Perspectives

Trusting Transactions

The Boston Consulting Group

Trusting Transactions

This article is the second in a series of Perspectives on network capital and transaction costs. The first, "Richer Sourcing," was published in September 2004.

"Materials handling" was never a traditional category in cost accounting. But when, in the 1980s, manufacturers discovered the surprising fact that 20 to 30 percent of their cost-added was simply from moving stuff around, that concentrated the managerial mind. It proved one of the insights motivating the revolution called business process reengineering. Well, here's another surprising piece of nonstandard cost accounting to consider: more than 60 percent of the costs-added incurred by businesses and their customers are *transaction costs*. That ugly fact also concentrates the mind and may drive another revolution in management.

Transaction costs can be defined as the costs that would go away if you were dealing only with yourself. They apply to market transactions but also to transactions within organizations. "Cash" transaction costs comprise the costs of searching for, negotiating, monitoring, and enforcing agreements. Legal, cost accounting, sales, merchandising, purchasing, financing, auditing, and mediation by the boss are all cash transaction costs. If you built your own house instead of buying it, you would still need to buy the wood and the nails (direct production costs), but you wouldn't need to pay the

fees for the real estate broker, title insurer, or lawyer (direct transaction costs). But the direct production costs themselves include the indirect transaction costs incurred upstream. The transaction cost embedded in the price of the nails, for example, itself includes almost the entire cost-added of the retailer, since merchandising, advertising, displaying, sales help, and billing would all disappear if you "sold them to yourself." Transaction costs are thus the price we quite sensibly pay for the benefits of division of labor: we incur transaction costs in order to lower production costs.[1]

In the aggregate, we spend more on negotiating and enforcing agreements than on fulfilling them. And as the exhibit on page 4 shows, transaction costs are not only surprisingly large but also rising. This may be counterintuitive, since we can all think of examples where technology has dramatically lowered transaction costs—for example, the efficiencies of e-procurement or the substitution of electronic payments for paper. What has happened is that the cheaper unit costs of transacting have more than proportionately increased the number of transactions, so the total cost of transacting has

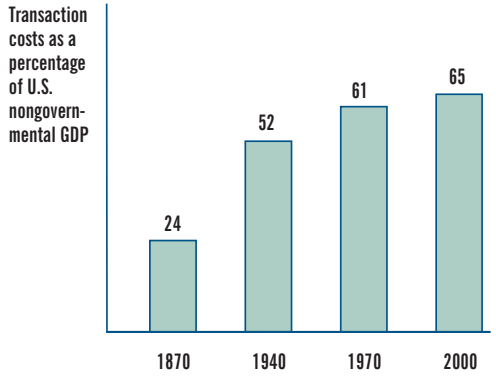
1. There is a second important kind of transaction cost: the "opportunity cost" of mutually beneficial agreements forgone. This is the value lost because the parties could not find each other or did not trust each other sufficiently to make a deal, or to make the best deal. "Cash" transaction costs and "opportunity" transaction costs tend to substitute for each other: in most cases, the more cash the parties spend on search, negotiation, monitoring, and enforcement, the nearer they approach an "efficient" transaction in which no opportunity costs are forgone.

gone up, not down. As the division of labor deepens and integrated value chains "deconstruct," production costs fall, transactions proliferate, and transaction costs preponderate.

Putting the Brakes on Innovation

In a sense, of course, this is just a cost of doing business. But transaction costs have not been

TRANSACTION COSTS ACCOUNT FOR A GROWING SHARE OF GDP IN THE NONGOVERNMENTAL SECTOR



Source: BCG analysis, based on national income data using the estimation method developed by John J. Wallis and Douglass C. North, "Measuring the Transaction Sector in the American Economy: 1870 to 1970," in *Long-Term Factors in American Economic Growth,* ed. Stanley L. Engerman and Robert E. Gallman (University of Chicago Press, 1986).

Note: Transaction costs are measured as the value-added of sectors whose output is a transaction expenditure by the remainder of the economy (for example, retailing, finance, insurance, real estate, brokerage) plus the transaction functions (such as purchasing and legal) incurred within the remainder of the economy. Since the statistics are based on national income data, they are only approximations.

the focus of systematic managerial attention. Like materials-handling costs a generation ago, they have crept up on us in part because they do not fit into conventional paradigms of good management.

Just about every information system, organizational structure, and managerial doctrine subordinates transaction costs to other considerations. Decades of managerial effort have been applied to minimizing production costs, often driving transaction costs up in the process. Arm's-length, aggressively negotiated outsourcing is the obvious example, as we discussed in our previous Perspective. Efforts by business leaders to increase accountability, ownership, and direct reward for value creation may have served as the motivation for individual initiative, but they have placed a transaction tax on internal collaboration. Escalating accountabilities and incentives within the corporation make every team meeting a negotiation for credit; technology owners enmesh each other in thickets of patents; digital rights management technologies extend copyright and curtail the simplest forms of idea sharing.

This is not a matter of bad or negligent management: the individual executive protesting divisional cost allocations and the individual company protecting its intellectual property are both behaving entirely rationally. But for the system as a whole, there is not one iota of economic logic that dictates that, on the margin, higher incentives create more value than

lower transaction costs would. It's just an assumption.

The most insidious aspect of transaction costs is that they tax transactions, especially small ones with uncertain outcomes. And especially transactions involving the transfer of ideas as opposed to things, since it is difficult to proffer an idea without, by that very act, giving it away. But it is in the multitudinous exchanges of small ideas of uncertain value that innovation occurs. In a very wide range of contexts, transaction costs are not *a* but *the* fundamental brake on innovation, both within companies and among them. As business leaders turn their attention from cost to growth, and from efficiency to innovation, so must they turn their attention from the more visible production costs to the less visible transaction costs.

But how?

The Benefits of Trust

A countervailing force, critical to lowering transaction costs, is trust. Trust substitutes for search, negotiation, monitoring, and enforcement; it substitutes for hierarchical control internally and for the legalisms of contracts externally. The core elements of trust are threefold: *reciprocity* (the understanding that the parties will deal with each other repeatedly), *reputation* (the understanding that other potential parties are watching), and a *common semantic* (a shared language through which the

parties can sort through ambiguities and arrive at mutual understandings). Reciprocity and reputation align motives, and a common semantic aligns perceptions.

We tend to think of trust and its three elements as qualities of the individual or the small team: domestic virtues, nice to have, but hardly control variables in the management of a large-scale enterprise. That view is obsolete. With the right managerial context and IT platform, trust can scale. And broadly distributed trust drives down transaction costs in radical ways.

Consider some examples:

- EBay pioneered the application of technology to the creation of trust. About 50 million active buyers and sellers have the opportunity to rate each other, one transaction at a time. These ratings are visible to all, openly documented, and disputable through open arbitration mechanisms (such as SquareTrade). They are represented as icons: a newbie gets a  , and someone with 100 feedback results that are more than 98 percent positive becomes a 

. The value of a good track record is measurably a seller's premium of 5 to 10 percent. The system is not foolproof, of course, but it permits small transactions (often under $10) between distant parties who would otherwise have no mutual recourse—a "currency" of reputation that lowers transaction costs below the

threshold needed to make the transaction possible.

- Amazon allows its readers to post reviews, including intemperately bad ones. No single review is reliable (despite an eBay-type rating system for reviewers), but people learn to filter and to aggregate. Aggregated reviews by readers influence sales more than those by professional journalists because people have a high measure of confidence in their own ability to interpret "weak signals." And the ironic result of posting negative reviews is that Amazon sells more books: it gains more from reducing uncertainty (a transaction cost) than it loses from broadcasting negative signals. Contrary to the nostrums of consumer marketing, transactions are better facilitated by unbiased noise than by biased clarity. All that is needed is lots of signals and simple technology to add the noise up, thus allowing most of it to cancel out.

- Google pushes this same logic even further. The fact that one Web site chooses to link to another is a weak, uncertain, and easily manipulated endorsement. Google's PageRank algorithm measures all the links to a site but weights them by the PageRank of each endorsing site. This recursive principle (technically a measure called "eigenvector centrality") harnesses the collective choices of millions in the direct or indirect evaluation of any one site. Most businesspeople would

agree that searching Google is not only more comprehensive but also more relevant than using their own company's internal knowledge-management systems! Search technology extracts superior semantic meaning from the topology of the network itself.

- More generally, aspects of the open Internet architecture (such as public key-encryption and site certificates) allow one site to authenticate another, validate a specific item of information, or confirm that an avowed policy is being followed. Most banks, for instance, carry this icon on their Web pages:  . This makes trust "transitive." (Someone I trust trusts you, so I trust you in turn.) Friendster and LinkedIn do this for individuals. Next-generation service-oriented architectures, based on XML, Web services, and the concepts of the semantic Web, will all exploit the transitivity of trust by building validation into the content itself, thus underwriting scalable and self-organizing networks of trusting relationships.

A New Set of Levers

Such trust-generating mechanisms are not panaceas: indeed, information technology makes possible new kinds of fraud as well. But they do address an old problem in new ways, and they are the thin end of a very large wedge. They exploit the facts that in a networked world, information channels are dirt cheap and massively redundant, the distribution of infor-

mation is inherently more symmetrical, and simple technology can expose network patterns to casual inspection. On those premises, reciprocity between individual transactors "scales" into reputation within an open community. Digital certification permits the lossless propagation of trust through very large networks. Search technologies allow the extraction of new and shared semantic meaning from the collective behavior of the network in which they operate. And all these mechanisms enjoy increasing returns: their power is at least proportional to the size of the network within which they are embedded.

Technology merely liberates network-centered trust from the traditional constraints of richness and reach, enabling it to achieve critical mass for the first time.[2] And once increasing returns set in, these mechanisms reduce many transaction costs far below what could be achieved in traditionally organized markets or hierarchies.

It has long been understood that transaction costs determine the competitive advantage of markets and hierarchies, and thus the boundaries of the corporation. But to stop there is to treat them as a given, a mere "fact of life." The transformation of networks by technology opens a new and exciting possibility: that transaction

2. For more on richness and reach, see Philip Evans and Thomas S. Wurster, *Blown to Bits: How the New Economics of Information Transforms Strategy* (Harvard Business School Press, 1999).

costs can be managed, both internally and externally, through newly scalable mechanisms.

Nobody knows how far these mechanisms will extend or how effectively they will bring transaction costs under control. But we do know that the need is pressing, the potential real, and the concept applicable both inside the corporation (organizationally) as well as outside it (strategically). The pioneers in both domains, like the pioneers in reengineering, will be the ones who reap the competitive advantage.

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