

# Removal of restrictions can decrease music piracy

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Contrary to the traditional views of the music industry, removal of digital rights management (DRM) restrictions can actually decrease piracy, according to new research from Rice University and Duke University.

Marketing professors Dinah Vernik of Rice and Devavrat Purohit and Preyas Desai of Duke used analytical modeling to examine how [piracy](#) is influenced by the presence or absence of DRM restrictions. They found that while these restrictions make piracy more costly and difficult, the restrictions also have a [negative impact](#) on legal users who have no intention of doing anything illegal.

Their findings, which will appear in the November-December issue of [Marketing Science](#), add to the ongoing debate about technology that limits usage of [digital content](#).

Because a DRM-restricted product will only be purchased by a legal user, ... "only the legal users pay the price and suffer from the restrictions," the study said. "Illegal users are not affected because the pirated product does not have DRM restrictions."

"In many cases, DRM restrictions prevent legal users from doing something as normal as making backup copies of their [music](#)," Vernik said. "Because of these inconveniences, some consumers choose to pirate."

The research challenges conventional wisdom that removal of DRM restrictions increases piracy levels; the study shows that piracy can actually decrease when a company allows restriction-free downloads.

"Removal of these restrictions makes the product more convenient to use and intensifies competition with the traditional format (CDs), which has no DRM [restrictions](#)," Vernik said. "This increased competition results in decreased prices for both downloadable and CD music and makes it more likely that consumers will move from stealing music to buying legal downloads."

"Unlike in earlier literature, we examine consumers' choices among all the major sources of music," Desai said. "By analyzing the competition among the traditional retailer, the digital retailer and pirated music, we get a better understanding of the competitive forces in the market."

The research also revealed that copyright owners don't necessarily benefit from a lower amount of piracy. "Decreased piracy doesn't guarantee increased profits," Purohit said. "In fact, our analysis demonstrates that under some conditions, one can observe lower levels of piracy and lower profits."

Vernik, Desai and Purohit hope that their research paper, "Music Downloads and the Flip Side of [Digital Rights Management](#) Protection," will provide important insights into the role of DRM.

"[The late] Steve Jobs said it best: 'Why would the big four music companies agree to let Apple and others distribute their music without using DRM systems to protect it? The simplest answer is because DRMs haven't worked, and may never work, to halt music piracy.'" Vernik said. "And our research presented a counterintuitive conclusion that in fact, removing the DRM can be more effective in decreasing music piracy than making the DRM more stringent."

Provided by Rice University

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