this basis, we found that among respondents most of the GTK graduates finished their studies on time, while the row category of graduates of architecture is close to the column category of the three-year longer course duration. Other faculties bridge the two poles. The VBK, VIK and

GPK graduates finish their studies usually on time or one year later and the ÉPK graduates finish usually one year later, while the KJK graduates attain their degrees one or two years later.

Examining the row profiles (see Figure 10) we can understand the difference between the faculties. The figure represents the relative frequency of the categories on the same Y-axis according to the faculties, from the left to the right, appropriate to the four time categories. 66.67% of the GTK graduates finished their studies in five years. As for the engineering faculties, only the relative majority finished their studies on time. 43-46% of the VIK, VBK and GPK graduates finished their studies in five years. ÉMK graduates usually delay one year, and 54% of them finish their studies in six years, which is true also for the KJK graduates, although for them the course duration is more variable and the maximum ratio is only 38%. Regarding the course duration, ÉPK can be considered specific, as 36% of the graduates delay at least three or more years. Less than 10% of ÉMK graduates finish their studies in five years; however, another 35% finish in six years; these two groups taken together do not cover 50%. (For the sake of completeness, we also represented TTK, but we must note that due to the small size of the sample group the only consequence which we can draw is that the vast majority of TTK graduates finished their studies on time, and the results of any further distribution is uncertain.)

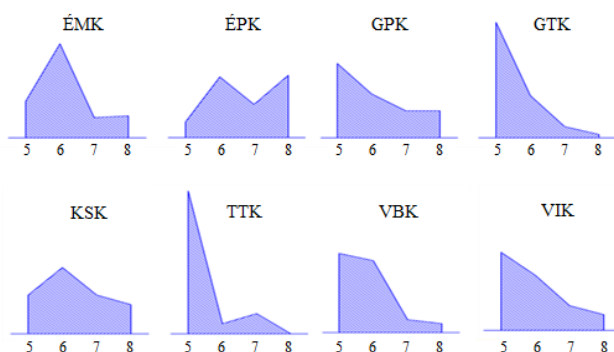


Figure 10

Relative frequency of course duration categories in relation to faculties (in year[s])

However, compared to the standard course duration most graduates delayed in finishing their studies, and the vast majority (72.2%) of them attained their degrees with only one year of delay. In the given period the average course duration for BME graduates was in 6.1 years with relatively high standard deviation, which is 1.4 years. The average course duration was 5.3-5.5 years for the TTK and GTK graduates, while an average student of architecture attained his or her degree only 7.1 years after registration at the university.

These outstanding results raise the question whether there is an association between labor-market facilities and the course duration for ÉPK-ÉMK graduates. Considering the difficulties of entering the labor-market, do they extend their course duration voluntarily? Or do they delay in completing their studies due to working while studying? If our first assumption is true, then finding a job should be the most difficult—thus job search duration should be the longest—for the ÉPK graduates. As for employment in the acquired professions, we already found that 90-92% of the ÉPK and ÉMK graduates are employed in their acquired professions (see Figure 7). As for the job search duration, we can see that ÉPK graduates can find a job easier than the average fresh graduate. Hence, our presumption that the increase in the course duration is influenced by the students' own decisions is not proved. However, the reason for it is due to the structure of the course itself; presently it is not targeted to be analyzed in this study.

However, for the other training fields we did not find outstanding results; it is worth examining the employment rates from faculty-specific and gender-specific aspects.

Examining the job search process of the graduates during the university years in relation to faculties, we can determine two groups. 60% or a higher ratio of the ÉPK, ÉMK, GTK, TTK and VIK graduates found a job during the university years, while for the GPK, KJK, VBK graduates it is below 50%. This ratio is the smallest for the VBK graduates with 32.4%.

We considered it important to examine the employment rate in relation to gender, as well. Taking the employment during the university years into account (calculated with 0-month of job search duration), the results of average job search durations for the graduates of faculties—in relation to gender—are the followings:

Job search duration is the shortest for the faculties of ÉMK and ÉPK, even shorter than the average job search duration of 1.3 months of the IT engineering graduates, which is one of the most popular jobs in demand. Meanwhile, the job search duration of the GTK and also TTK graduates is longer than the average, which means that among the given faculties, they do not find their jobs in the shortest time. Hence, it is not demonstrated that the course duration is not influenced by the chance of being employed.

Except for VIK, it is typical for every faculty that the job search duration is longer for women than for men. We can see the largest difference at the faculty of GPK partly due to its product designer course. For the graduates of this course the job search duration is 2.6 months longer than for the graduates of other courses; moreover, for this course we found the largest difference in job search duration (1.7 months) in relation to genders. As nearly 70% of female GPK students go to the product designer course, it significantly increases the average job search duration of women at the level of the faculty.

Examining only those students who started to search for a job after graduation, we can say that ÉMK and ÉPK graduates found their jobs in the shortest period of time, but the average job search duration for them is 2.6-2.8 months. As for the graduates of engineering, with its nearly 4.6 months, the job search duration is the longest for the VBK graduates. Surprisingly, for VIK graduates, with its 4.0 months, the job search duration is not much shorter. Similarly, the job search duration is 4.6 months for GTK graduates, too.

In conclusion, we can declare that the chances for entering the labor-market overall show good results. 57% of the BME graduates had worked before they attained their degrees, 26.8% became employed within three months after graduation (together, it is 83.8%) and within six months after graduation 94.2% of BME graduates were employed. Among BME graduates, the graduates of ÉMK and ÉPK find a job in the shortest period of time, and VBK graduates have the longest job search duration. However, most GTK and VIK graduates start working during the university years, and those who find or search for jobs after graduation typically face a job search duration of longer than the average.

4.2 Associations of the Employment in the Acquired Professions

We examined the chances of graduates for being employed in the acquired professions in relation to faculties, as well. We can declare that 77.8% of the recent graduates are employed in the acquired professions, 14.3% of them are employed partly in the acquired professions and 7.9% of them are employed in professions other than those for which they were qualified. In relation to the different faculties, there can be large differences among those who leave their professions. Pearson's chi-squared test for independence (χ^2) rejects the independence between the two criteria because the $\chi^2 = 180.5$, the p-value = 0.000 and Cramer's V = 0.237.

For a more detailed result, we applied a correspondence analysis to examine the difference (see Figure 11) and we obtained the correspondence map; see below. We can see that leaving the profession is the least typical for the engineering faculties; except for KJK; the results take place around the "yes" answer. More than 70% of these graduates are employed in their acquired professions. 59.6% of KJK graduates are also employed in their acquired professions, but compared to the engineering faculties here the ratio of "employed partly in the acquired profession" answer is relatively high with its 26.0%. The TTK and GTK graduates are the least employed in their acquired professions; it is typical mainly for the TTK graduates, and from this aspect, the GTK is rather a transition faculty between the TTK and the engineering faculties. For the TTK, 33.3% of the graduates were employed in the acquired professions, while for GTK this ratio was 50.4%.

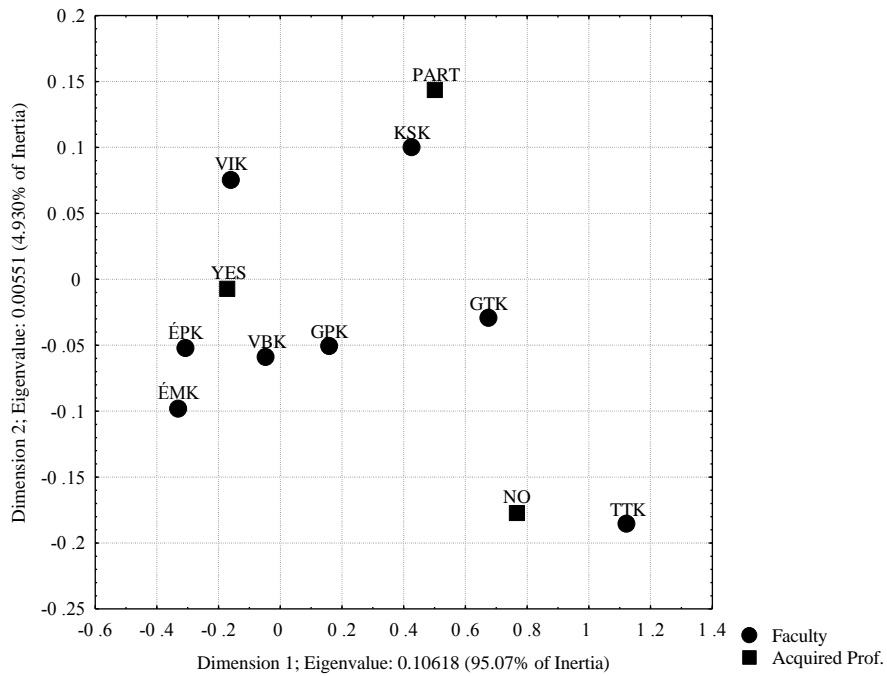


Figure 11

Correspondence map of the relationship between employment in the acquired professions and faculties

Conclusions

In order to provide the most important conclusions—like in the study of [16]—we considered it important to manage the results we collected, aggregated, together with the specific data of release. To this end, having regard to the employment of all graduates, we compared the relationship between the job search duration and payment, and the number of graduates in relation to faculties. The sizes of the faculties are proportional to the number of respondents at the certain faculties, where the students graduated from; their numbers are presented by the sizes of the circles, see Figure 12. The two types of the job search process (during the university years/after graduation) are presented separately. On the 0-value of the employment time axis we can see those circles which represent the graduates who became employed during the university years. The upper row of data indicates the job search durations after graduation, in relation to their faculties. The broken line indicates the average values with regard to the whole university.

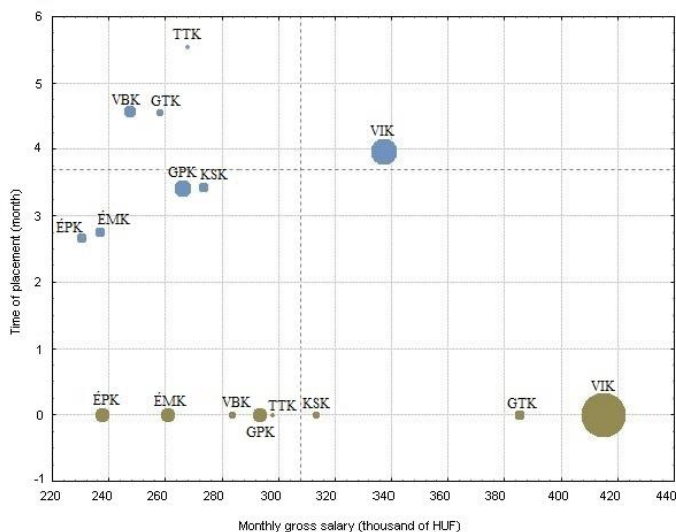


Figure 12

Differences between the faculties, in relation to job search duration and average payment

Examining the job search durations respectively (during the university years/after graduation), we can see that, except for two faculties, graduates need at least 3.5-4.5 months to find a job. Furthermore, the recent graduates of TTK belong to a single category because in the case they do not find a job during the university years, for them the job search duration has been extended to six months and it can be a relevant problem to be employed in professions other than those for which they were qualified. If beside the above-mentioned facts we also examine the payment, we can see that the salaries keep decreasing in all training fields in case the graduates find their jobs after graduation. At this stage, we must highlight the “loss” of the recent graduates of the financially appreciated faculties of VIK and GTK.

ÉPK and ÉMK graduates are in a special situation. However, for them among all the faculties the job search duration is the shortest—most of the students find a job during the university years—and they have the lowest level of salary. By contrast, in the labor-market, we can find a higher number of them, which results—from the aspect of labor-market efficiency—in a less favorable situation.

As for the labor-market success among the faculties, VBK graduates are in one of the worst situations because beside GTK graduates, they have the longest job search duration—approximately as long as it is for the ÉMK-ÉPK graduates—and also the lowest level of income. Only a low percentage of them can find a job during the university years and after graduation for them it is harder to be employed in their acquired professions. Regarding the training fields of BME, in

this case we face a female-dominated profession, which also can provide an explanation for the unfavorable ratios. Hence, for this field, raising the number of graduates is not reasonable.

Regarding both the employment in the acquired professions and the obtainable income, the VIK recent graduates have the biggest labor-market success. For them it is typical to find a job during the university years, but if they fail to do so, it has a negative influence on their job search duration and also their obtainable income. For them, besides the high level of professional standards—confirmed by also the employer organization or association—the so-called soft skills are also very important because these competencies make them truly valuable in the labor-market. Hence, for this field, the highest number of graduates produced is justified from every aspect; moreover, increasing the number of them could be a target for the future.

GPK and KJK graduates belong to the middle field from every aspect, with their employment rates above the national average and near the BME's university average. Finding a job during the university years is similar to VIK graduates, but for them, finding a job only after graduation does not have such a negative influence on their obtainable income. For them, BME as a brand name is very important in the labor-market and the educational institution itself is considered to be of high prestige. For the faculty of GPK, the number of graduates produced is a multiple of the number of KJK graduates, which is not justified by the examined labor-market ratios. For the KJK graduates it can be advantageous to increase the number of graduates.

For GTK graduates the picture is not that clear. Beside the obtainable income—which is higher than the national and also the university average—for them it is also important to find a job during the university years. If they do so, they are usually employed at companies of high prestige, mainly in their acquired professions, while if they start to search for a job only after graduation, similar to VBK graduates, the loss of time can result in failure, which can lead to leaving the profession. As for the number of graduates produced, on the basis of the great demand for GTK graduates and labor-market recognition, we can say that it would be justified to increase the number of GTK graduates to the similar number of VIK graduates, if business relationships were strengthened during the course. In lack of that, the recent graduates of this faculty can meet heavy losses.

For the TTK, the above-mentioned favorable trends are not typical at all. Job search duration is longer, and the obtainable income is lower than the university average. In order to increase the number of graduates, there should be even more radical changes in this field. True solutions would be to boost up labor-market demand and to promote professions in the field of natural sciences.

However, the results—which are presented by the employment rates—paint a rosy picture of the situation for the recent graduates of BME, and the differences between the faculties point to several other things, which have to be done by both

the higher education institutions and the students. Although the quantitative ratio of demand to supply seems to be appropriate, we mustn't forget about the qualitative aspects of the labor-market demand.

As for their own competencies, the self-images of recent graduates reflect a high level of satisfaction; they consider the professional usage of the internet, the self-expression in writing and meticulous work their three strongest competencies [17]. Further important competencies are the ability to study, to work in a team and self-instruction. As for their needs, the employers' side reflects a different opinion. For them, meticulous work, autonomy at work and heavy workloads are the most important competencies, in addition to the ability to work in a team, to have full theoretical knowledge and professional proficiency, ability to study, self-instruction and the ability to achieve the goals set [18]. Conversely, on the list of the least important competencies we can find proficiency in social issues, entrepreneurship and self-expression in writing. However, we can discover partial overlap between the two lists; responding to the employers' needs requires new formal and informal/non-formal developments [19] during the university courses.

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