

Format wars all over again

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.....Sometime soon Sony intends to embed Blu-Ray, a new optical disc format, in the PlayStation 3 and Sony's home video equipment. Sony has gone to great lengths to generate a coalition of firms to support Blu-Ray. Opposing it is the high-definition DVD, sponsored and supported by many firms, including Toshiba, NEC, Sanyo, Microsoft, and Intel.

Weary watchers of consumer electronics markets have been unable to shake a sense of déjà vu. There have been format wars in recording media ever since the 33 revolutions/minute LP (long playing) records replaced the "78s" (78 revolutions/minute long-playing records). Meanwhile, "45s" (45 revolutions/minute) captured singles and juke boxes (the big hole in a 45 helped).

In some respect, today's format wars seem less simple than those of the past. Must format wars be so complicated? The answer turns out to be mostly yes, but not because technology has become more complex. Rather, modern strategic doctrine is to blame. If a firm starts a format war, the textbooks say it ought to be conducted in as complex a manner as possible.

Warning: This topic usually becomes sidetracked into disputes about prior wars, such as whether Betamax was technically superior VCR to VHS. Many orphaned users have kept these arguments alive in textual food fights within blog discussion groups. (If you don't believe me, just try to have a sober conversation with the faithful.)

I will try to breeze by most of these arguments and, instead, highlight the

essential economics. In that sense, I will differ from the norm.

Examining predecessors

Many regard the fight between JVC's VHS and Sony's Betamax as the classic format war. As with canonical events, popular retelling diminishes how events appeared to contemporaries. It is time to dust off this old story and revisit the lessons from it.

To most of the participants in the mid-1970s, VCRs looked like any other nascent market with competitive rivalry among differentiated firms. Ampex, RCA, Sony, JVC, and many other firms had tried to develop a consumer VCR for more than a decade, with little commercial success except among hobbyists and experimentalists.

Everyone lost money for a long time. Ampex, the technical leader for over a decade, gave up trying to pioneer the product after launching a failed design in the early 1970s. RCA, the electronics behemoth and largest television manufacturer at the time, also gave up. Things took off in the mid- and late 1970s, but only after Sony and JVC persisted. Both firms deserve credit for that persistence in the face of years of discouraging events.

As in any competitive situation, many factors shaped outcomes. For example, although the Betamax had a great picture, the earliest design could only record for one hour. The VHS came out a year later and recorded two hours. The VHS also rewound more quickly. In addition, the VHS system had better distribution in the US. Following its typical practices, Sony pre-

ferred a slightly higher margin on its products than JVC, sacrificing a few sales. None of this is in dispute. Some users chose Betamax, more choose VHS. Both firms made a good profit in the late 1970s.

It's hard to appreciate now the atmosphere at the time. A layer of bitterness informed everything—a consequence of fallout between Sony and JVC during a prior attempt to launch a VCR in the early 1970s. In spite of that, for strategic reasons that must have made sense to the executive at the time (though I have never really understood why), Sony preferred to strictly license technologies for royalty (even to JVC). In contrast, many viewed JVC as a friendlier partner, brining many more firms into its alliance.

In other words, the format standard was just one of many things that differed between firms who competed for many years. As in most pioneering markets, good technology helped, but did not determine, outcomes. A dozen different factors mattered.

Unexpectedly, in the early 1980s, the video rental market emerged. The key word here is *unexpectedly*. Until then, all firms and users employed the VCR record television programs. Indeed, that use so dominated thinking that it generated a major copyright lawsuit from broadcasters (which was eventually decided in Sony's favor by the US Supreme Court).

Video rentals exacerbated the lead in market share built by VHS. More VHS titles motivated users to buy VHS hardware,

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which motivated video rental stores to carry fewer Beta titles. Somewhat inexorably (and painfully for Beta owners with libraries of recordings), Beta died a commercial death. Most of the world moved on, except some Beta owners, who—even to this day—complain about their orphaning.

That competitive experience left its mark, a mark still felt today on contemporary strategic thinking. The truly decisive factor was not something any vendor had planned for, arriving after more than two decades of investment. Sony and JVC would have acted differently if firms had known that the emergence of rental stores would tip the format wars toward one side, as it did. Henceforth, both firms sought to diminish the role of luck with every strategic action. Sony even went so far as to buy a Hollywood movie studio, some said, so it could effectively guarantee titles for the next format war.

The next upgrade

Despite several attempts to replace VHS, the DVD was the next successful mass-market commercial format. In fact, DVD is a technical compromise among all the hardware manufacturers forged specifically to avoid another format war. An audiophile could tell you about all the other unsuccessful attempts, and why specific features of the DVD were good or poor choices.

Forgive me, but I will take a fast-forward now. I only have so much space.

On the surface, the market for DVD players was a transitional technology market (the primary motive for most home purchases was to upgrade from the VHS to the DVD). And, for the first few years that was all it was. This market had its own internal momentum. Getting enough titles on DVD was the central concern of all parties.

But a peaceful birth did not beget peaceful growth. Vendors did not—maybe I should say, *could not*—let this market remain autonomous, and tried to establish and exploit links across markets. For example, there have been several attempts to induce high-definition television buyers to buy better DVD players, as well as attempts to link copyright protection (on the DivX format) with deals with movie distributors.

Those marketing ploys were successful only with niche buyers, if anyone, leaving comparatively small blips on aggregate sales volumes. The one big exception occurred in the gaming market, where Sony embedded a DVD player in the PlayStation 2, first released in Japan in 2000. X-Box followed with a similar choice. Both of these decisions helped sell games, and both gave an additional kick to the DVD market in return.

In other words, vendors could not resist turning an otherwise autonomous market into an interconnected market. As a result, this dispute spilled into market events in a variety of hardware and software markets, not just the first one in which the new technology diffused.

In light of all the other recording format failures, it is amazing any of this worked at all. The Consumer Electronics Association has tracked DVD sales since their launch in the spring of 1997 (see <http://www.thedigitalbits.com/articles/cemadvdsales.html>). Sales grew steadily until 2003, reaching over 65 million units sold over the prior seven years, not counting game players that read DVD disks. According to Wikipedia, in June of that same year DVD movie rentals exceeded that for VHS. Today the market has exhausted virtually all possibilities for growing sales through new users in the US. Today most sales are replacement purchases.

That brings us to the present fight between Blu-Ray and high-definition DVD. I am not going to handicap this fight; the details change too often. However, in spite of the risk of being outdated shortly after this essay is published, the recent past supports two broad points that should remain valid no matter how it turns out.

The first observation concerns the increasing complexity of standardization strategies. The firms involved in this fight have long and detailed plans for achieving their commercial goals. For example, they are not letting this situation become an autonomous market, even from the outset. If you look deeper, this dispute also intersects with distinct approaches over managing rights for digital applications.

This complexity is not unusual, which is the second broad point. The normal strategy directs firms to employ assets from

Error and correction

Speaking of standardization, in my last column I wrote about the development in Wi-Fi. I very much admire the work of those in the IEEE 802.11 committee over many years, as well as those who work in the Wi-Fi alliance, so I regret making an error in describing their work.

The specifications for 802.11b and 802.11g were published in 1999 and 2003, respectively, not earlier, as stated. Also, it is not correct to say that the WiMax forum does conformance testing. Its Web pages state that it will certify compatibility and interoperability.

Although these errors do not contradict the column's broader theme, they introduce unnecessary distractions. I am pleased readers took the time to tell me. I apologize and hope to do better. If you see any other errors, please inform me.

many settings, leveraging as many cross-market advantages as possible. That is the lesson CEOs, consultants, and marketing departments take from the past.

In other words, the processes in multiple markets inevitably become interlinked because the firms want it that way. The strategies do not always work, but recognizing that does not make the process any simpler.

Déjà vu all over again?

Today's events reflect learning over the last four decades about competition between platforms. Any large firm reflexively avoids treating a standardization decision as if it were occurring in an autonomous setting. And, even if they did, they are likely to fail if they face a smart competitor who will outmaneuver them through the use of one of these more sophisticated strategies.

So, for the most part, autonomous strategies do not survive, pushed out of the market by the interconnected ones. The same can be said of simple strategies. Complexity prevails and thrives. In this sense, in the pending battle of Blu-Ray and high-definition DVD, Sony and Toshiba are following the latest upgrade to the normal play book, making events complex and difficult to forecast.