UNIVERSITY/COLLEGE-INDUSTRY RELATIONSHIP: THE CASE OF OPERATION MANAGEMENT

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Abstract: The aim of this paper is not so much to give conclusive answer to the problem of University/college - industry relation but to present the current state of controversy related to the field of operation management, make some comment based on my own experience about it and to raise some questions about the feasibility, even the need of introducing changes in the current requirement for the development of academic careers.

INTRODUCTION

Universities/colleges all over the world exist to fulfill two main goals (i) Educate the future leaders of their communities and (ii) promote the advance of knowledge in every field (research). We can observe them in statement of the mission of the institutions as well as in the introductory chapter in University/College law.

Research is becoming an increasing important task for university/college teachers. This is true for every academic field and also in operation management. There is a controversy about some issues related to research and university/college relationship. The core of this controversy is that it seems to be a faint relevance of university/college research results for industry & actually they are becoming two different worlds each time more divergent.

This debate does not affect all the academic fields but it is very important in the fields close to everyday business practice and less related to the development of “basic theory” such as the case of operation management. In fact this is the field where there are very few universally accepted laws, theories, authors, publications where in last thirty years we are witnessing a tremendous revolutionary change in concepts, system, techniques.

The structure of the paper is:
- The evolution of operation Management: The milestone in Management Science and its incorporation to teaching
- The debate: The research agenda in operation management and its relevancies to industry
- Conclusion

THE GENEALOGY OF OPERATION MANAGEMENT

There is no doubt that the function of Operation Management exist from the business management practice. It offer good opportunities, it changes through time but it seems to generate doubts about the academic position.

We can trace back the origins of Production and Operations Management as a scientific field to:
- H. Towne and his paper “The engineer as economist” (1889)
- Penn State University. The grade of Industrial Engineering (1908)
- Taylor’s “Scientific Management” (1915)

Up to the 1960s what was taught in University related to Production and Operations Management was mainly Motion and Time Study, Lay-out distribution, Statistical Process Control and basic techniques for Production and Inventory Planning and Control. From the 1960s on, it is the time of “systems theory”, Operations Research and Management Science. These techniques seem to be more “scientific” and more appropriate to develop academic career (research projects and research papers) and it seems that it is in this moment that the divergence between academic and industry interests in the subject begin to grow. (Slack N, Lewis M, Bates H. 2004).

In the 70s and 80s, in parallel to the big crisis in the manufacturing activities of Western countries (the “Oil shock”) arrives a big wave of manufacturing new practices, systems and techniques. A true revolution and among them some methodologies that by now have become mainstream practices such as: MRP (Materials Requirement Planning), Toyota Just In Time, Theory Of Constraints all of them developed by practitioners in the field or consultants.
At that time arouses the first debate about the divergence University-Industry. Since then a substantial amount of literature (Andrews C.G, Johnson (1982), Amoako-Gyampah K, Meredith J.R. (1990), Voss C. (1995)) try to define what is the field of Production and Operations Management (POM) as separated from Industrial Engineering.

As well, there are several intents to design what was called the "research agenda" for Production and Operations Management: Buffa (1982), Miller J G, Graham M.A.W. (1989). Some later reports concluded that the academic research in POM during the 1980s had followed the "research agenda" recommendations and had focused in new subjects, (Amoako-Gyampah K, Meredith J.R. (1989)). But some other reports concluded that the distance with industry interests was not reducing (Malhotra, M.K, Steel D.C, Grover, V; (1994).

A DEBATE ABOUT TEACHING AND RESEARCH IN OPERATIONS MANAGEMENT

Anyway, the flow of new concepts and techniques coming from the "world of practice"; manufacturing companies, consultants or "management gurus", continue to appear at an even greater speed. TQM (Total Quality Management), ISO 9000, Malcom Baldrige, 6 sigma, Supply Chain Management, BPR (Business Process Reengineering), Benchmarking, Agile Manufacturing, Knowledge Management, etc. All of them were new concepts that very few of the PhD graduates from 1990, or even closer, were familiar with (Hayes, 1998).

Many of the new techniques are just fashion, don’t resist the pass of the time. What university should concentrate is in develop a proper "management science" (Hopp and Spearman (1998), Lovejoy (1998)).

And in fact, the academic courses contents do not change so fast, they do not change at the same pace that industry practice does, not even at the same pace that academic research literature evolves. Taj S; Hormozi A. M; Mirshab B; (1996) Although some other authors (Chase, Zhang (1998)) find that actually the courses syllabi do have changed at least formally, offering many of the traditional issues and some of the new ones under modern frames and, most of all, with new methodologies: games, case studies, team work and in general much more qualitative than quantitative issues producing a neat differentiation with operations research and management science.

And what about the knowledge produced in university and not used in practice? Resources and capacities theory, transaction costs, real options theory, OR algorithms; etc. Will they be used in a future middle term, so academics must persevere in them? (Slack N, Lewis M, Bates H. (2004). The study of Slack is much broad and deep, he also concludes that the subjects that academic researchers are addressing are not so different, with some exceptions, to the ones that are common in practice but the way in which academics approach to them is quite different. The role of university is to create a "management science valid in the long term.

Some other worries come from the change that we are witnessing in economic activities, the decline of many of the traditional manufacturing activities and the rise of some others: "the new economy", the services, etc. Do the classical techniques conceived for traditional manufacturing activities apply for the new activities? Probably not Eloranta E. K. (1998).

Since 1980s there are much more research publications, papers, authors and, in general, diffusion of research results than ever but the science itself (related to Business Management) does not grow at the same pace than the publications. He finds the reasons in: the "americanization" of research, that means a certain way of research patterns:

- Too much focus on mathematical formulation or in the empirical analysis of large data bases
- Much less stress on hypothesis creation,
- Much less importance of case studies.
One last subject of debate is about the faculty. Who should teach Operations Management? How we train the future teachers in our field? Operations Management is each time and at very fast a more complex field in which converge knowledge of many other disciplines: information technology, sociology, finance, marketing, etc. So, we developed multidisciplinary faculty or either we create multidisciplinary teams (Hayes (1998)), We are not training our students to be the kind of people that we would like to hire in our school and with whom we would like to work: creative, polyvalent, with a deep knowledge and interest in business management, with interest and ability in teaching. We are training narrow specialist in analytical tools and very separated from both business reality and teaching.

**CONCLUSION**

There are two world apart and divergence not only in operation management but on the whole of business management: the divergence in professional and academic papers. To reduce this divergence there are some issues in which opinion from different relevant academics do converges

Education becomes interesting by
- demanding the business practicenor as academicians.
- Integrating other discipline & creating Multidisciplinary teams
- Emphasizing on hand learning (games, computer simulation) instead of classical system of lecturing, reading and paper writing.

Research if done by
- exposing the academic faculty to the real business world
- Participating in projects with local enterprises
- Using more extent case studies
- Studying some other activities than manufacturing (i.e. service activities).

What I have presented in this paper is an academic driven debate. There is not so much public debate about what should be the role of business towards academic education and research.

**REFERENCES**


