DESIGNING AN EXPERT SYSTEM «MONITORING THE LABOR MARKET. MANAGEMENT OF QUALITY EDUCATION».

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Summary: theoretical and methodological analysis of labor market's components was represented; analyzed the relationship between professional education and formation of the human capital; defined policy implementation of quality management system training; reflected components of the expert system «Monitoring the labor market. Education quality management».

ПРОЕКТУВАННЯ ЕКСПЕРТНОЇ СИСТЕМИ «МОНІТОРИНГ РИНКУ ПРАЦІ. МЕНЕДЖМЕНТ ЯКОСТІ ОСВІТИ».

НЄЛЄПОВА А., УКРАЇНА

Анотація: Здійснено теоретико-методологічний аналіз складових ринку праці, проаналізовано взаємозв'язок професійної освіти та становлення людського капіталу, визначено політику реалізації системи управління якістю підготовки фахівців, висвітлено складові експертної системи «Моніторинг ринку праці. Менеджмент якості освіти» .

ПРОЕКТИРОВАНИЕ ЭКСПЕРТНОЙ СИСТЕМЫ «МОНИТОРИНГ РЫНКА ТРУДА. МЕНЕДЖМЕНТ КАЧЕСТВА ОБРАЗОВАНИЯ».

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Аннотация: Осуществлен теоретико-методологический анализ составляющих рынка труда, проанализирована взаимосвязь профессионального образования и становления человеческого капитала, определена политика реализации системы управления качеством подготовки специалистов, отражены составляющие экспертной системы «Мониторинг рынка труда. Менеджмент качества образования».

Unstable economic relations, both inside and outside the country, result in loss of balance in the job market. These needs increase or decrease depending on job demand and offer. Thus, A.Yegorshina points out, that only 60% of qualified specialists work according to their specialty, with others accepting positions of officials and working as common employees [9, p. 12]. This, in its turn, causes reverse reaction – serves as jump start for social status lowering of learning and intelligence.

Mushroom growth of information technologies creates conditions for global production automation and results in personnel reduction, but nevertheless human capital remains the principal factor to form and develop innovative economy. Economic development and stability of existence of both entire society and each individual depends directly from body of knowledge and know-how of that individual [1]. Knowledge characterizes maturity of intellectual qualities, and their level as a rule is formed by appropriate educational institution, laying emphasis on learning of a specific trade.

Possibility of monitoring, analyzing and forecasting job market will allow to bring into harmony job market demands and preparation of specialists. Such approach,

intended to assist in solutions of problems with regard to proper standing of human capital, will, in its turn, contribute to permanent assurance of education quality as well as to solution of organized management. It should be noted that "Job market forecast and planning, specifically with regard to state-guaranteed order, is economical and mathematical problem of strategic planning of such class that requires serious scientific processing with mathematic justification to consider hundreds of variables with great indeterminancy in a perfect statistic base, etc." [9].

Thus, there may be accomplished creation of an expert system of job market monitoring, which, as based on existing data and defined conditions, will permit forecast of number of specialists needed, and propose recommendations as to advanced training of already existing specialists.

Many scientists of different categories – sociologists, economists, programmers and educators are engaged in the study and investigation of the above contradictions.

Principles of human capital becoming and forming, structural analysis, economical and social effectiveness of professional education are linked to the names of such foreign scientists as G. Becker, Ya. Gomberg, G. Kendrick, S. Kuznets, R. Lucas, G. Miller, R. Smith, R. Solow, I. Fischer, S. Schultz.

The said conclusions and mechanisms of regulation are important for further strategy formation, but as is noted by Chun Je Won, their study involves approach to human capital formation under conditions of either free competition or developed market economy, which will not permit to exploit our conclusions and recommendations for the countries with economy of protracted period [10]. In view of the above, R. Dekushev has investigated processes of state regulation of labor force formation [1]; M. Pintayeva has studied development of job market infrastructure in the region, highlighting interaction between subjects of labor relations and social-labor institutions in order to provide for balance of work force demand and offer [7].

Creation of an expert system requires input data which will serve as basis for further analysis, forecast and information modeling. T.Sarycheva was engaged in the study of comprehensive statistic analysis of the job market [8].

Works of Yu. Izbachkov, I. Matienko-Zubenko, V. Petrov, V. Sytnik, G. Titorenko and L.Tereshchenko served as base for disigning expert system.

In order to study practical experience with regard to designing, organization of this process, – description of discipline area and information flows and elimination of problems related to implementation results, scientific research dealt with various assignments of management in complex organizational and technical branch systems. Thus, for effective work organization in the system development and reduction of labor input for systems development due to possibility of automated selection of most relevant informational models, let us turn our attention to the studies of O.Nechiporenko [5]. In studying of systemic approach to development of programme code and working with internal and external databases for expert system we should distinguish the work of V.Dobryak [2], A. Idiatullin [3], with scientific conclusions permitting to automatize stages of logical designing and create information model of expert system.

The article is aimed at determination of component modules of expert system for job market monitoring.

Complication of socio-economic conditions of the society stipulated requirements to both the future specialist and education as a whole. Concrete definition of requirements of consumers (employers – state, enterprises, and individuals) determines in the first place methods to manage education quality, specifically internal reorganization and restructuring of IHE (Institutions of Higher Education), creation of new specialties, etc.

Expert system of job market monitoring is designed to assist with implementation of well-balanced IHE reforms in regions, taking into account real needs of regional enterprises. Expert system (ES) shall be understood as a programme, making use of the knowledge of specialists (experts) regarding some specific narrow discipline area and being capable of taking decisions within that area at the level of professional expert.

In order to build information model of job market monitoring we determine principal modular units of the expert system. The following components are assumed by us as its base:

- input-output unit (organized through web interface, which will permit work in the on-line mode, assuring package data exchange between various regions);
- data unit (job market monitoring data – collection of information regarding movement of work force, determination of the number of employed, partially employed and unemployed persons, labor mobility level, optimal level and types of mobility, balanced subdivision of population into employed, partially employed, temporarily dismissed and unemployed people [6]);
- analytical unit (organizational and economic regulation of labor force formation);
- knowledge base (models of quality systems of education, indices and criteria of expert appraisal, model of improvement of higher education quality; economic models of labor relations regulation).

Conclusions. This literature review made it possible to clarify problems of personnel training, specifically situation and prospects of job market development, formation of labor force and human capital. The article determined principal expert system units and identified their functions.

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