**MANAGEMENT RESEARCH:
A FRAGMENTED ADHOCRACY?**

by

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Abstract

This paper addresses the question of integration in the field of management research. Its point of departure is an analysis of the social and intellectual organization of the sciences undertaken by the British sociologist Richard Whitley. By focussing on the uncertainty involved in the research tasks and the mutual dependence between scientists in scientific fields, Whitley identifies nine possible ideal types, one of which -- management -- is said to exhibit a low level of integration and therefore to deserve the label "fragmented adhocracy". The purpose of the present paper is to try to discover how far this is holds true. I have looked at all the references occurring in the first eight volumes of the *Scandinavian Journal of Management* and the most important references in Swedish doctoral dissertations in business administration publicly defended prior to the end of 1985. The analysis provides evidence, in full accord with Whitley's claim, that management studies are less integrated than disciplines such as mathematics, chemistry, the history of science and economics. However, there is also evidence that the degree of integration is increasing. In addition the analysis shows that works in organization theory, particularly those originating in the United States, constitute a common knowledge base for Scandinavian management researchers and Swedish doctors of business administration.

1. The Heterogeneous Nature of Scientific Work

One important message that has been repeated by many organization researchers since the sixties -- among others the Aston school (see e.g. Kickson, Pugh & Pheysen 1969), Thompson (1967) and Woodward (1965) -- concerns the importance of considering the context of organizations in organizational analysis. In other words it is crucial to remember that organizations differ from one another, depending on the nature of their core task (technology) and the external demands to which they are exposed (the environment). This contingency approach was also applied by the British sociologist Richard Whitley (1984) a decade ago to the analysis of the organization of the sciences. Until then scientific work had to a large extent been considered as a monolith whose characteristics were the same irrespective of the discipline. Even Kuhn (1962), a book which has been important for introducing human and organizational elements into the analysis of scientific work, still seems to be providing a general model. This also led to much discussion about whether Kuhn's reasoning as regards paradigms, normal science and revolutionary science applies exclusively to the natural sciences (cf. Kuhn, 1970). Habermas (1968) pointed out, although not in connection with this discourse the necessity of distinguishing between three different types of interest underlying the production of knowledge: *technical* (the natural sciences), *hermeneutic* (the humanities) and *emancipatory* (the social sciences). A similar distinction had already been made by Snow (1959) in a discussion of "the two cultures". Thus Habermas and Snow, each in their own way, were emphasizing that scientific work is not only what is done by natural scientists, and that a basic distinction has to be made between the natural sciences like chemistry, physics etc., and the cultural sciences like the arts and the social sciences. Nonetheless a bias towards the natural sciences has seemed natural in the analysis of "scientific" work: the position of these sciences in society is strong, and they are closely linked with images of spectacular scientific breakthroughs and the technical and economic development to

which these lead. The **history** and **sociology** of science thus both **reveal** a **certain leaning** towards the natural sciences (cf. e.g. **Harré**, 1981 and Latour, 1987).

Whitley’s approach goes beyond making a general **distinction** between the natural and **cultural** sciences, and instead **takes** the **contexts** of different **scientific** fields as its point of departure. Here Whitley employs two main variables: (1) the mutual **dependence** between researchers, and (2) the uncertainty in the task. **Since** Whitley **also** argues that each of these two variables has a strategic and a non-strategic dimension (functional in the **case** of the **first**, and technical in the **second**), he **arrives** at a matrix containing sixteen cells. For various reasons **seven** of these can be excluded from further analysis. The remaining nine then constitute ideal types of research (see Table 1).

Whitley’s analysis thus **identifies** management studies as a fragmented adhocracy at one extreme in the range of the ideal types, with (1) low dependence between researchers both functionally and **strategically**, and (2) high task uncertainty both **technically** and **strategically**. At the other extreme we find physics, a conceptually integrated bureaucracy characterized by high **scores** for strategic and functional dependence between scientists and low **scores** for technical and strategic task uncertainty. In between are various combinations of **scores** for dependency and task uncertainty.

Table 1. Ideal Types of Scientific Fields

Type of Scientific Field	Dependence		Task Uncertainty		Example
	Functional	Strategic	Technical	Strategic	
Fragmented Adhocracy	LOW	LOU	High	High	Management studies
Polycentric Oligarchy	LOU	High	High	High	German philosophy
Partioned Bureacracy	Low	High	High	LOU	Anglo-Saxon economics
Professional Adhocracy	High	LOW	LOU	High	Bio-medical science
Polycentric Profession	High	High	Low	High	Continental mathematics
Technologically Integrated Bureaucracy	High	Low	LOU	LOU	Twentieth-century chemistry
Conceptually Integrated Bureaucracy	High	High	LOU	LOU	Post-1945 physics

Source: **Whitley** (1984, p. 158).

However, it should be noted that Whitley's ideal types have been developed primarily by a process of deductive reasoning. His classification of different scientific fields therefore constitutes an invitation to empirical tests. And this is exactly the purpose of the present paper, which will focus particularly on the field of management studies. As will be described in the following section, the methodology used in the analysis is based on the use of references. This material is then analysed with the help of more general stochastic models for developing skew size distributions, which are discussed in Section 3. The results are reported in Section 4 and some conclusions presented in Section 5.

2. The Use of References

A significant feature of scientific publications compared with other writings such as fiction or popular literature is the use of references. Scientists, irrespective of their field, normally support their reasoning by referring to the work of others. In this way they give ample recognition to their predecessors, and make it possible for their readers to look behind the argument of the immediate authors by returning to the sources. However, the use of references also fulfils the function of demonstrating that the text is a scientific one, and of showing on a more general level the scientific tradition to which a specific researcher is affiliated (cf. Rombach, 1994).

All this suggests that the use of references can be suitable as a way of measuring the degree of integration between researchers in a scientific field. We would thus expect researchers in fields with a high degree of integration to enjoy a greater share of common references than those in less integrated fields. In terms of Whitley's classification we would thus expect the share of joint references to be higher in physics, at one of his extremes, than in management studies at the other.

As indicated in the introduction above we will focus primarily here on management studies, but will also relate the results regarding management studies to findings in other scientific fields. The data chosen for analysis consists of the articles published in the 28 issues of the first eight volumes of the *Scandinavian Journal of Management* (1984-1992). This material (the SJM material) contained a total of 4,513 references, of which the vast majority (4,451) occurred in the 128 published articles while the rest appeared in editorials or book reviews.

A second body of data consists of the most important references in Swedish doctoral dissertations in business administration (the thesis material), as presented in Engwall (1992, Ch. 6). This data is based on a questionnaire sent to the authors of the 270 dissertations in business administration that had been defended up to the end of 1985. In our present context the responses to one question in particular will be used: authors were asked to mention the three most important references in their dissertations. This generated data consisting of 685 references altogether.

3. *Skew Size Distribution*

In the the early 1930s Robert Gibrat published a study (Gibrat, 1931) in which he discussed what he called “the law of proportionate effect”. This implies that the probability of a certain relative change in size is independent of original size. This in turn means that size distribution developed on such a basis will be skewed to the left, i.e. they will have a large number of units with low values and a small number of units with high values, thus clearly differing from the normal distribution observed for so many variables such as height, weight, etc. However, even the skew distributions seem to occur frequently in reality. As Simon (1955) pointed out many distributions produced by social interaction appear to assume this shape, for instance distributions of firm sizes, income, city sizes and word frequencies.

Simon has also presented a model which produces such skew distributions. It is based on the assumption that (1) the law of proportionate effect is valid, and (2) new units are added at a relatively constant rate in the lowest size class. Given these assumptions, the process moves toward a steady state. The size distribution in this state can be approximated by a distribution referred to as the Yule-distribution. The frequency function of this distribution can be expressed as

$$f(S) = C B(S, \Phi + 1), \quad (1)$$

where S is size ($S > 0$)

Φ is a parameter

C is a normalising constant.

In many cases this can be approximated by the Pareto-distribution:

$$f(S) = M S^{-(\Phi + 1)}, \quad (2)$$

where M is a constant and $S \geq 1$.

By integrating from S to infinity we obtain

$$F(S) = (M/\Phi) S^{-\Phi}, \quad (3)$$

which is 1 minus the distribution function.

Taking the logarithms of both sides of the equation we obtain

$$\ln F(S) = \ln (M/\Phi) - \Phi \ln S. \quad (4)$$

This means that if data is plotted in double-logarithmic scale, an estimate of the slope of the regression line (Φ) will provide a measure of integration. The lower this value the higher the degree of integration, and vice versa.

By applying this methodology to the data in the previous section, we can estimate the value of the integration measure Φ for both our set of data. By splitting the data into clusters, we can also analyse the development over time. However, in order to investigate Whitley's ideal types we would also need data from disciplines other than just management studies. Fortunately such data is available in the form of estimates of the parameter Φ . These are reported in Simon (1955) and they refer to mathematics, chemistry, the history of physics and economics. These estimates are based on the papers published during a twenty-five-year period by members of the Chicago Section of the American Mathematical Society, on the papers listed over a period of ten years in *Chemical Abstracts*, on papers referred to in the history of physics and papers and abstracts published in the economics journal *Econometrica*.

The estimates reported by Simon are: 0.9 for mathematics, 1.4 for chemistry, 1.6 for the history of physics and 1.7 for economics. These values thus rank the four disciplines in an order which accords with the one which Whitley's argument would lead us to expect. When we now proceed to management studies, we would expect the parameter Φ to assume values above the 1.7 reported for economics.

4. Empirical Results

Both data sets turn out to be highly skewed. Among the 4,513 references in the SJM material, the number of different references is 3,639. Of these 3,243 or 89.3 per cent are only mentioned once. The corresponding figures for the dissertations are 488 out of 685 or 71.2 per cent.

The skewed distribution can also be observed in the case of references mentioned more than once. Among the 387 such references in the SJM material, 223 had a frequency of two, while the number with a frequency equal to or above ten is only 11. Similarly, if we look at the thesis material, we find only a few references which are mentioned several times. In fact there were only 17 references which received more than three mentions.

Applying the methodology described in Section 3, we find that the Pareto distribution seems to be a reasonable approximation of the empirical distributions (Figure 1). Estimates of the Φ -value are also of the size expected, i.e. above 1.7 (Table 2), namely

1.89 for the SJM material and 1.85 in the thesis material. Splitting the SJM material into two four-year periods also reveals increasing integration. The estimate for the first period is thus 2.1, whereas the corresponding figure for the second period is 1.8. Similarly we can also note a certain, albeit rather weak, negative trend ($b=-0.2$) for the share of references mentioned only once. For the dissertations the tendency is in the same direction and is even stronger ($b=-2.3$).

Figure 1. The Cumulative Size Distribution of References Plotted in Double Logarithmic Scale

Table 1. Estimates of the β -parameter for the Two Populations

Data Set	Parameter Value
SJM 1984-1992	1.89
SJM 1984-1988	2.10
SJM 1989-1992	1.80
Doctoral theses	1.85

Another **indication** of a certain increasing integration is given by the "**age**" of the different references. This is higher in the last period for the SJM material (12.3 **years**) than in the first period (10.8 years). The former is **also close** to the average **age** in 1981-85 for the thesis material (12.5 years). This in turn implied an increase **compared** with the **1970s**, when the figure was 8-9 years. We may thus **suspect** that as time passes a group of references become standard. As a result the integration **measure** shows a **decrease** (i.e. integration increases), the number of references mentioned only **once** falls, and the average **age** increases.

Having found support for the **idea** that management studies are less integrated than a number of other **disciplines** but that the **field** is in the process of becoming more integrated, it seems appropriate **also** to look **behind** the overall **statistics**. For we can **see** that certain references are shared among Scandinavian and Swedish management researchers, and the natural next step is therefore identify these **common** features.

In so doing it seems appropriate not only to consider the frequencies but **also** the number of categories (volumes of the SJM and departments of the dissertations authors), in which a certain reference **occurs**. For this purpose a weighted frequency measure developed in an earlier study of word frequencies (G. Engwall, 1974, pp. 53-54) has **been** used. This means that the total frequency is weighted by the share of categories in which a reference is cited. Thus if a certain reference in the SJM material has a total frequency of 10, and the reference has **been** cited in four of the eight volumes, the weighted frequency **will** assume the value 5 ($= 10 * 4/8$).

Using the methodology described above, and **restricting** the analysis to the most frequently cited references, we find **first** that there is a very strong **Anglo-Saxon, particularly American, dominance** among the references. All, **except** Normann (1975) which was later translated into English, are English-language **publications**. American **authorship** accounts for 83 per cent in Table 3 and 75 per cent in Table 4.

Turning to the individual references, we find in the SJM material that just one (Weick, 1969) is cited in all eight volumes. However, it is not the most frequently cited; that is Cyert & March (1963). And should we point **out any specific** group as having **been** particularly influential in Scandinavian management research, it seems to **have been** the Carnegie school (Cyert, March and Simon). In addition to Cyert & March (1963), we thus find among the main references **also** March & Olsen (1976), March & Simon (1958) and Cohen, March & Olsen (1972). Together these account for 46 **mentions**. Again a **similar pattern** can be observed in the thesis material. At the top are March & Simon (1958) and Cyert & March (1963). They are **only** surpassed by Thompson (1967) -- a work which is, however, **closely** related to the Cyert, March and Simon tradition. And in **fact** these three **authors** are those most frequently mentioned in Thompson's name index.

Table 3. The 30 Most Frequently Cited References in the SJM Material Ranked According to Weighted Frequency

Rank	Reference	F	R	FM = F*R/8
1	Weick (1969)	18	2	18.0
2	Cyert & March (1963)	20	7	17.5
3	Thompson (1967)	18	7	15.8
4	Peters & Waterman (1982)	17	7	14.9
5	Pfeffer & Salancik (1978)	17	7	14.9
6	Glaser & Strauss (1967)	14	7	12.3
7	Porter (1980)	12	7	10.0
8	March & Olsen (1976)	10	7	8.8
9	Brunsson (1985)	10	6	7.5
10	Pfeffer (1981)	10	6	7.5
11	Berger & Luckmann (1966)	9	6	6.8
12	March & Simon (1958)	9	6	6.8
13	Williamson (1975)	9	6	6.8
14	Chandler (1962)	10	5	6.3
15	Deal & Kennedy (1982)	8	6	6.0
16	Burns & Stalker (1961)	9	5	5.6
17	Jönsson & Lundin (1977)	9	5	5.6
18	Mintzberg (1979)	9	5	5.6
19	Argyris & Schön (1978)	7	6	5.3
20	Pettigrew (1979)	7	6	5.3
21	Smircich (1983)	7	6	5.3
22	Lawrence & Lorsch (1967)	8	5	5.0
23	Mintzberg (1973)	8	5	5.0
24	Williamson (1985)	9	4	4.5
25	Child (1972)	7	5	4.4
26	Cohen, March & Olsen (1972)	7	5	4.4
27	Mintzberg (1978)	7	5	4.4
28	Pfeffer (1982)	7	5	4.4
29	Porter (1985)	7	5	4.4
30	Aldrich (1979)	8	4	4.0

Table 4. The 12 Most Frequently Cited References in the Thesis Material Ranked According to Weighted Frequency

Rank	Reference	F	R	FM = F*R/6
1	Thompson (1967)	14	6	14.00
2	March & Simon (1958)	10	5	8.33
3	Cyert & March (1963)	11	4	7.33
4	Anthony (1965)	4	4	2.67
5	Burns & Stalker (1961)	4	4	2.67
6	Pfeffer & Salancik (1978)	4	4	2.67
7	Glaser & Strauss (1968)	5	3	2.50
8	Churchman (1971)	4	3	2.00
9	Emerson (1962)	4	3	2.00
10	Lawrence & Lorsch (1967)	6	2	2.00
11	Normann (1975)	4	3	2.00
12	Silverman (1970)	6	2	2.00

We should **also** note four other references which **are** on both the “top” lists: Burns & Stalker (1961), Glaser & Strauss (1967), Lawrence & Lorsch (1967) and Pfeffer & Salancik (1978). It is **also** evident that the **differences** between the two data sets do not constitute **any radical change** in orientation. Both Table 3 and Table 4 thus stress the strong emphasis of organization theory as the joint platform for **Scandinavian** management researchers and Swedish **doctors** of business administration. This is further **underlined** by the **fact** that the most cited works are **also** closely related to **each** other. It is not only Thompson (1967) which reveals an allegiance to the Carnegie School. The same could be said of Weick (1969), in which March is the most frequently mentioned **author**. Similarly we **find** a number of cross-references among the most frequently cited (Figure 2). Cyert & March (1963) is quoted in Pfeffer & Salancik (1978), Thompson (1967) and Weick (1969). Thompson (1967) is mentioned in Pfeffer & Salancik (1978) and Weick (1969). Weick (1969) can be found as a reference in Peters & Waterman (1982) and Pfeffer & Salancik (1978). Pfeffer & Salancik (1978), finally, is quoted by Peters & Waterman (1982).

A corresponding **pattern** can be observed if we look at the **first 15** references in the **SJM** material (Table 5). **Once again** we **find** that **March & Simon (1958)** and **Cyert & March (1963)** are the most frequently cited. Pfeffer (1981), on the other hand, is the work most closely related to the others: eight **out** of fourteen. It is followed by six **references** for **Peters & Waterman (1982)**, a sign that modern organization theory has **also** been spread to practitioners.

Figure 2. Cross-References Between the Five Main References

Table 5. Cross References among the First Fifteen References in the SJM Material

Work	FM	Cited in	Citations	Sum
March & Simon (1958)	6.0	9	0	9
Weick (1969)	18.0	4	5	9
Cyert & March (1963)	17.5	7	1	2
March & Olsen (1976)	8.8	4	4	2
Pfeffer (1981)	7.5	0	a	8
Thompson (1967)	15.8	4	3	7
Peters & Waterman (1982)	14.9	1	6	7
Pfeffer & Salancik (1978)	14.9	2	4	6
Williamson (1975)	6.8	2	3	5
Brunsson (1985)	7.5	0	4	4
Chandler (1962)	6.3	4	0	4
Berger & Luckmann (1966)	6.8	1	0	1
Deal & Kennedy (1982)	6.0	0	1	1
Glaser & Strauss (1967)	12.3	1	0	1
Porter (1980)	10.5	0	0	0

Ali in all there are 39 cross-references among the 15 most frequent references. Considering that earlier publications cannot quote more recent ones, this means that 40 per cent of all possible relations exist. It is particularly worth noting that one of the fifteen references lacks any relation to the others, namely Porter (1980), which represents a microeconomic approach. However such an approach does not exclude relationships with the others. Williamson (1975), provides evidence of this, as it refers to the empirical work of Chandler (1962) and to arguments on bounded rationality in Cyert & March (1963) and March & Simon (1958). Williamson has in turn been mentioned by two other top references: Peters & Waterman (1982) and Pfeffer (1981).

The impression that organization theory provides a common frame of reference for Scandinavian management scholars finds further support from an analysis of all references quoted more than three times. Among these 90 references there is only one in the marketing field (Håkansson, 1982) and two in managerial accounting (Boland & Pondy, 1983 and Burchell *et al.*, 1980).

Thus our conclusion must be that the medium for integration among Scandinavian management researchers is organization theory. However, it immediately has to be added that organization theory is not a heterogeneous field in itself. An indication of this is that not even James March, who is the most frequently cited author, is represented in a majority of the articles. In the 128 SJM articles there are 87 references to 31 works by March, with or without co-authors. Since the same article often contains several such references, it appears from an estimate of the 36 first articles that about two-thirds of them lack any reference to March. So even he, with his vast scientific oeuvre

and strong penetration, is only cited in a third of the articles. Still lower, of **course**, are the figures for the **scholars** following March: Henry Mintzberg (54 references to 19 works), Jeffrey Pfeffer (49 references to 10 works), Karl **Weick** (37 references to 11 works) and Nils **Brunsson** (29 references to 11 works).

5. **Conclusions**

The above analysis has provided **evidence** in support of the view that management studies, at least in the Scandinavian and **Swedish context**, are characterized by relatively low integration **compared** with several other **disciplines**. It **also** indicates a tendency towards greater integration in this **field**. A **closer** examination of the **individual references** further suggests that works in the **field** of organization theory provide a **common** base for Scandinavian management **scholars**. Among works belonging to this standard literature three members in **particular** of the Carnegie **School** -- Richard Cyert, James March and Herbert Simon -- appears to **have** made a great impact.

These **findings** suggest that an extensions of this analysis to further data could be useful. A **project** is therefore under way which **will** take the **cultural** variable into account by investigating both European and North **American** journals. In the **field** of general management the European ***Journal of Management Studies*** and the North **American *Academy of Management Journal*** were the obvious **choices**. However, it was **also** felt to be appropriate to consider journals in the specialized **fields** of accounting, **organi-**zation and marketing. European journals relevant to these subjects are ***Accounting, Organizations and Society, Organization Studies*** and the ***European Journal of Marketing***, while the corresponding North **American** journals are ***Accounting Review, Administrative Science Quarterly*** and the ***Journal of Marketing Research***. It is hoped that it will be possible to report the results of these studies in the not too **distant** future.

References

- Aldrich, H., 1979, **Organizations and Environments**, Englewood Cliffs, NJ: Prentice Hall.
- Anthony, R. N., 1965, **Planning and Control Systems: A Framework for Analysis**, Boston, MA: Harvard University.
- Argyris, C. & Schon, D., 1978, **Organizational Learning: A theory of Action Perspective**, Reading, MA: Addison-Wesley.
- Berger, P. L. & Luckmann, T., 1966, **The Social Construction of Reality: A Treatise in the Sociology of Knowledge**, Garden City, NY: Doubleday.
- Boland, R. J. & Pondy, L. R., 1983, "Accounting in Organizations: a Union of Natural and Rational Perspectives", **Accounting, Organizations and Society**, **8**, No. 2/3, pp. 223-234.
- Brunsson, N., 1985, **The Irrational Organization**, Chichester: Wiley.
- Burchell, S. **et al.**, 1980, "The Roles of Accounting in Organizations and Society", **Accounting, Organizations and Society**, **5**, No. 4, pp. 5-27.
- Bums, T. & Stalker, G. M., 1961, **The Management of Innovation**, London: Tavistock.
- Chandler, A. D. Jr, 1962, **Strategy and Structure. Chapters in the History of the American Industrial Enterprise**, Cambridge, MA: MIT Press.
- Child, J., 1972 "Organizational Structure, Environment and Performance: The Role of Strategic Choice", **Sociology**, **6**, January, pp. 2-22.
- Churchman, C. W., 1971, **The Design of Inquiring Systems. Basic Concepts of Systems and Organization**, New York: Basic Books.
- Cohen, M. D., March, J. G. & Olsen, J. P., 1972, "A Garbage Can Model of Organizational Choice", **Administrative Science Quarterly**, **17**, No. 1, pp. 1-25.
- Cyert, R. M. & March, J. G., 1963, **A Behavioral Theory of the Firm**, Englewood Cliffs, NJ: Prentice Hall.
- Deal, T. E. & Kennedy, A. A., 1982, **Corporate Cultures: The Rites and Rituals of Corporate Life**, Reading, MA: Addison-Wesley.
- Emerson, R. M., 1962, "Power--Dependence Relations", **American Sociological Review**, **27**, No. 1, pp. 31-41.
- Engwall, G., 1974, **Fréquence et distribution du vocabulaire dans un choix de romans français**, Stockholm: Skriptor (diss.).
- Engwall, L., 1992, **Mercury Meets Minerva**, Oxford: Pergamon.
- Gibrat, R., 1931, **Les inégalités économiques**, Paris: Sirey.
- Glaser, B. G. & Strauss, A. L., 1967, **The Discovery of Grounded Theory**, Chicago, IL: Aldine.
- Habermas, J., 1968, **Erkenntnis und Interesse**, Frankfurt am Main: Suhrkamp.
- Håkansson, H. (ed.), 1982, **International Marketing and Purchasing of Industrial Goods --**

An Interaction Approach, Chichester: Wiley.

Harré, R., 1981, **Great Scientific Experiments**, Oxford: Oxford University Press.

Hickson, D. J., Pugh, D. S. & Pheysey, D. C., 1969, "Operations Technology and Organization Structure: An Empirical Reappraisal", **Administrative Science Quarterly**, **14**, September, pp. 378-397.

Jönsson, S. A. & Lundin, R. A., 1977, "Myths and Wishful Thinking as Management Tools", In: Nystrom, P. C. & Starbuck, W. H. (eds.), **Prescriptive Models of Organizations**. Amsterdam: North-Holland, pp. 157-170.

Kuhn, T. S., 1962, **The Structure of Scientific Revolutions**, Chicago, IL: The University of Chicago Press.

Kuhn, T. S., 1970, **The Structure of Scientific Revolutions**, Chicago, IL: The University of Chicago Press (2. edition).

Latour, B., 1987, **Science in Action**, Milton Keynes: Open University Press.

Lawrence, P. R. & Lorsch, J. W., 1967, **Organization and Environment**, Boston, MA: Graduate School of Business Administration, Harvard University.

March, J. G. & Simon, H. A., 1958, **Organizations**, New York: Wiley.

March, J. G. & Olsen, J. P., 1976, **Ambiguity and Choice in Organizations**, Bergen: Universitetsforlaget.

Mintzberg, H., 1973, **The Nature of Managerial Work**, New York: Harper & Row.

Mintzberg, H., 1978, "Patterns in Strategy Formation", **Management Science**, **24**, May, pp. 934-948.

Mintzberg, H., 1979, **The Structuring of Organisations**, Englewood Cliffs, NJ: Prentice-Hall.

Normann, R., 1975, **Skapande företagsledning** (Creative Management), Lund: Aldus.

Peters, T. J. & Waterman, R. H. Jr, 1982, **In Search of Excellence: Lessons from American Best-Run Companies**, New York: Harper & Row.

Pettigrew, A. M., 1979, "On Studying Organizational Cultures", **Administrative Science Quarterly**, **24**, December, pp. 570-581.

Pfeffer, J. & Salancik, G. R., 1978, **The External Control of Organizations. A Resource Dependence Perspective**, New York: Harper & Row.

Pfeffer, J., 1981, **Power in Organizations**, Marshfield, MA: Pitman.

Pfeffer, J., 1982, **Organization and Organization Theory**, Marshfield, MA: Pitman.

Porter, M. E., 1980, **Competitive Strategy: Techniques for Analyzing Industries and Competitors**, New York: Free Press.

Porter, M. E., 1985, **Competitive Advantage**, New York: Free Press.

Rombach, B. (ed.), 1994, **Med hänvisning till andra** (With reference to Others), Stockholm: Nerenius & Santérus.

Silverman, D., 1970, *The Theory of Organizations*, London: Heinemann.

Simon, H. A., 1955, "On a Class of Skew Distribution Functions", *Biometrika*, **52**, December, pp. 425-440.

Smircich, L., 1983, "Concepts of Culture and Organizational Analysis", *Administrative Science Quarterly*, **28**, September, pp. 339-358.

Snow, C. P., 1959, *The Two Cultures and the Scientific Revokdon*, Cambridge: Cambridge University Press.

Thompson, J. D., 1967, *Organizations in Action*, New York: McGraw-Hill.

Weick, K. E., 1969, *The Social Psychology of Organizing*, Reading, MA: Addison Wesley.

Whitley, R., 1984, *The Zntellectual and Social Organization of the Sciences*, Oxford: Oxford University Press.

Williamson, O. E., 1975, *Markers and Hierarchies: Analysis and Antitrust Implications*, New York: Free Press.

Williamson, O. E., 1985, *The Economic Institutions of Capitalism*, New York: Free Press.

Woodward, J., 1965, *Industrial Organization: Theory and Practice*, London: Oxford University Press.