

Intellectual Agent Technology and Models of Coordinating Management in Hierarchical Systems

Lubomyr Sikora, Gabsi Mounir, Rekik Ali

Abstract - This paper describes system approaches to the synthesis strategies of the coordinating management of resources streams in power, transport and telecommunication systems are considered in this article.

Keywords - System, hierarchy, co-ordination, logistic system, intellectual system, intellectual agent.

I. INTRODUCTION

The development of the infrastructure of the developing countries and postcommunist countries is based not only on the use of classical but also on the current technologies of management, for which the component of occupation-oriented knowledge about the structure, dynamics and control processes, threats and hindrances, external and internal attacks is the main. It is not always can be seen the evident role of information technologies and system analysis, game and coordinating strategy theories, in the unobviously expressed hierarchical structures of conglomerates according to the dynamic situations and event scripts. Logistic management integration not always gives the possibility of adequate analysis of situations and forming decision procedures.

II. PROBLEM

Bir St was engaged [1] in the problems of effective management of the large systems of production type. He formed the concept of the production system, payed attention to the universality of the feedback, purposefulness, explained logical bases of cybernetics as theories of the generalized management. He considered biophysical bases of cybernetics – as the means of description of person's behaviour on the ground of notion of self adaptation and studies, adaptation, purposefulness, machine studies. According to the conceptions of gomeostatics, Bir St explained the methods of creation the language models, situations of uncertainty, management mechanisms. That is he researched self-training human-machine systems according to the Viner's conception.

Domestic scientists from the institute of cybernetics conducted more detailed fundamental researches: Glushko V.M. [2], Ivakhnenko O.G. [3], Sergienko I.V. [4], Skurikhin V.I. [5] at alias.

Glushkov V.M. explained and developed the new methods of planning and management tasks solution. He used linear and dynamic control, graph models, queuing theory and operations research, theory dynamic system management, system analysis, stochastic and gaming models. Accordingly on this basis the conception of the hierarchical system and automated control system of organizational and economic structures. Further development of the theory of the hierarchical systems and systems' management problem solutions are based on Mesarovich M. papers [6]. He

developed the conception of the system hierarchy with multilevel hierarchical structure, and co-ordination theory for the synthesis of control strategies of the dynamic systems.

In his work Ivakhnenko O.G. [3] formed the conception of self-organization and purposeful prognosis on the basis of MGUA. That enabled to develop the methods of automated control system by synthesis of compound object with the prognosis optimization in the automated self-training mode.

Skurikhin V.I. works [5] are dedicated to the intellectual informative data processing system for the estimation of situations in the difficult technological systems. That became the reason of development of the specialized databases and knowledge. In fundamental works of Pospelov G.S. school the theory of control processes in human-machine systems is explained, examined and formed the approach to the analysis of socially economic complexes on the basis of the developing system theory using the strategic planning. With the view to the modern state of the telecommunication, transport and power conglomerates, there is a necessity for a strategic management, using not only classical but also logistic methods for the forming of the coordinating strategies of purposeful corporate management.

III. CONCLUSION

Theoretical, system and logistic conceptions for the modernization of resources streams management are considered in the article. We can see the role of human factor in forming of decisions. Not taking into consideration the factor it can course crisis, accidents, catastrophes because of the low educational and professionally oriented level of operations and manage staff, that at the cost of inadequate perception of situation does not understand the content of the development of dynamic actions when there are threats, and also disrepairs in control objects.

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