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A Quarterly Journal Providing Market Research From Digital Tech Consulting

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NEW RESEARCH

This market research digest is designed to give you a glimpse of some of the research that Digital Tech Consulting is preparing for publication. Here is some of the research currently available from DTC:

NEW REPORT! Online Media Services: Forecasts, Business Models and Analysis

U.S. Digital Terrestrial TV Market: From HDTV to Multicasting

The Business of Digital Copyright: Content Protection and Management in the Consumer Digital Era

For more information, please visit us online at: www.dtcreports.com.

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Online Media Services: Creative Business Models Enable Profits

Apple's first quarter earnings report highlights the real success of its online music store — driving high-margin iPod sales.

Apple increased sales of its iPod music players, which integrate with its iTunes Music Store, by more than 900 percent from a year ago when it launched its music service. Clearly, the availability of high-quality audio content, legally and easily accessible has been a key driver in this dramatic sales and profit increase. In our latest report, *Online Media Services: Forecasts, Business Models and Analysis*, DTC concludes it is this type of business synergy that will build successful online media services, as most media services show little sign of near-term profitability on their own. The basic economics of Internet-

delivered media content, detailed in the report, illustrate that it is a low margin, high volume business. For some providers, it is a money loser.

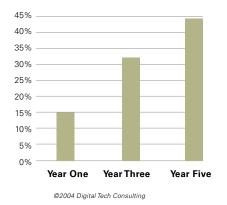
Content license fees can surpass 60 percent of gross revenues. Added to this are transaction processing, infrastructure and bandwidth costs, making the cost of goods sold rather high, with gross profit margins of about 40 percent by year five of a service.

Online Media Services Costs

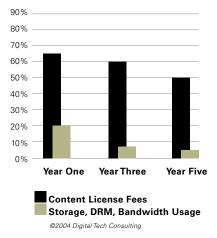
Operating costs are also high, mainly associated with sales and marketing, and new subscriber/customer acquisition costs in a hyper-competitive market. DTC's analysis suggests that many online media services won't likely realize operating profits before the fourth year. A service with an overwhelming market share, however, could reach "break even" at an earlier date.

This doesn't mean online media services aren't viable. Clearly, there is market demand (Apple alone counted 70 million pay downloads in the last year) that will be met by some industry players. It is likely those industry players will be companies that can create synergies with online media services and other parts of their businesses. *Continued on page 2*

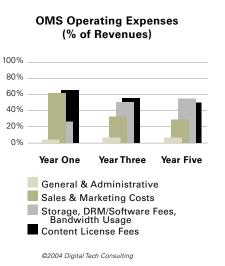
Online Music Gross Profit Margin



Online Media Services Cost of Goods Sold

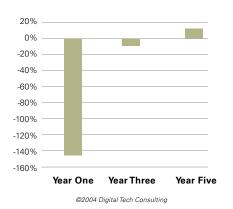


Those only offering a stand-alone service face a greater challenge. Roxio's relaunch of Napster late last year is aiming for the same type of synergy Apple has found, hoping to boost its MP3 player and CD burning software sales.



Ironically, companies best positioned to benefit from online media services are the previously resistant content providers. Ultimately, content providers will benefit from an increased overall market for their media with this new pipeline that encompasses established consumer pleasures (telling stories or listening to songs). While some cannibalization of other pipelines may occur initially (decreased CD sales), it is more likely media history will repeat itself with new technologies enabling overall growth of the market.

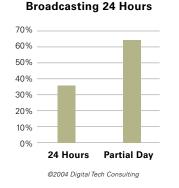




For more in-depth forecasts and analysis, please see the enclosed brochure for our latest report, Online Media Services: Forecasts, Business Models and Analysis. Additional information is available at www.dtcreports.com.

Cable and Satellite Services Drive HDTV Programming

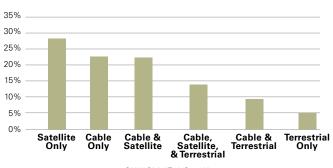
Although digital broadcasts are growing in the United States. high definition (HD) broadcasts remain a small portion of these. DTC's recent study of HDTV broadcasts and programming suggests that more than two thirds of terrestrial broadcasters are opting for standard definition broadcasts,



Percentage of HDTV Programmers

while cable and satellite operators are carrying both partial day and 24-hour HD programming tiers to strengthen their competitive positions.

Although the majority of terrestrial broadcasters are transmitting standard definition programs, that will change. Fox, for example, is scheduled to begin providing high-definition programs to its affiliates this fall.



HDTV Programmers by Delivery Platform

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A dearth of programming remains an issue for high-definition adoption, though programming additions are occurring at a fairly rapid pace. DTC counted 22 HDTV programmers in the first quarter of 2004. These include programmers that provide 24 hours of HDTV programs to cable and satellite providers, network programmers and pay-per-view services. Fewer than 40 percent of these programmers offered 24-hour channels, with the majority restricted to prime-time and special-event programming. Although 24-hour HDTV networks signal an increase in available programming, much of the programming is heavily repeated.

Since most terrestrial HDTV programming comes from the major broadcast networks, content is limited to specific shows and day parts. Cable and satellite operators, meanwhile, have begun adding 24-hour network and payper-view channels to their service tiers, such as ESPN HD and Discovery HD. As the tables illustrate, cable and satellite operators are offering a far greater percentage of the new HDTV programming, compared to terrestrial broadcasters.

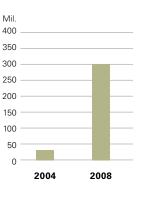
Delivery Platform Carriage of Available HDTV Programming

Note: Adds up to more than 100% due to carriage on multiple platforms.

Video: Coming to a Phone Near You

As digital camera phones proliferate, next generation video phones are set to follow a similar evolutionary growth path. DTC estimates video phone shipments will nearly double from 2003 to 2004, surpassing 350 million annual units by 2008.

The key driver for the spread of video phones is the success of built-in camera phones, which have outpaced expectations. In fact, the entire mobile handset market has received a substantial boost due to strong "replacement buying" driven by upgrades to phones with embedded cameras (see chart in the next column). This activity will likely result in a slight acceleration



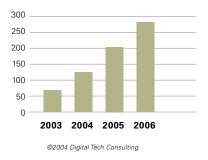
Mobile Video Phone Shipments

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of video phone adoption in Japan and Korea, where video-capable handsets have been available the longest. Mobile video remains an early-adopter application at the start of 2004, with worldwide users concentrated mainly in Japan and Korea. But the rapid consumer embrace of camera phones, coupled with the wide scale rollouts of high-bandwidth cellular data networks, bodes well for this emerging technology.

But video phone shipments should begin their steepest growth in 2004, as the technology becomes commonplace. DTC estimates that this year, Japan and Korea alone could account for well over half of all handsets with MPEG-4 video capability—a remarkable feat considering that the two nations make up just about 10 percent of the mobile phone market worldwide.

Worldwide Camera Phone Shipments



Western Europe, and especially the United States, will likely be as much as two years behind Japan and Korea in mobile video handsets and services, having barely started to experiment with mobile video at this point. DTC expects that the U.S. and China, far and away the largest individual mobile markets in the world, will inevitably overtake Japan—probably by 2006—as video capability becomes standard on cameraequipped handsets.

MPEG-4 appears likely to be the predominate underlying technology for video phones. All major handset manufacturers support MPEG-4 in at least some of their phones, while nearly all operators with video messaging and download services have endorsed the standard either explicitly or in their choice of handset models.

ABOUT DTC

Digital Tech Consulting is a market research firm providing strategic information and analysis to help companies succeed in the consumer digital marketplace. To learn more about DTC and how our analysts might help your company, please visit us online at www.dtcreports.com or call 214.915.0930.

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