

ISSN (online) 2029-7378

MYKOLAS ROMERIS UNIVERSITY

3rd INTERNATIONAL SCIENTIFIC CONFERENCE

**PRACTICE AND RESEARCH IN
PRIVATE AND PUBLIC SECTOR –
2013**

Conference Proceedings

Vilnius, 2013

INDUSTRIAL DEVELOPMENT FOR MANUFACTURING COMPANIES

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Abstract. In this paper the development for manufacturing companies is analysed based on historical review of competitive factors used by manufacturing industry. Development strategy is built understanding the development evolution. This allows us to identify important factors for performance improvements, using resource for improving strategy level and efficiency. Traditional strategy will be substituted by achieving certain competitive factors for sustainable development. Using this approach, author focuses on creating primary achievement and then on adding more sophisticated development factors known in the literature on competition and strategy development.

Keywords: strategic planning, strategic theory of the company, small business, industry development

JEL classification:

E01 - Measurement and Data on National Income and Product Accounts and Wealth; Environmental Accounts

E23 - Macroeconomics: Production

E64 - Incomes Policy; Price Policy

O31 - Innovation and Invention: Processes and Incentives

O33 - Technological Change: Choices and Consequences; Diffusion Processes

O38 - Government Policy

Introduction

Major goals of any company would be satisfying their customers with greater effectiveness and efficiency than their competitors, where effectiveness refers to the extent to which customer requirements are met, and efficiency is a measure of how economically the organization's resources are utilized when providing a given level of customer satisfaction. This highlights the fact that there can be internal as well as external reasons for pursuing specific courses of action (Slack 1991). In this paper author concentrates on productivity as a key factor which will give a company superior efficiency than other competitors have.

As well as a long-term perspective, the concept of competitiveness and sustainable development is most often seen as declarative for environment and natural resources quality.

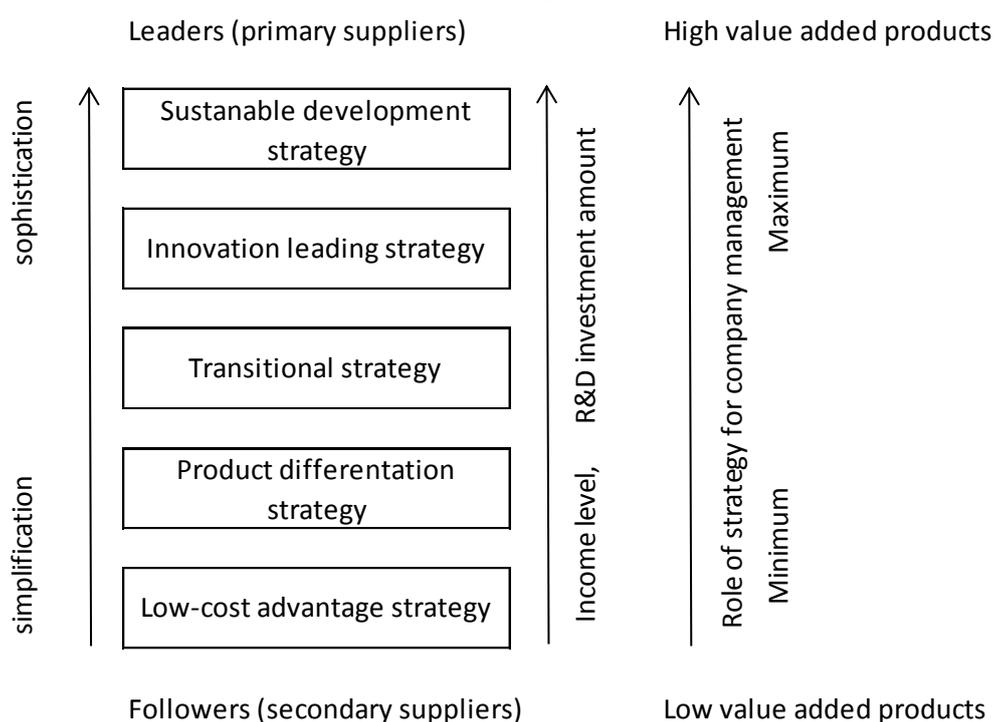
To respond to competition and develop in long term perspective, organizations should create sustainable competitive advantages in order to maintain current customers and acquire more customers. Strategic management is the best instrument to compete rivals at short and long runs, but too expensive for companies in developing countries. Nowadays in developing countries manufacturing competitiveness for the product that helps is mostly declared as brand, technology, developing an industry standard, to optimize production process mostly decreasing cost level.

The object of this paper is to create successful development strategy. The aim of this paper is to analyse the crucial aspects of development that influence the financial output of the companies. Author main conclusion is that successful strategy is one that could be upgraded with available resources

This conclusion is done based from the results of the existing literature that shows what main competitive advantages were used by companies in developing countries through the centuries. The broad number of studies analyse competitiveness factors for manufacturing companies and companies specific competitive factors were seem to be more competitive, than others.

Firstly we analyse a traditional literature about company development based on studies from developing countries. After overviewing series of literature in previous works authors presented strategy model which explains the role of different strategies for manufacturing industry according to income level (Shatrevich, 2012) (Figure 1). It is also important to understand the performance and profit output implementing these strategies.

Figure 1. Model of Strategy role for manufacturing industry.



Source: Author created

In this paper author concentrates on productivity as a key factor which will gives a company superior efficiency than other competitors have.

When discussing the economic performance of producers, it is common to describe them as being more or less “efficient,” or more or less “productive.”(Harold O. Fried 2004)

Talking about industrialization as contribution to manufacturing industry some athors point e.g. “towns and cloth manufacturing obviously existed in western Europe before the eleventh century. The advance in economic productivity was more critical: by using better-qualified workers and by increased artisan creativity, substantial improvements in quality and value of the goods produced per working hour input were realized. (Herman Van der Wee, 2003) Important difference before industrial revolution is described as “the development of a industry systematically aiming at division of labour, standardization, and export.”(F, Braudel 1967)

A new era in manufacturing industry was generated by the idea of competitive advantages based on core competencies and resources. Over time, the increasing attention given to intangible and invisible assets has emphasized the role of new sources of competitive advantages. The growing role of technological advantage represented in industrial

manufacturing, where the key competitive advantages for being more productive and as the result more effective.

Nature of industrialization is “the dominant tendency was to centralize production and labour within the factory” and “natural progression to greater and more sophisticated economic organization...and greater organization of labour... new machinery and dramatic technological innovation”. “Accepted patterns of industrial evolution could be explained by changes in technology, supply of labour, consumer demand, or even urban growth”. (James A. Schmiechein 1985)

The First Industrial Revolution occurred in England in the last third of the eighteenth century have also proved that industrial methods are more effective than traditional for manufacturing.

According to the standard or traditional interpretation, the industrialization of Europe and the world began with an "industrial revolution" in England (or Great Britain) which other nations subsequently imitated. (Rondo Cameron 1985) (for more information Rostow's Stages of Economic Growth research)

This hypothesis was empirically proved and also based on both in the "surplus labour theory" of Lewis [1958] and in the labour-saving technical change literature stimulated by Habakkuk's [1962] monograph.

The question of how great a role the mechanical inventions (e.g. Arkwright's water-frame, patented in 1769, and a decade later, Crompton's mule were major technological breakthroughs in spinning technology.) and the associated development of the factory system in British cotton textiles at the end of the eighteenth century played in the emergence of modern economic growth and the subsequent ‘great divergence’ remains a persistent debate in economic history

The term “revolution industrielle” was first used by Frenchmen in the early years of the nineteenth century to emphasize the importance of the mechanization of French industry, then in progress, by comparing it with the revolution of 1789. (Anna Bezanson 1971)

Joel Mokyr, one of the leading scholars of the Industrial Revolution, has argued for what he calls a ‘growing-up model’ (Mokyr, 1976, 1999, 82–89; 98–103). This is a Schumpeterian view in which technology created profit opportunities but innovation only slowly diffused throughout the economy.

This is the crucial point for understanding industrialization role in achieving competitive advantages for manufacturing industry.

Historians of particular industries tend toward the “mushroom” view and stress diversity among regions and industries in the late eighteenth and early nineteenth century when describing industrialization factor diffusion among the manufacturing industry` companies (e.g. Clapham, 1926; Berg and Hudson, 1992). The histories of the cotton industry (Fitton and Wadsworth, 1958; Fitton, 1989; Chapman, 1967, 1972; Wadsworth and Mann, 1931; Edwards, 1967), implicitly at least, take the “mushroom” view and stress cotton industry specific changes.

Even later during 2nd industrial revolution industrial manufacturing methods were most effective way to produce for manufacturing company.

Correspondingly, full usage of resources and production efficiency characterize industrial development progress and industry scale and positively impact local competitiveness (Begg, 1999).

Studies of industrial districts date back to Marshall (1920), but they proliferated in the last three decades (see Storper, 1997, and McCann and Folta, 2008, 2009, for reviews). The empirical economic literature on firm performance has focused heavily on the role of industry concentration and firms’ market share (e.g. Schmalensee (1989) and Feeny and Rogers (1999)).

Many studies have identified industrial structure, capital density, technology adjustment capacity, labour quality, and agglomeration economies to number among the main factors affecting urban productivity (Beeson and Husted, 1989; Moomaw, 1983; Williams and Moomaw, 1989).

In the 1980s Porter’s models helped companies to analyse the industry and gave vectors to their strategies, companies now need new models to create and manage knowledge and learning from market. Companies now compete in a very complex and dynamic environment, where knowledge and information is increasingly becoming the most valuable resource. The impact of technology, innovation and globalization increasingly defines that high capability of companies to transform, create knowledge and to be innovate is crucial to compete successfully.

Porter (1996) defines a cluster as a geographic concentration (‘geographical proximity’) of competing and cooperating companies, suppliers, service providers and associated institutions, which is resulted from the relationships among factor conditions, demand conditions, related and supporting industries, corporate strategy, and structure and rivalry.

In Marshall’s view (Alfred Marshall’s (1890, 1919)), certain types of industry have two options for achieving production efficiency: through a large, vertically integrated production unit or through the formation of an industrial district. Based on a similar perspective to that of Marshall’s, Piore and Sabel (1984) provide insight into industrial agglomeration and contracting arrangements in agglomerations of small and medium-sized enterprises. In Marshall’s model of agglomeration economies, three factors, i.e., the pooling of markets for specialized skilled labour, the development of subsidiary trade and suppliers of intermediate inputs, and the information within the community of firms, could drive industrial activities to locate together.

A. Weber’s (1929) industrial location theory claiming that industries tend to cluster in specific locations that offer optimal set of competitiveness factors, such as: costs of getting materials to the factory (i.e. proximity to certain industry-specific natural and geographical resources), costs of getting labour to the factory (i.e. proximity to labour), costs of getting the product out to the consumers (i.e. proximity to the demand) and benefits from agglomeration (i.e. profiting from the general local infrastructure and collocated supporting firms).

Thus, as long as the core technology of an industry cluster presents new opportunities for innovation (Schumpeter 1939), innovation should develop at a faster pace among clustered organizations than among nonclustered organizations.

Development strategy

Looking at industrialization development through history we could locate some evolution phases. (Table.1)

Table 1: Evolution of the industrial context

| | Taylorian organization | Post-Taylorian organization |
|------------------------|-------------------------------|--|
| Durability | cost (productivity) | cost (productivity)–delivery–quality–innovation–environment, etc. |
| Improvement | maximization | maximization/compromise |
| Control | a posteriori verification | a posteriori verification and reactive a priori control |
| Decision | strategic level; managers | strategic, tactical and operational levels; engineers and managers |
| Performance expression | financial and linear operator | financial/technical and complex relationships |

Source: L.Berrah et.al.

1975 and 2012, the performance expression has progressively become multicriteria, with Starting from Taylorian organization between 1945 and 1975, operations improvement was synonymous with maximization of profit growth. Performance expressions were purely financial ones according to the Taylorian organization prevailing at that time

They consisted of standardized cost ratios computed at present times, e.g. the efficiency or the workmanship, productivity ratios computed every month, or the turnover computed every year (Chandler 1988). Between the integration of technical criteria such as quality levels and delivery dates in addition to costs (Kaplan and Norton 1992, Lebas 1995, Grabot 1998).

From this perspective, technical reports on the status of the processes have been introduced (Fortuin 1988, Berrah et al. 2000). Moreover, as performance depends on the production processes, it must be deployed within the various production activities according to a defined action plan. Therefore, performance expressions are considered not only at the strategic level, but also at all decision levels (namely, strategic, tactical and operational). Thus, performance expressions, both financial and technical, must be considered from top to bottom for all the activities or processes to be controlled (Bititci 1995, Rangone 1996, Ghalayini et al. 1997, Suwignjo et al. 2000).

Some studies have emphasized that achieving competitive advantage in today`s dynamic and intensely competitive environment hinges on formulating and implementing a coherent business or competitive strategy (henceforth business strategy and competitive strategy are used interchangeably throughout the paper) (Hoskisson et al., 2000; Porter, 1980, 1985).

As such, author asks to focus on evolutionary mechanisms, for growing from low value added products as residual suppliers to larger and more valuable company in creating a more sustainable system. In industry, breakthrough innovations, or technological discontinuities, initiate eras that end when a dominant design, or standard of the industry, starts an era of incremental change. The emphasis on product that helps in developing an industry standard is replaced by an emphasis on process. Once the standard is set by industry`s leaders, as demand grows in amount and sophistication, there is for efficient processes that satisfy this demand at increasingly lower costs which usually involves secondary suppliers. This cycle is dominating while process technology improves the current standards innovated by leaders, a seemingly passive product technology evolution is already giving birth to the next technological discontinuity.

Manufacturing emphasis is migrating from the product that helps to increase competition level of the brand and technology, developing an industry standard, to production process mostly decreasing cost level. Technology and innovations improves the standards and manufacturing process, but requires a lot of investment (R&D), that is why is easier for companies to focus on decreasing the cost level.

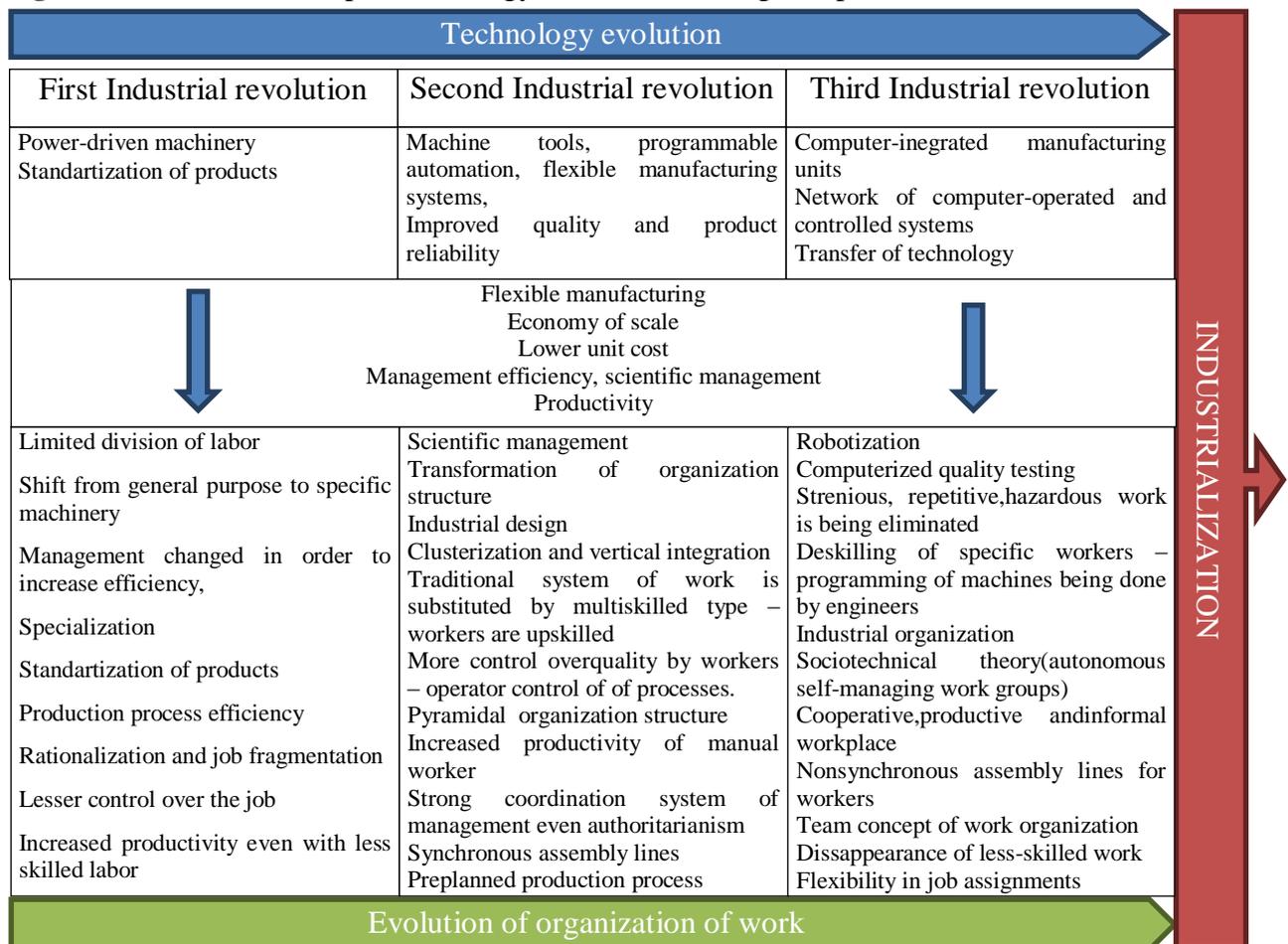
To ensure successful sustainable development industry needs to keep planning process of existing strategies, local companies has gradually moved from short, intuitive ad hoc decision-making, to understanding that making decisions must be a deliberate process, predicting future scenarios, weighing the benefits and costs in the short, medium and long term.

The empirical evidence from the competitive strategy literature in both advanced industrialized economies and emerging economies indicate that the implementation of a coherent business or competitive strategy leads to superior performance (e.g. Bowman and Ambrosini, 1997; Campbell-Hunt, 2000; Kim et al., 2004; Li, Zhou and Shao, 2009; Miller and Dess, 1993; Spanos et al., 2004).

Most companies in developing countries have initially a product specialisation and cost strategy - based on low wages and process innovations of standardised and incrementally improved products- to compete on the world market while the enterprises of the developed countries and of some specific sectors of developing countries do have a product innovation strategy. In order to successfully compete there are variety of competitive factor that could be used by management and ensure company long-term development and superior competitiveness (Figure 2)

Many scholars, ranging from early social theorists, convergence and modernization theorists of the 1950s and 1960s, and contemporary economists, perceived industrialization as a process associated with economic development and productivity within a country.

Figure 2. Model of development strategy for manufacturing companies.



Source: Author presented model using Roy B. Helfgott (1986), A.J.Field, R., A. Hoppe (1996)

Important conclusion for the development strategies is that company could implement above mentioned competitiveness factors that increase manufacturing effectiveness step by step using available resources. In the model we are trying to analyse the possible explanatory factors of effective financial output, the main conclusion shows that implementing industrial manufacturing elements will result in better cost management and innovation efforts, and will have a positive impact on financial output.

Conclusion

Model in this paper is a new concept of company development. It is analysed as a new system to be integrated in order to implement crucial competitiveness issues needed for effective use of company resources to help organization to create and sustain competitive advantages. Author point that there is no general acceptance of certain sequence that could be used implementing certain factor, author presents only a concept. In addition, some factors have more importance than others do.

The results of the model show that implementing competitive factors from Figure 2 and using approach described in Figure 1 would be a successful method to reach high performance.

The results of the model are described in the existing literature and author found that they are very similar to those of other studies and, and more important, it seems that the existing differences could be interpreted. So paper does not generate contradictory results. This paper confirms that the companies specialised on industrial method approach are more competitive on the world market than the companies with a standard approach.

This means that the relationship between industrial methods and generated output has to be analysed more broadly.

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