

## iPod teardown: Study reveals where the parts come from; where the money goes

By Robert L. Mitchell, June 21, 2007, <http://blogs.computerworld.com/node/5724>

The iPod may be an American success story, but it's made up of hundreds of parts manufactured in many different countries. So who really profits from Apple's innovation? When American companies create innovative, market-leading products, the U.S. reaps the benefits - even when most of the hardware components are manufactured and assembled abroad. That's the conclusion of a study about to be released by the Alfred P. Sloan Foundation's Personal Computing Industry Center at the University of California Irvine.

Turn over your iPod and you'll see that it's assembled in China. But that doesn't mean that most of the profits went there, says Jason Dedrick, co-author of the study, *Mapping the Value of an Innovation: An Analytical Framework*.



(see larger view below)

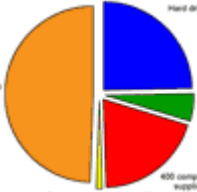
In a call yesterday, Dedrick offered an advanced peek at the study, which will be released in the next few weeks. As part of that study, the Foundation hired Portelligent Inc. to tear down a 30GB iPod and identify every part, its value and country of origin. Here's the high-level breakdown of where the \$299 retail price (at time of testing) went:

Hardware (described as "cost of inputs and manufacturing") accounts for about half of the pie, while Apple and the retail/distribution channel split the remaining 50%.

And here's a more detailed breakdown of where the components come from, by country (Note that the numbers add to more than 50% due to rounding).

Further breakdown of the iPod's cost attributable to hardware, shows the 25% of the \$299 total value

comes from the Toshiba hard drive, made in Japan. An additional 400 components representing 20% of the total product value come from Asia. Just 16 parts come from U.S. sources, making up 5% of the product cost, and less than 2% is attributed to assembly in China.



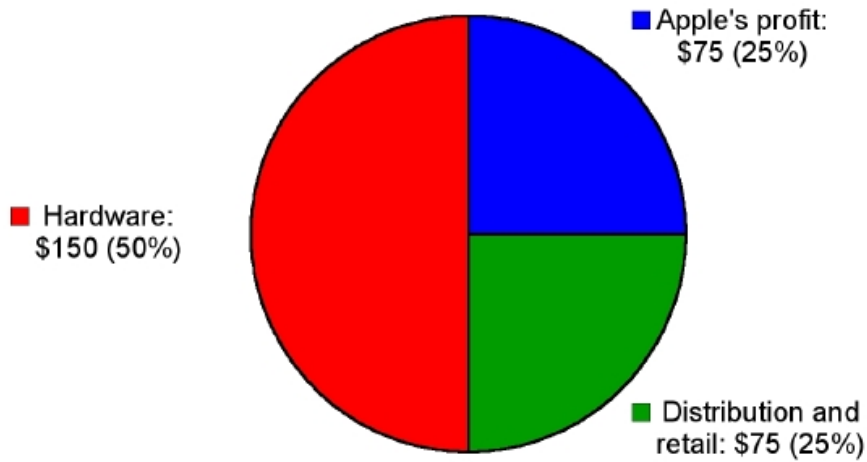
(see larger view below)

"The iPod is the perfect example of a globally innovated product," Dedrick says, noting Apple's innovations in product design, software integration and the complementary iTunes service. Apple's contribution falls into three areas: usability, industrial design and hardware/software integration.

Given that the product is manufactured overseas, one might assume that most of the value goes there. In fact, the brand that creates the product reaps a substantial portion of the returns. And **when iPods are shipped to the U.S. for sale here, 55% of the purchase price goes back to U.S. -based firms.** How ironic, then, that the federal government attributes most of the iPod's value to China, boosting the trade deficit when it receives the smallest slice of the pie. "The reality is that the value added to that product was less than \$2," says Dedrick, noting that 1% is actually too large a percentage of the actual value the Chinese factory earns from assembly. That's not to say that the U.S. doesn't still run a trade deficit on iPod hardware. Most of the components are made offshore. However, he says, "all of [the iPod's landed cost] shows up in the U.S. / China trade deficit."

When American companies create innovative products, most of the benefit comes back to the U.S. But if Apple was a French company 25% of the product's value would have gone to France, not the U.S. To the innovator, Dedrick says, go the spoils.

### 30GB Apple iPod: Where the revenue goes



### 30GB Apple iPod: Where the hardware revenue slice goes Retail price: \$299

