

Research of Interactions between Universities and High-Technological Enterprises on Employees Qualification

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Abstract – Employee training is one of the most obvious fields of interaction between universities and high-technological enterprises. Additional qualification and retraining of employees in companies is one of the most widely used forms of interaction with universities in developed economies. The authors set it as their goal to specify what is the meaning on that interaction in Bulgaria. This paper represents the results of own empirical research about the attitudes of high-technological enterprises doing business in Bulgaria and about possible field of interaction with universities in reference to the employees training.

Keywords – company training, interaction universities–business, qualification, retraining, training programs.

I. INTRODUCTION

Even today, with the rapid development of high technology, one of the main factors of company competitiveness is motivated and qualified staff working to achieve company goals. This is, in the upmost degree, related to high-tech companies.

The more advanced the company is, the harder it is to find staff for it: on the one hand, the requirements for high skills and experience staff must have and on the other hand the need for specific company training related to the specifics of both the activity performed as well as the specific technology of the company. World experience shows that successful companies rely on universities and on training organizations to offer them employees with good theoretical and practical skills, but without being trained on the specifics of the company. Consequently, company training, some of it held at universities, is related to the specific work in the specific technology company. The unsuccessful model is to expect newly graduated students to have knowledge of the specificities of each company.

In this paper the authors, on the basis of empirical research, are trying to determine the expectations for the interaction between high-technologies companies in Bulgaria and universities.

There are several interesting questions about the research: to what extent partners in this collaboration (technical universities and high-tech enterprises) have complementary, respectively excluded priorities. The analysis of the mutual interests can be done by interviewing the persons who are responsible for the process on both sides. The opinion of managers and members of human resources departments in high-tech enterprises is examined in this paper.

The object of the research is the impact of cooperation between high-technological enterprises in Bulgaria and universities on employee qualification and retraining.

The thesis of the authors is that by analysis of opportunities on the described collaboration, it can be thoroughly expanded.

II. POINTS OF VIEW AND PRACTICES OF/FOR QUALIFICATION OF EMPLOYEES FROM HIGH-TECHNOLOGICAL ENTERPRISES IN THE UNIVERSITIES

Many theoreticians of Human resources management point out the meaning of qualification and retraining of employees like one of the most important factors for success. [1, 2]. Pointing out the meaning of firm training for establishing effective teams [5], for the qualification of the personnel after changes in technologies and in recruiting new employees [3,4].

At the same time researchers are not of a uniform opinion when they talk about company training.

Different authors support different points of view: training at the workplace by consultants, university lecturers or with their own resources, external training in train centers, universities or attractive destinations [6,7,8]. The last one is especially developed and popular when the target is the creation of a team. Researchers describe the advantages and disadvantages of each of these forms of organization of company training [5].

In [12] is presented a detailed analysis of Employee Engagement Factor for Organizational Excellence. The results shown in [9, 10, 11] make it possible to analyze the factors influencing the Human Capital and Knowledge Management in Innovative Organizations.

In developed economies one of the biggest form of cooperation between high-technological enterprises and universities is exactly qualification and retraining of employees.

After the analysis was completed and the received data submitted was reviewed by the representatives of the participating enterprises, it was found out that there is a lack of communication between the managers of human resources units in the companies and the universities. This interaction practice in Bulgaria is insufficient or in many cases there is no such interaction even in branches of international companies that have good practices in the field of university-business partnership outside the country.

High-technological enterprises are interested in monitoring the staff trained at universities and give priority to this. Improvements to qualifications are rarely offered by companies themselves. Only established type of programs by the universities are used and that is the main reason why there is a disappointment after training or the insufficient opportunity to implement the learning in practice.

Another major problem is insufficient information about opportunities which are offered by the universities in general for retraining employees and that leads to the search for alternative ways of training such as hiring their own lecturers, external seminars or the transfer of knowledge within the enterprises themselves by employees with more experience to those with less and other.

That can be achieved with the help of specialized recruitment agencies where to give and receive information both from universities and from high-tech enterprises.

III. RESEARCH METHODOLOGY

The research methodology is classical and its basic steps are described in another paper by the authors [13]. It includes determination of target groups respondents from point of view to coverage of the phenomenon from all its sizes, as well defined on confidence interval; determine of potential questions to the respondents. Defining questions for control. Open and close questions. The statistical processing of data is done with SPSS. The methodology including in it adjudgment about authenticity of received results.

There are 50 respondents - specialists and managers of human resources /HRM/ from twelve high-technological industrial companies. 12 of them are of human resources managers and the other 28 are HRM specialists. Age composition - 28 - 55 years; Gender: 36 female and 14 male /of whom 9 are managers/. Education: higher/economic, psychological, engineering /. Professional experience in HRM: 3-15 years. The survey was conducted between March and April 2018 using the direct interview method.

All high-tech enterprises, where research was conducted, meet the requirements of:

- developing production activity;
- implementing innovative activity;
- having a prominent orientation and traditions concerning the interaction with Bulgarian technical universities.

Half of all high-tech companies are Bulgarian branches of foreign companies.

IV. MAIN RESULTS

The analysis of the results of the conducted research on the interaction between universities and high-tech enterprises shows that it is expressed in the following way:

1.The respondents identified the main reasons for cooperation with universities as follows (Figure 1):

92 % of the respondents point out making connections with universities with the purpose of recruiting potential job candidates for vacancies;

8 % answer that for them the interaction is connected to participation in joint initiatives - projects, forums, conferences, representative events;

8 % of the respondents see opportunities for qualification and re-qualification (training and re-training) of their employees in the universities. The reasons given by others are lack of information about the training programs that are offered.

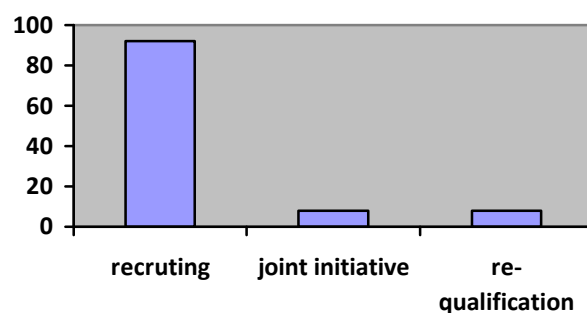


Fig. 1. Main reasons for cooperation with universities

It is interesting to find out whether there are differences between the expectations for cooperation of Bulgarian companies and these which are Bulgarian branches of foreign companies.

The results for purely Bulgarian companies are as follows (Figure 2):

100 % of respondents point out that establishing connections with universities is with the purpose of recruiting new staff;

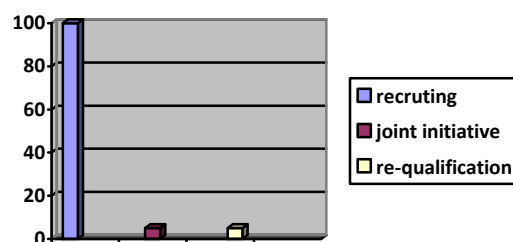


Fig. 2. Main reasons for cooperation with universities - Bulgarian companies

5 % answer that for them the interaction is connected to participation in joint initiatives - projects, forums, conferences, representative events;

5 % of the respondents see opportunities for qualification and re-qualification (training and re-training) of their employees in the universities.

1.2. The results for the Bulgarian branches of foreign companies are as follows (Figure 3):

86,9 % of respondents point out that establishing connections with universities serves the purpose of recruiting new staff;

9.9 % answer that for them the interaction is connected to participation in joint initiatives - projects, forums, conferences, representative events;

9.9 % of respondents see opportunities for qualification and re-qualification (training and re-training) of their employees in the universities.

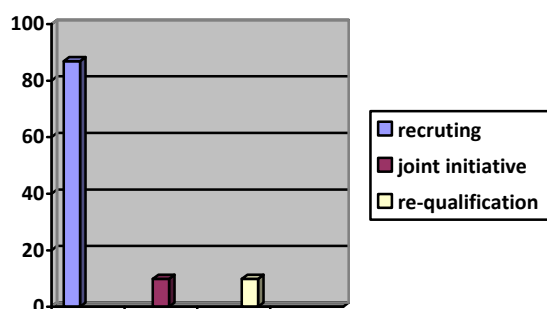


Fig. 3. Main reasons for cooperation with universities - foreign companies

The main conclusion is that there is not a big difference in the attitudes between Bulgarian companies and foreign branches.

The authors of the research expected, due to the specificity of foreign companies corporate culture, that besides staff recruitment, co-operation in joint events (including scientific) and qualification/re-qualification activities for employees would be widely practiced. Unfortunately, that expectation was not confirmed; personnel, working in human resources departments in Bulgarian companies and in branches have a similar attitude and are interested in appointing university graduates.

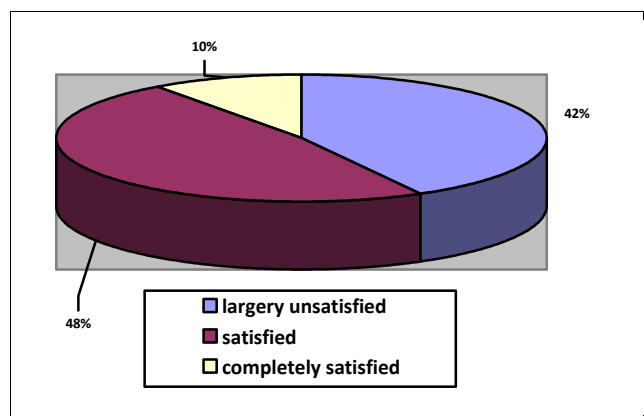


Fig. 4. Satisfaction from training

This is a changing corporate culture indicator of foreign companies depending on where they do their business.

2. The other question is related to the satisfaction of the enterprises with the training of their employees at universities. The answers are as follows (Figure 4):

42 % of the respondents are largely dissatisfied with training at universities and the reason is lack of practice orientated knowledge and skills;

48 % are satisfied to some extent, but they exclusively rely on company training;

10 % are completely satisfied with the training provided by the universities to their employees.

2.1. Bulgarian companies have negative attitude to university training and half of them do not approve of it (Figure 5):

50 % of respondents are largely dissatisfied of training in the universities and the reason is lack of practical orientated knowledge, skills and adjustment;

45 % are satisfied to some extent, they but exclusively rely on company training;

5% are completely satisfied with the training provided by the universities of their employees in the enterprises.

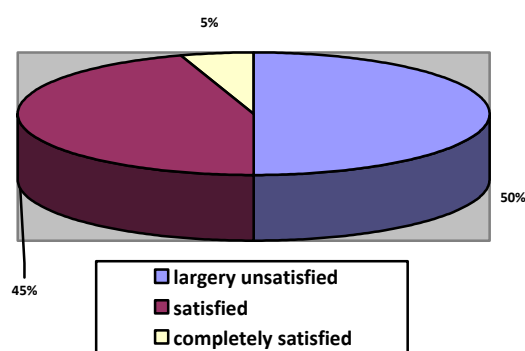


Fig. 5. Satisfaction from training – Bulgarian companies

2.2. Foreign company branches have more positive attitude towards education in the universities (Figure 6):

36.7 % of respondents are largely dissatisfied with training in the universities and the reason is lack of practice orientated knowledge, skills and adaptation;

50 % are satisfied to some extent, but they exclusively rely on company training;

3.3% are completely satisfied with the training provided by the universities to their employees.

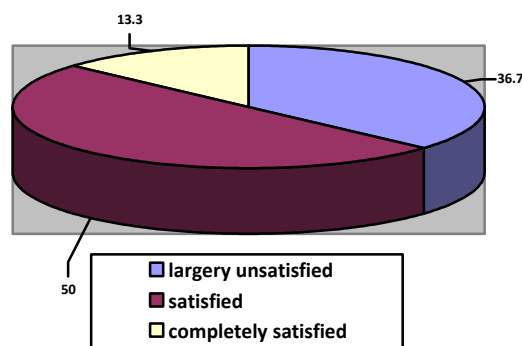


Fig. 6. Satisfaction from training – foreign companies

The companies in the research do not appreciate opportunities for qualification and retraining of working people at universities. The reasons are insufficient provision of training programs by universities on the one hand and, on the other, lack of a complete vision of

enterprises training needs. This necessitates a bilateral change in the attitudes of both of universities and enterprises to improve the effectiveness of the interaction between them.

V. CUMULATED RESULTS AND ANALYZES.

There are a few basic conclusions to be made from the research. Firstly, companies perceive universities basically as a place for getting and hiring new employees, but not for qualification and retraining. That fact is explained by the respondents in a different way: distrust in the qualification that their employees will get; lack of offers for external training by universities; theoretical nature of the courses not directly focused on the actual needs of companies; insufficient modern facilities; training approaches, that are different from learners' expectations and others.

Secondly, the companies are trying to bind formal training at universities with company training, i.e. to get a specialist directly after its University graduation and he or she to be ready start work immediately.

At that approach there is no way universities to report specificity of each one of the companies.

The missing connection between theory and practice in universities can be another starting point for cooperation.

The third basic conclusion is that companies thoroughly need targeted training mostly with the purpose of specific manner of dealing with specific technologies in order to satisfy current needs.

The strategic element of the qualification activities is not very strong, as few companies know exactly what training they will need in the medium and long-term period.

This requires universities to be very flexible in the offered training programs. Flexibility is the reason why very often consultancy company are preferred.

The complete version of the paper presents the detailed data and diagrams concerning the results commented on above. In the complete version we will also comment on the detailed approaches for strengthening the interaction between high-technological enterprises and the universities concerning qualification and retraining of employees.

VI. CONCLUSION

This paper presents the results of our own empirical research, conducted by means of a survey at HR departments of 12 high-technological enterprises, the attitudes of companies to cooperation with universities about qualification and retraining of their employees. Important recommendations are made about strengthening that cooperation for the mutual benefit of both types of organizations.

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