

THE QUANTITATIVE APPROACH TO EVALUATION OF THE INDUSTRY ATTRACTIVENESS

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We've found that Porter's five forces framework is useful tool to analyze industry's competitive forces and to shape organization's strategy according to the results of the analysis. However, in reality this framework is rather analytical tool, used by managers to better understand the industry they operate in, than strategic choice and decision-making technique. Porter's Five Forces model, in the form it prevails now, provides the static view onto the industry structure and conditions. Therefore, it has significant limitations, and requires further improvement and development as well as combination with other techniques.

Some of the existing drawbacks are to be resolved through the development of comprehensive methodology for Porter's five forces quantitative evaluation and its further integration with other strategic analysis tools for strategy choice and formulation. Developed methodology for Quantitative Five Forces analysis includes the following steps.

Step 1. Gather the information on each of the five forces

Here managers should analyze the competitive structure of their industry in terms of the Porter's Five Forces framework. It is necessary to gather all relevant information about the industry and to check it against each of the factors influencing each competitive force.

Step 2. Analyze and estimate the results, display them on a chart

After gathering all the information, analyst should analyze it and determine how each force is affecting an industry. In order to do so, it is necessary to identify each of the five forces strength using expert evaluation of the prescribed above factors.

Then *Force Strength* (FS) is offered to measure as follows:

$$FS = \sum_{i=1}^n \frac{E_i}{E_{\max}} \times w_i, \quad (1)$$

where E – expert estimate of a criterion of the *i*-force strength (from 0 to 3 points); E_{\max} – maximum possible estimate (max = 3 points); *w* – weight (importance) of a criterion in the total estimate.

The less the value of FS the more the intensity of competitive force, and vice versa the more the value of FS the less the intensity of competitive force.

Industry attractiveness (IA) can be defined as the sum of five Forces strength:

$$IA = \sum_{i=1}^5 FS_i. \quad (2)$$

Industry attractiveness is higher if the score of IA is higher (IA → max is favorable).

However, it is not enough just to measure IA in order to make adequate conclusions concerning the state of industry, its potential and attractiveness for doing business. It is necessary to take into account that industry structure is not a static state, but very dynamic condition with highly interdependent elements. Intensity of rivalry can be considered as a function of other four forces and, on the contrary, it significantly affects them. At the same time, all five forces can influence each other and cause the general system changes.

Consequently, in addition to the estimation of FSs and IA strategic manager should also compose and analyze the chart of five forces relating to industry attractiveness. It is proposed to build the graph, which plots the five forces estimates on the four-dimensional scale. As a result, we obtain two figures:

1) square, which area reflects the magnitude of industry attractiveness provided by intensity of rivalry, and

2) quadrilateral, which area reflects the magnitude of industry attractiveness provided by other four forces (threat of entry, bargaining power of suppliers, bargaining power of buyers and threat of substitutes).

Simultaneously, these areas depict the pressure from intensity of rivalry and combined pressure from other four forces, but in opposite direction (the more the area the less the competitive pressure).

Step 3. Formulate strategies based on the conclusions

At this stage, managers should formulate firm's strategies using the results of the analysis. The proposed methodology enables determining the attractiveness of an industry in quantitative terms, thus serving not just as analytical technique for background investigation, but as the strategic decision-making tool. For instance, it supports decisions about entry to industry or exit from a market segment. Taking into account the knowledge about intensity and power of competitive forces, their current and potential future state, managers can develop options to influence them in their organization's interest.

In addition, Quantitative Five Forces analysis, in comparison with conventional qualitative approach, has much more ample room for integration with other strategic analysis models, e.g. SPACE (Strategic Position and Action Evaluation) Matrix. Results of the five forces evaluation can be applied for the external strategic position evaluation in SPACE Matrix. It is reasonable to identify the Industry Attractiveness dimension using Quantitative Five Forces analysis, and Environmental Stability dimension – using PEST (or PESTLE) analysis.

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