level, as communication with a client will became both automated and improved by way of push and pull of the right information at the right time.

So, to summarise the main points of this topic, I would like to suppose, that the chatbots will have a huge influence on and it will change dramatically the way in which businesses will interact with their customers. In its analytical reports, Gartner, American research and advisory firm, claims that by 2017 human interaction will be required only in one-third of customer service interactions. In other words, most of interactions with client will be handled by automated software – the chatbots. Customers will have the opportunity to ask a chatbot and have an answer almost immediately, rather than contacting a customer service representative. For a business world, where customer service is the most important factor to success, the chatbots could make a great difference in beating out the competition.

> Scientific supervisor: Babiy G.V., Senior Lecturer

UDC 005.336.4 (043.2)

Orlova M.S. National Aviation University, Kyiv

## HUMAN CAPITAL FORMATION IN THE INNOVATIVE DEVELOPMENT OF UKRAINE

Transition to innovation model of economic development, integration into European economic space and the development of the welfare state are strategic priorities of Ukraine. Accumulation and efficient use of human capital is the most important condition for the implementation of these strategies. The qualitative traits of employees which shape the modern productive abilities and turn them into the main productive force of post-industrial economy based on knowledge.

According to the published data and materials of scientific expertise human capital of countries is concentrated mainly in developed countries: in the countries of the "sevens" and the EU - 59%, in OPEC countries - 12%, in the CIS countries - 11%, other countries - 18%.

In economic terms, the development of human potential and intellectual capital requires a long-term investment and requires significant material costs. In modern conditions in Ukraine and its regions there are no such opportunities, therefore there is a need to prioritize and find funding sources. Important phased implementation of the concept of human development that highlights the most important resource of development is person – active, creative, social.

The production created favorable conditions for the efficient use and development of the productive forces of the workers. This indicates that the

concept of human capital is little understood both at the level of public administration, and manufacturing and personal levels. Nationwide for Ukraine the problem of innovative development, at constant conditions of use of its own intellectual resource, applies not only to the scale of the state strategy and all individual and business entities, including businesses large or small.

Analyzing the labor potential of regions of Ukraine we can conclude that the modern labor markets have a negative impact, because this situation has worsened crisis, unemployment, demographic problems and problems of education.

Thus, qualitative changes in the formation of human capital especially its innovative part, requires active state support for the implementation of innovative development of national economy of Ukraine.

> Scientific supervisor: Grytsai S.Y., Senior Lecturer

UDC 004.4:004.45 (043.2)

Orynych L.V. National Aviation University, Kyiv

## MAIN CONCEPTS OF OBJECT-ORIENTED PROGRAMMING

From the early days of programming software developers have tried slash development time and facilitate the programming process, re-use and streamlined components to reduce program support costs. These efforts led to the creation of object-oriented programming and its principles (abstraction, encapsulation, inheritance and polymorphism), which will be mentioned below.

Concept of encapsulation allows to understand in what way the language hides details of internal implementation object and keeps data consistency.

It is the mechanism that binds together code and data, and saves both from outside interference and wrong usage. In a whole, it isolates different parts of code from each other and from users. A precise interface regulates the access to that particular code.

In the object-oriented programming a combination of data and operations on it is called class. In terms to encapsulation the class should be considered as a shell so user can see and operate only interface part without details of implementation. Most of the data are usually encapsulated. So, they class a thing, which becomes the 'capsule' for the data and operations.

Abstraction answers the question in what way the language allows to define and use objects which correspond to complex entities of real world.

Concept of abstraction is very simple to understand. Abstraction defines as a development of classes, objects, types in terms of their interfaces and