MODEL OF INNOVATIVE DEVELOPMENT OF ENTERPRISE BASED ON FORMATION OF INFORMAL CREATIVE SUBSTRUCTURE

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The article presents an attempt to construct a mathematical model of innovative development of an enterprise based on the formation of an informal creative substructure. Mathematical modeling is based on the classical model of diffusion of innovations under the influence of internal and external factors. Studying innovation at the micro level, determining how innovation is created and mastered at the enterprise level is a very important task because these processes that are implemented at the individual enterprise level can also cause the inhibition of innovation if there are strong forces within the enterprise to resist innovation. , or there are no reliable mechanisms for absorbing innovation. Another case where the success of innovation depends on interaction at the micro level is the situation where the innovative product begins at the stage of development and the potential consumer may even unknowingly be actively involved in its creation.

Dynamics of innovation process at the enterprise consists in absorption of innovations by employees from external and internal sources, which happens with a limited speed, the growth rate of supporters of innovations in the organization is directly proportional to the share of employees who have not yet mastered the innovation. Such a model belongs to the class of phenomenological models, that is, it contains a certain verbal assumption about the nature of the process development, which is studied with the help of such a model, which allows to formulate a mathematical record. To determine the coefficients of such a model, we use the methods of reverse identification belonging to the class of so-called. incorrect tasks, because it can have many solutions

On the basis of phenomenological modeling, it is established that the external environment tends to have a more powerful influence on the development of the innovation process than the coefficient of imitation, which is "responsible" for the peculiarities of internal exchanges during the diffusion of innovation in the middle of the enterprise. In addition, it is found that as the number of employees of an organization engaged in the implementation of innovation, the sensitivity to external influence increases, that is, as the size of the enterprise, the external influence becomes more influential factor that causes the adoption of innovation.

To reflect the "odd" interactions within an enterprise that introduces innovation and the impact of the "non-binary" nature of the reaction to innovation, combinatorial elements were used to determine the number of combinations and permutations in the sampling of a particular general population.

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