

The Supply-Demand Interaction in Electronic Commerce - a Classification by
Type of Relationship and Dominance

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Abstract

The main purpose of this paper is to demonstrate the different forms of bilateral interaction between suppliers and buyers. Based on direct supply-demand links with the ISP's mediation in the era of electronic commerce, and the objectives of the individual party, this paper first proposes a conceptual model that preliminarily depicts the general aspects of the supply-demand interaction as the basis for subsequent discussion. Next, the analysis will be conducted on the following two levels of interaction: 1) the level of market transaction which deals with the relationship between suppliers and demanders, and 2) the level of the information service which deals with the relationship between the users and providers of the information service. The level of market transaction on which this paper focuses is a generalised form of interaction represented by a conceptual model which is further classified by the types of relationship and dominance between suppliers and demanders. Through the utilisation of bi-level multiple objective programming techniques and the flow charts developed with respect to the specific type of relationship, a stage-based analytic procedure with attributes of both qualitative and quantitative methods will be developed. This will also illustrate how both sides interact to reach a compromise and why failure happens. The problems occurring at the level of the information service can also be formulated as bi-level problems and the role and challenges of the ISP will be the core concerns discussed at this level. Finally, our study suggests that both supplier and buyer should have a deep insight into their internal operations and external environments in order to deduce the status of the industrial relations and set the definite objectives of the individual. We also conclude that the ISP industry will play a more and more pivotal role in affecting the interaction process, since the effective management and investment of this industry will ultimately lead to better information sharing between both sides and facilitate supply-demand interaction.

Key words : Electronic Commerce (EC); Supply-demand interaction; Information Service Provider (ISP); Bi-level programming techniques