

Do numbers tell us a story?

Screening the quantitative strategy tools for the strategic process

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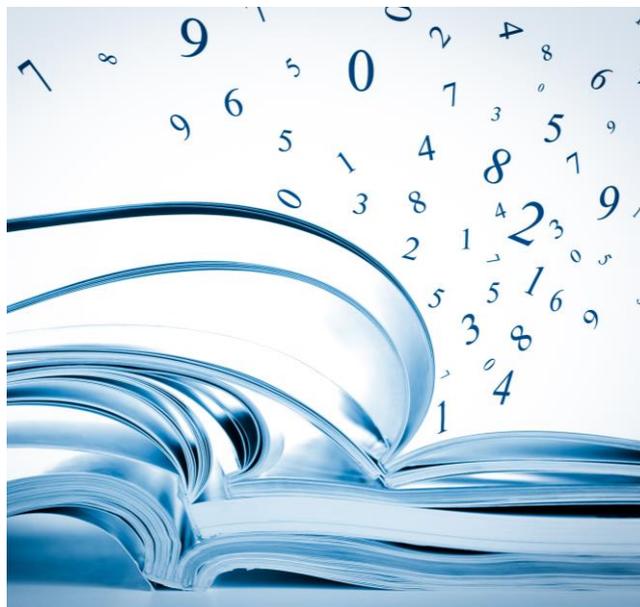
What is the expected growth of an industry? Which is the relationship between the GDP trend of a selected country and the demand for a specific product? What is the average level of the exports of firm's primary competitors? Which social, political and economic trends can affect the industry? In which measure? Strategizing implies answering this kind of questions better and faster than competitors do. Strategic analysis tools are the means by which the analyst can face this challenge. The strategist has at his/her disposal several instruments (both qualitative and quantitative) to manage information and to make choices through a both rigorous and creative process. Let us focus in this paper on quantitative strategic tools. Quantitative strategic tools are the instruments that deliver numerical data as the final research outcome thanks to variables analysis and quantitative techniques. Quantitative strategy tools aim at expressing critical issues by numbers. There by, strategists may adopt these instruments for having a reliable and synthetic measurement of the phenomena under investigation. Nonetheless, quantitative tools are numerous and very different, so the selection of the tool that better fits with the specific analysis's object is the first and perhaps the most important choice the strategist has to face. Given the multitude of problems to tackle in the strategy process, the choice of the proper instrument is the outcome of a wide range of factors that the analyst must weight up carefully.

1. First step: defining the problem

An initial mental definition of the problem resulting in the identification of the essential factors is a mandatory pre condition for starting every analytical process. Which is the phenomenon under investigation? Which factors are relevant to explain it? Which variables can affect it? What I would like to know?

2. Second step: collecting data

After having clearly defined the problem, the strategist has to identify the relevant information and data. Strategic analysis process, indeed, requires that the analysts identify, collect, reduce, display and, finally, interpret facts and statistics on the relevant factors that influence the phenomenon under investigation. Which information may be useful to interpret a given phenomenon? Where do the analyst gather information and data? In which databases?



3. Third step: selecting the right tool

After the problem definition and the data collection, the strategist can choose the tool that better fits both with the item investigated and with the data it holds. Generally speaking, quantitative instruments are based on correlation and regression among critical variables in a static framework such as an event study. However, also instruments based on capitalizations and actualizations are assumed to quantitatively represent the objectives in a dynamic perspective. Following the above reasoning, quantitative strategy tools can be flexibly used in both dynamic and static time horizon. These instruments are based on the study of variability and mutability (mean square error, variance), on the identification of summary measures (e.g. index numbers, means), and on logic-deductive analysis (e.g. Bayesian approach).

Is the strategist interested in knowing the average royalties accrued on trade mark licenses, or the average prices trend of a given commodity? Hence, the arithmetic mean can be properly used. Is the strategist interested in knowing whether the sales of a product in different periods of times are homogeneously distributed. Do they present indeed a skewed distribution? In this case, some values significantly differ with the average value, therefore tools based on the study of variability (e.g. variance, mean squared error) can be adopt-

ed. Is the strategist interested in knowing which is the relationship between the GDP growth of a country and the demand of a specific product? The tools based on the correlation analysis would be the better ones. Overall, the quantitative strategy tools aim at expressing through numbers critical issues. Thereby, strategists adopt these instruments for having a reliable and synthetic measurement of the phenomena under analysis. Reliability and synthesis permit to decrease subjectivity and control for errors, hence they ensure to make sense and to strategize within critical numerical thresholds. The choice of the proper strategic analysis tool is an articulated process that reflects the complexity of the competitive environment in which the firm operates. Quantitative strategic tools are just one kind of instruments the strategist has at his disposal and, often, a deep strategic analysis process requires the usage of a complex set of tools, both quantitative and qualitative.

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The Practice Leader is Andrea Beretta Zanoni, full professor at the University of Verona and Director of Master's Degree Course in Business Management.