

O. Goncharenko

*Assistant Lecturer at the Department of Enterprises Economy,
Odessa National Polytechnic University*

V. Dermenzhy

*Student,
Odessa National Polytechnic University*

ESTIMATION OF EFFICIENCY OF INFORMATION SYSTEMS ON PLANNING ACTIVITIES OF ENTERPRISES

Planning activities of the company is an obligation of any leader. On the one hand the changes currently taking place in the world and in business are very fast, and it is not easy to follow them. The emergence of a fundamentally new product, introduction of a new stronger company to market, mergers of the biggest competitors – all this is difficult to predict, and all this affects the company's plans. In terms of STP processing and analysis of internal and external factors, impact on the company is substantially facilitated. There are many developed information systems that contribute to this.

In addition to identifying potential benefits of the use of information systems for enterprise, it is important to assess the effectiveness of its work. In practice managers who make decisions on the implementation of information systems face a number of methodological problems. If the determination of expenditure component of the above methods is not difficult, because the expenditures are clear and defined, the definition of the effect

of the system implementation is a bit more complicated. In this case, the effect is not clear, having a time lag, as well as heterogeneous units and places of manifestation. Thus, the research of increasing the efficiency of the whole enterprise is considered to be relevant in modern conditions. Moreover, the existing methods are quite complex and bulky and not very clear in the "field" conditions of the workplace.

During use and implementation of information systems in the planning of enterprise's activities, in addition to economic, there are also social and environmental effects that are not investigated and almost not calculated in practice, due to the methodological complexity of accounting and calculation. However, we consider it necessary in the present conditions and the pursuit of sustainable development and the economy as a whole to take into account these effects.

The economic effects can be represented as the sum of effects (Ef^{econom}):

$$\begin{aligned}
 Ef^{econom} = & Ef_{incomplete\ production} + Ef_{stock} + Ef_{resources} + \\
 & + Ef_{materials} + Ef_{quality} + Ef_{service} + Ef_{prime\ cost} + \\
 & + Ef_{logistics} + Ef_{time}
 \end{aligned} \quad (1)$$

Socio-economic impact can be represented as the sum of effects:

$$E_f^{\text{socio-econom}} = E_f^{\text{extra working hours}} + E_f^{\text{waste minimization}} + E_f^{\text{production improvement}} \quad (2)$$

Ecological and economic effect will look:

$$E_f^{\text{ecol. \& econom}} = E_f^{\text{ICT equipment}} + E_f^{\text{ICT use}} + E_f^{\text{telework}} \quad (3)$$

Thus, the above effects and costs allow formulating the formula of effectiveness of the implementation of information systems in the planning of the enterprise (E_{IS}):

$$E_{IS} = \frac{E_f^{\text{econom}} + E_f^{\text{socio-econom}} + E_f^{\text{ecol \& econom}}}{C_{\text{equipment}} + C_{\text{systemsoftware}} + C_{\text{appliedsoftware}} + C_{\text{internalconsultans}} + C_{\text{wage}} + C_{\text{generalproduction}}},$$

The paper investigates the effectiveness of information systems planning of the company. The author reveals the shortcomings of ex-

isting methods of evaluation. Evaluation of component performance has been carefully analyzed and systematized. It was investigated that the effects that occur during the operation of information systems in planning in the company can be divided into economic, ecological and economic and socio-economic. As a result of the research, the author formalized overall index of efficiency of information systems in planning of the company in accordance with the components of the concept of sustainable enterprise development. Prospect for further development is the development of criteria for optimal overall efficiency index information system of enterprise activity planning and recommendations for improvement.