



Understanding B2B and the Web: the acceleration of coordination and motivation

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Abstract

This paper explores business-to-business (B2B) marketing on the Internet, and how the confluence of the two may transform the B2B landscape. Specifically, it discusses the notion of linkage value to demonstrate why the B2B phenomenon on the Internet is so significant. It then considers the mechanisms and enablers that have made the Web such an important B2B marketing channel. It also explores how the Web can reduce transaction costs, thereby facilitating more efficient exchanges and markets. The concepts of links and nodes are then introduced and the processes of disintermediation, reintermediation, disaggregation and reaggregation are explored. Finally, Web B2B configurations are considered by way of a model that describes four archetypal configurations, and the factors that are antecedent to these modes and how the Web may influence them.

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1. Introduction

Sociologists have for many years explored the value of social capital, or the number of nonredundant links in a person's social network [1]. In the same way, the value of the business-to-business (B2B) paradigm vs. the business-to-consumer paradigm can be emphasized through recourse to simple network analysis. In the business-to-consumer market, links (l) between a business and its customers (n) increase in simple linear proportion to the number of customers, i.e. $l = n$. Double your customer base, double your links. In the same way in the B2B paradigm, the links between businesses increase as a function of the number of

nonredundant unique links. However, here the dynamics are quite different. Three players have three possible links, four players have six possible links and five players have 10 links. Extended to n businesses the number of links,⁴ l become $n!/(n-2)!$. Thus, in linkage value, the B2B market increases by just under the *square* of the number of links compared with the business-to-customer market where linkage value increases *monotonically* with the number of links. Consequently, the B2B market is potentially of much greater significance than the business-to-consumer market. The oft-quoted trading volumes [2] give credence to this hypothesis.

2. The Web: adding-value and cutting-costs

The market-space of the Web is far more transparent than the traditional marketplace. Indeed, the economist Dillon Read suggests that the new economy be called the “nude

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⁴ The general form for permutations being $nPr = n!/(n-r)!$, where in this instance $r = 2$.

economy.” The transpicuous nature of the Internet makes it easier for buyers and sellers to search, meet, compare prices and negotiate. It reduces transaction costs and concomitantly the size of firms, reducing barriers to entry and intermediation (the gap between buyers and sellers). The Web’s impact on transaction costs are now explored in greater detail.

Transaction costs are those costs other than ‘price’ (‘price’ comprising such elements as production, distribution and marketing costs⁵) that are incurred in trading goods and services; these costs can be substantial particularly in markets where the good being traded is heterogeneous and complex [3].

Transaction cost theory argues that disbursement differs depending on both the nature of the transaction and the way it is organized. It offers an efficiency principle that stipulates that firms will tend to adopt the organizational mode that best economizes on these transaction costs. Two main types of transaction costs can be identified: coordination costs and motivation costs [4].

2.1. Coordination costs

Coordination costs are the costs associated with the coordination of producers and customers, which in turn comprise: (a) identification and articulation of needs and solutions, (b) and the subsequent optimal matching of buyers and sellers (and the related problem of asymmetry of numbers between the two parties). Coordination costs thus incorporate search costs (finding buyers, finding sellers), information costs (learning and articulating), bargaining costs (transacting, communicating, negotiating) and decision costs (comparing and deciding).

2.2. Motivation costs

Motivation costs are the costs associated with achieving incentive symmetry, which in turn comprise: (a) costs to overcome information incompleteness and asymmetry, and (b) costs to overcome imperfect/asymmetric commitment. Motivation costs thus incorporate policing costs (monitoring activities, performance outcomes and cheating) and enforcement costs (remedying).

Other schools of thought have dealt with these issues under slightly different denominations. Specifically, needs uncertainty (the uncertainty involved with identifying customer needs) and market uncertainty (the uncertainty involved with matching buyers and sellers) broadly equate to different components of transaction cost theory’s coordination costs outlined above.

The key mechanisms that the Web provides to ameliorate transaction costs (and thus underlies the identification of needs and solutions, matching of exchanges parties, etc.), are the abilities outlined above. Specifically, the abilities to

search, connect, quantize, automate and provide interactivity [4]. A summary of how the Web can be used to reduce various transaction costs is set out in Table 1. Specifically,

Table 1
Types of transaction costs and how the World Wide Web affects them

Type of transaction costs	Example(s) of how the Web can reduce the transaction cost
Search costs	Reduce time and effort in finding products, services and solutions, and potential suppliers and buyers. For example, search engines and comparison sites allow buyers (suppliers) to find suppliers (buyers) of specified products and services such as “Linux operating systems” or “environmental auditing.”
Information costs	Buyers who wish to learn more about thermoplastics and what is available before purchasing previously would have had to read magazines and journals, talk to knowledgeable individuals and visit producers. They can now access company and product information easily and at no cost, obtain comparative product information and access suppliers on the Web.
Bargaining costs	Time normally taken by customer to negotiate can now be used for other purposes as intelligent agents transact and negotiate on the customer’s behalf. On-line bidding systems can achieve similar results. For example, GE in 1996 purchased \$1 billion from 1400 suppliers over the Internet and there is evidence of a substantial increase since. Significantly, the bidding process for the firm has been cut from 21 days to 10. In the advertising auction site, Adauktion, buyers can automate bidding through a virtual agent called “proxy man.”
Decision costs	The cost of deciding over Supplier A vs. Supplier B, or Product A vs. Product B. Proprietary and/or comparative websites provide information on suppliers, products and services. For example, travel websites allow business customers to compare hotels and meeting facilities on-line.
Policing costs	Previously, customers had to wait to receive statements and accounts, and then to check on paper for correctness. On-line ordering and billing allows buyers to check statements in real time. Chat lines frequently alert participants to good and bad buys, and potential product and supplier problems. For example, the flaw in Intel’s Pentium chip was communicated extensively over the Internet, while security problems with various Microsoft products have been reported widely on-line.
Enforcement costs	When a problem exists with a supplier, how does the buyer enforce contractual rights? In the real world this would require legal assistance. Publicizing the infringement of rights would be difficult and expensive. Chat lines, bulletin boards and on-line media offer an easy and inexpensive way of making suppliers listen.

⁵ In this article, the focus is on *transaction* costs rather than other ‘price’ elements.

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