Formation of Alliances in Internet-Based Supply Exchanges

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In different industries, such as automobiles, chemicals, or retailing, competitors are joining forces in establishing electronic marketplaces to reduce inefficiencies in the purchasing process and cut costs by combining their buying power. Joining such an alliance leads to reduced costs, including those of possible rivals, because members share the development and operating costs. A company that joins an alliance agrees to share its suppliers with others, which may lead to more intense competition among the increased number of suppliers, and it may further benefit an alliance member at the expense of companies left outside the alliance. Natural questions that could arise, then, are when would a firm prefer to take part in an electronic marketplace joint venture; when would it prefer that other firms, possibly rivals, join the venture; and what are the financial consequences of either joining an alliance or remaining independent? In an attempt to gain a better understanding of the issues, we have developed a model of three retailers whose products may have a certain degree of substitutability. We provide some conditions, in terms of product substitutability and compatibility of retailers, that would lead to the formation of a three-member alliance, or a two-member alliance, or no alliance at all. We also study the effect of alliance structure and compatibility of retailers on the profit of a company.

Key words: alliance formation; stable coalition; substitutable products; cooperative game

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