Marketing's 60/20 Pareto Law

Byron Sharp, Jenni Romaniuk, Charles Graham.

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Brief description

We confirm our 2007 conclusions concerning the Pareto Law. Our conclusions are now supported by many other data sets, and independent analyses.

Abstract

It's wrong to talk about an 80/20 law in marketing. A brand's heaviest 20% of buyers generally contribute not much more than half of a brand's sales, and these same buyers will contribute less in the following time period. Indeed, even for stable brands half of last year's heavy buyers will then not even qualify to be in the top 20%, while the people who were light or non-brand buyers last year will contribute more to sales this year than they did last year.

The exact sales contribution of the top 20% (a brand's Pareto share metric) depends on the time period and some other technical decisions made by the person calculating the metric, and brand size and some category characteristics. But it's reasonable to expect that almost half of your brand's sales will always come from your very lightest 80% of buyers. It is also apparent that growth comes largely from these light, very light/non-brand buyers and so it would be foolhardy to ignore them.

Background

In the 12 years since we issued our report on the Pareto Law (Sharp and Romaniuk 2007) new analyses have been done by our corporate sponsors and recently by other academics. These confirm our key results:

1 It is law-like and applies across brands and categories.

2 It's not as severe as 80/20.

3 The chosen analytical time period affects the calculation of Pareto metrics.

4 Next year, your heaviest 20% of customers won't be so heavy, the light buyers will be heavier, and some of the non-buyers will buy (this is the law of buyer moderation).

[see page 52, How Brands Grow, 2010]

In this report we very briefly update our findings, and urge commentators to fuss less about the exact Pareto percentage and focus more on the strategic implications.

New Results

Twelve years ago (Sharp and Romaniuk 2007), we noted that it wasn't known if marketing's Pareto law, really was law-like, let alone the 'fixed in stone' 80% Pareto share suggested by textbooks and MBA classes[1]. Scientific laws are patterns that are fairly consistent/reliable over a wide set of known conditions. This means we know roughly what to expect, in a given situation. Should it really be expected that your top 20% of customers will contribute the vast bulk of your sales? Part of the reputation of the Ehrenberg-Bass Institute is built on asking questions about existing beliefs.

Precise expectations of Pareto Share can be obtained from the NBD-Dirichlet model of brand choice (Goodhardt et al 1984) which fits with a number of well-established empirical laws (see Sharp 2010 for a list). It is still useful to know if there is any value in referring to a Pareto law.

Just intuitively it's hard to know which would be more surprising, that rival brands and brands in different categories would have rather similar Pareto shares (i.e that was an empirical law) or that it would be around 80/20?

Our research report concluded that there was a law-like pattern: that it could generally be expected that, in a year, a consumer brand's heaviest (most frequent) 20% of buying consumers contributed around half of a the brand's total sales that year. Specifically we reported the brand average across categories was 59% – from a high of 68% for Dog Food to a low of 44% for hair conditioner[2].

Since then a number of sponsors of the Ehrenberg-Bass Institute have analysed their own brands, confirming our findings and showing the law holds in more categories and countries. There have also been academic articles published, which are described in a table at the end of this article.

Together these studies show that it's reasonable to talk of a Pareto Law but wrong to refer to it as 80/20. A few authors have tried to claim that the Pareto Share is not far from 80% but they have had to use very long windows (5-6 years) of analysis to make this point, which is atypical in brand management - rarely would any brand metric be calculated using such a long timeframe[3].

Differences in analytical approaches, as well as sample completeness[4], do affect the calculation of Pareto shares. But this should not distract from the really important implication – while every brand has some customers who are more valuable than others, a large proportion of its sales (especially future sales) come from its very lightest customers.

So it's vital to understand and reach these very light/non brand buyers, at minimum to maintain their loyalties and not decline or, better still, to nudge them upwards and grow. That is the major challenge that research should be tackling, not attempts to try to 'prove' a law that never existed.

Here is a short list of Pareto related questions we suggest might be useful to tackle:

> Are the anecdotal claims that in (some?) business-to-business categories the Pareto share is extremely high (e.g. 90/20) true? And if there is an extreme Pareto is this due to the large differences in business size among customers? Or is it because of two or more populations within the customer base ?
>
> Does a slightly higher or lower than expected Pareto for a category or a brand have any important implications?

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[1] As Professor Jan Benedict-Steenkamp admits "I grew up with the 80/20 rule and [before reading How Brands Grow] kind of accepted it for a long time without much thinking. Who could argue with a famous economist?"

[2] One reason that brand average varies between categories is because of the different market shares of brands in different categories and markets. In general smaller brands tend to have a slightly higher Pareto Share, though to make things complicated, this varies with the time window used for the analysis (over very short periods small brands tend to have lower Pareto Shares than their larger competitors). See Rungie, Laurent and Habel 2002.

[3] The timeframe slightly increases the Pareto share because it allows more very light customers to be counted in the analysis, and these make the contribution of the heavier customers look greater.

[4] We explain the problem of using loyalty card data here. And https://www.marketingscience.info/value-paretos-bottom-80/

Heavy category buyers are more likely to buy a new brand launch - how much of this is because these category buyers have a greater interest in variety seeking/novelty versus simply a function of probability of being actively buying in the category at the time of launch?

Do heavy brand buyers buy the same brand multiple times because they perceive it addressing a wide range of Category Entry Points/Category contexts? Or because it is the one that can address the Category Entry Point they most commonly encounter?

Appendix - other Pareto studies

Study	Analysis period	Sample	Key findings
Brynjolfsson, Hu, and Simester, 2011	One month window.	Women's clothing retailer's sales from catalog or online.	Top 20% of products were responsible for almost 60% of sales, ever so slightly lower pareto share for internet sales cf catalog.
Romaniuk and Sharp, 2016	On year window.	Grocery categories in 'developing markets', eg India, Malaysia, Turkey, Kenya, China, Mexico.	For the average brand, its top 20% of buyers were responsible for 53% of sales.
Steenkamp, 2017	One year window.	European consumer panel data, many categories from dog food to skin care.	For the average brand, its top 20% of buyers were responsible for 50% of sales.
Kim, Singh, Winer, 2017	Six year window.	US consumer panel data, 22 grocery product categories.	At "umbrella brand" level, the top 20% of buyers contributed 73% of sales. At brand level, 65%. Cigarettes had the highest Pareto share.
Graham, Sharp, Dawes, Trinh, 2017	One quarter, one year, and five year windows.	European consumer panel data, 22 grocery categories.	In one quarter 20% of a brand's buyers typically contribute only 40% of sales, rising over a year to 50%, and to 60% in a five year window.
dunnHumby, 2017	1 year and 5 year windows.	UK data from one sole supermarket loyalty card, seven grocery categories.	Average Pareto shares of 62% for top-5 brands, and 73% for smaller brands. When calculated over a five year period it was 66% for larger brands and 79% for smaller brands.
McCarthy, Winer, 2019	Two year window.	Sales of publicly listed (non-CPG) companies, measured from credit/ debit card panel	At company level, the top 20% of buyers contributed 67% on average, but 58% for subscription firms (eg Planet Fitness, New York Times).

References

Brynjolfsson, E., Hu, Y. J., & Simester, D. (2011). Goodbye pareto principle, hello long tail: The effect of search costs on the concentration of product sales. Management Science, 57(8), 1373-1386.

Goodhardt, G. J., Ehrenberg, A., & Chatfield, C. (1984). The Dirichlet: A comprehensive model of buying behaviour. Journal of the Royal Statistical Society, 147(5), 621-655. doi:10.2307/2981696

Graham, Charles., Sharp, Byron., Trinh, Giang., & Dawes, John. (2017). Ultra-lights – The Unbearable Lightness of Buying. Ehrenberg-Bass Institute report for sponsors. University of South Australia.

Kim, B. J., Singh, V., & Winer, R. S. (2017). The Pareto rule for frequently purchased packaged goods: an empirical generalization. Marketing Letters, 28(4), 1-17. doi:https://link.springer.com/article/10.1007/s11002-017-9442-5

McCarthy, D. M., & Winer, R. S. (2019). The Pareto rule in marketing revisited: is it 80/20 or 70/20? Marketing Letters, 1-12. doi:10.1007/s11002-019-09490-y

Rungie, C., Laurent, G., & Habel, C. (2002). A new model of the Pareto effect (80:20 rule) at the brand level. Paper presented at the ANZMAC, Melbourne.

Sharp, Byron (2010). How Brands Grow. Oxford University Press.

Sharp, Byron, & Romaniuk, Jenni. (2007). There is a Pareto Law - but not as you know it. Ehrenberg-Bass Institute report for sponsors. University of South Australia.

Sharp, Byron, & Romaniuk, Jenni. (2016). How Brands Grow: Part 2. Oxford University Press. (pp. 1-22)

Steenkamp, Jan-Benedict. (2017, 21st August). How to grow your brand? Mass makes might. Retrieved from https://www.linkedin.com/pulse/how-grow-your-brand-part-i-mass-makes-might-jan-benedict-steenkamp/