

## KNOWLEDGE @WHARTON

## TECHNOLOGY

# Why Tom Cruise Is Still Bankable: Debunking the Long Tail

Dec 15, 2017

📍 North America 📌 Podcasts, Research



*The long tail theory, first postulated in 2004 by writer Chris Anderson, is based on the notion that as retailers use the internet to offer a greater number of products at less cost, they will no longer have to rely on big hits to prop up their sales. In other words, the demand curve moves away from the head and flattens toward the tail. But a research paper coauthored by Wharton operations, information and decisions professor Serguei Netessine found quite the opposite effect: As consumers are deluged with a dazzling array of choices, they tend to stick to brands they know. That's why it is critical for online sellers to develop finely tuned searches for their customers. The paper, "Is Tom Cruise Threatened? An Empirical Study of the Impact of Product Variety on Demand Concentration," coauthored with Tom Tan of Southern Methodist University and Wharton's Lorin Hitt, was published in Information Systems Research. Netessine recently spoke about the paper's findings with Knowledge@Wharton.*

*An edited transcript of the conversation follows.*

**Knowledge@Wharton:** You're going to talk to us about a paper that has an intriguing title – “Is Tom Cruise Threatened?” — and looks at long tail theory.

**Serguei Netessine:** Yes. That's a pretty well-established and well-known theory proposed by Chris Anderson, who was editor-in-chief of *Wired* magazine. He said that with the internet and all these digital technologies coming in, people are going to increasingly shift towards niche products that are uniquely tailored to their tastes. They will enjoy those products much more than your normal hits — like hit movies starring Tom Cruise, for example.

There are various contexts you can look at with long tail theory. People have looked at web pages, for example. Do you mostly visit a few top web pages versus niche web pages? You can also look at music that you play. We looked at movies, partially because movies, Netflix and DVDs were the prominent examples in a book by Chris Anderson that looked at the long tail effect.

**Knowledge@Wharton:** This research looks at movie rental data from about 2001 to 2005. When you looked at hits versus niche films in this case, what did you find?

**Netessine:** The big message is we didn't really find any evidence of the long tail effect, and that goes contrary to the theory and contrary to a few studies that were done before us. We found that, if anything, you see more and more concentration of demand at the top. When faced with this huge and increasing variety of choice in movies that people can watch, they tend to gravitate more and more towards what they know best, such as movies in which Tom Cruise appears.

**“We found that, if anything, you see more and more concentration of demand at the top.”**

**Knowledge@Wharton:** One assumption out there is that maybe people go towards the hits because there are a lot of low-quality niche films. But you found that is not the reason.

**Netessine:** That's right. One could say that with all this internet [availability] and mobile and DVDs and so on, distribution of movies is much easier, so the market gets inundated by low-quality movies made by people we don't know. Those movies are numerous, but nobody really wants to watch them, so people kind of gravitate towards hits. That is not what we found.

We found that when new movies appear, some of them become hits, some of them become niches, and product variety keeps increasing. If you look at how many movies are available on Netflix, over time this number has been increasing and increasing. When instead of 20,000 DVDs you can choose from 50,000 or 100,000 or 1 million, what happens is demand for all movies goes down.... [Also,] there is only a limited amount of time that we have in a given day to watch a movie. Let's face it, we probably don't watch any more movies than we used to — maybe a little bit more because they're available on mobile devices now, but not like five, 10, 100 times more. And variety actually has increased tremendously.

So, the demand for all movies goes down. But when people search for what to watch in this increasing product variety, they tend to gravitate much more towards hits. We attribute it to the fact that, first, it's hard to search this huge product variety. Second, even if you rely on some kind of a recommendation system, which every company uses now, recommendation systems are pretty basic. They only recommend something that somebody else has already watched, so they're not going to recommend to you niche movies all that much.

**Knowledge@Wharton:** I wasn't too worried about Tom Cruise after reading this research. But I did wonder whether Netflix should be worried because their business model is increasingly about niches, and more content companies are trying to do the same. Netflix is now relying on original programming, which is very much niche focused.

**Netessine:** That's an excellent point. Some of their original programming has become extremely popular. "House of Cards" comes to mind. We don't have the latest data, so I don't know what proportion of revenue Netflix gets from top hits versus niches. It used to be about 50/50. But I think you are right — it's probably much more towards the niche movies nowadays.

**“When people search for what to watch in this increasing product variety, they tend to gravitate much more towards hits.”**

**Knowledge@Wharton:** Amazon has relied heavily on offering tremendous variety. They sell everything. Does this paper have a cautionary tale for that company?

**Netessine:** Yes, absolutely. I think if you are trying to bet on this strategy of offering a huge variety of products, you have to work double hard on recommendation algorithms and making sure that people find what they're looking for. Contemporary recommendation algorithms are

quite simple. They look at what people like you have bought previously, for example. Of course, many niche products will just never come up. So you have to be very careful about designing those algorithms and making sure that whatever niche products you add, they're well-classified and actually show up in searches, and they're not completely downplayed just because people buy them very, very rarely.

**Knowledge@Wharton:** You talk about recommendation systems and setting niche products apart by focusing on their attributes. With a movie, that would be star power. How can companies get around this problem?

**Netessine:** I think Amazon is particularly good about it. If you look at their strategy for offering niche products, they don't initially offer those products themselves. They allow third-party sellers to come on their platform and sell those products. Over time, Amazon might monitor those sales and say, "Hey, this product, which used to be unknown to us, seems to be selling well. Now we can think about whether we want to bring it in and sell it ourselves."

You can learn a lot from those third-party sellers, and letting them on your platform is relatively risk free. If there is no demand for those products, then the sellers are going to die naturally. Meanwhile, if there is demand, then Amazon is still getting its transaction. That's a safe way to offer niche products without committing too much to them.

**Knowledge@Wharton:** An omni-channel strategy for a retailer might be offering their hits at the store but having their niche products online. Those products can then be shipped to the store, correct?

**Netessine:** Absolutely. If you look at an average Barnes & Noble store, they would have maybe 100,000 book titles while Amazon would have 4 million or 5 million. There are lots of titles that Barnes & Noble will offer you online, many more than what you can buy in the store. Essentially, you supplement your brick-and-mortar channel with your digital channel.

**Knowledge@Wharton:** Even Amazon seems to have caught onto this. My understanding is their physical stores really focus on the hits.

**Netessine:** That's kind of the way to go. Redbox is a great example. They have a box that fits 400 DVDs, and that's it. What can you do? You can only focus on hits. Nevertheless, as a company they captured a big percentage of market share with only 300 or 400 titles.

**Knowledge@Wharton:** People think DVD rentals are going out of style, but you see Redbox in every grocery store. My daughter is the example of the average consumer: She always stops because she knows all the movies she wants, which are the hits, will be there.

**“If you are trying to bet on this strategy of offering a huge variety of products, you have to work double hard on recommendation algorithms.”**

**Netessine:** Right. I think just like brick-and-mortar retail is not going away anytime soon, DVDs are not going to completely disappear. Movie watching increasingly is shifting towards online streaming, but not everyone likes it. Not everyone has the proper bandwidth. And you do make these impulse purchases sometimes at a grocery store.

**Knowledge@Wharton:** There's still plenty of room for hits.

**Netessine:** You have plenty of room for hits, plenty of room for Tom Cruise.

**Knowledge@Wharton:** What's next for this research?

**Netessine:** There are various directions. I think at the time when Chris Anderson wrote his book, he was thinking about how information technologies are changing how we shop. He was mostly thinking about comparing internet with brick and mortar. Now we have new levels. We have mobile. For example, my co-author on this paper, Tom Tan, has been looking into what happens with product variety when you go from an internet channel to a mobile channel. It's even harder to search on a mobile device. It's harder to display search results. What they find is, again, you get the reverse of long tail effect. People focused even more on hits probably because they don't have energy to scroll on this tiny screen

It's a big, big challenge to make a nice, searchable interface on mobile. Of course, people search differently on mobile and use mobile interfaces. But so far from what I've seen, if anything, we will be living in a world of hits more and more. From the results of the research done on this topic and from what I can tell, people become even more complacent with more information technology and focus just on a few things that they know well or they know that people around them like.

All materials copyright of the Wharton School (<http://www.wharton.upenn.edu/>) of the University of Pennsylvania (<http://www.upenn.edu/>).