

## **The econometrics and the management (focus on HR costs and influencing)**

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### **Abstract:**

It is in general known that if “something” could be measured, than it could be managed well. Therefore, mathematical and statistical methods are used in many business areas (i.e. Finance and Marketing). Considering the stated above, the aim of this paper is to contribute to the theoretical literature by proposing the areas where econometrics (i.e. practical application of mathematical and statistical methods) could be found as beneficial (focus to the HR field). Specifically, this paper is focusing on stressing the importance and in the same time giving proposals for possible application of econometrics in analysis and forecasting of HR costs, as well as the usage for influencing via stating facts and developing scenarios and other aspects as well.

**Key words:** *Econometrics, HR costs, influence*

### **Introduction**

The application of econometrics (i.e. use of mathematical and statistical methods) in the business might facilitate the HR management because “HR managers must have full and real-time information to measure, predict, and manage workforce change and development. Lin (2011) (p. 252) (2.9) Moreover, because “top-performing companies place special emphasis on direction and alignment, across four areas: core beliefs, strategic management and performance improvement, culture, and organizational development and change mastery,”(Roberts and Hirsch, 2005) (p. 174) (2.8) thus the initiatives of HR professionals’ to

quantify some of the above emphasized fields might be found as important. The importance is a result of the fact that it is easy to manage if it could be quantified. Therefore this paper will present the importance and will propose the areas where the usage of econometrics in the management (specifically for HR management) could be found as important.

### **HR Costs and econometrics**

Beside of the possibility of application of econometrics at strategic level, the application of econometrics could be found challenging also at lower level. Since “the cost of not investing in employees becomes more and more apparent” (p. 38) (19), it is easy to conclude about the importance of HR professionals in gaining knowledge of econometrics methods, especially for the need of analyzing the costs and expenses and for the need of forecasting. Besides that, measures of success should include HR costs, which can be tracked from HR staff ratios and HR budgets” and “should also include organization capabilities that are the outcomes of HR and track how HR delivers on its vision of adding value.” (p. 848) (2.11). For proving evidence for the adding value or savings, there is need of usage of a certain econometrics methods. Therefore the HR professionals should hold mathematical and statistical knowledge.

Moreover, because “three types of resource allocations (advertising, R&D, and capital intensity) have been studied with regard to their impact on firm performance.” (p.216) (23), if we limit to Research and Development, we may conclude about the importance of HR management and the virtue of HR professionals, in designing the cost-effective company and benefits plans for specific target groups of employees working on research and development. But if HR professionals do not hold certain econometrics knowledge, the cost-effectiveness might be challenging.

Moreover considering the case where the company consist more than one establishment, “it can evaluate the performance of its establishments among each other and relative to the average industry performance”, and also “it can be compared over time to analyze whether the economic performance of the company has improved over time”. (p. 142) (Bolotova and Asiseh, 2009). (26) In this case comparable HR costs could be analyzed in

details and therefore the HR professionals should be able to follow the same methodology, used within the group. For that purpose, the need of possessing econometrics knowledge at least basic one is becoming necessity.

At the end, since the “line management devolvement, selection system, regular training and development of personnel, equity based compensation system, performance appraisal system, effective career planning system and a robust employee participation in the organizations’ decisions and actions are the key strategic HR practices that influence organizational performance” (Oladipo and Abdulkadir, 2011) (p. 53) (1.14), than the importance of various econometrics applications for detailed exploration of the effects, interdependence and costs of these practices could be considered as important. Therefore HR professionals must hold certain knowledge of econometrics (mathematical & statistical methods).

### **Influencing and econometrics**

According the findings of Magau and Roodt (2010) there are statistically significant differences between line management’s and HR professionals’ views on the effectiveness, efficiency and impact of human capital on all the strategic objectives (i.e 1. ‘operational excellence’, 2. ‘growing the company’ and 3. ‘securing the future’) (p. 3,9) (4) Therefore HR professionals have to use econometrics as to be able to provide data, facts and figures for increase the influence over the views of line management related with HR, since they are working together.

Another aspect of using econometrics to influence is related with performance. Since performance management “is a process based on a series of activities and has been constructed to improve efficiency and organizational effectiveness through securing of continuous improvement of individuals and groups’ performance” (p.844) (25), thus the application of econometrics approaches might be found very important as to provide accurate analysis based on planed and actual data related with employee group or individual performance. Those type of information gained via use of econometrics (mathematical and statistical methods) could be used for influencing over the employees performance via

comparing plans and actual, past and present etc. Also, providing various scenarios related with performance and compensation could be used to show to employees what they will get if a certain criteria are achieved.

More over since some “studies show that in organizations exist more types of employees: enthusiastic for their whole stay in the company; enthusiastic for approx. six month; disappointed after a short while; allergic to work” (p.556), and since “Top management would be wise to assess satisfaction levels in their organizations – by business unit, and by job category”, by using climate or satisfaction surveys at intervals. (p. 557) (22), the econometrics knowledge is becoming more important. HR professionals should be able to generate different reports, not only the basic reports, but to run different tests in finding association between surveyed questions, moreover to be able to run detailed analysis about the existing difference between employee categories, different age structure, different background structure or employment duration. Most important is that HR professionals should be able to find out the causal relationship between surveyed questions, and to examine the organizational health. And, at the end to be able to forecast the changes after certain measures. This type of information might be used for influencing over the management decisions as well as influencing over employees behavior and actions.

At the end the importance of econometrics could be found in analyzing the effects of the law changes (especially in transition countries) over the company costs. Therefore the HR professionals should hold econometrics knowledge as to able to calculate the direct effects of the related law changes, and to forecast the indirect effects.

### **Recommendation and conclusion**

Considering all stated above, we could conclude that it is recommend educating the HR professionals as to be able to use econometrics for various goals as to support the company performance and growth. The usage could be found in each level, from lowest operational till highest strategic level, especially when designing if-then scenarios.

## Reference

- Lin, L.-H. (2011) Electronic human resource management and organizational innovation: the roles of information technology and virtual organizational structure. *The International Journal of Human Resource Management*, 22 (2/ January), p. 235–257
- Roberts, R. and Hirsch P. (2005) Evolution and revolution in the Twenty first century: rules for organizations and managing human resources. *Human Resource Management, 2005 Wiley Periodicals Inc.*, 44 (2 / Summer), p. 171–176
- Ulrich at al. (2009) The Role of Strategy Architect in the Strategic HR Organization. *People & Strategy*, 32 (1), p. 24-31
- Savaneviciene, A. and Stankeviciute, Z. (2011), Human resource management practices linkage with organizational commitment and job satisfaction. *Economics and management*, 16, p. 921-928
- Zhao, J. at al. (2011) Restructuring strategies that change corporate focus: an empirical investigation of their performance consequences in the early 1990s, *ACR* 19 (1&2), p. 15-36
- Alewell, D. at al. (2007) Outsourcing HR Functions. Development of an Explanatory Approach to Firms' (Non-Existent) Demand for Personnel Services. *Management revue*, 18, (3), p. 271-292
- Rubin, J. (2008) Coming to America: Can Nordic brand values engage American stakeholders? *Brand Management* 16, *Palgrave Lacmillan Ltd*, (NOS. 1–2, 30–39 AUGUST–OCTOBER) p. 30-39
- Ulrich at al. (2008) The twenty-first-century hr organization. *Human Resource Management, 2005 Wiley Periodicals Inc.*, 47 (4 / Winter), p. 829–850
- Wright, P at al. (2009) Do the contingencies of external monitoring, ownership incentives, or free cash flow explain opposing firm performance expectations? *Journal of Management & Governance* 13, p. 215–243, (Published online: 15 August 2008, Springer Science + Business Media, LLC. 2008)

- Bolotova, Y. and Asiseh, F. (2009) Evaluating Economic Performance of Food Manufacturing Industries: An Analysis of the U.S. Pacific Northwest States, *Journal of Food Distribution Research* 40(3), p. 130-143
- Oladipo, J. A. and Abdulkadir, D. S., (2011) Strategic Human Resource Management and Organizational Performance in the Nigerian Manufacturing Sector: An Empirical Investigation. *International Journal of Business and Management*, 6 (9; September 2011), p. 46-56
- Magau, M. D. and Roodt, G. (2010) An evaluation of the Human Capital BRidge™ framework, *SA Journal of Human Resource Management*, 8 (1), Art. #276
- Javadi, M. H. M. and Rostami, A.S. (2011) Effect of Personal's Performance Assessment System (PPAS) on Human Resources Productivity (HRP) in Isfahan Province Telecommunication Company, *Interdisciplinary journal of contemporary research in business*, 3, (2), p. 843-848
- R. Ioana-Lavinia et al. Employees' satisfaction, central element of the strategy of competitive organization. *Annals of the University of Oradea*, p. 553-558
- Kolk, A. Püumann, K. () Co-Development of Open Innovation Strategy and Dynamic Capabilities as a Source of Corporate Growth. *Working Paper in Economics, Tallinn University in Technology*, No 173, p. 73-83
- Cooke, F. L. AND Saini, D. S. (2010) (How) does the HR Strategy support an Innovation Oriented business strategy? an investigation of institutional context and organizational practices in Indian firms, *Human Resource Management, 2010 Wiley Periodicals, Inc* 49,(3), p. 377– 400,
- Kasper, H et al. (2008) Strategic knowledge management: creating comparative advantages, *Strategic Change, John Wiley & Sons, Ltd*, p. 35-42
- Haines III, V. Y. and Lafleur, G. (2008) Information technology usage and human resource roles and effectiveness. *Human Resource Management, 2008 Wiley Periodicals, Inc.*, 47, (3/Fall), p. 525–540