The Pareto Principle: Applying the 80/20 Rule to Your Business

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Abstract

The Pareto principle (also known as the 80-20 rule, the law of the vital few and the principle of factor sparsity) states that for many phenomena, 80% of the consequences stem from 20% of the causes. What Pareto's Principle tells us is that we must focus on the right areas to get results. The principle is named after Italian economist Vilfredo Pareto who observed that 80% of income in Italy was received by 20% of the Italian population. In marketing, 20% of clients are responsible for 80% of sales volume. In many processes, 80% of the resources are typically used by 20% of the operations. Sometimes, 80-20 may even become 90-10. Thus, in software engineering, 90% of the execution time of a computer program is spent executing 10% of the code. Pareto's Principle helps focus management attention on critical areas. It is the basis for the Pareto chart, one of the key tools used in TOTAL QUALITY CONTROL and SIX SIGMA. The Pareto Principle serves as a baseline for ABC-analysis and XYZ-analysis, widely used in logistics and procurement for the purpose of optimizing inventory and order quantity. The principle of TIPPING POINT, coined by Malcolm Gladwell can be considered to be an extreme version of the 80-20 principle.

Background

Vilfredo Pareto (1848-1923), an Italian economist, created a mathematical formula to describe the unequal distribution of wealth. In a paper written in 1906, he observed that approximately 20% of the Italian population owned 80% of the wealth in their country (The Columbia Encyclopedia, 1993). Pareto's Principle, sometimes known as the 80/20 Rule, was made famous by U.S. quality pioneer Dr. Joseph Juran in the 1930s and 40s. Dr. Juran recognized a universal principle he called the "vital few and trivial many." Mostly as a result of Dr. Juran's work showing that 20% of something is usually responsible for 80% of the results, Pareto's Principle or the 80/20 Rule became widely known and adopted by scientists in many different disciplines (Bunkley, 2008).

The law of the vital few, and the principle of factor sparsity) states that, for many events, roughly 80% of the effects come from 20% of the causes. The principle states that, for many phenomena, 20% of invested input is responsible for 80% of the results obtained. Put another way, 80% of consequences stem from 20% of the causes (Bunkley, 2008).

The original observation was in connection with income and wealth. Pareto noticed that 80% of Italy's wealth was owned by 20% of the population (Alfred, 1971). He then carried out surveys on a variety of other countries and found to his surprise that a similar distribution applied. Because of the scale-invariant nature of the power law relationship, the relationship applies also to subsets of the income range. Even if we take the ten wealthiest individuals in the world, we see that the top three (Warren Buffett, Carlos Slim Helú, and Bill Gates) own as much as the next seven put together (The Forbes).

A chart that gave the inequality a very visible and comprehensible form, the so-called 'champagne glass' effect,(Gorostiaga, 1995), was contained in the 1992 United Nations Development Program Report, which showed the distribution of global income to be very uneven, with the richest 20% of the world's population controlling 82.7% of the world's income (UNDP, 1992).

However, Paul Krugman in The New York Times dismissed this "80-20 fallacy" as being cited "not because it's true, but because it's comforting." He asserts that the benefits of economic growth over the last 30 years have largely been concentrated in the top 1%, rather than the top 20%, though his assertion in no way negates the 80-20 principle (Krugman, 2006).

What Exactly Is The 80/20 Rule?

By the numbers it means that 80 percent of your outcomes come from 20 percent of your inputs. As Pareto demonstrated with his research this "rule" holds true, in a very rough sense, to an 80/20 ratio, however it is merely an approximation and applies to typical distributions. It could easily be 70/20 (e.g. 70% of complaints due to 20% of problems) or 90/10 (90% of work performed by 10% of staff). The numbers don't necessarily need to add up to 100. The principle is based on the fact that the distribution of most things is unequal. For instance, each worker in a company does not contribute exactly the same amount to the results, adverse events that occur in hospitals have different levels of impact on reputation, customer satisfaction, finance, etc..

The rule is fundamental to every business and every human being. It can be applied in a wide area of business including health, industry, sales etc

The 80/20 Rule is really a fancy way of saying that a few elements in a set have a lot more leverage than most elements in that set. This is better expressed as an observation than as a "rule". Whether those few elements comprise 20%, 7% or 45% is less important than the mental exercise of separating the critical few from the trivial many. If you're starting a new business, critical projects like getting a loan will be far less numerous than trivial projects like getting business cars or purchasing office furniture.

It's easy to get lost in the semantics of 80/20. Edward de Bono coined a thinking operation he called "HV/LV", where the user would spend a couple of minutes defining the "High Values" in a problem or situation that had the most impact, then the "Low Values" which also had to be taken into account. Regardless of your preferred terminology, think of 80/20 as a filtering mechanism. Which "20%" of employees in your office account for "80%" of the help you need to get your job done. Who are the few clients that take up most of your time. Which ones account for most of your income?

Market Efficiency and the Pareto Wealth Distribution

The Pareto (power-law) wealth distribution, which is empirically observed in many countries, implies rather extreme wealth inequality. For instance, in the U.S. the top 1% of the population holds about 40% of the total wealth. What is the source of this inequality? The answer to this question has profound political, social, and philosophical implications. We show that the Pareto wealth distribution is a robust consequence of a fundamental property of the capital investment process: it is a stochastic multiplicative process. Moreover, the Pareto distribution implies that inequality is driven primarily by chance, rather than by differential investment ability.

This result is closely related to the concept of market efficiency, and may have direct implications regarding the economic role and social desirability of wealth inequality. The Pareto wealth distribution may explain the Lévy distribution of stock returns, which has puzzled researchers for many years. Thus, the Pareto wealth distribution, market efficiency, and the Lévy distribution of stock returns are all closely linked.

Pareto Principles in Quality Control

The Pareto principle has many applications in quality control. It is the basis for the Pareto chart, one of the key tools used in total quality control and six sigma. The Pareto principle serves as a baseline for ABC-analysis and XYZ-analysis, widely used in logistics and procurement for the purpose of optimizing stock of goods, as well as costs of keeping and replenishing that stock (Rushton et al, 2000). The Pareto Principle has many applications in quality control. It is the basis for the Pareto diagram, one of the key tools used in total quality control and Six Sigma.

Application of Pareto Rule

You can apply the Pareto Principle to most and any aspect of your business. By using the 80/20 Rule to observe and track the problems hurting your customer relationships and opportunities to improve profitability and reduce costs, making improvements to your processes and tracking the results, you'll be more efficient and profitable in no time.

There are many economic conditions, for example the distribution of wealth and resources on planet earth, where a small percentage of the population controls the biggest chunk, which clearly demonstrates the 80/20 Rule. There are business examples such as 20 percent of employees are responsible for 80 percent of a company's output or 20 percent of customers are responsible for 80 percent of the revenues (or usually even more disparate ratios). These are not hard rules, not every company will be like this and the ratio won't be exactly 80/20, but chances are if you look at many key metrics in a business there is definitely a minority creating a majority.

At a micro level just by looking at your daily habits you can find plenty of examples where the 80/20 Rule applies. You probably make most of your phone calls to a very small amount of the people you have numbers for. You likely spend a large chunk of your money on few things (perhaps rent, mortgage payments or food). There is a good chance that you spend most of your time with only a few people from the entire pool of people you know..

How can the Pareto Principle help me in life and business?

The value of the Pareto Principle for a manager is that it reminds you to focus on the 20 percent that matters. Of the things you do during your day, only 20 percent really matters. Those 20 percent produce 80 percent of your results. Identify and focus on those things. When the fire drills of the day begin to sap your time, remind yourself of the 20 percent you need to focus on. If something in the schedule has to slip, if something isn't going to get done, make sure it's not part of that 20 percent. The 80-20 Principle can and should be used by every intelligent person in their daily life. It can multiply the profitability of corporations and the effectiveness of any organization or individual.

Some of the few examples of the use of the rule

Costs. To reduce costs, identify which 20% are using 80% of the resources. If members of this segment are not top profit generators, consider charging them for the resources they consume or shift services away from this sector.

Personal Productivity. To maximize personal productivity, realize that 80% of one's time is spent on the trivial many activities. Analyze and identify which activities produce the most value to your company and then shift your focus so that you concentrate on the vital few (20%). What do you do with those that are left over? Either delegate them or discontinue doing them.

Product Mix. Marketers and advertisers engage in market segmentation by identifying groups of people/organization with shared characteristics and then aggregate these groups into larger market segments. This segmentation may be behavioristic, demographic, geographic, or psychographic. The rule predicts that 80% of the profits are derived from 20% of the segments. If costs are allocated to segments and the segments are then rank-ordered by profit, overall profits will increase if the less profitable segments are discontinued, sold, or traded.

Profits. To increase profits, focus attention on the vital few (top 20%) by first identifying and ranking customers in order of profits and then focusing sales activities on them. The 80-20 Rule predicts that 20% of the customers generate 80% of the revenues, and 20% yield 80% of the profits, but these two groups are not necessarily the same 20%.

Product range. Have a look at how much of your profit comes from each item. Put your effort into the 20% that give you 80% of your sales - your winners.

Sales force. Have a look at how much of your profit comes from each person. Make sure you reward and retain the 20% that are your winners.

Advertising. Have a look at where the sales come from. Then identify the few ads that really pull, and the few places where you run them that really produce. Then refine your winning ads, and run them in those few places that give you the best results.

In business a small number of events produce the majority of results? It may not be a hard rule with a fixed ratio, but the observation has merit:

• A handful of customers out of many produces the bulk of revenues.

• A handful of products out of many items in a line produces the bulk of orders.

• A handful of sales people out of many produces the majority of new business.

• A handful of scientists produce most research and development innovations.

• Most grievances come from a few employees, and most absenteeism can be narrowed down to specific individuals.

• Most accidents occur in clearly identifiable groups.

• Truly poor (or great) performance is achieved by a few easily identifiable individuals.

We tend to ignore these realities in practice. We often give the best salespeople the most difficult accounts instead of focusing their talent in areas where they could generate extraordinary volumes. The most highly skilled workers are often given the toughest work, although concentrating their skills on trouble-free jobs would allow them to produce significantly more than less-skilled coworkers. The most talented people are often assigned to the most challenging problems that, even when resolved, generally contribute little additional revenue for the company

When I look at one of my businesses, Abyad Business Group where we represent a number of companies from Europe and China, in Lebanon, when we analysed the company performance we noted that our sales revenue revealed that 76 % of our net sales were generated by only 18% of our customer base. In addition 20% of the products generate the highest level of income to the business. These items include obesity products and cosmetics Therefore it is clear that a vital few customers are responsible for the bulk of our sales. Therefore based on the above we need to :

• Make sure to take care of the top 18% of our customers and keep them satisfied, and

• If we want to improve our business, to look to the other 82% of customers. They represent the best chance to generate more repeat sales or to cross-sell other products or services. It's likely that these 82% of customers are not buying up to their potential.

We then applied the 80/20 Rule to our customer service function. Data collected suggests that 75% of the complaints come from 25% of the customers. When we use a bar chart to display the complaints by type and then rank them by frequency of occurrence, the top 18% of complaint types accounted for 85% of the number of complaints. So we decided to start with the top complaint type, get to the root cause of the issue and correct the problem, put the correction in place and track the results. Wash, rinse and repeat.

Conclusion

The Pareto Principle can be applied in a wide range of areas such as manufacturing, management and human resources. In a business sense, finding the 80/20 ratios is crucial for maximizing performance. Find the products or services that generate the most income (the 20 percent) and drop the rest (the 80 percent) that only provide marginal benefits. Spend your time working on the parts of the business that you can improve significantly with your core skills and leave the tasks that are outside your best 20 percent to other people. Work hardest on elements that work hardest for you. Reward the best employees well, cull the worst. Drop the bad clients and focus on upselling and improving service to the best clients.

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