Benchmarking and Performance Management

Benchmarking-ul şi managementul performanţei

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Abstract

The relevance of the chosen topic is explained by the meaning of the firm efficiency concept - the firm efficiency means the revealed performance (how well the firm performs in the actual market environment) given the basic characteristics of the firms and their markets that are expected to drive their profitability (firm size, market power etc.). This complex and relative performance could be due to such things as product innovation, management quality, work organization, some other factors can be a cause even if they are not directly observed by the researcher. The critical need for the management individuals/group to continuously improve their firm/company's efficiency and effectiveness, the need for the managers to know which are the success factors and the competitiveness determinants determine consequently, what performance measures are most critical in determining their firm's overall success. Benchmarking, when done properly, can accurately identify both successful companies and the underlying reasons for their success. Innovation and benchmarking firm level performance are critical interdependent activities. Firm level variables, used to infer performance, are often interdependent due to operational reasons. Hence, the managers need to take the dependencies among these variables into account when forecasting and benchmarking performance. This paper studies firm level performance using financial ratio and other type of profitability measures. It uses econometric models to describe and then propose a method to forecast and benchmark performance.

Keywords: *benchmarking, competitiveness, innovation, indicators*.

Rezumat

Relevanţa alegerii subiectului este explicată chiar de modul de definire a conceptului de eficienţă a firmei - eficienţa firmei presupune faptul că nivelul de performanţă relevant (cât de bine se situează firma în contextul pieţei) este dat de caracteristicile de bază ale firmei şi de pieţele care definesc profitabilitatea (mărimea

firmei, puterea pe piaţă etc.). Această complexă şi relativă performanţă poate fi atribuită inovării produselor, calităţii managementului, organizării muncii, de asemenea poate fi cauzată de factori de natură subtilă, care scapă observaţiei directe a cercetătorului. Cerinţa critică a managementului (persoane sau grupuri) de a îmbunătăţi continuu eficienţa şi eficacitatea operaţiunilor firmei/companiei, necesitatea managementului de a cunoaşte ce factori de succes sau determinanţi ai competitivităţii/performanţei determină, pe cale de consecinţă, ce măsuri de performanţă sunt cele mai importante pentru a pune în lumină succesul firmei. Metodele benchmarking, aplicate corect, pot identifica atât companiile de succes cât şi factorii de bază care contribuie la acest succes. Inovarea şi benchmarkingul pentru performanţa firmei sunt activităţi de bază ale companiei, intercorelate. Variabilele la nivel de firmă, folosite pentru a face inferenţe asupra performanţei sunt adeseori interdependente de aspectele operaţionale. Astfel, managerii trebuie să ia în considerare dependenţele între aceste categorii de variabile în demersul de previzionare şi de evaluare a performanţei. Lucrarea studiază performanţa la nivel de firmă folosind un set de rapoarte financiare şi alte tipuri de măsuri ale profitabilităţii. Sunt folosite modele econometrice pentru a descrie exerciţiul de benchmarking şi pentru a propune o metodă de previzionare a performanţei.

Cuvinte-cheie: *benchmarking, competitivitate, inovare, indicatori.*

JEL Classification: O30, O47, M10

Introduction

There is increasing interest in analysing the competitiveness of the economy in general, and of EU-15, in particular, from a sectoral perspective, reflecting the notion that the competitiveness of the economy at large cannot be properly understood without looking into the performance of individual sectors, and, what is even more important, at how these interrelate.

The relevance of the subject could be seen in the context of designing business support policies to be implemented in industrialized areas (regions, countries in the EU); these are generally aimed at increasing the competitiveness of the territory and its firms. As a result, a wide array of interventions can be used, such as:

- granting funds for investments;
- reducing some factors' cost (such as energy or labour);
- providing industrial sites and improving physical infrastructures;
- providing services (e.g., training, technology transfer).

According to commonly agreed principles and rules, such policies should regard a firm's competitiveness and assess a commonly used measure of performance.

Without a way to measure relevant financial and operational indicators, managers might find blocked in decision making relying on, eventually, educated

guess-work. Nowadays, there is an alternative to blind forecasting: benchmarking being considered a strategic management tool that helps evaluate effectiveness and fosters goal-setting. In essence, benchmarking provides a snapshot of the performance of a business and it helps in understanding the actual position in relation to a particular standard.

Profitability is measured both for assets valued at cost basis and at market. The value of profitability ratio analysis lies in:

- The ease with which historical performance can be compared. Thus, it is possible to compare this year's gross profit margin with last year's, and analyze the reasons for any variation. The findings from the analysis are likely to provide high value insights.
- The opportunity to compare the performance of different companies engaged in the same business. This peer comparison can provide an indication of how well a company is doing as against its competitors.
- Similarly, comparison can also be made against industry averages, though this can be less meaningful if the industry accommodates players with very different product lines.

The benchmarking theory

Benchmarking is the process of comparing one's business processes and performance metrics to industry bests and/or best practices from other industries. Dimensions typically measured are quality, time, and cost. Improvements from learning mean doing things better, faster, and cheaper.

Benchmarking is an effective management tool to identify changed ideas and brings changes to achieve continuous improvements in the way an existing activity, function, or process is performed. It is basic to strategic business process improvement and reengineering. In employing this method, a company compares its performance with its strong and more successful competitors in the industry. It helps a company not only assess its current performance relative to other companies, but also learn from others and generate new ideas, methods and practices to improve its functioning. Thus, productivity and cost reduction can be enhanced and new performance targets which are practical and achievable can be set to give itself a competitive edge.

Benchmark analysis refers to a type of financial analysis in which some variable is compared from one company to it competitors or to its industry. While common areas of interest include market capitalization, company size and innovative developments, company profit is of primary consideration. Industry benchmarking profit analysis generates a performance evaluation from a financial perspective using information found in the corporate financials; that evaluation is then compared, or benchmarked, against similar companies.

When benchmarking technique is applied within organization it is called the *Internal Benchmarking* that helps to spot exemplary business units within big companies, such as, hotel chains, bank branches etc. It identifies the relevant benchmarks for every unit, suggests cost components that can be cut and potential revenue sources that would boost performance. It facilitates multi-dimensional comparisons and indicates the intrinsic interaction effects present in the overall performance of the organization where the latter is something more than the mere sum of the parts. In fact, there is an interesting connection between the fine-tuning of an organization by *reallocation* and *rewards*. The resources are better reallocated to the more efficient business units as that integrates *performance* and *incentives* better. Most managers appreciate a policy leading to enhancement of control over company resources (i.e., increased authority). Thus, benchmarking can be used not only to weed out production and organizational inefficiencies but to design effective bonus plans as well.

External benchmarking refers to inter-organization comparisons. If it is comparison across business units (firms) within the same industry then it is basically a comparison of "*market access*" and is called *competitive benchmarking* whereas a comparison at corporate level within same industry is an instance of *simple external benchmarking*. A special type of external benchmarking is the inter-corporation comparison where the target is the improvement in allocative efficiency alone and is called the *organizational benchmarking*.

The performance benchmarking and innovation

Benchmarking refers to the method of comparing a firm's performance to a set of comparable firms. Benchmarking is an analytical tool that can help understand the complex nature of firm performance. The set of such firms can be defined in a number of ways although, ultimately, the definition used depends on the usefulness of the benchmarking results to the organisation concerned. Benchmarking innovation, therefore, involves the process of comparing firms with respect to their innovative effort and the outcome of this effort.

It is not possible to benchmark innovation against an optimal standard. The relationship between innovation and performance is non-monotonic. Innovation is a risky activity and an optimal firm does not want to maximise innovative activities. For comparing firms with respect to their innovative effort and the outcome of this effort, firms can be compared to each other and to the average of this relationship.

Feeny has empirically analysed the link between innovation and firm performance. Innovation is a complex process and is notoriously hard to define and measure. Most previous empirical studies use data on R&D expenditure and, sometimes, patents. This study has extended previous analyses by including trademark and design applications in addition to R&D expenditure and patent

applications in regression analysis. Results from regression analysis indicate that R&D expenditure and patent applications are important determinants of the market value of a firm.

The analysis initially focuses on constructing an index that allows different measures of innovative activity to be combined and which also controls for firm size. The creation of an index requires some method of "*adding*" R&D (*R*), patents (*P*), trade marks (*T*) and designs (*D*) together to form an innovation metric. In other words we need to form an index (*I*) from a weighted sum of the various components, $I = \alpha \cdot R + \beta \cdot P + \chi \cdot T + \delta \cdot D$.

Firms which do not undertake any innovative activities will record a zero for each component and will not appear in the index. The next section discusses empirical methods of obtaining the parameters, or weights, from regression analysis. In particular, it is arguable that the weights should be derived from a regression that links performance to the innovative activities. Assuming weights can be found from large sample analysis, these will reflect an "*average*" impact of innovation on performance.

The performance of firms can be measured by market value; the approach assumes that the market value of the firm is related to the value of tangible and intangible assets. The market value (*V*) of the firm is given by:

$$V = q \cdot (A + \gamma \cdot K)^{\sigma} \qquad (1)$$

where *A* is the stock of tangible assets of the firm, *K* is the stock of intangible assets, *q* is the "current market valuation coefficient" of the firm's assets, σ allows for the possibility of non-constant returns to scale, and γ is the shadow value of intangible assets to tangible assets (meaning $\frac{\partial V}{\partial K} \Big/ \frac{\partial K}{\partial A}$).

In general, *q* may vary across firms and time:

$$q_{ij} = \exp(m_i + d_t + u_{ij}) \qquad (2)$$

where m_i is a permanent firm effect, d_t is the market effect at time *t*, and u_{it} is an independently distributed error term.

The term *q* allows for the fact that the market valuation may vary across firms and time, and that there may also be "noise" in such valuations. In this paper, *K* is proxied by the book value of intangible assets (*B*), R&D expenditure (*R*), patent (*P*), trade mark (*T*) and design (*D*) activity. Commonly, R&D expenditure is used as a proxy for all innovative investment, primarily since other data are not available, and productivity, profitability and market value are used as performance measures. R&D expenditure and productivity studies are not of direct concern here, since there are no productivity measures in the data used in this investigation.

Equations 1 and 2 can be rearranged to yield the empirical specification (using the approximation $log(1+\varepsilon) \approx \varepsilon$):

$$\log V_{it} = m_i + d_t + \sigma \cdot \left(\log A_{it} + \frac{\gamma_1 \cdot B_{it} + \gamma_2 \cdot R_{it} + \gamma_3 \cdot P_{it} + \gamma_4 \cdot T_{it} + \gamma_5 \cdot D_{it}}{A_{it}} \right) \quad (3)$$

where *X* is any additional explanatory variables. The existing literature has investigated various different variables for *X* (for example, growth of sales, Hall, 1993, technological appropriability, Cockburn and Griliches, 1988, and diversification, Lang and Stultz, 1994) - .

Other methods of benchmarking are possible if we restrict our attention to only those firms in the sample (i.e. those listed on the stock market). Rearranging equation yields

$$\log V_{it} - ind_i - d_t - \sigma \cdot \log A_{it} - \sigma \cdot \frac{\gamma_1 \cdot B_{it}}{A_{it}} = \sigma \left(\frac{\gamma_2 \cdot R_{it} + \gamma_3 \cdot P_{it} + \gamma_4 \cdot T_{it} + \gamma_5 \cdot D_{it}}{A_{it}} \right) + u_{it}$$

$$\text{Adjusted q} = \text{index} + \text{u}_{\text{it}} .$$

where the m_i term has been replaced by the industry dummies (ind_i) and the *X* variables have been omitted. The second line renames the left hand side as *"adjusted q"* and enters "*index*" in place of the R&D and intellectual property variables. This final version of equation makes it clear that firms can differ from the "average" valuation implied by the index, and this difference is capture by the error term (u_{it}). Firms that perform better than the average with have positive values for u_{it}, while those that under perform will have $u_{it}<0$.

Conclusion

Benchmarking is a comparative method where a firm finds the best practices in an area and then attempts to bring its own performance in that area in line with the best practice. It is a reference point for the purpose of measuring and when applied to work processes yields superior results. Before embarking on comparison with other organizations it is essential that you know your own organization's function, processes; base lining performance provides a point against which improvement effort can be measured. Benchmarking involves management identifying the best firms in their industry, or any other industry where similar processes exist, and comparing the results and processes of those studied (the "targets") to one's own results and processes to learn how well the targets perform and, more importantly, how they do it.

Benchmarking is an analysis tool that should be used with caution because it uses general averages. Even between companies with comparable averages, there are many variables, both tangible and intangible, that can make a company succeed or fail. All too frequently, people will perform a benchmark analysis without a fair conception of what variables would produce the most accurate benchmark. Benchmarking analysis should only be used when the analyst has a thorough understanding of the important variables particular to his company and has the

ability to identify like companies. It should always be used in context. Performance indicators are highly specific and should not be generalized. In fact, many companies get themselves in financial trouble by not carefully evaluating what performance indicators should be monitored.

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