

Another Voice/Technology

Another Voice: Some digital products have actually benefited their physical counterparts

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The arrival of the internet and digitization have affected off-line markets for a variety of information goods (books, movies, music) because the internet provides consumers with an alternate channel for consuming content at a low-to-zero cost. Is this low-cost or costless digitization good or bad for the sales of the physical versions of information goods?

The answer depends on the interaction between two opposing forces. By providing a clear alternative to physical goods, the digital distribution of information goods is very likely to *lower* the sales of these physical goods. This is the *substitution* effect. If digitization enables the search and discovery of the original physical product then this may, at least in principle, *raise* the sales of the physical version of information goods. This is the *enhancement* effect.

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If the substitution effect dominates the enhancement effect, then digitization hurts the producers of physical goods and some consumers who prefer the physical versions. In this instance, digitization is bad for society. If the enhancement effect outweighs the substitution effect, then the producers of physical goods benefit and so do some consumers. In this case, digital distribution is *good* for society.

Analysis with the available data has mixed results. The answer appears to depend on which industry we are looking at. For movies and music, the work of Brett Danaher, Joel Waldfogel, and others tells us that the substitution effect dominates the enhancement effect. Therefore, movie and music producers lose from low cost or costless digitization. What about books?

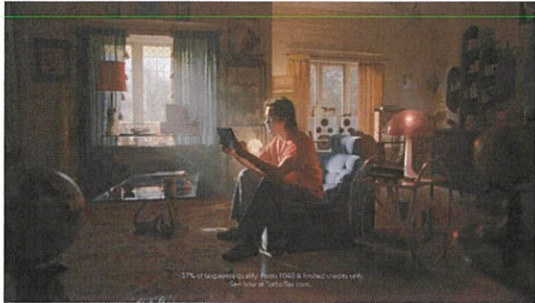
Research by Abhishek Nagaraj and Imke Reimers focuses on the Google Book Project which digitized and freely distributed over 25 million books. Even though this project faced several legal challenges from publishers and authors, proponents of the project maintained that enhancement was likely to be the primary effect.

The research by Nagaraj and Reimers provides evidence that rather than decrease sales, the Google Book Project has positively influenced the sales of physical books. Here, the enhancement effect dominates the substitution effect. Specifically, digitization has increased physical book sales by 4.8%.

Two lessons are worth drawing from the research delineated here. First, whether digitization is good for society depends on which industry we are talking about. Second, although Silicon Valley stalwarts do not always act to promote social welfare, the Google Book Project is immune to this kind of criticism.

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