

Firms are increasingly using collaborative systems to enhance supply chain visibility. A key emphasis of these inter-organizational systems is to improve the coordination between buyers and suppliers through electronic integration. While such inter-organizational (IOS) integration is purportedly good, since it tightens linkages in the supply chain, it is not clear whether it is the best configuration under all conditions. A review of literature on adoption and use of EDI systems (a type of IOS) shows that this issue has been examined from multiple theoretic perspectives. Researchers have examined how contingencies related to technology, organization, and environment shape EDI use. Limited attention has been directed towards understanding how conditions under which transactions are conducted impact the use of IOS. We argue that transactional characteristics are important antecedents to IOS integration and propose that demand uncertainty, complexity, market fragmentation, and market volatility capture key characteristics. These factors coupled with an open information sharing environment are hypothesized to influence IOS integration. Data collected from the electronics industry is used to examine the research model. Results show that firms tend to deploy integrated IOS when complexity of the component is high, market fragmentation is low, and open information sharing environment exists. Thus, from a managerial perspective, IOS integration is the appropriate configuration under conditions of high product complexity and open information sharing environment, but it precludes the firm from participating in the open market and gaining brokerage benefits.