NSF/OECD Workshop -- Washington, 31 January 2007 SOCIAL & ECONOMIC FACTORS SHAPING THE FUTURE OF THE INTERNET

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Question: How is the Internet affecting the relationship between social and economic activity?

One of the most surprising things about the Internet is the way it has enabled the deep intertwining of social activity and economic value. Indeed, this has perhaps been the defining development of the Internet since the bust. While the bust signified the maturity of first-generation electronic commerce, new services that draw value from volunteered content and the dynamics of social interaction have come into their own.

One aspect of this realignment is not new: the invigoration of markets and lowering of information and transaction costs so as to engage individuals in transactions that were simply not feasible given the information and production constraints of the analog world. The big success story here was eBay, which has allowed millions of individuals to transact with each other because the Internet so efficiently supports search, information exchange, and remote transactions (thanks in part to Paypal and other more efficient means of moving money).

Initial expectations that the Internet would facilitate a vast market for content in which users paid by volume or by hour following the early business models of electronic publishing were dispelled long ago. While some content has been successfully marketed as a subscription service, most frequently content has been given away as a free good supported by the sale of complements.

Advertising is the universal complement, and on the Internet it has assumed a wide variety of new forms. The thin line between advertising and directory services has become almost invisible at times -- for example, in the difference between unsponsored and sponsored links of a Google search. The user does does not normally see advertising transactions and may not even be aware of what is advertising unless it signaled. On the other hand some Internet-based advertising is so highly ed and informative that is of net value to viewers (in contrast to mass-market advertising, which usually conveys little information and is perceived as a nuisance and distraction).

The more interesting complements on the other side of the equation are user-generated or user-volunteered "social content" – often acquired at no direct cost to the entrepreneur. Entrepreneurs provide servers, software, and a set of rules for allowing people to interact and share content, but the ultimate value derives from the users themselves. On a small scale, this kind of infrastructure can be provided on a social or cooperative basis, but it if is to be open beyond a small like-minded community, it requires robust support and an investment sufficient to achieve and exploit economies of scale. This scale, the ability of users to search efficiently within, and the design and negotiation of advertiser support normally require real investment with a prospect of return.

Nonetheless, there are areas where the infrastructure is sufficiently commoditized and cheap – and the nonmonetary incentives so strong and the outcomes so compelling that the overall enterprise need not be done for profit. Wikipedia is the classic example. When barriers to participation are low enough, projects or networks of activity can draw a wide range of contributors. The global reach of the Internet makes it possible to achieve a critical mass of volunteers with relative ease.

Sometimes this works because infrastructure accommodates mixed motives on the supply side. Modular open source development models are able to aggregate and integrate

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contributions from many differently motivated persons. In some cases, open source development serves the business interests of large companies, who task employees to contribute. For others, open source development can be a source of personal satisfaction, a vehicle for self-promotion, or a way of addressing a particular need.

In the go-go days of electronic commerce, the Internet got a lot of attention for what it could do to make markets more efficient and much larger. Specialized local craftsman could inform and sell directly to the whole world. In the long run, however, the Internet has blurred our understanding of what a market is. Sure, it can reduce the cost of transactions, but it also provides a means of eliminating transactions in favor of relatively costless transfers – in the expectation that other means can be found to recover whatever fixed costs may nonetheless be involved. So despite the fact that the Internet lowers transaction costs, its greater significance lies in the potential to route around them.

On the one hand, this apparent coupling of economic and social value looks like the ultimate product of digital convergence. On the other hand, the importance of scale and advertiser support make it look like American broadcast television in the 1950s. There is no channel shortage here, although there is the potential inducement (and risk) of winner-take-all network effects playing out in the inherent bandwidth limitations of human attention. Can there ever be another eBay? Or another Wikipedia? With scale and interconnectedness comes extraordinary inertia. (In the U.S., at least, the network effects can be leveraged by patents on the basic business model.)

There is still a bandwidth shortage of sorts. It is an economy framed by the practical limits of discretionary human attention (the same 12-14 hours/day). Yet it may be that IT-enabled social networking only appeals at certain stages of life – when looking for adventure, a mate, or a better job.

On the positive side, an essential element of these new forms of social economic value is integrity and trust in the environment that substitutes for genuine community or authority. This includes the rules and procedures for resolving disputes and preventing predatory or antisocial behavior. Done right, this can create a space where the rules as well as the enabling technology are all but invisible to its users.

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