

# **ABSTRACT OF DOCTORAL THESIS**

## **«The employment of information and communications technologies' specialities in the enterprises»**

The employment of human resources specialized in information and communications technologies (ICT) and the effects of enterprise characteristics on their employment constitute research fields, which have been studied very scarcely in the international bibliography.

This doctoral thesis focuses on these fields by examining issues related to the employment of educational system's outflows in the ICT labour market and the corresponding effects of enterprise profile characteristics. The problem has been tackled by introducing a research model, which consists of three successive stages. In each stage a different data collection technique is applied. The first stage consists of an extensive quantitative analysis of the higher education offered at undergraduate and postgraduate level. The main emphasis is given in the specializations offered by the existing Greek ICT departments and in the potential education outflows to the labour market. The second stage is a preparatory research determining the contents of the three main occupation parameters of enterprises and individuals specialized in ICT. A methodology based on corporate collection is introduced and applied. The third stage is a national survey, which has been addressed to all ICT enterprises residing in Greece. A structured questionnaire is used as research tool. Survey's accomplishment yielded 343 filled and valid questionnaires (response rate 30.2%, which is considered as satisfactory for the deduction of credible conclusions). The issues examined are related to human resource management, to the ICT professions and specialization sectors, to the employment of the main specialities and to the degree of enterprise satisfaction for their professional performance. The impact of enterprise profile characteristics on the practices and attitudes adopted for all the above employment issues are examined through the statistical testing of 10 research hypotheses. The statistical techniques used are the  $X^2$  test, the analysis of variance (ANOVA), the Spearman's correlation coefficients and the principal component analysis with Varimax rotation.

Data analysis led to findings and conclusions for all the research fields of the thesis. As far as the higher education offered by the Universities and the Technological Educational Institutions is concerned, the recent rapid growth of the ICT departments led to large, for Greek standards, annual numbers of enrolled new students and consequently graduates. This issue, in relation to the similarity of courses offered should be examined thoroughly by the state. The postgraduate programmes have been developed beyond any anticipation, mirroring the augmentative needs for specialized personnel.

Regarding the ICT labour market it is ascertained that it constitutes a competitive and demanding work battle, having developed its own attitudes in management and employment of its human resources. The practices and attitudes adopted are largely differentiated by the enterprise size (number of employees) and in a smaller degree by the enterprise location and the geographical range of their activities. On the contrary the effects of the enterprise vocational directions are very small and those of their age (year of foundation) null. The uniform and nearly universal employers' satisfaction by

the professional performance of the ICT graduates in their needs is a clear sign of the skills gap lowering in the sector.

The labour market's representatives report fairly optimistic for the ICT sector and even more for the prospects of their enterprise. They also lay down a dire need for specialization of the ICT employees in order to improve their professional prospects. Considering as main selection criteria of an ICT profession its spread in the labour market and the degree of difficulty enterprises face in employing corresponding specialized personnel, particular professions are suggested to the young professionals as the relatively better choices.

The findings of this thesis and the conclusions drawn can become useful for the decision makers (public and private bodies as well as persons) and for the potential and young professionals who seek for a fruitful career. Finally some future research attempts are suggested, which will contribute to the investigation of more aspects of this important and complex problem; the specialized work force's employment.