I am pleased to see that my recent article in the Harvard Business Review, "Should You Invest in the Long Tail?", has stirred up a debate among long-tail enthusiasts and critics alike.

In his response, "Debating the Long Tail," Chris Anderson certainly makes a valid point about the need to look at the long-tail phenomenon both in a relative and an absolute sense. Astute readers will have noticed that this is exactly the position I advocate in my discussion of the customer transactions data for Rhapsody, when I state:

The top 10% of titles accounted for 78% of all plays, and the top 1% of titles for 32% of all plays. Pause for a moment, though, to reflect on those numbers. One percent of a million is still 10,000 - far more than the number of titles a U.S. radio station plays in a given year, and when translated into album terms, equal to the entire music inventory of a typical Wal-Mart store.

Based on the Rhapsody and Quickflix data, Anderson again makes the argument that online markets exhibit a long tail. I agree with that assessment, and have not claimed the opposite. However, I argue the data reveal two other important patterns. First, the tail is long but extremely flat—and, as online retailers expand their assortments, increasingly so. Second, compared with heavy users, light users have a disproportionately strong preference for the more popular offerings, while both groups appreciate hit products more than they like those in the tail.

I illustrate the second point using the Quickflix and Rhapsody data, and the first using the Nielsen VideoScan and SoundScan data. In his response, Anderson devotes all his attention to the Rhapsody and Quickflix results, thereby ignoring the bigger-picture findings on the changing sales distributions in the video (VideoScan) and music (SoundScan) markets as a whole. As I note in my article, looking at snapshots is not enough—strategists need to understand how markets are changing. The Nielsen data cover multiple retailers, multiple channels, and multiple years, offering a wealth of material to test aspects of Anderson's long-tail theory. What emerges is not a rosy picture of the fate of long-tail products: the tail increasingly consists of titles that rarely sell and that are produced by smaller-scale players.

In his response, Anderson suggests that our divergent conclusions may stem from different definitions of the "head" and "tail." That seems odd, as I have tried to steer away from drawing a sharp line between "head" and "tail"—those are Anderson's interpretations in his review of my Rhapsody and Quickflix results, not mine—and instead focus on describing the distribution of transactions. I do so not only because I believe studying distributions is ultimately more insightful and relevant to managers faced with product portfolio decisions; any line one draws between the "head" and "tail" is also unavoidably arbitrary.

This is evident even from Anderson's own writing on the long tail: he sometimes implies the "head" to be the assortment offered by all bricks-and-mortar stores (and, on his blog, points to the demise of a retailer like Tower Records as...
3/14/2009

The Long Tail Debate: A Response to...

...of the Harvard Business Review have found it useful. That is what I set out to uncover in my research, and I hope readers will find it useful.

Arbitrary notions of the "head" and "tail" lead to other puzzling conclusions. For instance, Anderson argues that the transactions for Quickflix are more "concentrated on the head" than those for Rhapsody. I don't quite understand what he means by this term, but I do know that the graphs clearly show that the distribution of Quickflix's rentals across titles is in fact less concentrated than Rhapsody's plays.

One final comment on Anderson's response: Why would I assume that the Quickflix finding of lower ratings for more obscure content "extrapolate[s]... to all Internet commerce," as he puts it? The "double jeopardy" phenomenon is one of the strongest empirical generalizations in the field of marketing. It has been demonstrated in a variety of offline settings, and in a number of markets for creative goods. Having now seen the pattern in the Quickflix data, I think it is safe to bet it holds for many other online retailers, too.

I applaud Anderson for his ground-breaking work on the long-tail theory. His efforts have led to a surge in academic research on how digital technology might be changing markets, and, by extension, business principles. I believe it is crucial that managerial decisions are grounded not in romantic notions of the impact of technology, but are based on empirical evidence of what is actually taking place. That is what I set out to uncover in my research, and I hope readers of the Harvard Business Review have found it useful.

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Chris Anderson's theory of The Long Tail in Internet commerce and marketing has been one of the more influential concepts in online strategy and business models. Amazon, Google, eBay, iTunes, Netflix these are all major Long Tail success stories. Find More

Tracked on July 4, 2008 08:27

Comments

This is a very interesting research, and hopefully the argument will get us closer to the truth. But I have to say to me Anderson's position is intuitive and understandable.

Internet did cause an increase in the number of items stocked. It also caused more items to be noticed, with easier access to information and other's preferences.

However it did not change the distribution of quality. So a lot of long tail is garbage. And genuinely good stuff gets discovered and moved to the "head". And there are still lazy or busy people who do not need to spend hours on the Internet looking for a new movie to watch. They go and get a blockbuster from top 10 list on the main page.

- Posted by Vlad
July 3, 2008 3:52 AM

I think an interesting extension of both Anderson's and Elberse's research would be to look at the rate of movement within the full distribution, i.e. both the tail and the head. Has internet and digital distribution of information about both physical and digital products increased the speed of change of the the distribution? To put it simple, do products or companies that start of in the tail reach the head and becoming mainstream products/companies at a faster rate than before causing a higher rate of change of what we perceive as the mainstream? Looking at the music industry for example my gut feeling (not at all grounded in any empirical data) is that today you have a much faster transition of what is considered as mainstream music. Bands and genres starting of in the tail today move faster into the mainstream head but also subsequently moving out of the head faster when the fad dies out.
Would this be an interesting study to perform?
- Posted by Johan
July 3, 2008 8:45 AM

@Johan:
The rate of movement in distribution will be proportional (over long time periods) to the rate of consumption.
If you imagine the market of consumers, each will consume in a sequence in time that is randomly distributed. Such distributions in frequency are called “Poisson Distributions.”
The fat head and long tail are simply consequences of a demand curve that has been integrated up from an underlying poisson distribution in frequency of consumption.
Not coincidentally, supply curves can also be modeled as integrated up from underlying poisson distributions in production.
- Posted by Michael F. Martin
July 3, 2008 9:57 AM

I think this research overlooks the point that consumers are naturally attracted to stores with a large inventory. Moreover, this is not an Internet-era phenomenon. For example, consider how the “supermarket” led to the obsolesce of the neighborhood grocery store. Another example is the impact of Barnes & Noble and Borders on the neighborhood book store.

Essentially consumers are drawn to the stores with a wider variety of merchandise even though the bulk of the money they spend might be on the most popular items. They choose to go to the store with the bigger inventory because it permits them to also get the hard-to-find items. This applies to Internet retailing as well. We may spend most of our money on the popular books at Amazon.com, but we choose the store (partly) because we know they will have most any book that might be on our shopping list.
http://insidedigitalmedia.com/a-new-twist-on-the-long-tail/
- Posted by Phil Leigh
July 3, 2008 11:35 AM

The argument for the long tail is that some goods, e.g. digital content, can be stocked and distributed for the same cost as the head items. This is not the case for physical goods as the shelf space for long tail items is larger and has far lower turnover per unit space. This allows e-tailers the option of selling long tail items, which, as your data supports, may be the bulk of the market. Note this says nothing about costs of production of those goods.

A second point is the dynamics of competition. All competing retailers will be selling the same limited set of head items, increasing the competitive pressure on those items. The sheer diversity of long tail items removes that pressure, to some extent. Books are good example. Borders, B&N and other large book stores tend to have the same titles on display, often discounted with rewards cards. Used books stores tend not to compete for those titles, they just sell whatever inventory they have, which means that individual books stores will have very different inventory. Competition here depends on how substitutable one book is for another, so used book prices tend not to be very competitive. Thus we saw a shakeout in large bookstores, the elimination of many smaller independent book retailers, but not used books stores.

With regards movies, the industry is constantly pumping promotion for the latest offerings. However, as a long time movie watcher, I would argue that these newer offerings have little new to say that hasn’t been done just as well before. So my personal viewing on Netflix tends to be concentrated on older movies, a long tail access that is not available in the theater or even the retail movie rental chains. Maybe I am not typical, but I certainly enjoy the freedom of choice I have, whereas previously I had to settle for what was available, not what I most wanted.
- Posted by Alex Tolley
July 3, 2008 12:46 PM

I enjoyed reading this thought-provoking article.
The search-engine marketing (SEM) industry could serve as an excellent test case for both theories. Advertisers bid on keywords in search engines (e.g. Google, Live Search and Yahoo) to advertise their services. An insurance company can bid on a keyword like “insurance” or on a long tail of keywords like “insurance mazda mx5 automatic” or “insurance 29 male boston ford focus.” According to the “Long Tail” theory we would expect to find a long tail of obscure keywords. The tail is expected to generate more revenues than the head. According to the critical theory we would expect to find that the long tail is flat/flattening and generates fewer revenues than the head. E.g. that Google generates >90% of revenues from less than 10% of keywords.

Myriad of bloggers and search-engine-optimisation (SEO) agencies reported that the “Long tail” theory is indeed...
applicable in their industry. Are they wrong? If they are not wrong, how can the critical theory explain this discrepancy? Is the critical theory universally applicable or are there special cases where the “Long Tail” theory does in fact prevail?

- Posted by Oded Ran
July 3, 2008 6:06 PM

The discussion about the “long tail” seems to me too focused on the supply side, i.e. what’s the implications of essentially zero-cost digital inventory. But the distribution of demand for symbolic goods probably depends on a variety of social factors.

Because a large number of possible names has been freely available since the invention of language (supply side), studying the distribution of chosen names is a good way to isolate demand-side factors in mass symbolic choice. In England over the past thousand years, given names show a remarkable flattening in the approximating power law beginning about the time of the Industrial Revolution. See “Long-Term Trends in Personal Given Name Frequencies in the UK” at http://www.galbithink.org/names.htm#chart

So, do you think demand-side trends associated with the Industrial Revolution will continue in the future, or reverse?

Some additional data and speculation at http://purplemotes.net/2006/08/14/more-discussion-about-tail-size/

- Posted by Douglas Galbi
July 3, 2008 8:42 PM

Oops, I listed the wrong link. For a comparison between website traffic in 1996 and 2006, and some speculation about social change, see http://purplemotes.net/2006/08/20/lack-of-power-laws-and-other-popularity-problems/

- Posted by Douglas Galbi
July 3, 2008 8:48 PM

@Michael F. Martin

Is consumption really modeled by a Poisson distribution in a networked and feedback driven marketplace? My purchases on Amazon or the websites I visit are indeed not, they are all dependent on my previous purchases and other peoples purchases. In that sense the very basic of consumption being posissonly distributed is not met.

Also my suggestion did not concern the actual movement of the distribution in terms of shape of the curve, i.e. size of the head, width of the tail etc, but rather the movement of individual products and companies within the distribution. Basically, will the old saying of Warhol be true, we will all become famous in 15 minutes? In a world of increasingly diminishing transaction costs we, as consumers and producers, would be more likely to bet on outsiders and unsafe bets since the cost of doing so is relatively small.

- Posted by Johan
July 4, 2008 4:17 AM

The two findings you specify...

First, the tail is long but extremely flat—and, as online retailers expand their assortments, increasingly so. Second, compared with heavy users, light users have a disproportionately strong preference for the more popular offerings, while both groups appreciate hit products more than they like those in the tail.

...are not principles on which to build a portfolio theory for on or offline product managers. They are the RESULTS of an optimal portfolio of products based on the difference in cost of inventory. Chris Anderson’s theory is just a simple and elegant observation of this. You are trying to complicate it unnecessarily. Its importance probably lies more in its social impact than in management science.

- Posted by Paul
July 4, 2008 10:01 AM

I think Anderson’s point is that using digital media for marketing provides more choice to consumers, and greater opportunity for marketers that are trying to reach those consumers. Undoubtedly both bricks and mortar and ‘digital’ marketer’s sales distributions follow a power law, but what is of interest to marketers in choosing a distribution channel is the likelihood of their products reaching their target market. What is of interest to me in Elberse’s article and Anderson’s response is the very practical distinction that Anderson makes in separating the head from the tail.

- Posted by Mark
July 4, 2008 12:01 PM

...hbsp.com/.../the_long_tail_debate...
I find this debate both amusing and deeply disappointed. It is amusing in the veneer of congeniality and respect, as Ms. Elberse and Mr. Anderson trade laudatory compliments before ripping into each other's research!

Where I am deeply disappointed is the culturally myopic viewpoint from which the data is analyzed. Both in video, and particularly in music, online catalogs represent much more than "American" or "Australian" markets. And the vendors are trying more and more to cater to "world" markets. The U.S. now has its largest % of foreign-born citizens.

Thus, there is music in the tail that is not lesser quality—it simply represents genres that are not as popular in the U.S. And the people that truly love that music, the ones that would rate it highly, are not necessarily online (yet), or online at the major vendors—as there are many specialized vendors.

Take for example Cuban music. Not Buena Vista Social Club -- I mean the music Cubans actually listen to now: Los Van Van, Manolito y su Trabuco. These are fantastic musicians who are wildly popular in Cuba (and Van Van has won a Grammy). They will never be in "head" of music sales. BUT, they are in the head of Cuban music sales.

This is the glaring omission: when it comes to music, particularly in the U.S., with its many many pockets of immigrant communities, the tail has both true tail elements (obscure jazz artists), but also an aggregation of the "heads" of many genres. That is, hits from all over the world (South African Kwaito, Congolese Soukous, Brazilian Pagode) become part of the U.S. 'tail'.

I'm still waiting for some more thoughtful research that touches these elements.

- Posted by Jim Sowers
July 4, 2008 1:06 PM

Clearly you did try and separate head from tail when you arbitrarily looked at the top 10% and 1% of titles. The problem with your analysis is that 1% is 10,000 titles, yet your conclusion tells publishers to focus on the hits.

If the publishers follow your advice, and if they each promote 2 hits per year, and if all those hits succeed, it takes 5,000 publishers to fill those 10,000 titles. What industry has 5,000 publishers?

The clear conclusion from the data is that from the view of a single publisher, hits in fact do work, as the head remains popular in all researched catalogs of content. However, from the point of view of a merchandiser, the tail is the majority of sales and thus some effort should be made to promote titles beyond the "hits".

And remember, not all "hits" do in fact succeed. Many of the most promoted titles wind up in the tail, while clearly many less promoted titles fill up the head.

- Posted by Michael Libes
July 6, 2008 11:20 PM

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- Posted by Michael Libes
July 6, 2008 11:21 PM

It strikes me that the discussion is based on very simplistic statistical analysis. Using percentages in analyzing a market is like going to war using sticks and stones. I'd prefer nuclear weaponry.

Some questions that I would like answered are:

What are the basic characteristics of sales distributions both before and after the introduction of the internet? How has the variance of various measures changed?

The use of language such as "head" and "tail" is a crude description.

- Posted by rabid_womble
July 7, 2008 11:49 PM

Anita,

I read both your article and Chris Anderson's response. And I have to say that you have missed the point he is trying to make. You shouldn't be looking at the long tail of the digital sales in isolation. It should not come as a surprise
that the tail will be quite flat there. That will indeed be the case because there will be a lot of customers with unique
tastes, seeking niche products who will be buying stuff in extremely small nos. The point is that such customers in
traditional brick and mortar businesses may not even be discovering this stuff. So, a flat tail in a digital distribution
model, by itself doesn't serve to disprove the Long Tail theory. Rather, what you should be spending more time
analyzing (which you have done, but to a limited extent) is comparing the distribution curves for online and offline
sales models. Study the head of a digital distribution and see how many of those titles would have sold in a similar
overall volume in a traditional sales model. If you don't see any significant changes there, you could then conclude
that the Long Tail theory doesn't hold. Saying that the shape of the curve has essentially remained the same in both
cases doesn't amount to much. I don't think the Long Tail theory proposes that either.

- Posted by Arun Uday
  July 10, 2008 12:16 AM

Anita, thanks for the great analysis. With due respect to both you and Chris Anderson, I think you're both at least
partly wrong.

In debating the shape of the consumption curve, both you and Chris Anderson are missing the real point. There is a
real Long Tail, but it's not what either you think it is. More here:


- Posted by Anand Rajaraman
  July 10, 2008 10:36 AM

I just developed a method using Pareto principle to distinguish the tail from the head. Although it seems naive and
lacks strict mathematical analysis at this stage, it is so straightforward.


- Posted by D. Liu
  July 11, 2008 1:24 AM

@Johan

For short time-scales and small populations, the distribution might not be poissonian. But if you look at a large
enough population, or at reasonably large population over a long enough period of time, then I believe that most
goods and services will show approximately poisson distributions in consumption and production. If it's a large
enough group, the individual decisions of whether to consume or produce will be uncorrelated.

- Posted by Michael F. Martin
  July 11, 2008 11:10 AM

But what about the real world. All these conclusions are based on the upside-down-funhouse-cukoo-land of music,
books, and film where so many elements (pathological egos, payola, and rampant drug abuse) are not common to
other industries.

Has anyone studied this effect in the real world of commerce. Some suggestions: automobiles, hog bellies,
cardboard shipping boxes, steel billets, medical equipment, or anything that operates in the more logical, more
efficient world of commerce?

- Posted by RFS
  July 14, 2008 1:48 PM

@Michael F. Martin

I agree with you that the uncorrelatedness would have been valid before. However, it would be very interesting to
study this correlatedness in a digital economy. I would be surprised if that would not show that with decreased
barriers for trading information between agents on the market the more interconnected we become and the size of
the group that is correlated would grow.

- Posted by Johan
  July 22, 2008 8:34 AM

There is a lot of either-or arguing in these posts, but I see valid points in both Chris's book and Anita's article. The
most value can be gleaned by synthesizing both sets of information into a more refined truth about the Long Tail...
For me the most salient points of this discussion have been:

1) There is a lot of low-quality stuff in the tail.
2) "Natural Monopoly" is reinforced by the long tail, not opposed by it.

These are two really important observations, because one could see that they might be true, but not whether or not they were in reality. Now we know.

However, I do have a follow-up question for Anita Elberse as I think that her research leads to other unanswered questions:

1) Is the exaggeration of the distribution curve going to be a long term trend, or is it a short-term one due to the fact that long-tail markets were opened up far faster than the tools to push people to the long tail? Over time will the curve actually flatten more than it was pre-internet?

What I mean by this is that for people to effectively discover valuable items in the long tail, you need more than just search. You need recommendation engines, social media tools, and other technical, cultural, and social infrastructure before many of the products of the long tail have a chance to be discovered and enjoyed.

For instance, certain web sites offering long-tail catalogs probably have varying degrees of features to promote long-tail titles. It would be very interesting to see the sales distribution graphs of companies with differing amounts of long-tail marketing capabilities compared. Or even comparisons of the curves at the same company over different points in time as such features are introduced.

Thanks,
Alan

- Posted by Alan P.
August 13, 2008 9:32 AM

@Johan

One has to be very careful about the choice of terms because, in fact, some "correlation" or "network effect" may be reflected in a Poisson-distribution, which can also be used, for example, to describe fission statistics (and fission, of course, can result in a "network effect"-like chain reaction).

To get at the strong correlations you're talking about, you need non-equilibrium statistical mechanics, and probably renormalization methods to get any sort of solution. My point is only that time and frequency-dependent models of consumption and production are the right starting place. I agree with your point that, in the end, we need to look at higher-order effects to get a complete description of the entire system.

- Posted by Michael F. Martin
November 3, 2008 12:09 PM

Since it's so pertinent to the discussion here, there's a new article in PNAS entitled "A Poissonian explanation for heavy tails in e-mail communication"

http://www.pnas.org/content/105/47/18153.abstract

- Posted by Michael F. Martin
December 12, 2008 6:55 PM

Where is the Anderson reply to the original article. I keep getting a "page not found" message when I click on the Anderson link in the discussion thread.

- Posted by Richard Bell
January 26, 2009 10:46 AM

Hi folks

Some of the redirects in our new site design aren't working as they should. Here's the link to Chris Anderson's post:

http://blogs.harvardbusiness.org/cs/2008/06/debating_the_long_tail.html

Thanks

Eric

- Posted by Eric Hellweg
January 26, 2009 10:56 AM
3/14/2009

The Long Tail Debate: A Response to...

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The editors
The Long Tail Debate: A Response to...