Pareto analysis

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CONCEPT

Pareto analysis is based on the observation that operational results and economic wealth are not distributed evenly and that some inputs contribute more than others. It is referred to as the "80/20 rule," a nomenclature which has popularized a complex economic concept introduced by Vilfredo Pareto, a nineteenth-century Italian economist.

Pareto observed a pattern of "predictable imbalance" where 80% of Italy's wealth was held by 20% of the population. Researchers began to observe similar phenomenon in most systems that have inputs and outputs, including production management and financial management. For example during quality control of the production of microchips it is often observed that the majority of defects come from a small set of issues, such as the same machines or the same raw materials causing most of the problems. An international corporation may find that the bulk of total revenues is generated by a handful of regional business units. Often a handful of products contribute to the greater part of an organization's profits. A small subset of customers may generate most of the revenues.

A caveat when applying the concept is that the 80/20 ratio is not to be taken literally. It is indicative that the majority of results are often derived from a minority of inputs.

PARETO AND STRATEGIC MANAGEMENT

Pareto analysis, as it is applied in strategy, finance, manufacturing and quality management, is somewhat different from Vilfredo Pareto's original concept that "in order for a maximum welfare position to be reached then the 'ophelimity' (utility) of some should not increase to the detriment of others." Pareto efficiency or improvements are derived if the gainers could in principle fully compensate the losers and still have a net gain, even though in practice they do not pay compensation at all. Pareto was an early proponent of strategic thinking that tends towards social responsibility and competitive regulation.

The strategic application of Pareto analysis in its modern format, starts with the focus on the set of efforts (products, customers, business units) that produce most of the organization's results (revenues, profits, return on investment). The implication of the 80/20 rule is that most efforts are not efficient and should be reduced. The strategic objective would be to leverage and maximize the efforts that produce most of the results.

In strategic management, Pareto analysis is linked to the analysis of an organization's internal environment. It is particularly useful to identify internal strengths and weaknesses through the evaluation of an organization's internal resources and capabilities, which are the source of its core competencies and which in turn, create competitive advantage.

A Pareto analysis can start by reviewing a combination of organizational inputs from a functional perspective, similar to the process in a SWOT analysis. The elements to analyse in terms of their efficiency, or lack thereof, would be finance, management, infrastructure, supply chains, manufacturing, distribution channels, marketing, and innovation resources. The Pareto effect also applies to many other dimensions, such as customers, sales force and reputational equity.

In many businesses there is a strong tendency to add new products and customers while failing to eliminate those which are obsolete or unprofitable. When faced with the need for rationalization of non-viable products and/or customers, the sales function in most businesses is extremely reluctant to undertake such actions. This is so despite the fact that, at worst, 20% of customers and products may well account for the majority of costs in areas such as stocks, production costs, computer facilities, and administration.

Conducting a Pareto analysis of a business along the major strategic dimensions is therefore a significant exercise, and one that needs to be undertaken periodically to ensure that inefficiencies are not replicated and that efficient elements are exploited.

See also *capabilities and capability analysis*; *core competences*; *cost analysis*; *dynamic capabilities*; *efficiency*; *SWOT analysis*; *resource-based view*

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