

Because it's your weightless economy too

by

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Technology, intellectual property, and social efficiency: Any debate with that many syllables strung together makes the subject under discussion a distant thing, slightly outside the event horizon for most of us. Wonderful technical developments might, indeed, be unfolding in the weightless economy. Social observers might, indeed, be attempting to place perspective on and come to grips with the large-scale changes that they think important and profound. But why should a proverbial rider on the Clapham omnibus care?

I have previously argued in this column and elsewhere that the weightless economy is a technological development that matters because it slings the hapless consumer right up against the chalkface of frontier technical change.

Sure, the economy has al-

ways been knowledge-based. But in the old days scientists, engineers, and inventors plied their trade in laboratories hidden to the consumer. And we preferred it that way. We walked into stores and bought the fruits of that intellectual labour. New products had technology and knowledge embedded in them, but we never needed to be hit over the head with this fact. Individuals plugged in, turned on, rode in, swallowed down, or shrugged off.

The knowledge-based economy? We hardly knew ye.

And to understand economic performance in such a world? Policy-makers and observers could well relegate technology, knowledge, and science to mere footnotes.

Now, however, daily newspapers are not shy about putting on the nation's breakfast tables feature articles about open-

source computer *operating systems*, about *gene sequencing*, and about *encryption policy*. New releases of operating systems are rolled out in sparkling media events complete with rock stars, world tours, and theme music. What is an operating system anyway, and why does anyone care enough to spend millions of dollars to tell us there is a new one of those available? Answer: A string of 1s and 0s. The 0s have been put in a different part of the string this time, and, oh, a couple million new 1s have been sprinkled in the middle, not all together though. The millions of dollars spent on the coming out party? Because you're worth it.

This is stuff no longer arcane, intangible, and visionary. It is no longer about propeller heads getting their hands dirty on a keyboard, coding in a nifty new hack to squeeze ever more performance out of 2k RAM on a board with flashing lights. Nor about old men and women in white laboratory coats, tinkering. Nor about brainy social misfits, poring over tables of unintelligible markings, while beautiful debutantes carry translation chits back and forth in blacked-out Bletchley Park.

No, this is now everyone's

bread and butter. When did we all become such techno-geeks? Who brought us centre stage and why? What do we need to know about these changes to understand economic performance?

You're part of it

In March 1999 IBM announced it would no longer advertise on websites failing to announce an explicit privacy policy on data collected from web browsing activity. Even if IBM intends to spend only \$60m on online ads this year, peanuts compared to the billion-dollar exchanges now routine for Internet deals, IBM is still the number 2 Internet advertiser, and the money is not exactly funny money.

Apparently, collecting information about who does what is contentious, and those with economic resources that matter take it very seriously. And this is collecting data about you, the consumer, the user, the web surfer. The one who rides that omnibus. You and information about you are what this discussion revolves around.

In the uproar over the Melissa computer virus, it emerged that

Microsoft assigns unique identifiers to its Office suite of programs. Thus, when a user produced a new document on a machine using a particular copy of Word, that document was thereafter tagged and identified. On the one hand, this allowed tracking down the possible perpetrator of a heinous crime. On the other hand, we now realize there is a shining trail of indelible breadcrumbs marking out the uniqueness in the each of us, amidst the swarm of information ebb and flow that is modern economic activity.

Intel had achieved the same identification in hardware with its latest processor chips that sit hidden in our computers. Thus, the same goal is attained. There continues debate on whether this feature can be deactivated. But the fact of the matter is, one way or another, the electronic information that we produce is indelibly stamped with a version of our identity.

Software programs can be obtained freely on the Internet that would my computer to sniff the bytes traversing the LSE network. It would be a simple matter for me to log Web traffic—nothing to do with me necessarily, mind,

but instead emanating not from my computer and browsing nothing on my website, but stuff simply going through the pipes in this neighborhood in the course of a normal workday. Not that I would ever do this, of course.

Why does anyone bother?

I don't do it, but plenty of others do, evidently.

DejaNews, a net search engine and early provider of easy Web access, was recently publicised to be—inadvertently or otherwise—keeping records on who was sending email to whom.

On a level further up, the 1998 European Union Directive on Data Protection recognized the importance of consistent transnational statutory stances on record-keeping and information-use. Without this harmonisation, European consumers might be averse to allowing their information into commercial circulation in the first place. By default, the lowest common denominator—the tightest security—would emerge as the focal point and defacto standard. This can only restrict the further development of useful informa-

tion systems. But in attempting to harmonise statutes across European member states, the EU directive became inconsistent with free information flow *outside* the European Union, and in particular, towards the United States. For companies in the business of slinging information back and forth across the Atlantic—banks, financial houses, insurance companies, even academic establishments—this is a serious barrier to cross-country operation.

Ok, enough examples. What are general lessons to draw?

First, what passes for wealth-creating activity in the weightless economy is easily monitored. The technology itself facilitates that. We don't know everything about that which is payoff-relevant, but we know a lot, enough to worry lawyers and policy-makers. When advertisers want to know where to direct their spending dollars, they seek measurements to find out how their Web ads have been effective. Despite all the insidious technological capabilities I described above, the principal complaint is that not enough precise information is being collected. Companies like Media

Metrix—a market leader in monitoring Web traffic (yes, it can be done not just for fun but also for profit)—undersample relevant populations, and are unable to detect when advertising has been truly effective. It seems to me that these complaints are no worse than for traditional advertising, but the technology promises, and so dissatisfaction is easier to generate.

Second, more controversy appears to arise when information is collected online than when it is otherwise obtained. All legal economic transactions in countries where VAT operates are *already* tagged and the information used. For most of us, cash exchanges are an ever-smaller part of economic life. Exchange done otherwise—through checks, credit cards, or other methods of accounting—can be easily cross-referenced to obtain very precise pictures on our spending patterns.

In national surveys that all social scientists use, people actually volunteer to keep diaries on what they do, what they eat, how they spend their time. Sure, in one case, online activities are recorded without the individual's explicit consent, while

in the other, the surrender of information is voluntary. But this can make a difference only if, in the second case, the volunteer lies or otherwise alters his behaviour. No one wants to contemplate that possibility.

What then is special about this participation of the masses in activities in a weightless economy?

Economically valuable mass information

Information about consumers now can not only be sliced and diced to yield statistical trends and generalizations. They can also be exploited to provide customized products in a way that is economically profitable now but not so before. The customer becomes part of the value chain through his characteristics. Thus, everyone helps engineer progress in the weightless economy through their simply being a consumer of these products.

Knowledge-products in the weightless economy are not just infinitely expandable, they are similarly malleable and adjustable. Sure, the auto industry will sell you a car with add-

ons that then distinguish this car from the next, but there is only a fixed set of templates from which customization can draw. Indeed, the logic of mass production in such industries is that customization is necessarily limited. By contrast, computer software, biotech pharmaceuticals, and video entertainment can be tailored almost arbitrarily to fit each customer's characteristics, and without much more in extra cost. This product differentiation represents non-price competition and is, in fact, a move in the direction of social efficiency. People are different, and acknowledging those differences in the provision of goods and services removes the social efficiency losses associated with monopoly profit-maximisation.

At the same time, if the customization is then frozen in the product, the problem of market price tending towards zero marginal cost under perfectly competitive markets is alleviated. No one else finds useful the cheap knock-off copy of the string of 1s and 0s that has been specially developed for just me. The developer of weightless economy products does not find her ex-ante incentives at odds with the subse-

quent market outcome.

In this view, increased precision of information capture—whether through Internet audit trails, medical records, or brand-name loyalty cards—is a natural and healthy market-driven solution that has emerged to deal with the allocation and competition problems otherwise inherent in a newly-developing weightless economy.

Many observers, of course, take a less positive view on this information proliferation through the consumer's inadvertent actions. That debate on privacy and information in a weightless

economy then sometimes garners rhetoric such as the need to protect the “fundamental rights and freedoms of natural persons”. Now I don't know what an unnatural person is, but there might well be an economic question surrounding ownership of the intellectual property rights on my shopping patterns. Or on the genetic information in my spleen cells. Or that in the population of Iceland.

There is certainly an opposing economic argument to the sanguine one above that can be developed. The next column will seek to investigate exactly that.