

MULTI-TASK INCENTIVE MECHANISM OF LOGISTICS INFORMATION NETWORKS AFFECTED BY INFORMATION INCENTIVE FACTOR¹

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Abstract. In this paper, the information incentive mechanism for management of Logistics Information Networks (LINs) is investigated, and a principal-agent model is presented in which every agent finishes two different tasks affected by the information incentive factor. With the rational framework, the good operational efficiency of all logistics networks is determined by the effective management of LINs. Some corresponding behaviors and characteristics are analyzed. Our study shows that the information incentive not only is beneficial to LINs' management, but also has applications to the network managers' decision-making.

Keywords: Logistics Information Networks, Information Incentive, Principal-Agent Theory.

AMS (MOS) Subject Classification: 94A15, 94C30.

1 Introduction

After the logistics information networks are constructed based on a reasonable frame, the emphasis of networks appears to be management of the information networks. Here, we define that the management of LINs includes all managerial functions, such as planning, organizing, directing, coordinating, and controlling, which are exerted by each level of management subject to the public resources (for example, network infrastructure), the information resource node as well as the information terminal users. It aims to lead the logistics networks information to spread promptly and accurately. As a result, it can instruct the running of the logistics networks effectively and enhance its traffic capacity and transparent degree. The introduction of the incentive mechanism to the management of the logistics information networks looks like inputting “lubricating oil” in a running machine.

¹Supported by the National Research Foundation for the Doctoral Program of Higher Education of China under Grant No.20060004012, and partially supported by the Center for Infrastructure Research of Beijing Jiaotong University

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