Pricing and Manipulation of Information in E-Marketplaces

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Abstract

Electronic marketplaces broaden the opportunities for humans to trade. Moreover, pieces of information can be exchanged. Managing information as a commodity opens up an entire area of relevant research. In particular, operators can be applied on these pieces of information eventually creating new products based upon the buyers' requests or as new suggestions to them.

This paper focuses on information that can be dealt with in Electronic markets. We have developed the notion of InfoCenters, automatic agents that have wide accessibility to information products, as well as to manipulated data. The marketplace investigated in this paper contains InfoCenter agents, Information Service Providers, information consumers (buyers) and information suppliers (sellers). After motivating the implementation of InfoCenter agents, we analyze their impact on the market by presenting the empirical results obtained.

Two results were expected in the settings tested. The InfoCenters will specialize in niches of information when InfoCenters cooperate, and each one will become a monopolist. However, our simulations show that there is a continuous competition between the InfoCenters. Second, the InfoCenters were expected to increase their profit due to the introduction of new information commodities. We show that unless the InfoCenters cooperate and do not sell the same new commodities all together, they will enter a price war in which the competition will lead to a reduction in the profit from the newer commodities.

This study is part of a larger research project that aims at studying the effects of different AI techniques, such as planning and coordination, on the InfoCenter decision process.