

**SWP 4/96 THE SEARCH FOR GENERIC
MANUFACTURING STRATEGIES IN THE UK
ENGINEERING INDUSTRY**

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THE SEARCH FOR GENERIC MANUFACTURING STRATEGIES IN THE UK ENGINEERING INDUSTRY

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ABSTRACT

The search for generic manufacturing strategies has been attempted previously using the American and the European Manufacturing Futures survey data. This paper details the results of a study using manufacturing strategy and performance data submitted by 120 competitors for the 1993 and 1994 UK Best Factory Award.

The research method used was the same as that applied by the previous researchers of this subject. This was to carry out a cluster analysis of the rankings of emphasis to be given to the improvement of six competitive capabilities during a two year period following completion of the questionnaire. Only data from UK engineering companies were used for this analysis.

The study findings are similar to those of the previous American study but add to them. Four distinct clusters of different competitive capabilities were observed. The distinguishing competitive capability of each cluster was found to be consistent with those detailed in a previously published theoretical framework that linked competitive capabilities with generic manufacturing strategy types.

INTRODUCTION

For some considerable time researchers have striven to develop practical concepts and frameworks for the strategic management of manufacturing operations. One example, that was derived from the research of Miller and Roth (1994) and De Meyer (1992), was a theoretical framework that depicted the symbiotic relationship between competitive strategies and a taxonomy of generic manufacturing strategy types (Sweeney, 1993). This framework was created from a synthesis of previous research findings and the conclusions drawn from a study of strategic manufacturing management in twelve companies. The name or label given to each generic manufacturing strategy type was chosen to emphasize how the manufacturing capabilities of each strategy type differs from the others.

This is one of a number of theories that are a product of the search for generic manufacturing strategies. Its theoretical value is limited because the framework was partially derived from the conclusions drawn from only twelve case studies. The general applicability of the proposed framework is questionable because it is not based upon an analysis of information obtained from a substantial number of organizations and the statistical testing of the research results.

There are other research results that have been produced by the use of this type of rigorous analysis. Unfortunately, the findings of these studies differ. De Meyer (1992) found that only two of the three types of manufacturing strategy discovered by him were similar to two of the three identified by Miller and Roth (1994). The third type of manufacturing strategy found by

De Meyer was judged to be unique to the sample of Manufacturing Futures data analysed by him.

Are these results complementary or do they contradict the convergence hypothesis? This hypothesis states that management concepts, strategies and approaches in different industrial regions will evolve towards each other if the external conditions become similar. De Meyer stated at the end of his paper that further research is still needed to investigate what constitutes a complete set of generic manufacturing strategies. What is also pertinent to this research need is a test of the convergence hypothesis for the strategic management of manufacturing operations in Europe and North America.

RESEARCH OBJECTIVES

The principal objective of this study was to search for generic manufacturing strategy types using the same methodology as that devised by Miller and Roth. A complementary objective to the main purpose of this research was to compare the findings of this research with those of Miller and Roth and De Meyer and to evaluate their consistencies. Such an evaluation would enable an assessment of the validity of the convergence hypothesis for the strategic management of manufacturing capabilities in both European and North American companies.

RESEARCH METHODOLOGY

The research method used for this study was the same as that adopted by the previous researchers of generic manufacturing strategy types. This consisted of indentifying common groups of priorities for manufacturing capabilities in order to enhance the competitiveness of companies. Also the number of companies with these generic sets of competitive manufacturing capabilities was examined. However, a critical research design problem was how to reconcile the approaches taken by Miller and Roth and De Meyer because they used dissimilar sets of competitive capabilities for their studies. These were different both in type and in number. The competitive capabilities chosen for the three studies are detailed in Table 1.

The selection of the six competitive capabilities used to define the manufacturing task, for the purpose of this study, was made for the following reasons:

- a. Volume flexibility was excluded as a manufacturing capability variable because it was considered to be essential as an enabler of dependable delivery. An engineering company that seeks to establish a dependable delivery capability will need to establish an ability to flex its production output because many organizations of this type compete in markets with patterns of demand that are both seasonal and cyclical in the short-term.
- b. In the Miller and Roth and De Meyer studies a question about the capability to offer a broad product line was also asked. It was decided to exclude this question from this study because of the problem with the interpretation of the term "broad". A question that is included in this study's questionnaire is "how many products are sold to the customer?" Reference to how this question was answered was made to ascertain the breadth of the product line of the companies found in each type of generic manufacturing strategy grouping.

The remaining four competitive capabilities shown in Table 1 were excluded because they were either not directly related to strategic manufacturing tasks or because the capability was unique to one of the studies.

Table 1 capability variables used to define the Manufacturing Task

Competitive Capability	Miller and Roth	De Meyer	Sweeney and Szwejczewski
1. Low Price	✓	✓	✓
2. Design Flexibility - ability to (a) Make Rapid Design Changes (b) Introduce New Products Quickly	✓	✓	✓
3. Conformance - consistent quality	✓	✓	✓
4. Performance - provide high performance products	✓	✓	✓
5. Speed - quick delivery	✓	✓	✓
6. Dependability - reliable delivery	✓	✓	✓
7. Volume flexibility - capability to respond to swings in volume	✓	✓	
8. After Sales Service	✓		
9. Advertising	✓		
10. Broad Distribution	✓		
11. Broad Line - to deliver a broad product line	✓	✓	
12. Speed to production changes		✓	

The manufacturing strategy data used for this research were obtained from the questionnaires completed by individual UK engineering plants that entered the 1993 and 1994 UK Best Factory Award competitions. A total of 138 questionnaires were received from engineering plants but 18 were excluded from the analysis because the respondents had only partially answered the question used for this study. This question asked respondents to rank the relative emphasis that their auditable plans, for the next two years, placed on six capabilities in order to give their plant a competitive advantage. The method of ranking used was 1 equals greatest importance and 6 equals least important. The definitions of the listed capabilities in the questionnaire were as shown in Table 2.

Table 2 Best factory award competitive capabilities

Rapid Product Design Change
Consistent Quality
Short Delivery Lead Times
Dependable Delivery Dates
Improved Product Performance
Manufacturing Cost Reduction

The identification of the manufacturing strategy types consisted of using the K-means cluster analysis procedure for grouping the rankings of respondent competitive capabilities. Final clusters were determined by nearest centroid sorting, that is by assigning each case, or the individual rankings for competitive capabilities of each firm, to the cluster with the smallest distance between the case and the centroid of a cluster. This was the statistical method also used by Miller and Roth (1994) and De Meyer (1992).

The process used to determine the optimal number of clusters was the same as that followed by Miller and Roth (1994) and De Meyer (1992) but with one additional criterion, that is the selection of the largest number of clusters on condition that all other original criteria have been satisfied. The original criteria used were as follows:

1. Accept Lehmann's (1979) suggestion that the number of clusters be limited to between $n/30$ and $n/60$ where n is the sample size. Thus only the results obtained from the analyses using three and four clusters were considered.
2. The tightness of the clusters of the competitive capability variables as measured by the F-ratio.
3. An analysis of variances. This was assessed by measuring the level of significance of the probability that the cluster mean values of each competitive capability differed.

RESEARCH RESULTS

The research consisted of carrying out both a three cluster analysis and a four cluster analysis of the competitive capabilities data received from UK engineering plants.

The results obtained from the three cluster analysis, presented in Table 3, shows some similarity to those produced by Miller and Roth using the North American manufacturing futures data. Two types of manufacturing strategic group were found to have similar priority competitive capabilities. These were the strategic groups named by Miller and Roth as caretakers and innovators. In both cases the top four competitive capabilities were identical in kind but differed in ranking after the highest rated capability.

Table 3: Comparison of Research Results
Competitive Capabilities by Generic Manufacturing Strategy

<u>Miller and Roth (1994)</u>	<u>Sweeney and Szejczewski (1996)</u>
<u>Caretakers</u> 1. Low price (cost) 2. Dependability (delivery) 3. Conformance (consistency) 4. Speed (delivery)	<u>Caretakers</u> N = 27 1. Cost reduction (1.4) 2. Short Delivery Lead Times (3.1) 3. Consistent quality (3.8) 4. Dependable delivery (4.0)
<u>Marketeers</u> 1. Conformance 2. Dependability 3. Performance 4. Low price	<u>Marketeers</u> N = 69 1. Consistent quality (1.8) 2. Dependable delivery (2.58) 3. Cost reduction (2.6) 4. Short delivery lead times (3.9)
<u>Innovators</u> 1. Conformance 2. Performance 3. Dependability 4. Design flexibility	<u>Innovators</u> N = 24 1. Consistent quality (2.4) 2. Rapid product design change (2.9) 3. Dependable delivery (3.2) 4. Improved product performance (3.3)

Table 3 Note:

The analysis of variance carried out by Sweeney and Szejczewski were the measurement of tightness of the clusters (the F-ratio) and the degree that the mean value of each variable cluster differed. These were all within the 5% level of significance.

The findings for the third strategic group, named the marketeer group, were unexpected. Miller and Roth found that the capability of this strategic group to provide high performance products to be a high ranking priority. Evidence of this, in the top four rankings of the UK engineering plants, was not found in the results of this study.

The UK engineering marketeer group was also found to consist of over fifty percent of the companies in the database. It was therefore agreed that a four cluster analysis may reveal a better insight into the competitive capabilities of those firms that constitute this large cluster of manufacturing plants.

Table 4: Cluster Analysis Results

COMPETITIVE CAPABILITIES BY MANUFACTURING STRATEGY GROUP

Competitive Capabilities	Caretakers N=56	Marketeers N=25	Reorganizers N=20	Innovators N=19	F-Value p=Probability
Manufacturing Cost Reduction	1.64 1	2.96 3	4.6 5	4.78 6	61.91 p=0.000
Rapid Product Design Changes	5.09 5	5.44 6	5.25 6	2.1 2	47.81 p=0.000
Consistent Quality	2.57 2	1.8 1	2.8 3	1.94 1	3.09 p=0.030
Improved Product Performance	5.23 6	2.4 2	4.4 4	3.84 3	43.45 p=0.000
Short Delivery Lead Times	3.53 4	4.88 5	2.05 2	4.47 5	32.83 p0.000
Dependable Delivery Dates	2.92 3	3.52 4	1.90 1	3.84 3	8.13 p=0.000

Table 4 Notes:

This table shows the mean value of each of the six competitive capabilities listed against the four manufacturing strategy clusters detailed and the ranking of their reported importance (1= Highest and 6 = lowest).

The analyses of varianced carried out were the measurement of the tightness of the clusters (the F-value) and the degree that the mean value for each variable cluster differed. These are all shown to be within the 5% level of significance (the P-value).

The results of the four cluster analysis of UK engineering plant data are shown in Table 4. A comparison of these results with those obtained by Miller and Roth and De Meyer are shown in Table 5.

Table 5: Comparison of Research Results

Competitive Capabilities by Generic Manufacturing Strategy

Miller and Roth (1994)

<u>Caretakers</u>
1. Low price (cost)
2. Dependability (delivery)
* 3. Conformance (consistency)
4. Speed (delivery)

<u>Marketeers</u>
* 1. Conformance (consistency)
2. Dependability
* 3. Performance (product)
4. Low price (cost)

<u>Innovators</u>
* 1. Conformance (consistency)
* 2. Performance (product)
3. Dependability
* 4. Design flexibility (speed)

De Meyer (1992)

<u>High Performance Products</u> (using 1988 data)
1. Conformance
* 2. Delivery dependability
* 3. Performance (product)
* 4. Delivery speed

Sweeney and Szwejczewski (1996)

<u>Caretakers</u>
1. Cost reduction
2. Consistent quality
3. Dependable delivery
4. Short delivery lead time

<u>Marketeers</u>
1. Consistent quality
2. Improved product performance
3. Cost reduction
4. Dependable delivery

<u>Innovators</u>
1. Consistent quality
2. Rapid product design change
3. Improved product performance
4. Dependable delivery

<u>Reorganizers</u> (Mass Customizers)
1. Dependable delivery
2. Short delivery lead time
3. Consistent quality
4. Product performance

* This indicates those variable clusters that differed from the others at the 0.05 level of significance or less.

All the six variable clusters differed from each other at the 0.05 level of significance or less.

Table 4 shows that a considerable number of companies that were found to be grouped as marketeers, using a three cluster analysis, have now been reallocated to the caretaker strategic group. The dominance of this large number of companies had suppressed the identification of the smaller marketeer strategic group. The four cluster analysis of competitive capability rankings now shows a number of important similarities to the findings of Miller and Roth. It also produced a set of competitive capabilities that are similar to a strategic group discovered by De Meyer, which differed to those found by Miller and Roth. All the cluster analysis data were statistically tested to determine whether they were from significantly different groups for each competitive capability variable and this was found to be the case, at the 5% level of significance. The results of this statistical analysis are shown on Table 4.

The top priority for the competitive capability of the caretaker, marketeer and innovator strategic groups were found to be identical to those reported by Miller and Roth. The other three priority competitive capabilities listed for these three types of strategic group were found also to be identical in type but they differed in their ranking. The types of competitive capabilities that De Meyer identified with his High Performance Products strategic group were found also to be identical to those named as Reorganizers by Sweeney (1993). In a similar manner their ranking also differed.

CONCLUSIONS

The objective of this research was to search for generic manufacturing strategy types. The four cluster analysis of the UK engineering plant data seems to show that the results obtained are similar to the manufacturing strategy group findings of other researchers. In addition, an analysis of variance of the results produced an improved set of statistical significance test results.

The results of this research, when considered in conjunction with those of a previous study of manufacturing strategy groupings, using manufacturing performance data only (Sweeney & Szwejczewski, 1996), suggest that only four generic manufacturing strategies are employed by engineering plants in the UK. How these two sets of research findings complement each other is presented in Figure 1.

Figure 1 A generic manufacturing strategy matrix for the UK Engineering Industry

		Make for Stock	Make for Order
Volume	Low	Marketeer	Innovator
	High	Caretaker	Mass Customizer (Previously named Reorganizers)

Figure 1 shows that some UK engineering companies have been reorganizing to establish a capability to combine volume efficiencies with a high level of manufacturing flexibility. These strategies were named previously by Sweeney (1993) as "Reorganizers". Perhaps they are better described as "Mass Customizers".

The figure also shows how each named generic manufacturing strategy type could fit on the product/process matrix. Innovators are frequently customizing established product designs or quickly creating new products. The mass customizers are the high volume producers of products with a range of feature options and they would fit onto the product/process matrix where flexible manufacturing systems permit the volume production of a broad range of products. Caretakers and marketeers are as Miller and Roth (1994) describe in their paper.

The results of this research also suggests an acceptance of the convergence hypothesis, since the sources of data that produced similar generic manufacturing strategy group findings are international. However, the information used for this research is only concerned with planned actions. A conclusion that may be drawn from previous research findings on generic manufacturing strategies is that there may be evidence to show an intention to adopt similar manufacturing strategies and approaches but there is a considerable difference between intention and practice.

FURTHER RESEARCH

The sorting of UK engineering plants into generic manufacturing strategy groups provides an opportunity to now use Best Factory Award manufacturing performance data for an examination of manufacturing strategy and performance standards. In addition, it is planned to search for generic manufacturing strategies, using the Best Factory Award database, in the UK processing and electronic industries.

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REFERENCES

- Lehmann, D.R., *Market research and analysis*. Irwin, Homewood, IL, 1979.
- De Meyer, A., An empirical investigation of manufacturing strategies in european industry, *Manufacturing Strategy Process and Content*, Voss, C.A. (Ed.), Ch. 11, Chapman and Hall, London, 1992, pp. 221-238.
- Miller, J.G. and Roth, A., A taxonomy of manufacturing strategies, *Management Science*, Vol. 40, No. 3, March 1994, pp.285-304.
- Sweeney, M.T., Strategic manufacturing management: restructuring wasteful production to world class, *Journal of General Management*, Vol. 18, No. 3, Spring 1993, pp. 57-76.
- Sweeney, M.T. and Szwejczewski, M., Manufacturing strategy and performance: a study of the UK engineering industry, *International Journal of Production and Operations Management*, Vol. 16, No. 5, 1996, pp. 23-41.

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