

Opinion **New Technology Policy Forum**

Eli Noam: A dim future for consumer electronics?

Eli Noam MARCH 10 2005

Richard A. Epstein: Shed No Tears For Sony

In the last few days, the CEOs of the consumer electronics giants Sony and Toshiba were both replaced. Even more unusually, Sony promoted the distinctly un-Japanese Sir Howard Stringer to the top job. Also recently, Fujitsu and NEC scaled back their consumer electronics operations.

What is going on here? Beyond the specifics of each company, the industry as a whole has been under pressure for a while. And this happened, ironically, despite its enormous innovativeness. For years, electronic consumer devices have been getting small, faster, and smarter. But they were also getting cheaper under fierce competition from low-cost countries and convergent electronics industries.

Meanwhile, R&D and marketing costs grew while consumer adoption fell behind product innovation. Today, one can buy a decent DVD player, VCR, or a conventional TV set for around \$50. Consumer electronics have become the last great bargain. Even the pricey large screen flat TVs have been dropping rapidly in price. These great consumer deals have depressed industry profitability.

Is relief around the corner? One industry hope is to link its hardware with content, under the same corporate roof. Presumably, Stringer's mission is to strengthen these synergies, given his TV background. Yet such integration also has a significant downside. It adds constraints. It dilutes managerial quality time in companies that already must deal with a mind-boggling array of products, components, and countries. And it hasn't worked particularly well for Sony, and not at all for Matsushita.

In recent years, Sony's music group's fear of piracy, shared by the entire music industry, delayed the company's historically leading consumer electronics group from taking the lead in portable MP3 players. In contrast, Apple, an outsider without a music business to worry about, sewed up the market. Is Sony becoming today's RCA, the visionary company that dominated both consumer electronics and broadcasting content in the 1920s, only to disappear in the 1980s?

The second hope of the industry is a new product cycle that would spark consumer buying. Such strategy is centered around "home networks" that connect all electronic devices, from TVs to PCs to DVDs to phones, printers, and even refrigerators, air conditioners and alarm systems. Such internetworking of audio-visual, data, environmental control, and home appliances by wire line and wireless connections is a pretty complex task, especially since it needs to be user-friendly.

But it would make consumer devices more powerful and desirable, and would lead to a new round of replacement. The new business was estimated by one investment bank to be worth \$250bn. A quarter of a trillion dollars gets attention. But is it realistic? More likely is that home networks will accelerate the decline of the industry in the long run.

The traditional way to build consumer electronic devices was to make them largely self-contained, each with multiple elements such as its own memory, signal processing, antenna and software. But if all devices in the home are interconnected, why duplicate all these functionalities? Instead, it makes more sense to get specialised and powerful devices - memory banks, central antennas, high speed processors and sensors - and then to internet work them so that they can serve an entire slew of home devices.

As this process takes root, the electronic technology becomes largely invisible but pervasive, like electricity or water. What are left in plain view are mostly the display screens (these will be strong sellers, together with portable terminals). The specialised electronic boxes, meanwhile, are relegated to some electronic closet in the basement.

And why stop there? The electronic functionalities could move further away, to distant facilities of commercial consumer electronics service providers that will have powerful hardware and software, and the expertise to service them reliably. In such a scenario, consumer electronics are transformed from pieces of hardware to a service. A familiar example is voicemail, where the local phone company is replacing answering machines at home, lowering consumer electronics sales.

What will be the impact on consumer electronic firms? It means, after an initial demand rise, a lower importance of established consumer brands and an even greater trend towards undifferentiated commodity-style product markets. The actual hardware infrastructure will be installed by the distant service providers rather than by consumers. And in that commercial market space, IT companies and specialised electronics firms have more credibility than consumer electronics firms, and consumer brands have less clout. A commercial service provider will buy a big ugly electronic box if price and performance are right.

There is also an excellent chance that the home networks themselves will be dominated by the cable TV, telecom, and wireless network operators with their long-standing connectivities into the home, or by Microsoft with its hold over operating software. These companies could set conditions for the interconnection equipment and squeeze consumer electronics firms.

We are moving to an electronic home that is internetworked, interconnected, and interoperating. This will be a boon for consumers. They will keep getting more for less.

But will it help the consumer electronics industry? After an initial excitement, home networks will only accelerate its problems. We must recognise that as one connects in new ways, one also disconnects some of the old ways. As we interconnect the multiple devices in the home, we also enable their physical separation from the home. And this is bad news for the traditional ways of the consumer electronics industry, whoever the CEO might be who occupies the hot seat.

Richard A. Epstein: Shed no tears for Sony



Eli Noam has offered a structural explanation for the decline in fortune of some of the major Japanese consumer electronics companies. In his view, the rocky road for all these companies has been created by a variety of forces that are largely beyond the control of any new arrival to the executive suit, including Sir Howard Stringer, to change.

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The innovation and efficiency across the industry has reduced the price of all high ticket items so that profit margins are only a fraction of what they had been. In addition, the common phenomenon of technological convergence has worked its magic, so that occupiers of this venerable niche find themselves in increasing competition with software firms and internet providers who can offer a comprehensive suite of consumer gadgets, and more, through a linked network operation. As is often the case, the most powerful competition comes from quarters where you least expect it.

In general, it is a common situation for the innovative products in one generation to become the commodities of the next. But that said, one question worth pondering is whether the four Japanese companies - Sony, Toshiba, Fujitsu, and NEC - may be labouring under a set of local conditions that are at least as important as the global trends to which Noam refers.

In this regard, note that the Business Section of New York Times, dated March 10, 2005, features a story about the relative market capitalisation of Sony and Samsung, the Korean economic giant. Barely five years ago, Samsung had a market cap that was only about a quarter of that of Sony, while today it is twice that of Sony's. Any eight-fold swing in relative market values cannot be explained by Noam's grand structural explanation, which in principle should hit all firms, regardless of national origin, equally.

The only explanations for the shifts in question must relate to the business strategies of the different firms, or the legal and institutional framework between Korea and Japan. To be sure, both sets of changes - structural and firm-specific - can operate at the same time, but it is critical not to lose sight of the second just because of the undisputed relevance of the first.

A second point is well worth making. Noam's tale of relative decline carries with it no message for changes in our legal or social practices. The strength of an economy is measured in large part by the inability of established firms to preserve their market share by erecting legal barriers to new entry from anywhere around the globe.

If Howard Stringer cannot reverse Sony's fortunes, his failure would have serious negative implications for their shareholders. But the soundness of the world economic order is measured by our collective willingness to let consumers, not legislators, have the final word on whether Sony, or any other firm, will prosper, falter, or perish.

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