

# The Changing Role of Nonprofits in the Network Economy

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*The new, network economy presents fresh challenges to nonprofit organizations. Some of the relative advantages nonprofits now enjoy, compared to business and government, in providing services characterized by information asymmetry and public goods characteristics are likely to be eroded by changes in information technology. At the same time, the network economy also offers nonprofits special opportunities, including a role as trusted intermediaries to help people cope with a deluge of complex information. This article applies economic theory to derive expectations of the changing role of nonprofits in the information age and considers how nonprofits can respond effectively to the new circumstances.*

**Keywords:** *nonprofit organizations; network economy; economic theory; strategy; information; Internet; intermediaries*

The term *information economy* or *network economy* refers to an emerging economic and social world reliant on information and advanced information and communication technologies (ICT). Although the dot-com bubble of investments has burst and claims of a new economic order have subsided, it is clear that the information economy is transforming the practice of doing business and the forms of effective organization (Kanter, 2001; Porter, 2001). The network economy is characterized by a general trend toward global organizations and marketplaces, a move from mainly tangible to combinations of tangible and intangible goods, and a leap into an intensely interlinked network of goods and agents. A deluge of books and articles in the past 5 years preaches, mainly to the converted, that no one can escape the implications of the network economy. Those implications include macroeconomic effects, such as

Nonprofit and Voluntary Sector Quarterly, vol. 32, no. X, Month 2003 1-  
DOI: 10.1177/0899764003254900  
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faster increases in productivity and greater dependency on technological skills, and also microeconomic effects, such as sharp declines of mass production and of intermediaries between producers and consumers. Regardless of whether a particular organization is a pure dot-com, a traditional “brick” organization enhanced by Internet services, or an outsider deferring any involvement with the Internet, it cannot remain oblivious to the implications of the information economy on the social and economic forms of organization and behavior that are now emerging (Brown & Duguid, 2000).

We ask here whether the network economy has similar implications for nonprofit organizations. On one hand, nonprofit organizations have traditionally excelled in facilitating transactions and creating relationships based on their information-related advantages, precisely where government and business fall short. We will consider, for example, the special role of nonprofits in situations of information asymmetry where consumers with limited information are disadvantaged relative to their suppliers, or in mobilizing resources for public goods where information on citizen preferences is not salient. The network economy—with its expansion of complex, intangible, and collective goods and services—arguably creates a greater need for satisfying these information-related requirements and, therefore, broadens the potential scope in which nonprofit organizations can operate. On the other hand, proponents of the network economy claim that widely available ICT makes it easier and cheaper to access information and to create and maintain relationships, perhaps enough to render obsolete the information-related advantages of nonprofit organizations. On the face of it, therefore, it would seem that the nonprofit sector faces both new threats and new opportunities that pertain to the very reasons for its existence.

In the next section, we summarize the effects of the network economy and ICT in the business sector through three central constructs of information flow. We then use these constructs to analyze the effect of the network economy on the nonprofit sector. Our argument is that the role of nonprofit organizations is likely to change substantially as a result of the new, network economy, diminishing the significance of nonprofit organizations in some ways and enhancing their importance in other ways. The final section summarizes our arguments and explores the implications of this analysis for research and practice so that nonprofit organizations can recognize their new context and build productively within it.

## INFORMATION AND INFORMATION TECHNOLOGY IN THE BUSINESS SECTOR

The Internet, in its capacity for communicating information to support tasks as well as relationships, is perhaps the most pervasive manifestation of modern ICT and the backbone of the network economy. There is a growing consensus that the Internet has changed the rules of economic life through

higher connectivity, greater speed of communication, and a shift from tangible to intangible goods such as ideas, information, and relationships (Kelly, 1998). The new rules are changing the organizational models and relative advantages of businesses, particularly those that add value primarily by processing and communicating information. At the same time, the Internet is changing patterns of communication and social interaction. Relationships are built through virtual channels that increase the pace of communication but often make it more superficial (Brown & Duguid, 2000; Kanter, 2001). The Internet has generally limited the variety of communication channels and inhibited trust building. Nevertheless, in the Internet Age, people are expected to build and maintain relationships over the net, and hence, they adapt their behavior (Te'eni, 2001). For example, the World Wide Web is rapidly becoming a means of building one's public image that serves as the basis for communication and social interaction (Flores, 1998). These new economic and social rules have an effect on two levels: They affect the nature of information flow and communication and they affect the general structure of the marketplace and the interaction between buyers and sellers.

There are three dimensions to the flow of information: reach (i.e., the number of people to whom the information is accessible), richness (i.e., the depth and detail of the information), and affiliation (i.e., the identity of those whose interests are represented by the source of information) (Evans & Wurster, 1999). These dimensions characterize the target, content, and source of the information. We examine how the network economy affects each of these dimensions. Our main concern is with information about the products and markets that influence demand and supply and, hence, the character of markets.

*Reach.* On the supply side, advanced ICT make accessible vast quantities of information to huge numbers of consumers. Two phenomena have recently become apparent about reach. First, the distribution of consumers with access to the network economy is not uniform across populations, and therefore large classes of potential consumers face a growing dearth of information (a phenomenon known as the "digital divide"; see, for example, Barbet & Coutinet, 2001). Second, the vast number of information sources that are technically accessible directly to everyone on the network presents the individual consumer with an overload of information that becomes useful only through information intermediaries (sometimes referred to as "infomediaries") that collect, filter, evaluate, and organize the presentation of data from these sources. For example, smart agents (computer programs) make it possible to find information on the Web, and dedicated Web sites collect and compare data about goods and services (Grover & Teng, 2001).

*Richness.* The ubiquitous use of ICT creates expectations for richer information about goods and suppliers. In general, complex evaluations and value-laden judgments require richer information. The consumer who uses

the Web instead of a travel agent to book a ticket confronts greater complexity in processing information, which in turn requires richer information to overcome that complexity. For example, products such as clothes can be described in great detail, visualized, and shown in reference to the customer's measurements. Valued opinions are found in communities of practice that share information and recommendations about services, creating a richer description than the traditional set of facts about products. Overall, the move in the information economy from tangible to intangible goods creates a need for more and richer information because of the more complex selection criteria that people use to make their choices. Although many companies today prefer a combination of physical and virtual ("click and brick") distribution channels, the products themselves contain more information and will become more intelligent (ranging from devices for the home to perishable goods as well).

*Affiliation.* Faced with an abundance of information and information intermediaries and the need to evaluate relatively complex goods and services, consumers will seek information from sources that they can trust. This rational need for trustworthy information is intensified by a general perception of poor security and news of increased levels of fraud (recent figures show fraud at an average of \$636 per customer in 2001; Sager, Elgin, Elstrom, Keenan, & Gogoi, 2002). Hence, buyers will tend to search for information sources whose affiliations reflect consumer rather than supplier loyalties. For example, consumers seek assurance that an agency for evaluating car safety is not biased by industry interests. Affiliation is most important when the stakes are very high (e.g., the quality of health providers) or heavily value laden (e.g., advocacy on public policy issues).

The upper half of Table 1 summarizes these three dimensions and how they are changing in the network economy. Moreover, these dimensions of information flow interact with the medium that carries the information (i.e., the characteristics of ICT). The three main attributes of ICT that determine the quality of communication are its channel capacity to transmit rich information such as graphics and video, its level of interactivity, and its ability to personalize the message to the receiver (Te'eni, 2001). Advances in ICT have increased all three attributes dramatically. Although the positive effect of ICT on reach is straightforward, high channel capacity, interactivity, and personalization are critical to achieving richness and supporting affiliation. Moreover, ICT is often the primary medium for creating seller-buyer interaction that is the basis for commitment and action of both parties. In some instances, the Web may be the only medium for creating the corporate and personal identities that are needed to drive consumer action and sustain relationships (Flores, 1998). Corporate identities are built so as to position the company competitively. The capabilities of ICT to personalize the identity to different audiences may in effect allow multiple identities to coexist simultaneously (like brands of products). Although such tactics will erode as more and more competitors use the same ICT (Porter, 2001), the company that manages to create and maintain a

**Table 1. Effects of the Network Economy on Information and Market Structure**

	<i>Explanation</i>
<i>Effect on the nature and role of information</i>	
1. More accessible information is needed	Information and communication technologies increase information supply to people around the globe. However, the resulting information overload requires information intermediaries (infomediaries).
2. Richer information is needed	Greater consumer expectations and the need to cope with greater ambiguity call for richer information.
3. More trusted information is needed	Abundance of information sources and complexity drive consumers to seek trusted sources.
<i>Effect on market structure</i>	
1. Network externalities increase rapidly with the number of members in the network	Consumers have strong incentives to join a network as its size increases. Larger networks gain competitive advantage. Network suppliers offer new information products to differentiate themselves from each other.
2. Monopolies may develop as a result of network economies	Economies of scale favor larger and larger suppliers. Possible losses in efficiency due to monopolistic practices.
3. Traditional intermediaries between producers and consumers are replaced by physical and virtual infomediaries	Disintermediation increases consumer demand for information. These effects lead to increased need for infomediaries that filter, process, and organize information fit for consumers.
4. Lock-in effects between consumers and producers	Consumers become cognitive misers. Building long-term relationships and trust is essential.

trustworthy public image will secure a long-term relationship with its customers.

The network economy involves some changes in the marketplace that go beyond the supply and demand of information per se (see the lower part of Table 1), namely a structural transformation from the traditional marketplace into a network economy. This transformation introduces external effects that distort competition and potentially influence the efficiency of resource allocation. The most cited effect of the network economy is its law of increasing returns to scale, which leads firms to connect to greater and greater numbers of consumers and to absorb additional networks. In particular, as the number of nodes in a network increases arithmetically, the number of connections among nodes increases geometrically. Because the value of the network (its ability to access others) is directly proportional to the number of connections, while the costs are roughly proportional to the number of users, networks experience large economies of scale. This is particularly true for goods and services in which the relative value of information is high, such as education,

health insurance, social services, and advocacy. Increasing numbers of new goods and services are made up essentially of information itself, which can be used over and over without degradation. Hence, although information may be expensive to produce, it is inexpensive to reproduce. Companies can therefore provide such new offerings for free, drawing in more customers and increasing the value of their networks with negligible marginal costs.

The net impact of this scale effect on competition and market shares is mixed. On one hand, information and communication technology reduces barriers to entry, making information relevant to purchasing decisions more accessible and encouraging competition. In addition, as Downes and Mui (1998) argue, information technology reduces transaction costs (i.e., costs of using the marketplace to perform a transaction) and thereby reduces the optimal size of a firm. However, the law of increasing returns for networks creates an advantage for vast companies such as Microsoft and FedEx and Internet companies such as Amazon and eBay. Although the initial growth of such companies is relatively flat, once they achieve a critical mass of network members, they begin to grow exponentially and eventually threaten to become monopolies. It is still hard to predict what will become of these giants. The past year has revealed the enormous financial pressures placed on the communication industry, which have led to huge business failures and colossal embezzlements. It is unclear whether the trend to grow, merge, and collaborate will necessarily lead to increased prices or reduced quality, precisely because of the need of these companies to maintain their networks. Nor is it clear whether such monopolies will stifle innovation or use their resources to innovate and stay ahead of competitors. Nonetheless, it would seem that at some stage in the development of network goods, monopolies will emerge, introducing uncertainty and, potentially at least, inefficiencies into the networked economy.

Initially, the network economy was expected to exhibit wide disintermediation (i.e., elimination of middlemen), permitting suppliers to communicate directly with consumers. More recently, it appears that the more accurate description is one of reintermediation, in which new physical and virtual intermediaries replace old ones (Anderson & Anderson, 2002). For example, smart agents and Web sites act as information intermediaries ("infomediaries"). On the demand side, the decline of intermediary organizations (e.g., using the ATM instead of a teller in a bank or using a ticket Web site instead of a human travel agent) suggests that more people are looking for more information individually. However, there is an upper bound to the amount of information people can process that will bring about new forms of human and computerized information filtering.

An additional effect on market structure is the tendency of "lock-in" between consumers and producers. Setting up electronic connections, either business to consumers (B2C) or business to business (B2B), is an investment that tends to bind the partners as long as the relationship does not go sour. Individual users tend to act as "cognitive misers"—having learned one

application, they are reluctant to learn another unless they feel that the service to which they are connected has become substantially inferior or obsolete. As in all business relationships, trust must still be maintained, but in the absence of gross failures, it is difficult in the network economy for consumers to shift brand loyalties, thus re-enforcing tendencies toward monopoly.

The two categories of effects in Table 1 are interrelated. For example, economists generally argue that a competitive market supported by good information helps assure efficient allocation of resources. But that very same information may undermine efficient allocation in the presence of network externalities by precipitating changes in the competitive structure of the marketplace itself (Malinvaud, 1972). Hence, in the business sector at least, changes in the character of information, as experienced in the networked economy, can have profound effects on the structure and functioning of business firms. We anticipate that the same is true for nonprofits. We examine this proposition next.

## NONPROFIT THEORY AND INFORMATION

Economic theories intended to explain the existence of nonprofit organizations and their functions in society revolve tightly around the role of information. If this theory is on the mark, it stands to reason that the current revolution in information and communication technologies will influence the expected character and role of nonprofit organizations in the future. The intent of this section is to review key dimensions of nonprofit economic theory and their implications for nonprofits in a regime of increasingly sophisticated information technology. The three dimensions of information (reach, richness, and affiliation) help us to compare nonprofits with for-profits. Nonprofits would seem to have no general advantage over for-profits in terms of reach. However, nonprofits are strong on affiliation and, through their closer relationships with consumers, can potentially gather and maintain richer information. This relative advantage will be examined in relation to three classes of demand for nonprofit services: demand for private goods produced by nonprofits, demand for public goods produced by nonprofits, and demand for nonprofit services financed by government (see Table 2).

Another construct central to the analysis of nonprofits in the network economy is the notion of *information asymmetry* (i.e., a situation in which consumers and producers do not share the same information or level of understanding about the product and its market). As explained below, certain classes of demand for nonprofit services arise from situations of information asymmetry. On one hand, the higher reach found in the network economy is expected to reduce information asymmetry by making disclosed information more readily available and also raising the expectations of consumers that producers indeed should make the information available. On the other hand, changes triggered by the network economy, such as increases in the complexity of



**Table 2. The Roles of Nonprofits**

<i>Category</i>	<i>Definition of Category</i>	<i>Rationale for Role of Nonprofits</i>
Private goods	Consumers can be excluded from the use of private goods unless they pay (e.g., nursing home).	In situations of information asymmetry between consumers and suppliers, the less informed consumers rely on nonprofit organizations.
Public goods	Consumers cannot be excluded from enjoying the benefits of public goods once they are made available (e.g., public art).	In situations of heterogeneous preferences and information asymmetry between consumers and government, nonprofit organizations provide public goods on a voluntary basis.
Government-financed services	Nonprofit organizations provide goods financed by the government (e.g., social services).	In situations of heterogeneous needs and information asymmetry between consumers and government, and between government and private suppliers, government relies on nonprofit organizations as trustworthy agents to provide locally responsive services or to oversee other suppliers.

available information and the proliferation of its sources (see Table 1), are likely to exacerbate information asymmetry. There are two main amplifiers to this aspect. First, when the information deficiency of either consumer or producer involves ambiguity or difficulties in judgment, richness and affiliation become relevant, and the effect of ICT is more complex. For example, the information asymmetry between the producer and consumer of tomatoes is minimal if signals of price and appearance flow freely between the two in the marketplace or over the Web. In comparison, the information asymmetry between the (expert) provider and (layman) buyer of complex financial investments may be high due to knowledge gaps and restricted information. ICT provides an abundance of readily accessible information about investments, but it hardly reduces the information asymmetry unless the information is rich enough to be applied by the layman to specific decisions. Second, the digital divide between those who have access to the Internet and those who do not reduces information asymmetry for the former class of consumers but, at the same time, increases information asymmetry for the latter. As we shall see, both points are relevant to nonprofits.

*Demand for private goods.* Nonprofit organizations supply many goods and services that can also be provided by businesses in the private marketplace. These include day care services for children, education and training, performing arts, and so on. A distinguishing feature of these "private goods" is that the goods are consumed by individuals who can be excluded from their use



unless they pay. The question thus arises in theory: Why do nonprofits offer such goods and services if businesses are capable of providing them?

The “contract failure” theory of nonprofits (Hansmann, 1987) argues that the services of nonprofits are demanded where there is an asymmetry of information that puts consumers at a disadvantage relative to producers. To avoid exploitation in this situation, consumers prefer to purchase services from organizations they can trust. Nonprofits are deemed to be more trustworthy than for-profits for several possible reasons: (a) because they must adhere to a “non-distribution of profit constraint” that precludes their managers from personally benefiting from extra profits achieved at the expense of consumer interests (Hansmann, 1980), (b) because they are governed by people (e.g., parents of children in day care) whose interests are aligned with consumer interests (Ben-Ner, 1986), or (c) because they attract managers and employees who are motivated by the social mission of the organization (Young, 1983). An essential point here is that nonprofits are said to be higher on affiliation (more aligned with consumer interests) and therefore preferred when consumers are informationally disadvantaged and must seek a trustworthy information source.

The network economy has the potential to change the balance between nonprofits and for-profits in the provision of private goods by altering the relative qualities of information (reach, richness, and affiliation) available to consumers and producers. Consider several possibilities. First, advanced information technology could improve the reach and richness of information available directly to consumers. If parents of young children can get cheap, reliable, current information on the character and reputation of alternative day care providers, they presumably would have less need to rely on trust (i.e., on nonprofit status as a proxy for trustworthiness). In services of this nature, for-profits might increase their market share and nonprofits could lose some of their special advantage as trustworthy suppliers. Nevertheless, complex, ambiguous, and value-laden judgments, such as subtle differences in service quality or promulgation of moral, religious, or political points of view, rely on interpretations of rich information. In the face of ambiguity and information asymmetry, consumers may seek trusted sources (e.g., those high on affiliation) to help interpret rich information. This is particularly true for products in which interpersonal relations and communication play a central role. For such judgments, trustworthy intermediaries remain essential, and the stronger affiliation characteristic of nonprofit organizations may gain them a more important intermediary role.

These tensions are playing themselves out now in the area of charitable giving and fund raising. Traditionally the domain of community foundations, religiously affiliated federations, and federated giving organizations such as United Way, the field is now open to for-profit securities firms such as Merrill Lynch and Fidelity, which manage individual donor accounts. The network economy, with services such as Guidestar, and easy access to the Web sites of individual charities, allows donors to more easily make their own charitable

decisions rather than delegate them to intermediary organizations. As a result, federations and community foundations are losing market share. However, these nonprofit institutions also have certain intrinsic advantages deriving from their affiliative characteristics and presumed trustworthiness—characteristics that may allow them to regain some of that lost ground. In particular, these institutions can more easily offer richer information on the values, importance, and effect of their associated charities, information that may sway donors to give within rather than outside these systems.

Furthermore, information technology could exacerbate consumers' informational disadvantage by increasing the capacity of for-profit suppliers to learn about consumers' needs and preferences and become more aggressive in targeting them in their marketing campaigns. Under this scenario, consumers may worry about losing their privacy and could be overwhelmed by solicitations from a confusing array of reputable and disreputable suppliers among which they may have difficulty differentiating. A few egregious for-profit providers may tar the image of all such suppliers—the lemon effect (Akerlof, 1970). Hence, consumers may choose to withdraw into the safer haven of non-profit providers.

On the basis of theory alone, it is hard to determine which of these effects will dominate. What is clear is that the issue of distinguishing reliable from unreliable information will become more important in situations where choice is complex and ambiguous, and here an enhanced role for nonprofits may emerge. As intermediary, trustworthy, and neutral information suppliers, nonprofits can help consumers process available information to choose intelligently among alternative service suppliers—profit or nonprofit. This is a role that (nonprofit) industry trade associations and accrediting bodies now play and, to the extent that such agencies can prove their integrity as neutral monitors of their own members, that role may grow in the network economy. It is important that the network economy may call for more independent non-profit intermediary bodies, accountable directly to consumers, which can be relied on to take an objective and critical view of alternative suppliers. In addition, nonprofits, in their capacity as advocates of social justice, could play an important role in reducing information asymmetry deriving from the digital divide between classes of consumers in the network economy, within and across countries. Examples of such organizations are Digital Partners and the Digital Divide Network ([www.digitaldividenetwork.org](http://www.digitaldividenetwork.org)).

*Demand for public goods.* Public goods have the characteristic of “non-excludability.” Once they are provided, it is difficult to exclude people from enjoying their benefits even if they do not pay. Public parks, public safety, conservation of the natural environment, public art, social justice, and world peace all have this characteristic. Nonprofits, according to theory originally advanced by Weisbrod (1977), have a role in providing public goods because governments are incapable of completely satisfying the demand for them. The basic reason is that individuals' preferences for public goods are heteroge-

neous, whereas government must largely provide public goods in a uniform way. In a democracy, governments will follow the preferences of the “median voter” or those of a dominant governing coalition. This will leave underserved some citizens who would prefer to pay more taxes for additional public goods, and it will leave others who would prefer to pay lower taxes and receive a smaller quantity of public goods unhappy as well. Government practices, such as setting limits on the number of public employees, only exacerbate this situation by reducing government’s flexibility to adjust to changing citizen preferences. This situation leaves a role for nonprofits—to fill in with additional public goods provided on a voluntary collective basis and to advocate for changes in government provision. Whereas the latter requires nonprofits to overcome “free riding” (people benefiting from public goods without paying for them) through various fund-raising strategies, it provides an important role for these organizations in a variety of fields including policy advocacy, research, public safety, community health, assistance to the poor, and overseas aid.

Information is also central to this aspect of nonprofit theory. The reason that governments cannot charge differential taxes and provide differing levels of service to various groups of citizens or consumers derives from the classical problem of “revealed preferences” (Head, 1990). In short, it is difficult for government to determine how much individual citizens are willing to pay for different levels of service provision and, hence, to customize tax schedules and service levels accordingly. The voting process provides only aggregated preference information on multiple services and spending preferences, which cannot easily be disentangled, and surveys may not yield truthful responses if citizens believe that the information will be used to charge higher taxes. (They would rather understate their willingness to pay, in the hope that they can free ride on the payments of others.) In summary, public goods present an information asymmetry problem that is the reverse of that for private goods—in the public goods case, consumers have better information on their own preferences and willingness to pay than government has.

How does the network economy change this picture? First, advanced ICT may make it easier for government to obtain information on local community and individual preferences, so as to enable a degree of customization in public goods and tax schedules not heretofore possible. For example, advanced technology can be employed to collect personalized survey data to help design services for individuals or small groups (Malinvaud, 1972). Alternatively, nonprofits can use ICT and their stronger affiliation characteristics to gain knowledge of the interests and preferences of their donors and consumers, information they need for voluntary provision of collective goods and to overcome the free-rider problem. For example, by determining the kinds of private benefits (unique gifts, recognition, membership services, etc.) potential donors would enjoy, nonprofits can develop better ties between the private benefits they offer and the donations they solicit to support the public goods that they provide. Alternatively, nonprofits can use new fund-raising

methods such as the “provision point mechanism” to help overcome free-rider problems by making provision of a public good contingent on sufficient overall donor support (Marks & Schansberg, 1997). (In the provision point mechanism approach, a fund-raising goal is set to allow provision of a particular project. If the goal is not achieved, the project is not undertaken and funds are returned to the donors. This approach increases the incentive for all potential beneficiaries to contribute, helping to overcome free-rider effects.)

Perhaps even more fundamentally, in the network economy, nonprofits are able to respond to the common interests of groups that are not geographically circumscribed, for example, ethnic groups or groups of particular political or ethnic persuasions. Governments are limited in their abilities to respond to these “identity” groups because government jurisdictions are based on geographic borders. Nonprofits can define their “publics” in any way they like. As a result, the network economy can empower nonprofits to provide public goods almost without regard to location or erstwhile limits of communication and transportation, opening up new nonprofit markets that were previously inaccessible.

If the revolution in information technology potentially improves the efficacy of public goods provision by both government and nonprofits, how will it affect the balance between these alternative institutional sources? Will nonprofits’ role in the provision of public goods increase or decrease? Overall, the advantage here would appear to go to nonprofits, which are better positioned to offer public goods on a case-by-case basis for specific groups of citizens as well as particular locales. Government, to the contrary, may become more nimble, but it can never decentralize itself, transcend geographically, and differentiate its tax and service delivery schedules as finely as private, autonomous nonprofits can. Moreover, government already has the capacity to tax to overcome free riding; nonprofits, by overcoming some of this disadvantage through improved informational techniques, will diminish government’s margin of advantage along this dimension. In addition, the network economy makes it more difficult to collect taxes for several reasons: easier tax evasion on global transactions; diminished taxable revenue due to disintermediation (i.e., elimination of taxable intermediary firms and their assets and revenues streams); and technical and legal difficulties in taxing transactions that are initiated, delivered, and billed over the Internet. These reasons apply especially to intangible services. All this argues for an increased role for nonprofits in the provision of public goods in the future.

Moreover, in some situations, public opinion and preferences need to be actively and forcefully voiced. Rather than “pulling information” from the public, information must be “pushed.” On the whole, advocacy groups have been successful in using ICT in this way. For example, the demonstrations against economic globalization used the Internet so effectively that it surpassed all expectations and managed to outwit local police (J. Smith, 2001). As the technology becomes ubiquitous, it becomes easier and cheaper for mass volunteers to get organized and to act in concert. Clearly though, it is not only

the lower transaction costs of getting organized that make such voluntary action successful. Equally important is the technical feasibility of creating a public image portrayed through the Internet and other ICT that generates trust and commitment. Here too, it would seem that voluntary organizations stand to increase their relative advantage in the network economy.

*Demand for government-financed services.* Many of the services financed by government are ultimately provided by nonprofit organizations under contract or some form of reimbursement. This set of practices is partially explained by Salamon's (1987) theory of third-party government. The theory argues that government is efficient as a financial agent because it can overcome various aspects of "voluntary failure" (including the free-rider problem), whereas nonprofits can be more efficient in actually delivering services because they are more locally responsive and less costly. The practice of government financing coupled with nonprofit delivery is common in several public service domains including social services, health care, and education.

The economic theory of transactions costs is useful for understanding this practice and its relationship to information (Williamson, 1985). Government has two choices to make once it decides to provide a particular good or service: First, should it provide the service itself through a government agency or should the service be contracted out (outsourced) to a private supplier? Second, if the latter option is chosen, should the selected supplier be for-profit or nonprofit?

The first decision depends on the relative transactions costs of internal provision versus contracting out. Internal transactions costs include resources used to identify consumer demand, arrange for delivery, collect fees, and coordinate various departments involved in financing, delivering, and evaluating the service. External costs associated with outsourcing involve searching out and evaluating the merits of alternative suppliers, negotiating and enforcing contracts, and monitoring contractor performance over time.

The second decision has much in common with the issue of private goods provision discussed earlier. If the government decides to contract out, it may experience an information asymmetry problem: Potential suppliers may have better information than government and hence can potentially exploit the relationship for private gain. Thus, government may seek trustworthy nonprofit suppliers if it feels disadvantaged in this respect. Alternatively, if government is fully capable of acquiring and evaluating the information it needs to oversee contractors, it may prefer to open the competition to all types of suppliers in an effort to get the best possible deal.

How could improvement in information technology affect these relationships? How might it affect the degree to which government decides to contract out and the degree to which it prefers nonprofit to for-profit suppliers? First, it appears likely that availability of more and richer information would favor more contracting out. Although such information would also improve government's ability to market its own services to citizens directly, it is unlikely to

be able to do this better than more nimble private contractors. In addition, most governments already have relatively good knowledge of their internal transactions costs such as interdepartmental coordination, so that enhanced information would probably not provide great benefits along these lines. On the other hand, the network economy is reducing external transaction costs and putting government in a generally stronger position to shop and make choices among private suppliers.

More and richer information would also appear to favor for-profit over nonprofit contractors. Government normally has the resources to purchase the information it needs and the capacity to evaluate that information. When information richness and reach increase, government becomes better informed and hence takes less risk in choosing a for-profit supplier. There are mitigating factors, of course. In favoring for-profit suppliers, government may have to overcome some taxpayer resistance to the idea of financing private profits with government expenditures. Moreover, government may have an easier time imposing regulations on nonprofits (e.g., financial disclosure requirements that allow it to attain a greater degree of control over nonprofit than for-profit contractors).

It may also be argued that the character of the services that government will seek to outsource in the future will tend to be more complex in nature, difficult to evaluate, and locally based, hence continuing to favor nonprofits over for-profits. For the present, the practice of contracting with nonprofits is still expanding substantially. In particular, managed care arrangements in social services still rely primarily on nonprofits, whereas for-profit growth in this area has generally slowed or reversed itself (S. R. Smith, December 2001, personal communication). Moreover, important services such as low income housing, community development, AIDS treatment and counseling, and welfare-to-work assistance are resistant to scale economies that might make contracting with for-profit firms more attractive.

It is possible that nonprofits can play an intermediary role as neutral information providers for government purchasers, particularly for smaller, less sophisticated governmental jurisdictions. However, this role seems less compelling than in the case of individually purchased private goods, because governments often have their own substantial evaluative capacities.

Another role that nonprofits can play here, however, is that of watchdog over government contracting practices. Some of the for-profits that become part of the network economy will grow in size and may become monopolies, introducing potential inefficiencies. Moreover, as contracting expands, the opportunities for corruption also increase. For-profit contractors in particular have an incentive to buy the favor of public officials to secure lucrative projects or programs. Again, neutral nonprofits with strong affiliation to citizens and communities have the potential for protecting public interests by monitoring these situations.

One may also speculate that the network economy, which often builds on remote communities, may weaken affiliation in nonprofits that flourish on



proximity, thus diminishing their potential as local watchdogs. This concern is especially relevant to the growing number of nonprofits that span multiple countries. It appears that ICT, when used prudently, is instrumental in supporting communities of practice that develop not around shared local activities but around shared interests and values. For example, the World Wildlife Fund uses ICT to promote a sense of one unified group with high affiliation, literally, all over the world. Without mastery of ICT, however, the relative advantages nonprofits have in affiliation over for-profit organizations may indeed diminish in the network economy.

Nonprofits already play this role internationally in such arenas as governmental corruption (Transparency International) and treatment of political prisoners (Amnesty International). Common Cause and the Nader organizations also fit this mold domestically. These organizations can make significant use of the Internet to effectively disseminate their information and mobilize their constituents.

## CONCLUSION

Advances in ICT, by enhancing the reach, richness, and affiliation properties of information flow, are continuing to have profound effects on the structure of the business economy. We suggest in this article that the same will be true of the nonprofit sector. We are not arguing in any simplistic way that technology-based techniques will transform or overwhelm the sector. The recent fascination with e-philanthropy, for example, may fade, although there is no question that nonprofits will continue to integrate IT into their operations. Rather, we argue here that structural shifts in the economy deriving from the fundamental way in which information is processed are likely to alter the roles that nonprofit organizations play in society.

Analysis of the economic theory of nonprofits reveals areas of activity where the role of nonprofit organizations may be either diminished or enhanced by improved information technology in the network economy. Table 3 summarizes our main predictions of the effect of the network economy on the relative prominence of nonprofit organizations for each category of service. Although we project a possible diminishing of the role of nonprofits where expanded access to richer information helps consumers or government overcome traditional information asymmetries, we also note that the types of demanded services are changing over time as well, suggesting that nonprofits must be alert for new opportunities in direct service provision and contractual roles with government, as well as in providing assistance as information intermediaries. Needless to say, if nonprofits are to exploit such opportunities, they will need to develop substantially more technological competence than they have generally exhibited to date.

We should emphasize that these predictions remain hypothetical, although they are fairly consistent with Ben-Ner's (2002) recent analysis, which also



**Table 3. The Effects of the Network Economy on Nonprofits**

<i>Category</i>	<i>Predicted Effect of Network Economy on the Role of Nonprofits</i>
Private goods	Diminished role in informing consumers when criteria for choice are clear. Greater role in informing consumers when criteria for choice are ambiguous. Greater role in informing consumers when digital divide exists.
Public goods	Greater role in providing customized services.
Government-financed services	Possible diminished role in providing public services. Greater role in overseeing government contracting practices.

suggests that a net diminishing of nonprofits' role in the new economy is likely. (Ben-Ner argues, as we have, that the information-related advantages of nonprofits in producing services with public goods and asymmetric information characteristics will likely decline—lessening the relative demand for nonprofit-based services.) In any case, more specific empirical research, targeted to particular areas of service, is needed to investigate these hypotheses. Such research might employ a comparative time series design in which the changing informational character of services in different industries is compared and juxtaposed against changes in nonprofit participation in those industries over time.

Research is also needed on how information technology can be designed and used to leverage the relative advantages of nonprofits. Foremost is the question of how information technology can be used to help build relationships and enhance trust with large numbers of members. Second, how should information technology be designed to capitalize on enhanced relations and a sense of community to generate rich information, and how can this information be used without compromising trust? In particular, how should nonprofits use high channel capacity, interactivity, and personalization in ICT to enhance richness and affiliation (Te'eni, 2001)? Finally, how can relationships and rich information be used to provide customized computer-based services? Our emphasis in this analysis has been on information as signals about goods and services, but information is becoming a large part of the product itself in the network economy (e.g., some government services such as health insurance packages can be provided entirely over the Internet). Personalization in ICT will probably play a key role (e.g., smart agents that "know" the member and can personalize service packages, such as legal advice or a visit to the local museum). These kinds of questions can best be studied through systematic identification, documentation, and analysis of case studies of innovations introduced by nonprofits in various segments of the economy as they seek to adapt their operations to the information age.

There are also immediate practical implications of our analysis. Perhaps the most obvious one is that nonprofits must become more sophisticated players

in the new network economy. Currently, it is probably still fair to say that a relatively small proportion of nonprofit organizations employ advanced information and communications technology for facilitating relationships among organizations and groups of citizens and consumers (Burt & Taylor, 2000; Pew Partnership for Civic Change, 2000). The first step is for nonprofits to become intimately acquainted with advanced technologies and to experience first-hand the network economy at work. With that experience will come a reframing of their missions and strategies to capitalize on their particular strengths.

Perhaps most important, nonprofits need to further develop themselves in their roles as trusted information intermediaries, as this indeed may be the niche that offers them the most important competitive advantage in the network economy. In this vein, nonprofits will need to consider new ways of becoming more intimately affiliated with, and accountable to, the people they serve if they are to be able to bring consumers and suppliers together on a virtual basis. They will have to learn to be particularly effective in ambiguous, complex, and value-laden contexts, where they are most needed. At the same time, nonprofits will also have to determine the limits to the use of technology. For example, clergy's intuitive reluctance to use computers for organizing private information of congregation members (Berlinger & Te'eni, 1999) reflects a realization of how affiliation and trust in some domains of life are still governed by norms established in the old economy. An important strength of nonprofits is that they are well positioned to be alert to traditional sensitivities as they address the new challenges of the information age.

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