

Pen, Cees-Jan

Conference Paper

Actors, Causes, And Phases In The Decision-Making Process Of Relocated Firms In The Netherlands

40th Congress of the European Regional Science Association: "European Monetary Union and Regional Policy", August 29 - September 1, 2000, Barcelona, Spain

Provided in Cooperation with:

European Regional Science Association (ERSA)

Suggested Citation: Pen, Cees-Jan (2000) : Actors, Causes, And Phases In The Decision-Making Process Of Relocated Firms In The Netherlands, 40th Congress of the European Regional Science Association: "European Monetary Union and Regional Policy", August 29 - September 1, 2000, Barcelona, Spain, European Regional Science Association (ERSA), Louvain-la-Neuve

This Version is available at:

<https://hdl.handle.net/10419/114753>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Faculty of Spatial Sciences

PO Box 800
9700 AV Groningen
The Netherlands
Tel + 31 50 363 38 85
Fax + 31 50 363 39 01
E-mail: c.j.pen@frw.rug.nl

Actors, causes, and phases in the decision-making process of relocated firms in the Netherlands

By
Cees-Jan Pen
Unit Economic Geography
University of Groningen

Groningen, June 2000

1. Introduction

1.1 The general formulation of a problem

In economic geography, the usefulness of location theories and research on decision-making in real relocations has been problematic, while locational analysis is at the heart of regional science. This is caused by unrealistic and simplifying normative assumptions of the more (post-)positivist and structuralist researchers, who dominate this research area. On the other side, the more realistic behavioural and institutional interpretative research is too descriptive, as well as practical oriented and policy driven. Qualitative approaches are based on case studies, which makes the drawing of general conclusions and the execution of statistics a rather interpretative and vulnerable process.

Relocation fits to the seven attributes of strategy (Mintzberg, Ahlstrand, and Lampel, 1999): (1) relates to the organisation and the environment; (2) is complex; (3) influences the performance of the organisation; (4) relates to content and process; (5) is not always deliberate; (6) influence all organisational levels; (7) is analytical (information collection is necessary) and conceptual (something innovative is done). Shrivastava and Mitroff (1984, page 18) identify a similar gap, as noted in the first paragraph, between theory and practice in the strategic business management literature on decision-making: “the usefulness of organisational theory and research for practical decision-making has been limited”. In his unpublished dissertation, Khatri (State University of New York, 1994) argues that the extant research on strategic decision making seems peripheral to strategy issues: (1) it is mostly descriptive; (2) it has focused on non-profit organisations. The start of the famous article about the structure of unstructured decision processes of Mintzberg et. al. (1976) is illustrative of the descriptive qualitative approach: “a field study of 25 strategic decision processes, together with a review of the related empirical literature, suggests that a basic structure underlies these ‘unstructured’ processes”.

The combination of location theories and strategic business management theories on strategic decision-making is a necessary step to improve the limited usefulness of location theory. For example, Cooper (1975) describes that the sequence involved in a relocation decision can be seen to be but one part of an on-going strategy for ensuring the continued existence and/or expansion of a firm, rather than an isolated event. The presented questionnaire in this paper, which is based on responses of 1,100 firms bridges the gap between literature on relocation and strategic decision-making, and real relocation decisions. As a subsequent step, the hypotheses generated by the analysis of the questionnaire data will be translated into a new questionnaire for in-depth interviews with 50 recently relocated firms¹. We argue that constructing questions for in-depth interviews with the help of an extensive written questionnaire prevents that underlying thesis is classified as: “studies of mobile firm decision-making tend to confirm previous findings rather than add significantly to them (Keeble, 1977)”.

¹ We select firms, which relocated one to three years ago for two reasons: (1) a time period of more than three years ago results in too large memory losses; (2) a time period of less than one year means that certain firms have difficulties/no information in comparing the situation before and after the relocation.

1.2 What is firm migration and why study firm migration?

Firm migration is a process of adjustment, whereby one location is substituted for another in order to better satisfy the needs and desires of each intended migrant to create desirable states of the future for the firm (Ebels, 1996). The definition is grounded on the local unit description of the regional dimension classification of Eurostat (1998, pages 36-40): “an enterprise or part thereof, situated in a geographically identified place”. An enterprise is the smallest combination of legal units that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources.

The focus is on so-called complete migrations or ended/transfer moves, which means that the entire spatial establishment moves from one location to another, while the activities of the business at the old location are ended. A firm is regarded as a spatial settlement, which may be the main establishment, the ancillary establishment or an independent establishment. We regard the firm as an open-system (Kast and Rosenzweig, 1973) and in line with Hart et al (1989) suggest that a contingency firm location is necessary to capture the complexity of different types of business firms.

Location choices of firms are a well-known and important research area within economic geography. One of the first firm migration studies (McLaughlin and Robock, 1949, pages 4-5) explains this interest: “no one apparently had ever made an effort to find out directly from businessman the ways in which certain factors influenced their selection of plant locations...to throw light on the general principles influencing location”. Location decision-making is important, because any location pattern is the result of numerous individual decisions/strategies taken over varying periods of time. North (1974) even argues that 84% of the firms execute a complete move each twelve years. Rossi and Filipini (1995) add that the spatial movement of firms and establishments offers an indication of the changing competitiveness of a metropolitan area. Finally, Bruinsma, Gorter and Nijkamp (1999, page 4) argue that relocation behaviour of dynamic firms offers strategic information about future developments in the volume and direction of transport flows, about the expected transport modes to be used, and also about structural changes in the industrial heartland. It is evident that location choices are most clearly observable during a firm migration process and a location decision is a form of a revealed preference for the locational attributes of a given destination area. The forces governing location choices can then be used to establish for example control instruments and tools for planning industrial locations. This interest has led to hundreds of practical and more or less ‘scientific’ migration studies in the Netherlands.

1.3 Characteristics of the behavioural location theory

Three location theoretical perspectives are used to study firm migration (Hayter, 1997): (1) (neo-) classical, (2) behavioural, and (3) institutional (the geography of enterprise). We shortly describe the headlines of these theories. Since the 1960s, most firm migration studies (Keeble, 1978; Townroe, 1978; Schmenner, 1982; Pellenbarg, 1985; Ebels, 1996) have used a behavioural approach. This corresponds with Hessel (1992), who stresses that (neo-) classical location theories have largely been rejected as unrealistic or have

largely been adapted to real-world circumstancesⁱ. Three assumptions cause this criticism: profit maximisation, perfect knowledge, and instantaneous response. The assumptions results in a plea for an adaptive theory of location, which implies there is a need for evolutionary, dynamic, behavioural, and decision-making approaches (<http://faculty.washington.edu/krumme/adaptive>). The main objective is to incorporate bounded rationality (Simon, 1953): (1) there is abundant evidence that it is important; (2) models of bounded rationality have proved themselves in a wide range of impressive work; (3) standard justifications for assuming unbounded rationality are unconvincing; (4) deliberation about an economic decision is a costly activity, and good economics requires that we entertain all costs (Conlisk, 1996).

Finally, Taylor (1980) and Vaessen (1993) conclude that the structuralist geography of enterprise (McNee, 1960) needs a theory of enterprise. This illustrates the descriptive and case study character of the geography of enterprise, which focuses on larger and especially multinational corporations producing multi-products in a globalising world. Singer (1986) describes the objective of this approach: “the focus on individual decision-making distracts attention from the structural features of the economy to which firms react and what firms actually do with respect to the setting up or closure of plants is best understood in this broader context of political economy”.

Our behavioural perspective focuses on decision-making processes and the influence of decision-makers on location choicesⁱⁱ. The publications of Stafford (1969, 1974) originate the geographical interest in location decision processes. Milward and Newman (1989, page 208) defend the approach: “the fact that the location decision is a multistage process...increasing importance of non-traditional location factors”. The behavioural location theory is divided in a West-European and an American school, whereby the ‘classical’ firm migration studies belong to the West-European school. This paper connects with this school for 3 reasonsⁱⁱⁱ:

- (1) The inductive approach, opposite to the more deductive American approach, fits well into the Dutch geographical research tradition and connects with the more qualitative aim of the paper (De Smidt and Wever, 1984; De Pater and Van der Wusten, 1996). This research attempts to account for real-world patterns and changes rather than propound some optimal locational arrangement, but the studies are pragmatic, firm-oriented and based on fieldwork (De Smidt and Wever (1984)).
- (2) Despite differences in the structure of the urban system, the geographical scale, urban and regional problems, cultural and institutional setting is comparable, while in the United States migration studies are based on different starting points and different data. For example Hart et al (1989) observe differences between location factors of high tech firms in California and Michigan.
- (3) American behavioural economic geographers are more spatial analysts (Greenhut, 1956; Birch, 1986; and Schmenner, 1986), who focus on quantitative research

ⁱ E.g. Von Thunen's land use theory (1826), Weber's industrial location theory (1909), Christaller's central place theory (1933), and Hotelling's spatial competition and competitive differentiation (1929).

ⁱⁱ The behavioural location theory is developed by Katona (1951), Simon (1958) and Cyert and March (1963), and adopted by Wolpert (1964), Pred (1967, 1969), Townroe (1969, 1971), and Keeble (1978).

ⁱⁱⁱ Keeble, Townroe, Cooper in the United Kingdom, Pred and Söderman in Sweden, Pellenborg in the Netherlands, and Bade in Germany.

concerning firm dynamics and models. These researchers have little attention for decision-making processes and incline to neo-classical or structuralist approaches.

Next, Krumme identifies eight behavioural location approaches (<http://faculty.washington.edu/krumme/450>)ⁱ. Hayter (1997, page 137) defines behavioural location theory as: “it assumes that location choice is part of a strategic or long-term investment decision (part of a general body of investment decisions), which is complex, uncertain, inherently subjective, and conducted by individuals or groups of decision makers, who do not have the capabilities of the ‘*Homo economicus*’”ⁱⁱ.

Thus, the theory is concerned with the process by which decisions are made, as well as the whole range of factors influencing such processes. The decision-maker is a so-called satisficer, which means is described as: “to denote problem solving and decision making that sets an aspiration level, searches until an alternative is found that is satisfactory by the aspiration level criterion, and selects that alternative (Simon, 1972)”. In this perspective, a factory location reflects locational preferences, which are shaped by non-rational decision-making processesⁱⁱⁱ. Söderman (1975, page 148) adds that cause for and steps taken before the location planning is the most critical factor. Therefore, choice is not determined by objective characteristics of the situation, but by information processing. The heart of the analysis is shifted from what is decided to how a decision is made (from object to process).

1.4 Need for more substantive behavioural location theory

The criticism on the behavioural location theory is that the firm is regarded as a so-called ‘black box’, which implies that the environment determines the outcome of location decisions. A ‘black box’ is a component of a system, whose structure we know nothing about. Its behaviour is inferred from its input and output characteristics alone.... a long-established convention that the geographer’s interest stops at the factory gate (Dicken and Lloyd, 1990, page 268). According to Taylor and Thrift (1983), behavioural studies have little or no impact, precisely for the reason that they never came to grips with the internal functioning of the firm, or more properly of the business organisation. There is an internal relation between investment and location and yet the implications of the determinants of investment have been ignored by many studies (Sayer, 1980). Concepts in the behavioural location theory may be characterized by their high potential of what it could mean for location choice research than what it already contributed. We conclude

ⁱ Satisficing and bounded rationality (Katona, 1951, Simon (1955), behavioral theory of the firm (Cyert and March (1963), muddling through (Braybrooke and Lindblom (1963), standard operating procedures (Baumol and Quandt (1964), ambiguities and garbage cans (Cohen, March, and Olsen (1972), behavioral matrix (Pred (1967), field-theoretic approaches (Lewin (1951), and search behaviours (Aguilar, 1967).

ⁱⁱ This paper uses the ideas of Hayter, because his publication ‘The dynamics of industrial location; the factory, the firm and the production system’ (1997) is regarded as one of the most recent comprehensive textbooks on location theory. Within business management, the same holds true for Mintzberg, Ahlstrand, and Lampel’s publication ‘A guided tour through the wilds of strategic management’ (1999), which is regarded as one of the most comprehensive recent books on strategies.

ⁱⁱⁱ Within economic geography these locations are described with the help of concepts such as spatial margins of profitability (Smith, 1971; McDermott and Taylor, 1973), economic efficiency (Renner, 1947), range of tolerance (Thomas, 1964), and the behavioural matrix (Pred, 1967, 1969).

that economic geographers have to include business internal processes. Townroe in 1971 already stresses that “the principal impetus for change in the demand for space will come internally from the enterprise under consideration.... the principal impetus to movement comes from the need to expand output”.

The ‘black box’ and structuralism causes the ‘death of behavioural geography’. In the 1980s, behavioural location theory has lost its impetus on account of internal division and various criticism from radicals and humanists in geography.... behavioural geography was relegated to a minor role within the discipline (Wins, 1995). One of the main problems is the repetitive and research biased character of the questions in these studies and the limited attempts to support the results with statistics. Hundreds of inquiries are executed regarding motives, which are underlying location decisions, but a body of formal theory has not been obvious. Townroe (1978) state that studies about locational decision-making has not advanced much beyond detailed empirical description. They are classificatory descriptions of the sequences through which firms may (or may not) pass in making some sort of locational decision (Keeble, 1976). Most firm migration studies may be regarded as a sort of checklist/management tool for planning and advising about relocations. In a recent article Love and Crompton (1999) conclude that the published literature on business location reveals wide variations in elements that are considered important. Sayer (1980) ends that the rather mediocre behavioural insight that people act on the basis of perceived, rather than actual conditions seems to have been allowed to license a wholesale abandonment of theory.

The interest changed in the beginning of the 1990s due to three factors. (1) In 1991, Townroe elaborates and highlights the topic of the rationality of industrial location decisions. This article heralds the renewed interest in behavioural location studies (Louw, 1996). In the Netherlands, this results in five firm migration-related dissertations (Hessels, 1992; Louw, 1996; Van Wee, 1996; Ebels, 1997; Meester, 1999), and two current firm migration PhD-projects at our Faculty. In line with Young and Lever (1996), Meester (1999) concludes that still little attention has been paid to for example place imagery and subjective factors in locational decision-making. (2) Firm migration studies in the 1990s illustrate that firm relocation is an important topic in the Dutch and European spatial planning science (Lloyd and Roe, 1992). In Belgium, Brabander et. al. (1992) study the location and migration motives of firms in Antwerpen. Silander et. al. (1999) analyze location choices of firms to support the Finnish regional policy. In a European research publication on territorial competition in Europe (including firm migration studies in Italy, Switzerland and France), Wins (1995, pages 244-245) blatantly recommends that we have to pay much more attention than in the past to actual location processes...most economic analyses of location have only been interested in the outcome of these processes...trying a posteriori to find the location factors explaining this redistribution...they ignored the processes leading to location choice...the outcome depend upon how the location process itself develops. In an article in the Journal of Transport Geography, Hanssen (1995, page 247) pleads for more location decision studies in Norway. (3) One of the main challenges within economic geography focuses on integrating the ‘demography of firm’ approach and behavioural economic geography. Until now the demography of firms focuses on explaining and modeling deviating growth

figures between regions with the help of concepts such as innovation, clustering, and learning processes (see Carroll, Hannan, 2000). Van Dijk, Pellenbarg, and Van Steen (1998) argue that relating the five firm demographic (birth, growth, decline, death, and migration) components with location decisions and decision-making improves the behavioural location theory. This prevents conclusions such as: “previous research on plant closures has little to say on the closure decision itself....we know very little about the number of factors considered in each decision or their relative importance within a specific decision...we also know little about the influence of the level at which the decision is taken (Kirkham and Watts, 1998, page 1565). The interest in the demography of firms partly results from the attempt to have a more holistic view of the spatial impact of the life cycle of the firm and the functioning of firms within economic geography.

1.5 Useful ideas of the strategic management literature

Organisational decision-making theories are according to Söderman (1975) of little use, because they lay out explicitly the necessary steps in the process (the so-called prescriptive/normative strategy schools). Shrivastava and Mitroff (1984, page 18) describe the underlying reason: “scientific research on organisations involves systematic inquiry based largely on well structured, objective approaches to social science research characterised by positivist methods...in their attempt to structure objectively and to simplify the complex organisational phenomenon, most organisational theories obscure the richness and complexity of the set of assumptions that managers must make in order to operate successfully in a rapidly changing complex environment”. Similar to neoclassical location theory, the normative decision models have limited concern to the descriptive aspects of problem formulation and in particular with the organisational context of the decision-maker and the inherently political nature of organisational decision-making (Thomas, 1984, page 139). For behavioural scientists, it is important that organizational theories are interesting, understandable, and worth implementing. They must both question and be based on the assumptions that managers make in practical decision making situations.

In strategic business management a process such as a relocation is increasingly characterised by the low level of initial structure, long time horizons, distinct political complications, wide ranging effects within the organisation and a high sensitivity to environmental changes (Thomas, 1984, page 140). A-theoretical individuals whose subjective opinions, impressions and biases influence the decision process. Descriptions such as messy, ill-structured, un-programmed, and wicked problems of organised complexity are commonly used to typify these types of strategic processes. Writers in the field of strategic management recognise that human cognitive limitations may affect strategic decision-making, basing their arguments on the (behavioural) notion of bounded rationality. Frederickson (1983, page 565-571) stresses the relevance of this paper: “it is widely recognised that strategic management research progress on this topic has been modest and that knowledge remains normative or descriptive and is largely untested...it is recommended that investigators focus their efforts on individual process characteristics and questions...strategic process investigators should adopt a decision making perspective and concentrate their efforts on developing and utilizing methodologies that

study how organizations make and combine individual strategic decisionsⁱ. In this context he uses the ‘black box’ to illustrate that the strategic decision process is a ‘black box’. Mintzberg, et al (1999) adds that in the popular learning school (initiated by Lindblom, 1959; Quinn, 1980, Nelson and Winter, 1982) little is known about the architect behind the strategy and where is strategy implemented within the organisation. Furthermore, they question the assumed well thought and intended character of the process and the division between strategy formulation and strategy implementation. We argue that one of the main problems is the conviction that relocation should be a plan or a pattern. Milward and Newman (1989, page 203) for example state that the industrial location decision occurs only after the relevant corporation has formulated a strategic plan...it is merely a subset of the larger process of corporate planning. This contrasts with the five p’s of strategy: plan, pattern, position, perspective, and plot (Mintzberg, et al, 1999). If the strategy focuses on creating a unique and useful position by combining several activities, strategy is as a position. Strategy is a perspective when the organisation has a fundamental way of handling things, a sort of a firm theory. Finally, strategy is a plot if the organisation implements a manoeuvre to impress an opponent or competitor. For example, a firm buys land to let other firms think the production capacity will be expanded, while the real aim is to discourage the building of a new factory by competitors. The strategy is somewhere in between a deliberate and an emergent strategy.

1.6 Synergy of business management theories and behavioural location theories

The behavioural research justifies the focus on the strategic decision-making process. Preceding sections illustrate that both the economic geographical behavioural location theory and the strategic business management literature on decision-making processes focus on the same issue and face similar criticism. Cohen and Cyert (1963, page 397) describe the underlying thought: “the critical issue is not whether one assumes profit maximising instead of satisficing behaviour. Instead it is fruitful to develop an understanding of the process (in this paper the business management black box) of decision making within the firm (in this paper the economic geographical black box)”. Combining the two insights result in slightly opening both black boxes.

This paper presents the results of a postal questionnaire, which is used to develop an adequate framework of strategic decision-making to guide the interviews with recently migrated firms. Observation of decision processes provides insights into the effects of these processes and the conditions under which they will operate in strategic decisions. This will contribute to a more complete understanding of the operation of firms in space, where the theory is more grounded in empirical data. Section two elaborates the theoretical ideas into the questionnaire, which is described in section three. Section four presents the results of the questionnaire and the conclusions will be drawn in section five.

ⁱ Bower, 1970; Carter, 1971; Mintzberg, 1978; Pettigrew, 1973; and Quinn, 1980; Hickson et al, 1986.

2. The questionnaire

2.1 Contents of the questionnaire

We acknowledge the importance of comparing relocation with other spatial location strategies and firms without location strategies, so-called inert firms. This clarifies what makes a relocation decision so special. The studies of Hickson et. al. (1986) and Keller et. al (1988) are used to select strategic decisionsⁱ. They conclude that “the most radical weighty matters with the most diffuse and enduring consequences appear to be locations, products, and reorganisation decisions...whilst services and inputs decisions appear less likely to wrinkle brows”. Due to the spatial focus and the comparison with relocation, six location strategies are identified (Lloyd and Roe, 1992):

1. Relocation;
2. Junction;
3. Division;
4. Expansion on site;
5. Taking-over;
6. Disposal.

Expansion on site is selected, because firms with location stress have three possibilities: (partial) relocation, expansion on site and doing nothing. Analysis of location factors is a starting point to improve the location theory. After Weber (1909), Katona and Morgan (1952) are the first ‘geographers’, who analyse the factors in a consistent mannerⁱⁱ. In practice, firm migration research enumerates lists of spatial location factors, which are based on the question: why did you move or why did you choose this site? The factors are selected by the researcher and it is only possible to reach the triggering factor. Postal surveys about location decisions have a limited contribution, because the key to understanding industrial locations is to understand and analyse the decision-making process and its consequences.... At present little is known about the location decision, notwithstanding the lists of the major location factors....they only asked: why here (Stafford, 1969). Since 1969 a lot of useful empirical data has been collected, but Hayter (1997, page 159) observes that little direct assessment of satisficing theory in studies of industrial location choice were made, although comments are offered from time to time.

Therefore, we analyse the underlying internal (organisational), building/premise (accommodation), and external causes of location strategies, instead of the famous distinction between push and pull factors. Rajagopalan et al (1993, page 351) tellingly conclude that environmental, organisational, and decision specific factors significantly influence strategic decision process characteristics. Louw (1999, page 489) adds that

ⁱ Hickson et. al. (1986, page 162) typify location strategies as: “an unprecedented step into the unknown. Infrequent, exceptionally weighty and strategic, highly pressured by influence from numerous internal and some external interests, and so processed in sporadic fashion”.

ⁱⁱ The articles of Richard Hartshorne in Economic Geography (1928) and in the Journal of Geography (1929) about the distribution of the iron and steel industry in the United States are the first articles on location factors and location choices. The first publication concerning the questioning of firm migration motives is the classical work ‘Why industry moves south’ by McLaughlin and Robock (1949). They argue that it is sometimes said that many plants are irrationally located according to the whims of company executives or their wives. None of the plants included in this study in 1949 can be that simply explained.

accommodation play an important role in the location choice of companies...accommodation factors play a greater role in the location decision process than has been assumed till now...there is no reason to keep accommodation out of location theory any longer". Fenker (1999, p. 270) questions the importance of accommodation by stressing that sometimes success or failure is due to non-real estate factors. This clarifies the remark of Atzema and Lambooy (1999, page 16) that internal and organisational motives and the differential attraction of different firms are more decisive than physical factors to explain the pattern...only when one includes these factors it will be possible to understand the relocation motives.

Barkely and McNamara (1994) and Love and Crompton (1999) recommend that surveys must differentiate stages of the location search as well as firm characteristics and location motives in the individual phases. The location decision-making process consists of three to seven phases (Mintzberg et al, 1976, Edwards, 1983, Louw, 1996). Nishioka and Krumme (1973, page 204) summarise the underlying thought of identifying phases: "the complexity can analytically best be approached by identifying stages within the decision process on the basis of crucial thresholds, which are being reached in the evolution of spatial and non spatial constraints for specific locally significant variables". There still is limited information about the location decision process, the amount of decision phases, and the thresholds. Söderman (1975, page 52) warns that it is hard to determine precise time limits for activities during the process. Schwenk (1984) argues that these models involve various numbers of stages and are similar to earlier models of the decision-making process (Söderman, 1975; Lang, Dittrich and White in Academy of Management Review, 1978). Most models contain four phases: (1) problem identification/recognition/policy initiation, (2) alternative generation/search, (3) evaluation/selection, and (4) implementation/final decision/choice. These phases are mutually dependent and the process is iterative and cyclical and errors at one phase may be magnified or corrected by this cycling process (Schwenk, 1984).

In the Netherlands, Louw (1996) is the first, who describes how location decision processes develop. The six types of location factors with the phases orientation, selection, and negotiation is the most innovative aspect of his dissertationⁱ. In his opinion the difference in three decision phases is a useful tool to unravel the location choice process and the importance of business internal and external factors. This supports the statement of Cameron and Clark (1966, page 70): "analytically there is merit in separating this decision process into parts so that an appraisal can be made of the important influences at each stage of the decision process". Wins (1995) adds that it is difficult to understand the redistribution of spatial activities without some knowledge of the processes governing its evolution. Table 1 presents the results of Louw's integration. This positioning of course has to be elaborated in underlying research.

ⁱ These three phases are identical to the famous article of Mintzberg, et. al (1976).

Table 1. Relative importance of location factors in the three decision phases

<i>Location factors</i>	<i>Orientation</i>	<i>Selection</i>	<i>Negotiation</i>	<i>Total</i>
Premise	15.3	12.3	7.1	11.9
Functional	19.4	18.4	7.1	16.1
Technical	3.1	4.2	2.0	3.4
Financial	12.2	14.2	52.5	22.5
Site/business area	43.9	36.0	12.1	32.3
Remaining	6.1	14.6	19.2	13.8
Total	100	100	100	100

Source: Louw, 1996, page 154.

This paper questions the existence of three decision phases and the usefulness of the six groups of location factors and especially the vague category remaining factors. Finally, the fundamental statement of Townroe (1971, page 6) will superficially be studied in the questionnaire and later during the interviews: “the importance of the stages in the decision process have been discussed by other investigators... But, previous surveys have not looked closely at such questions as the position in the company of the individual who undertook the search, his or her goals and means, how the criteria for the final choice were established, who was consulted both within and outside the company, how long the phases and the whole process took, which factors influence the duration, how long it was before production started in the new plant, financial and business problems of the process, what steps were taken for financial evaluation, etc.”. The questionnaire presented in this paper pose slightly different and more complex questions, which will be elaborated and developed during the 50 interviews and by using different interview techniques (for example the repertory grid method of Kelly (1955)). Keeble (1977) supports this choice: “future work will be useful only where either new techniques are used or new questions posed”.

3. The research population

In the behavioural approach, finding a representative sample is not a major concern. Hamilton (1974, page 22) states that it is far more rewarding to expose the essentials of decision-making behaviour by references to dissimilar firms, dissimilar industries and dissimilar environments. Mail surveys may have some inherent limitations due to a high non-response rate among people with lower education levels, and difficulties in handling certain types of questions (Feitelson, 1991). Despite the problems of asking managers about their decision process, Chan, Gau and Wang (1995, page 87) stress that while managers can have the incentive to misrepresent the true reasons for their decisions, they have no reason to believe that management misrepresentation is widespread.

The survey was marked to three groups of firms:

1. a) The questionnaire is send to a group of 958 ‘registered’ relocated firms, which are collected with a rather pragmatic and cheap method. First, we searched the names and addresses (with the help of Post Office service on the Internet (www.detelefoongids.com)) of 517 electronically available newspaper article-archives collected on the Internet about relocated firms (Pen and Pellenbarg, 1999).

b) The other 441 firms are collected by sending e-mail requests for names of relocated firms to the larger municipalities in the Netherlands. Most of the contacted municipalities appeared to be rather reserved. Besides, some of the municipalities did not register relocations or referred to other organisations such as the province, the local Chamber of Commerce or the local business club.

This illustrates that firm relocations are hard to define, register and grasp. Using the Internet appeared to be a quick and cheap method for the first data collection phase.

2. The questionnaire is send to all members in the panel of firms managed by the Faculty. On average, each year firms participating in this panel receive a questionnaire followed by two reminders if necessary. The usual response rate is 60 to 65%. In 1999 the panel consists of 2,156 firms. Probably because of the complex subject, the response was 23.0%.
3. A representative sample of 1,741 (263 migrated and 1,478 'normal' firms) firms is selected from the mutation balance database managed by the Chamber of Commerce.

4,851 firms are contacted and precisely 1,100 firms returned the questionnaire. 71 questionnaires are undeliverable, which result in 4,780 contacted firms and a response rate of 23.0%.

4. The results

4.1 General characteristics

The 1,098 firms consist of 571 non-moving firms, 197 firms, which relocated between 1995 and 1999 and 330 firms with other location strategies (see 2.1). 127 of the 197 relocated firms can be used for the in-depth interviews, because these firms finished their relocation not more than three years ago. If the decision is executed more than three years ago, the chance of memory problems will be too large. The economic sectors are integrated in six groups: (1) manufacturing and energy = manufacturing; (2) construction; (3) hotels and restaurants, and retailing and wholesale trade = trade; (4) transport and communication = transport; (5) business services and real estate = business service; (6) the public sectors = public. The public sector will be omitted because of the problematic comparison with the other sectors and furthermore only five public firms relocated.

As a consequence of the transformation of Western economies to information processing service and knowledge economies, manufacturing firms are due to inertia and limited means less inclined to relocate (Senn, 1995). This contrasts with the situation in the 1970s, when manufacturing industry was more mobile than the service industry. For example, the only substantial flow of mobile service industry in Britain has been short distance moves of office firms from Greater London (Keeble, 1978, pages 202-203). Nowadays, business service firms are due to lower investments in their location and the information processing economy more inclined to relocate. Schriner (Industry week 12/06/1999) predicts that companies find themselves immersed in a new set of real-estate/location decisions, because of the development of e-commerce and the Internet. Finally, transport firms have a larger chance to relocate, which relates to the Dutch status of distribution country.

Only the mean size of non-moving firms is smaller than for firms with other location strategies. To eliminate extreme values, firm size is divided in six groups, which are shown in table 2.

Table 2. Establishment size (in numbers of persons employed) of relocations and other location strategies

	1-9	10-19	20-49	50-99	100-249	> 250
Relocated %	14.6	26.6	29.7	16.7	9.4	3.1
N	28	51	57	32	18	6
Other location strategies %	6.0	12.0	27.8	22.2	25.6	6.3
N	19	38	88	70	81	20

Source: Panel questionnaire

In our population, firms smaller than 20 employees have a larger chance to relocate and firms larger than 100 have a slighter chance. Keeble (1978), however, argues that mobile manufacturing firms are distinctively large firms, which are often multi-plant and foreign owned firms. More recently Senn (1995) also describes that relocating establishments tended to be rather larger than average, with very few in the smallest category and they incline to be multi-plant (group) firms. This contradiction with table 2 may be explained by the remark of Rees (1971) that to a large organisation, the location decision is a more frequent routine decision, whereas to a smaller organisation with less experience, the location decision is a more strategic one. The assumed routine character of the relocation decision for larger firms leads to a larger inclination to co-operate and more accessible information for scientific research. Furthermore, this controversy may also be caused by the fact that increasingly relocated small firms are part of a larger firm or networks of firms (typical of our network economy) and are therefore regarded as a large firm.

Despite this, we agree with Mason's (1980, pages 271-272) four attributes, which explain the prevalence of small firms: (1) they have undemanding premise requirements and less capital investment to write off; (2) small firms make a series off small locational adjustments and select the first minimum requirements site which they find, while large firms make infrequent large locational changes; (3) small firms are much more affected by redevelopment; (4) large firms have more flexibility in accommodating expansion, because of their ability to purchase land in excess of their needs. Besides, firm size of relocated firms in future has to be related to the business sector, because the importance of medium and small sized firms differs between business sectors.

4.2 Business characteristics of location strategies

The recent employment growth of the firms is calculated by comparing the amount of employees in 1995 and in 1999. The average employment growth of non-moving firms is 0.3% (N = 536), firms with other location strategies 16.5% (N = 315), and relocated firms 24.3% (N = 179). These differences are significant on a 5%-level. Mason (1980) also found that migrant plants show a greater propensity towards growth than non-mobile plants. No differences between the business sectors are found for relocations with respect to employment growth and the business life cycle. The stress to relocate and the relief for

firms with growing amounts of employees (and the related lack of space) is illustrated by the higher judgement on the executed relocation decision.

It is evident that non-moving firms belong to the declining and stable phases of the life cycle, while firms with location strategies relate to the growth phase (Molle, 1977). Finally, all firms with location strategies foresee a more growing future, which is a signal that relocation is ‘good’ for a firm. For relocations there is no relation between the business sectors and firm size and the future life cycle, despite the large actual different growth rates between business sectors. Apparently, relocation is not bad for the future of the firm. Finally, the results have to be related to the fact that 62% of all the 1098 firms foresee that in two years the firm will be in a growth phase.

The growing features of relocated firms in the current internationalising (new) economy may indirectly support Keeble (1978) and Rossi and Filipini (1995) that mobile firms are more export oriented and exhibit significantly wider spatial patterns of customer linkage. Studying firm migration therefore has besides analysing location decisions and its growth features an important meaning for the transforming regional economy. This section leads to a fundamental hypothesis and research questionⁱ:

“Relocation relates to growing situations for firms with respect to employees and the life cycle. This growth continues after the implementation of the relocation. Apparently a relocation is ‘good’ for (the future of and continuity of) a firm, although we have no background information about the changed business internal and external process, and the advantages and disadvantages of the relocationⁱⁱ. It is however uncertain if the same holds true in times of economic recession or for relocated firms, which are more or less forced to relocate due to government policy, societal pressures or private developments”.

4.3 The main internal and external actors of the relocation decision

In general, the director, the board, the head-office or a combination of actors is responsible for the relocation decision (Townroe, 1971; Hillier Parker, 1993). A board decision may be a decision by one to seven actorsⁱ. Table 3 presents these key actors.

Table 3. Key actors of the decision-making process (N= 194)

	<i>Director</i>	<i>Board</i>	<i>Head-office</i>	<i>Director/board</i>	<i>Board/head-office</i>
Number	102	68	20	2	2
Percentage	52.6	35.1	10.3	1.0	1.0

Source: Panel questionnaire

Table 3 supports North’s (1974) statement that privately owned companies run by one entrepreneur execute a relocation decision. A director executes the relocation decision of firms smaller than 20 employees. This is confirmed by the different average firm size of 34.1 for director decisions, against 195.4 for board or head office decisions.

ⁱ See North, 1974; Keeble, 1978; Mason, 1980; Bramezza and Gorla, 1995; Rossi and Filipini, 1995.

ⁱⁱ Chan, Gau and Wang (1995, page 99) conclude that the stock market reacts positively on relocation announcements of headquarters and negatively on plant relocation. Besides, decisions motivated by cost savings and business expansion are positive, and decisions based on managerial motives are negative.

This section assumes that a firm size of around 20 employees determines the involvement of one or more actors, which may be caused by the juridical duty of Dutch firms larger than around 20-30 employees to install a works council. No relation exists between the dominance of actors in certain business sectors. Barr, Waters and Fairbarn (1980) recommend that results such as in table 2 should be elaborated, because the ability of decision-makers to locate economic activity in space is a function of their own geographical location, education, career, personality, socio-economic status, position in the firm, aspirations, cultural affiliation, and age. Söderman (1975, page 149) for example found that most of the responsible actors are managers and seldom planners, had a technical background, and are men. Townroe (1974, page 302) adds that younger men seem to relate with faster-growing, larger plants, employing over 50 people initially.

Little is known about the involvement of third parties during strategic decision-making processes, while researchers may better understand the decision process if the role and appropriate use of third parties is known (Saxton, 1995). Third parties are any individuals or organisations formally contracted by a company as an agent (consultant, lawyer, accountant, bank) to provide information or input for the decision. This paper tests the classical statement of Luttrell (1964) that the use of specialist departments within the mobile companies and of external consultants is on a very minor scale, with the main decision on location being regarded as a direct managerial function. Furthermore, North (1974) states that during location decisions very few contacts were made with outside agencies apart from estate agents (Ter Hart, 1978; Louw, 1996). Table 4 presents the use of the main supporting actors.

Table 4. Assistance of a special commission and an external advisor (N = 197)

	<i>Special commission</i>			<i>External advisor</i>		
	Yes	No	?	Yes	No	?
Amount	77 (39.1%)	110 (55.8%)	10 (5.1%)	42 (21.3%)	113 (57.4%)	42 (21.3%)

Source: Panel questionnaire

The χ^2 shows that a special commission is frequently combined with hiring an external advisor. Apparently firms try to manage the relocation process in a professional manner or the process appears to be more complex and hard to grasp. Most striking are the low amount of firms, which use an external advisor and the relatively high number of missing values. The high number of missing values may illustrate the secrecy of the process, although no information is available when an actor is regarded as an external advisor or just as an external contact. Söderman (1975) for example found that 40% of the 25 relocated firms regard the location problem as highly secret and Ter Hart (1978, page 209) states that 16.6% of the 18 relocated firms uses an external advisor and 38.9% has contacts with external advisors. Besides, 77.8% has contacts with the financial world. Harrier Parker (1993) describes that firms do not bring in outside consultants until they have made a decision to move. In line with Ter Hart (1978) and Pellenbarg (1985), Benoit (1995) adds that local organisations/governments play an increasing role in firms' location processes and developing suitable business sites. Finally, we stress that the precise role of external advisors, relocation specialists, and in line with our earlier papers

and the Dutch limited space situation, especially the role of the government during the decision process needs to be elaborated.

A decision by a director rarely is combined with a special commission. These decisions appear to be independent decisions. Decisions by the board and the head-office use a special commission, and decisions by the board also use an external advisor. The finding that firms larger than 50 employees use a special commission and external advisors may relate to the higher complexity and greater difficulty to reach consensus, although this assumption should further be elaborated.

Section 4.3 stresses the need to analyse the role of internal and external actors, and their influence during the decision-making process. This clarifies why smaller firms have a tendency to make greater use of outside sources of information and why these smaller firms use more of their own experience. The conclusion of Söderman (1975, page 137) that the number of employees and the size of the location project (and also the turnover, ownership, organisation structure and goals) does not show any correlation with the number of actors should be tested in the future. The same holds for the assumption that the finance and costs of the project do not relate to these firm characteristics (Townroe, 1971).

4.4 Causes of relocation and location strategies

4.4.1 Individual causes

This section will describe that relocation is caused by a combination of internal and external developments and not only by lack of space for expansion, accessibility and radiation. Almost all firm migration studies present lists of push, pull, keep, and reject factors, which are considered as “a repetition of much of the same”. These lists result in hardly any new findings and moreover frequently reveal wide variations in elements that are considered important (Love and Crompton, 1999). Section 1 describes that this paper aims at going a step further by analysing the underlying causes of relocation, which improves the knowledge of key processes and events in the firm life cycle, which influence relocation decisions. In this way, we have a more comprehensive picture of the internal mechanisms, next to the acknowledged and well-studied external considerations. Preceding paragraph connects with the discussion about the integration of behavioural location external insights and business management strategic decision-making internal thoughts. These ideas are worked out in the classes accommodation, internal, and external, which are divided in respectively 15, 15, and 16 underlying causes. The respondents denote the importance of a cause on an ordinal scale of 0 to 3ⁱ. Standardisation means that it is statistically sound to interpret the highest mean in table 5 as the most important underlying cause. Table 5 also presents the difference between the means of relocated firms and firms with location strategies (* = confidence level 5%; ** = confidence level 1%). Finally, the underlined ranks show the twelve most important causes.

ⁱ Table 4 assumes that the ordinal values of the underlying causes has a normal distribution, which means that for each frequency distribution of an ordinal value the standardised Z-value is calculated. The standardisation and normalisation prevents that variables have a larger impact on the outcome than others.

Table 5. Importance of causes for relocations and other location strategies

	<i>Relocation</i>			<i>Other location strategies</i>		
	N	Sum	Mean	N	Sum	Mean
<u>Accommodation (building/premise)</u>						
1 Appearance**	187	52.71	0.28	263	-41.31	-0.16
Rent/ground prize*	184	28.35	0.15	260	-0.86	0.00
7 Workplace regulation and safety**	183	41.31	0.23	259	-11.96	-0.05
8 Old age**	183	40.40	0.22	256	-11.15	-0.04
Too small/too large**	190	27.79	0.15	280	-43.58	-0.16
Rent/ownership contract	184	23.68	0.13	259	7.31	0.03
12 Presence space for expansion	185	1.82	0.01	265	2.26	0.01
10 Climate/light/sound**	183	36.91	0.20	253	-6.03	-0.02
3 Flexibility accommodation**	184	47.57	0.26	258	-28.60	-0.11
6 Internal division**	184	43.70	0.24	259	-30.51	-0.12
Exploitation costs	182	5.64	0.03	254	24.10	0.09
Quality installations	182	24.55	0.13	253	6.67	0.03
Facilities*	184	27.54	0.15	259	-2.87	-0.01
Yield of accommodation	182	24.47	0.13	253	5.41	0.02
Maintenance situation	183	15.61	0.09	255	14.20	0.06
<u>Organisation/internal</u>						
ICT	182	15.30	0.08	250	14.49	0.06
Profit development	183	13.48	0.07	254	7.61	0.03
New management/board	182	6.13	0.03	250	23.95	0.10
Reorganisation/fusion/take-over*	183	-4.44	-0.02	260	29.81	0.11
Personnel department	183	2.97	0.02	251	27.31	0.11
Firm strategy	183	-8.55	-0.05	269	12.70	0.05
Development production method	183	7.85	0.04	248	22.74	0.09
Quality demands organisation/product	183	3.19	0.02	255	17.74	0.07
Production/turnover growth	187	-11.34	-0.06	267	7.50	0.03
Internal communication/logistics	181	12.96	0.07	255	5.76	0.02
Storage/supply policy	184	13.14	0.07	258	6.71	0.03
Saving total firm costs	185	1.98	0.01	255	17.67	0.07
5 Subjective/personal goals**	182	45.98	0.25	248	-16.68	-0.07
Efficiency business process	184	13.22	0.07	255	-3.16	-0.01
Flexibility employment/production	180	12.58	0.07	253	9.75	0.04
<u>Environment/external</u>						
Facilities loading/unloading	184	22.52	0.12	262	-3.40	-0.01
4 Parking facilities**	185	47.20	0.26	264	-31.52	-0.12
Near inner city/facilities	182	16.99	0.09	253	14.17	0.06
Commuting distance	183	21.96	0.12	251	8.62	0.03
Criminality/safety	181	13.26	0.07	251	16.50	0.07
11 Accessibility**	182	31.06	0.17	257	-14.06	-0.05
2 Representative environment**	184	48.38	0.26	257	-33.31	-0.13
Environmental policy/limitations	182	20.78	0.11	252	10.63	0.04
9 Hindrance on/of environment**	183	37.16	0.20	250	-6.20	-0.02
Municipal land use plan	183	15.07	0.08	254	15.69	0.06
Distance suppliers/clients*	183	-2.06	-0.01	255	33.55	0.13
Near transport terminal	182	8.27	0.05	249	15.58	0.06
Regional labour market*	182	-2.25	-0.01	252	31.36	0.12
Quality living/work environment	182	10.88	0.06	252	20.24	0.08
International contacts	181	19.06	0.11	250	6.95	0.03
Market interest in the location*	182	30.18	0.17	249	1.25	0.01

Source: Panel questionnaire

The average scores of the three themes for each column confirm the expected larger importance of environment and accommodation for relocations. Environment and accommodation for relocated firms is also more important than organisational causes. Striking is the indication of the importance of the Dutch conditions of employment law (ARBO), which focuses on the workplace, the internal division of the accommodation, and climate/light/sound of the accommodation. The significance of personal/subjective causes for relocations supports the behavioural approach and proves the necessity of interviews. The known short distance and divergent strategies of relocation explain that the market considerations distance to suppliers/clients and the regional labour market relate to other location strategies. Finally, the importance of hindrance on/of the environment underlines the current Dutch discussion between living and working in the same area.

The most important causes prove that strategy focuses on achieving a unique position (the third strategy-p), besides being a plan or a pattern. Apparently the current economic sound situation in the Netherlands cause additional investments in the accommodation. The rank of subjective/personal goals proves that strategy is also a fundamental way of doing things, which show a relationship with Ghosh, Rodriguez, and Sirmans' (1995) statement that corporate relocations are often prompted by managers' desire for a new building or to accommodate the special interest of top management. Lloyd and Roe (1992) add that movement was an opportunity to introduce a 'breath of fresh air' throughout corporate working and managerial practices. We assume that there is little evidence for the importance of the labour market (Molle, 1977, Senn, 1995). The fact that a land use plan relates to a stable or shrinking life cycle proves the relevance of analysing the role of the government.

This section proves that the used approach leads to more results and new interpretations compared to the classic enumeration of push, pull, and keep factors. Most striking is the 11th and 15th rank of the generally most cited relocation motives accessibility and spatial problems of the accommodation. Furthermore, the assumed eminent organisational relocation causes profit development (27th) and production and turnover growth (46th and last) appears unimportant as an individual cause. We assume that the accepted conclusion that companies generally tend to move if forced by the necessity of expanding production and cost savings should be re-examined. Besides, table 5 shows that relocation is not caused by external pressures. The diversity of firm migration research results is explained by the fact that the main consequence of relocation, a growing amount of employees, correlates with nine different causes. Moreover, radiation, growing production and turnover, parking, and a representative environment show up in growing life cycles.

4.4.2 Relationship between causes and firm characteristics

Hart et. al. (1989) and Senn (1995) suggest that we should analyse the differences between policy related factors and three business sectors, which are illustrated in table 6.

Table 6. Differences between certain location factors and business sectors

	<i>Manufacturing</i>	<i>Producer services</i>	<i>Network/business services</i>
Costs	67.9	66.4	62.5
Accessibility	50.2	63.3	74.6
Resource availability	63.9	57.4	63.5
Proximity	34.6	40.6	44.4
Local policies	22.0	15.0	23.7
Environment	15.5	23.1	14.7

Source: Senn, 1995, page 132.

Location factors attracting business to the city have shown to be very similar for both manufacturing and service functions. However, Love and Crompton (1999) state that quality of life is most important for high-tech firms and information and knowledge-based services. A similar analysis on our population leads to significant differences: (1) facilities for loading and unloading relate to construction and trade firms and not to transport; (2) as expected a municipal land use plan influences manufacturing and transport; (3) a representative environment is important for trade and business services and not for transport; (4) profit development is relevant for manufacturing and trade; (5) ICT appears in business services; (6) the age of the accommodation is not important for business services, which may be explained by the short history of this section. The generalisation of Senn (1995) is further criticised by the fact that loading and unloading facilities, profit development, quality demand organisation/product, and production/turnover growth are more important for firms smaller than 20 employees. Although not significant, the rental contract/ownership is important for the smallest firms and firms larger than 250. This may confirm the more economic and different character of relocation within larger firms, which is further strengthened by the fact that production and turnover growth is also more important for these firms. Furthermore, the finding that firm strategy appears in firms with growing amounts of employees could mean that ad hoc relocations incline to appear in stable and shrinking firms. Exploitation costs are logically more important if the firm foresees a shrinking and stable life cycle in two years. Table 7 shows that causes relate to certain actors.

Table 7. Important causes for decision-makers and supporting actors

<i>Director</i>	<i>Board</i>	<i>Head-office</i>	<i>Special commission</i>	<i>External advisor</i>
Profit, policy storage/supply, loading/unload., commuting	Rent/ground price, accomm., space expans.	Rent/ground price, exploit. Costs, maintenance sit., reorg/fusion/take-over, space accomm. Not dev. Prod meth.	Reorg/fusion/take-over, space accomm. Not loading/unloading and market interest location	Workplace/safety, high age accomm, environ policy and land use plans

Source: Panel questionnaire

Most striking is the prevalence of more quantitative business economic causes for decisions by the board and especially by the head-office. On the contrary, decisions by one person relate to the primary process. The significance of commuting indicates the importance of the residence of the director. Finally, we assume that external advisors are used for all governmental and not only spatial concerns, which relates to for example

unfamiliarity with the matter, distrust, the bureaucratic image, and negative experiences in the past. This is another signal of the unclear role of the government.

4.4.3 Underlying processes of relocation

Relocation is the result of a combination of causes and not one individual cause. The underlying structure of causes affecting each other is clarified by a factor analysis. This analysis is executed for all causes with a valid value. The missing values are deleted list wise. Only those scores are used with an '*eigenvalue*' higher than 1, a delta of 0, and a correlation in the rotated component matrix higher than 0.6. This results in 13 components, which are constructed on our own interpretation of the accompanying causes. Table 8 shows the results after the principal component analysis of a 'varimax' rotation with Kaiser normalisation, which facilitates the interpretation of the components. The figure between brackets in the first column describes the proportion of the variance explained and the figure between brackets in the other columns represents the correlation in the rotated component matrix.

Table 8. Factor analysis of individual causes of relocation (N = 174)

Causes				
Components	1. Internal operations (21.5 %)	2. Quality accommodation (7.7 %)	3. Regional environment (5.5 %)	4. Infrastructure (4.8 %)
1. Internal operations (21.5 %)	Efficiency primary process (0.828)	Internal logis/commun (0.718)	Storage/supply policy (0.680)	Flex. Employm /product. (0.619)
2. Quality accommodation (7.7 %)	Quality installations (0.768)	Maintenance situation (0.766)	Facilities (0.745)	Yield accomm. (0.708)
3. Regional environment (5.5 %)	Commuting distance (0.745)	Quality living/work environ. (0.701)		
4. Infrastructure (4.8 %)	Parking facilities (0.738)	Accessibility (0.688)		
5. Local government (4.7 %)	Municipal land use plan (0.682)			
6. Ownership costs (3.6 %)	Rent/ownership (0.778)	Rent/ground prize (0.694)		
7. Appearance (3.3 %)	Radiation (0.751)	Representative environ. (0.661)		
8. Work place surrounding (3.1 %)	Climate/sound/light (0.647)	Workplace and safety (0.602)		
9. Development prod. Method (3.0 %)	Development prod method (0.661)			
10. New economy (2.8 %)	ICT (0.699)	International contacts (0.658)		
11. Organisational change (2.4 %)	Reorg/fusion/take-over (0.827)	New management/board (0.680)		
12. Too small/too large accommodation (2.3 %)	Too small/too large accom. (0.798)			
13. Market interest in the location (2.2 %)	Market interest in the location (0.710)			

Source: Panel questionnaire

66.9 % of the variance is explained by the 13 components. Unlike the dominance of accommodation in 4.4.1, table 7 shows that the impetus for change develops internally (variance is 33.3%) and that geographical causes account for only 23.5% of the variance. If we compare these figures with the 19.8% variance on internal causes and 18.9% variance on geographical causes (total variance is 63%) for the other location strategies it is clear that the internal process determines the course of relocation. The large difference with the conclusions about the individual causes on one side stress the distorting impact of lists of migration motives. On the other side, it proves the relevance of underlying research and the need to position the causes within the decision-making process such as in 4.5. The analysis indirectly suggests that the relocation process commence somewhere in the primary process and less from outside. Finally, the importance of the accommodation (16.9% of the variance for relocations and 24.3% for the other location strategies) supports Louw's conclusion that we should incorporate accommodation in the location theory. Furthermore, table 8 indicates the importance of the Dutch commuting situation and liveability concept and their mutual dependence. This component is especially important for (growing) business services.

Next, the absence of an external advisor for firms, which regard the regional environment as important may be the result of the more personal and subjective nature of this component. Quantitative aspects appear to be unimportant, which is illustrated by the low importance of costs (except for firms < 10), and the absence of the causes profit development and production and turnover growth. Besides, it is striking that the surrounding of the workplace increases since 1998 and that ICT in table 8 belongs to international contacts. Not surprisingly, business services regard ICT more important, which underlines the transformation towards a new economy, where industrial products are replaced by information products (Shapiro and Varian, 2000). Manufacturing firms (in a growing life cycle) stress the importance of the development of production methods and in a lesser extent also the primary process to counteract the current industrial decline and economic transformation. Again the impact of the local government is evident and this is especially the case for manufacturing, construction, and transport. Older firms in these sectors have a historically grown location, which often has a tense relation with the existing land use plan and environmental regulations for the neighbourhood. This process leads to so-called firm suburbanisation. Finally, the low importance of a too small or large accommodation confirms the conclusion of 4.4.1 that the impact of space for expansion is overestimated. The fact that employment growth relates to a too small/too large accommodation and infrastructure may prove that the most cited motives present a superficial and easy to identify view of relocation based on the outcome of growth. It is of course more important to analyse the underlying process of employment growth.

Complementary, a factor analysis is executed on the causes of the other location strategies. This result in three interesting findings: (1) commuting distance is regarded as a cost factor; (2) organisation structure change is seen separately from the space of the accommodation; (3) the workplace environment and the external environmental is one component. The same analysis for all the firms with location strategies shows that the three components with the causes parking and accessibility, ICT, and radiation are more important for relocated firms. Besides, the component consisting of commuting and the

quality of the living and working environment is more important for other location strategies, which may be explained by the known short distance character of relocations.

4.4.3 Types of relocations

In 1977, Kemper and Ilbery introduce cluster analysis in industrial geography, but Barr, Waters and Fairbarn (1980) are the first to include behavioural aspects. They recommend that behavioural research should focus on the socio-psychological attributes of decision-makers and on functional organisational characteristics of their firms. This paper uses a hierarchical cluster analysis, which assume that groups, which are formed at lower levels become part of larger groups at subsequent steps in the analysis. At the end, this leads to large re-scaled differences between clusters. The first step focuses on determining the amount of clusters. A hierarchical cluster analysis using Ward's method, with the Squared Euclidian distance is run for the thirteen components of the factor analysis. To prevent a too large weight of group correlated factors the thirteen components of table 7 are selected instead of all 46 causes.

The dendrogram did not result in distinctive differences between four to eight clusters. We therefore add a rather pragmatic step of relating four to eight clusters with characteristics of relocated firms. Next, a one way ANOVA between the thirteen components and the clusters is executed. Only for four clusters not all the components are significant, which means that five to eight clusters could be identified. Finally, eight clusters are selected, because this results in the most useful significant differences. The components of causes originate from table 7.

Table 8. The eight clusters of relocated firms (N=174)

Cluster	N	Characteristics
1	28	Manufacturing and business services, ownership costs and not quality of accommodation
2	32	Director, trade, not causes related to the organisation
3	22	Manufacturing and construction, development production methods, not new economy
4	28	Less director, business service, organisational change
5	20	Less director, manufacturing, market interest in the location, causes related to the accommodation and not infrastructure
6	14	Less director, business services, regional environment, infrastructure, new economy, organisational change, not market interest in the location
7	10	Quality accommodation, regional environment, local government, costs, new economy, space accommodation (all causes score relatively high)
8	20	Director, construction, regional environment, appearance, no influence of local government

Source: Panel questionnaire

The results are related to sections 4.1 to 4.4 nothing new. Interesting is the clear distinction between director decisions of relocated trade and construction firms. Besides, board decisions of relocated business services are often accompanied by organisation change. Cluster three shows that the new economy is separated from production methods. Finally, the eight clusters of the analysis for all location strategies lead to three clusters, which are dominated by relocations on a 1%-confidence level. One cluster (N = 53)

consist of trade and business service firms smaller than 20 employees in a stable life cycle with shrinking amounts of employees. More interesting is that for these firms rent and ground price, and rental and ownership contract are an important cause, which may relate to less employees in a probably too large accommodation. The finding that these relocation processes consist of primarily five or seven phases is described in section 4.5. The second cluster ($N = 50$) consist of construction and business service firms smaller than 20 employees, which are very satisfied about the relocation decision. These firms regard parking, accessibility, and radiation as an important cause and not the value of the location. Next, the processes consist of three or six phases. Cluster number three ($N = 30$) are growing transport and trade firms larger than 20 employees. Not surprisingly, besides the primary process and organisational change, accessibility, parking, and radiation are important. Most striking is that these processes have a long duration and have six or seven phases. Despite this, they are very satisfied about their decision, which may relate to stress situation on the former location. We assume that the amount of phases on one side depends on the problematic situation of firms and on the other side on dynamic forces within the firm. These two extremes show similarities with Mintzberg et al's (1976) continuum of opportunity-problem-crisis decisions. After the analysis of individual causes, the next section focuses on the decision-making process and positioning the causes of 4.4 in this process.

4.5 Decision-making features of relocation and location strategies

4.5.1 General features

One of the problems of behavioural studies on decision-making is the lack of consensus about the amount of decision phases and the duration of the process. Table 9 compares the duration of the relocation process as recorded in our enquiry with three earlier and well-known firm migration studies and two strategic business management studies presented in the last two rows.

Table 9. Duration of relocation processes compared to strategic processes

	<i>N</i>	<i>< 6 months</i>	<i>6-12 months</i>	<i>1-2 years</i>	<i>> 2 years</i>	<i>> 4 years</i>
Panel	162	13.6	21.6 (35.2)	34.0	19.1 (30.8)	11.7
Townroe	59	22.0	37.3 (59.3)	18.6	20.3	?
Cooper	36	5.5	16.7 (22.2)	27.8	50.0	?
Wins	58	15.5	19.0 (34.5)	36.2	13.8 (25.9)	12.1
Mintzberg	23	?	(34.8)	30.4	8.7 (34.8)	26.1
Hickson	150	48.7	21.3 (70.0)	24.7	11.3	0.0

Source: Panel questionnaire, Townroe (1971), Cooper (1975), Mintzberg et al (1976), Hickson et. al. (1986) and Wins (1995)

The duration of table 9 should be interpreted as low estimates, since studies mostly record the length of time during which the firm and external organisations are in contact or from the first proposal to the final decision outcome. The time occupied with any prior investigations and the continuation of location search by some firms on their own account is omitted. So far, little is known about the method of estimating the duration of the process and the precise begin and end point. Table 9 shows that relocations require a lot

of time, which indirectly illustrates the complex nature and radical character of relocations, because normally firms do not have a long run more than one year.

Table 10 presents more specific data about the number of decision phases varying from one to ten and the average duration incurred for both relocations and other location strategies. N is the number of cases used for the calculation of the mean duration.

Table 10. Key facts about the decision-making process of location strategies

Phases	Relocated firms				Not relocated firms			
	N	Valid %	Mean duration	N	Amount	Valid %	Mean duration	N
1	3	1.7	7	2	4	1.5	8	4
2	7	4	8.6	5	19	7.2	10.9	19
3	19	11	16.2	19	33	12.5	12.2	27
4	41	23.7	29.4	39	65	24.6	16.0	60
5	34	19.7	23.5	33	55	20.8	24.1	49
6	27	15.6	22.8	26	28	10.6	18.7	27
7	38	22	39.7	34	52	19.7	25.1	51
8	4	2.3	25.8	4	3	1.1	33	3
9	0	0	0	0	2	0.8	17	2
10	0	0	0	0	3	1.1	59.5	3
Total	173 (5.0)	100	26.7	162	264 (4.8)	100	19.5	244

Source: Panel questionnaire

It is clear that in general the average duration of the relocation process is longer when more phases are incurred in the process, with eight phases as an exception, but here only four cases are present. The average duration of more than two years (26.7 months) confirms the strategic and radical character of relocation, while Hickson et al (1986, page 110) found that the mean duration of 150 strategic processes is 12.4 months and for location decisions 13 months (N = 8). In general, strategic location decision processes consist of three to seven phases, because no significant differences are found between the amount of phases for both groups. This encompasses most literature on strategic decision-making, which identify between three to seven phases. The next paragraph describes how often these phases are accompanied by an additional evaluation. Above means that Louw's three phase distinction based on the innovative ideas of Simon (1958) and Mintzberg et al (1976) has to be re-examined. This section analyses underlying features, which determine the amount of decision phases and the duration of the process.

The duration of the relocation process correlates with the number of phases, which is even more important for other location strategies. Apparently, identifying phases is a useful tool to unravel and clarify the decision process. We assume that the amount of phases indirectly is an indication for the complexity, impact, and the course of relocations. This fundamental hypothesis is superficially tested in this section. Most striking is that the availability of space for expansion increases the amount of phases and the duration. This impact may be caused by a range of reasons, which urges respondents to perceive it as important, although it may not be the underlying cause. The significant correlation with the duration of implementation for processes of three and four decision phases indicates that the impact of space for expansion differs with the phase of the

process. Besides space for expansion, future interviews for example will clarify why climate/sound/light and market interest in the location increases the amount of phases and on the contrary hindrance on/of the environment has a decreasing impact. This last finding of course relates to the juridical duty of declining the nuisance and pressure from outside. Migration causes should be divided in important, complex, and time consuming.

Table 11 shows the correlations for the causes, which influence the duration of the process. These causes present a more complete picture of important and complex relocation considerations.

Table 11. Significant correlations between causes and the duration of the process

	<i>Accessibility</i>	<i>Personnel</i>	<i>Firm strategy</i>	<i>High age</i>	<i>Contract/ownership</i>	<i>Exploitation costs</i>
r	0.23**	0.23**	0.24**	0.25**	-0.2*	-0.19*

Source: Panel questionnaire

The negative correlations cause firms to exceed the so-called stress tolerance level and may force a firm to execute a more hasty decision. This partly explains that relocation decisions and also other location strategies being part of a firm strategy take more time. An absent firm strategy is often defended with the argument time is money. The positive correlations (also for the component appearance) with the duration show that these aspects have to be considered carefully and thoroughly. The delaying character of the high age of the building (also for other location strategies) may be caused by the Dutch monumental regulations, popular concepts about rethinking the workplace, land use regulations, transformation of the old location in an urban redevelopment scheme, and the promising real estate revenue. In general environmental causes increase the duration of the relocation process. This may explain the dominance of these factors in firm migration studies.

A fundamental step is the analysis of features, which influence the course of the decision-making process. This results in five interesting conclusions:

- 1) No significant findings are found for the year of relocation, business sectors, development of the amount of employees, and life cycles. Thus, underlying research can be projected on most types of firms. We reject the hypothesis of Townroe (1971) that relocation processes of slow growing firms are short.
- 2) The fact that the duration in firms smaller than 20 employees is shorter, while larger firms exceed two years may relate to the involved amount of people (Cooper, 1975). Other explanations may be that moving a larger firm is more complicated, sensitive, and expensive or the continuity of smaller firms is more vulnerable. These aspects have to be elaborated.
- 3) A special commission leads to more phases and not a longer duration may be interpreted by the finding that a commission causes a more structured and professional process. On the other side, a commission results in a lower final judgement on the decision.
- 4) Board decisions have a tendency towards a longer process, which support the preceding assumption.

5) The mean duration of relocation processes with external advisors takes 40.9 months, while processes without external advisors takes 20.8 months. This finding will be elaborated.

Evaluation of the decision-making process

Classical firm migration studies describe the relevance of evaluating the process, but little is known about the frequency, circumstances, and underlying motives. In total 49.5% of 184 relocations, respectively 52.1 % of 331 of the location strategies execute an evaluative phase. Evaluation has no relationship with the amount of phases, but the Chi-Square shows that evaluation is more urgent when the process belongs to groups with a duration of 16-29 months and longer than 29 months. It is striking that evaluation does not influence the judgement on the decision and the process. Furthermore, the expectation that evaluation is more frequent in certain business sectors and firm sizes, and when using a special commission or an external advisor is not found. On the contrary, for other location strategies firms larger than 50 employees execute an additional evaluative phase. In future, we will analyse the underlying reasons for evaluation and why for example a relocation decision by the head office is seldom evaluated. At this stage, evaluation appears especially if the relocation is caused by the appearance of the firm and more interestingly if the relocation fits in a firm strategy related to the efficiency of the primary process. Evaluation may be a tool for firms, when the decision affects the core and continuity of the firm. This is confirmed by the relationship with the duration and the fact that evaluation exists in other location strategies if caused by organisational change.

4.5.2 Facts on individual decision phases

In line with 4.5.1 this paper analyses which phases occur most frequently for which number of phases, and what is the average duration of each phase. Table 10 describes why processes with three to seven phases are used. Table 12 presents the most frequent individual phase for three to seven phases and the mean duration. The first row relates to relocation and the second row to the other location strategies.

Table 12. The most frequent phase and the mean duration of this phase in months*

A	N	B	N	C	N	D	N	E	N	F	N	G	N	
3	10.9	10		4.6	5							2.8	14	
	5.5	15	4.0	8								3.8	24	
4		5.2	23	11.8	17					6.9	15	6.2	36	
	7	33				5.8	22			2.3	23	4.9	58	
5	7.8	25	2.8	19	6.5	18				3.6	18	4.0	29	
	5.4	36	2.5	24		6.6	20			5.3	29	6.5	46	
6	6.8	19	2.1	15	4.1	17	2.2	19		2.1	22	4.3	27	
	6.6	16	3	12			2.7	17	1.5	16	1.5	19	4.5	25
7	10.2	27	4.2	27	7.7	26	5.5	26	4.3	28	1.8	28	5.4	33
	7.9	42	2.5	42	4.7	40	3.5	40	1.9	40	1.7	41	5.8	45

* A: identification; B: diagnosis; C: search; D: development; E evaluation; F: strategy; G: implementation

Source: Panel questionnaire

The distinction that strategic decision processes consist of identification, search and implementation is too simple and only appears for relocations with three phases. Next, for most of the relocations, identification and search takes most time. Table 12 shows that search is typical for relocations. All location strategies with more than three phases identify a strategy instead of the assumed ad-hoc character caused by stress. It is striking that only the duration of the evaluation for relocations takes more time than other location strategies.

4.5.3 Different impact of causes and components on the process

Studying the impact of causes and components on the duration of individual phases for three to seven decision phases is a first step into the mainspring of the relocation decision-making process. The results illustrate that we have to relate the causes to the decision phase and work out Louw's train of thought, which is given in table 1. The bold causes in table 13 show the positive effects of a cause on the duration and the underscored causes show the negative effects on the duration with regard to the first phase, search and implementation. The first phase may be identification or diagnosis.

Table 13. Impact of causes on the duration of individual phases

	<i>First phase</i>	<i>Search</i>	<i>Implementation</i>
3	Internal primary process; <u>Local government/</u> <u>ownership costs</u>	Hindrance on/of environment; quality organisation/production; internal primary process	Hindrance on/of environment; space for expansion
4 ^a	Environmental policy/regulations	Quality living/working environment	Quality living/working environment; old age/space /appearance of the accommodation; work flexibility; accessibility; international contacts; Costs/quality accommodation
5 ^b			Radiation; personnel; criminality/safety; hindrance on/of environment; distance supplier/client and transport terminal; quality living working/environment; government
6 ^c	<u>Rent/ground price;</u> <u>rent/ownership costs</u>	New economy	
7 ^d	<u>Environmental policy/regulations</u>	Personnel; reorganisation/ fusion/take-over; New economy	

^a Strategy increases due to the quality of living and working environment, the old age of the accommodation, profit development, flexibility work and production, and appearance of the accommodation.

^b Radiation increases the duration of diagnosis.

^c The duration of diagnosis correlates with flexibility of work and production, land use plan/local government, distance suppliers/clients, near transport terminals, and regional labour market

^d Personnel delays the diagnosis, evaluation, and strategy phase, and appearance delays diagnosis too.

Source: Panel questionnaire

Clearly certain causes have a different impact on the duration of decision phases. We cannot draw final conclusions, but still the results show that different internal and external causes appear in the course of the whole process, although external causes dominate the implementation. The findings question the difference between identification and diagnosis. Calculative aspects such as costs, rent/ground price, rent or ownership contract speeds the process. Quality of the living and working environment and the role

of the environment holds up the duration of several phases for especially processes of three to five phases. This is a first indication of the actual debate of the stage in the process when the quality of life becomes central to the decision (Love and Crompton, 1999). Next, the presence of the new economy and (the related) organisational change (firms in the new economy buy firms in the old economy) in processes with six and seven phases might indicate that ICT leads to more 'rational' and structured processes. Again, the role of the government on the relocation process is significant.

Finally, we compare the importance of causes in certain phases for three to seven decision phases. To be more specific, if firms select search as the first phase instead of identification, which causes are more important for search and which are more important for identification. With respect to three phases, the internal cause production and turnover growth and the primary process in the first step relate to identification, while typical external causes such as accessibility and market interest in the location are more important if the first step is search. Apparently, market interest in the location immediately leads to search for a new location. In the beginning, government is more important for diagnosis instead of identification for four phased processes. If the second phase is diagnosis organisational change and exploitation costs prevails. Saving business and ownership costs in the third phase are more important during development, instead of the expected evaluation and strategy. It is however unclear which causes dominate the evaluation and strategy and why five phased processes starting with identification appear to have a positive employment growth.

4.5.4 The relationship between groups of causes and the decision-making process

This last section is based on the most complicated question in the enquiry, which is an elaboration on the fundamental table 1. Respondents should denote the importance of five general categories of relocation causes on an ordinal scale of 0 (unimportant), 1 (important), and 2 (very important) for the selected phases of their decision process. The basic categories are accommodation, organisation, and environment. In line with the behavioural approach the category personal is selected and finally the category government is the missing variable in most relocation research. First, the joint scores of the themes for all phases are enumerated and compared. This comparison confirms that accommodation is the main theme of relocation. Furthermore, the basic themes are more important than government except from the similarity between organisation and government in three step processes. Five step processes show that personal considerations are equal to the basic themes and only accommodation is more important than personal aspects in processes for four steps. The exceptional situation of four and five stepped processes is proven by the fact that for these processes personal dominates government.

Besides, organisation is more important than environment for four step processes and accommodation dominates environment in processes of five steps. 3, 6, and 7 step processes have a dominance of accommodation and environment with respect to personal. Finally, connected to 4.4.1 personal causes is the most important organisational cause, because only for seven step processes organisation dominates personal. These complicated results give a first indication that different amounts of phases are based on

varying relocation processes. Especially, the assumption that personal considerations relate to four and five step processes is fundamental and has to be elaborated.

Next, this paper analyses the differences of the themes per individual phase. Again accommodation and environment are more important than government except from processes consisting of seven steps. Except from four and five step processes, accommodation exceeds personal aspects. For convenience sake, the most frequent phases of table 12 are used in table 14 to describe the differences. The abbreviations in table 14 have the following meaning: acco = accommodation, envir = environment; org = organisational; govern = government; and pers = personal. Besides, > means more important than.

Table 14. Different impact of themes between decision phases

	<i>First phase</i>	<i>Search</i>	<i>Implementation</i>
3^a	Envir > pers	Acco > org	Acco > org; environ > pers
4^b	Acco > pers; envir > pers; org > govern	Acco > org; envir > pers, org; pers > govern	Acco > pers, org, envir; org > govern
5^c	Envir, pers > govern	Org, envir, pers > govern	Acco > envir, pers; org > govern
6^d	Org > govern, pers	Acco > org	Org > govern
7^e	Acco, org > envir;	Org, envir > pers; envir > govern	Org, envir > pers; envir > govern

^a Organisation in the first phase is more important than during implementation. During the implementation environment for relocation is more important than for other location strategies.

^b Accommodation is more important during the implementation than for search and for implementation accommodation is also more important than for other location strategies. Environment dominates the search compared to other location strategies. Organisation in the first phase is larger than during search. Besides, the duration of implementation and search correlates with the government.

^c Accommodation in the first phase is less important than during search and implementation. The duration of the first three phases increases if environment is more important during the search and the duration of search also correlates with a higher importance of environment during the implementation.

^d Accommodation is more important in the implementation than in the first phase. Organisation in the search phase is smaller. Environment is more important than personal and government and environment is smaller in the first phase. Besides, environment in the implementation is larger for relocations. Personal aspects are larger in the implementation than the first phase.

^e A higher importance of accommodation in the first phase speeds the implementation. Environment is less important in the first phase compared to the other two phases. The duration of the implementation is shortened when personal aspects are important.

Source: Panel questionnaire

The differences between a three to seven stepped process forces us to interpret the processes separately. This results in the following findings:

- 3 Phases: Organisational causes determine the outcome of the identification, while Louw (1996) concludes that site/business area factors appear in the first phase. Especially accommodation and also environment are important during the rest of the process. The expectation that environment relates to mainly the search phase should be extended to search and implementation. Personal features relate to search.
- 4 Phases: Identical to three phases, organisation primarily appears during the identification, while accommodation increases in the course of the process. Opposite

to three phases, environment is most important during the search. There are indications that government relates to four stepped processes. Personal considerations relate to search.

- 5 Phases: Accommodation increases in the course of the process and environment determines the outcome of the search. Besides, processes consisting of five phases are striking because organisation is not so important in the beginning, while environment relates to identification and search. More interesting is the clear presence of personal considerations in especially the identification and search.
- 6 Phases: Accommodation and organisation decline during search and dominate the implementation, while environment and personal increases in the course of the process. Government is relatively absent in these processes.
- 7 Phases: Accommodation and organisation dominate the identification, while environment and personal increase in the course of the process. Government influences the identification.

The comparison leads to a more complete understanding of the varying importance of causes on the course of the process. First, the assumption that relocation commences somewhere in the primary process and less from outside does surprisingly not hold for processes of five phases and to a lesser extent for six stepped processes. Apparently, relocation is not always initiated by organisational causes. As expected organisation is not important in the search phase. Next, except from seven phased processes the impact of the accommodation increases in the course of the process. We assume that the most important individual relocation causes radiation, flexibility of the accommodation, and the internal division of the accommodation are the main objective of the final decision, but not the initial cause. Environmental considerations emerge during both the assumed dominating search phase, but also the implementation. Personal aspects relate to search, but for certain processes also to identification and implementation, which support the behavioural view. Related to the absence of organisational causes for identification and the dominance of environmental and personal causes during the identification for five stepped processes, we assume that processes consisting of five phases incline to commence outside the firm. Finally, this section describes that identifying phases of relocation relates to different underlying processes. Government proves not of decisive importance, but still influences the processes.

5. Conclusions

General

This paper indicates that integrating the insights of the behavioural location theory and qualitative business management theories on strategic decision-making makes studies about location decision-making advance beyond repeated detailed empirical descriptions. The integration improves the understanding of how decisions are made and how the process leading to location choice develops. Moreover, it explains which causes and actors influence this process. In this way our research does not belong to the classification of Keeble (1977) that studies of mobile decision-making tend to confirm previous findings rather than add significantly to them.

Not surprisingly, business service firms (influenced by the new economy) are more mobile, while manufacturing firms are less inclined to move. Mobile firms are generally smaller than 20 employees, but significant differences exist between the business sectors. A majority of mobile firms show employment growth (on average 24.3%), related to a growing life cycle, and have a positive perception of the future.

Actors

In smaller firms the decision to relocate is made by the director. Larger firms relate to more decision-makers and a larger chance of an external advisor. Besides, in larger firms there is an assumed higher chance of installing a special commission. It is assumed that a special commission indicates that (1) the firm is larger and more people are involved; (2) the decision is important, complex, and political and needs assistance in planning and implementing aspects of the move; (3) the firm has a professional attitude and inclines to be strategic; (4) the commission co-ordinates the external advisors. External advisors may focus on (1) bringing the (conflicting) meanings of actors together (especially for larger firms); (2) reducing the large uncertainty of the external environment and manage the often complex and sensitive process; (3) using knowledge and expertise from outside.

Need for a comprehensive view of the underlying relocation mechanisms

We construct a comprehensive list of underlying internal, external, and accommodation causes, which arise from key events within the firm life cycle. The list reflects the integration of behavioural geographical (external) and business management (internal) insights. First, the causes show that a relocation strategy is besides a plan and a pattern, also a fundamental way of doing things and a way of achieving a unique position. It turns out that individual accommodation and also environmental causes are more important than organisational causes. Moreover, the accepted statement that firms tend to move as a result of production expansion and cost savings is questioned. On the other hand, the factor analysis argues that relocation commences somewhere in the primary process and less from outside. This contradiction is according to us explained by the varying importance of causes in the course of the relocation process and the related mutual dependence of these causes. We conclude that the lists of firm migration motives from now on have to be treated carefully and take stock of preceding considerations. We will aggravate these ideas in the interviews.

The calculation of the individual causes, as well as the factor analysis present that (1) accommodation should be integrated in the location theory; (2) the most cited relocation motives accessibility and spatial problems of the accommodation appear not so important; (3) the more quantitative rational aspects appear relatively insignificant, except from ownership costs in smaller firms; (4) despite the frequently assumed similarity between the location factors in business sectors, the impact of causes differs between business sectors and interestingly also between decision-makers. These differences between decision-makers indirectly support our conclusion that causes vary in the course of the process. Finally, the cluster analysis for all location strategies shows that the number of phases of the relocation process depends on problematic situations in firms or dynamic forces within the firm.

The overall decision-making process

The result that relocation on average takes more than two years stresses the radical, complex and especially the strategic character. Compared to the famous Bradford studies on strategic decision-making in 1988, we conclude that relocations are among the most strategic decisions. This paper argues that relocations consist of three to seven phases, which reflects the qualitative geographic and business management literature on strategic decision-making. Moreover, the recognised distinction of Simon, Mintzberg, and Louw in three phases appears to be a simplification. We assume that the correlation between the duration and the number of phases indirectly means that both aspects are an indication of the complexity, impact, and course of the relocation process. Therefore, the negative influence of costs on the duration and the positive influence of firm strategy and environmental considerations on the duration deserve additional attention. For example, larger firms, board decisions, and external advisors relate to more long-term processes. It is assumed that special commissions create a more structured and professional process and external advisors are hired in lengthy processes.

Individual phases

Around 50% of the relocation processes are evaluated, which is especially the case for more lengthy processes. It is striking that no relationships exist between evaluation and certain firm characteristics and actors except for the absence of evaluation for distant decisions by the head-office. Evaluations are especially executed if the decisions touch the core and continuity of the firm. Surprisingly evaluation is hardly executed during the process. The importance of identification and search is indirectly strengthened by the longest duration of these phases. Except from three stepped processes, the relocation is recorded in a firm strategy, which contradicts with the assumed ad-hoc and stress character of relocation decisions.

The varying importance of causes in the course of the process is indirectly supported by the finding that one cause has a different impact on the duration of individual phases of the same process. In general, external causes and the living and working environment and the role of the environment in particular exceed the duration of the implementation. Cost considerations speed the duration of varying phases. Moreover, indications are found that some causes only appear in certain phases. Finally, we assume that ICT leads to more stepwise and planned processes, because this cause appears in six and seven phases.

A comparison of the five relocation themes internal, external, accommodation, personal, and government show that accommodation is the main relocation theme and personal consideration is regarded as the most important organisational cause. Again, the significant differences between the five themes and numbers of decision phases illustrate the need to analyse the underlying mechanisms of relocation processes. For example, government prevails in processes of three steps, while personal considerations exceed in five phased processes.

A comparison of the five themes in individual phases and the impact of individual causes on the duration of the same phase result in a more comprehensive picture of the relocation process. Indirectly the duration of a single phase correlates with the

importance of this phase. Most striking is that for processes with six and to a lesser extent five phases, relocation does not always commence somewhere in the primary process and less from outside. The most important individual mainly accommodation causes prevail during the implementation and are not the underlying cause of relocation. We assume that most firm migration checklist therefore mainly represent the factors, which have been important during the implementation.

The fact that the meaning of accommodation increases in the course of the process and environmental aspects prevail in the search and also the implementation approximately verifies the deviant significance of causes. Moreover, behavioural considerations and to a lesser extent government influences all phases of the process. After executing the interviews we will clarify which decision model(s) such as garbage can, satisficing, heuristic problem solving, multiple advocacy, incremental logic, sporadic-fluid, political bargaining, unstructured not-well understood, etc. fits best on relocation. We can also typify the choice process, the organisational climate, and critical functions in the process.

Questions for the next research phase

We construct nine hypothesis presented in the box below, which will be tested and extended in the 50 interviews with recently relocated firms:

1. *Personal characteristics and personal history of the prime decision-maker determines the course of the relocation process.*
2. *A firm size of around 20 employees and the related obligation of a works council is the critical switch between one or more decision-makers and between the absence or presence of external consultation.*
3. *The number of involved actors reflects the competence and the duration of the location decision.*
4. *A) Growing firms have a strategic approach of the relocation process, while stable and problematic firms behave on an ad-hoc basis.
B) A strategy leads to a more satisfactory and considered decision.*
5. *A) Government complicates and delays the decision-making process of especially more traditional firms with a longer life span.
B) The popular least cost government sponsored incentives in industrial location have little or no influence.*
6. *Causes affecting the duration of the process are perceived as important, while other causes are the real underlying reason.*
7. *A). Decisions by the board or the head-office approximate a rational and normative process, with a dominance of more quantitative business economic causes.
B) ICT leads to a more rational and planned process and delays the duration.*
8. *A) Relocation starts within the firm, the environment and also accommodation and personal aspects dominate the search, while the implementation is a combination of all aspects dominated by the accommodation.
B) The initial phase is most complex, multi-organisational, and polical.*
9. *For each phase different combinations of information sources and media are useful and authorisation becomes more important in the course of the process.*

References

Ansoff, H I, 1987, **Ondernemersstrategie** (translated from **corporate strategy** 1965, London (Penguin).

Atzema, O, J G Lambooy, 1998, **Agglomeration economies and migration of firms**, Paper presented at the Bi-annual meeting of German and Dutch economic geographers at Terschelling 1998.

Bale, J, 1975, **The location of manufacturing industry; conceptual frameworks in geography**, Edinburgh (Oliver&Boyd).

Barr, B M, N M Waters, K L Fairbarn, 1980, The application of cluster analysis to entrepreneurial perception of regional economic environments. In: **Environment & planning A**, **12**, pages 869-879.

Benoit, S, 1995, Local policies to attract mobile investments: a theoretical survey and an application to two sets of local organisations in France. In: **Territorial competition in an integrating Europe** (ed. P Cheshire, I Gordon, pages 222-243.

Bramezza, I, G Gorla, 1995, How does territorial competition matter? The dynamics of the metropolitan economies of Milan and Central Veneto regions. In: **Territorial competition in an integrating Europe** (ed. P Cheshire, I Gordon), pages 98-119.

Cameron, G C, B D Clark, 1966, **Industrial movement and the regional problem**, Edinburgh/London (Oliver&Boyd).

Chan, Chau, and Wang, 1995, Stock market reaction to capital investment decisions: evidence from business relocations. In: **Journal of financial and quantitative analysis**, **30**, pages 81-100.

Conlisk, J, 1996, Why bounded rationality?. In: **Journal of Economic literature**, **34**, pages 669-700.

Cooper, M J M, 1975, **The industrial location decision making process**, Birmingham (Centre for urban and regional studies University of Birmingham).

Cyert, R M, J G March, 1961, **A behavioral theory of the firm**, New Jersey (Prentice-Hall inc.).

Das, T H, 1983, Qualitative research in organizational behaviour. In: **Journal of management studies**, **20**, pages 301-314.

Dicken, P, P E Lloyd, 1990, **Location in space; theoretical perspectives in economic geography**, New York (Harper Collins publishing).

Dijk, J van, P H Pellenbarg, P J M van Steen, 1998, **Determinants of firm migration in the Netherlands; an exercise in the demography of firms approach**, Paper presented at the 45th North American Meetings of the RSA, 11-14 November, Santa Fé, New Mexico, USA.

Ebels, H J, 1997, **Oudere stadsdelen en de ruimtelijke effecten van bedrijfsverplaatsingen**, Amsterdam (Universiteit van Amsterdam (AME)).

Edwards, L, 1983, Towards a process model of office-location decision making. In: **Environment & Planning A**, **15**, pages 1327-1342.

Eurostat, 1998, **Handbook on the design and implementation of business surveys**, Luxemburg (Office for official publications of the European communities).

Feitelson, E, 1991, The potential of mail surveys in geography: some empirical evidence. In: **Professional Geographer**, **43**, pp. 190-205.

Fenker, R, The location mystique: Understanding why companies with great sites fail and what to do about it. In: **Journal of Corporate Real Estate**, 3, pp. 270-277.

Frederickson, J W, T R Mitchell, 1984, Strategic decision processes: comprehensiveness and performance in an industry with an unstable environment. In: **Academy of Management Journal**, 2, pages 399-423.

Ghosh, C, M Rodriguez, C F Sirmans, 1995, Gains from corporate headquarters relocations: evidence from the stock market. In: **Journal of Urban economics**, 38, pages 291-311.

Greenhut, M L, 1956, **Plant location; in theory and in practice**, Chapel Hill (The university of North Carolina Press).

Hamilton, F E I, 1974, A view of spatial behaviour, industrial organization and decision-making. In: **Spatial perspectives on industrial organisation and decision-making**, pages 3-46 (ed. F E I Hamilton), London (John Wiley & Sons).

Hart, S L, D R Denison, D A Henderson, 1989, A contingency approach to firm location: the influence of industrial sector and level of technology. In: **Policy Studies Journal**, 17, pages .

Hart, H W ter, 1978, **Vestigingsplaatsaspecten van Top-management; verkenningen op het terrein van de transactionele geografie**, Meppel (Krips Repro).

Harvey, D, 1969, Conceptual and measurement problems in the cognitive-behavioral approach to location theory. In: **Behavioral problems in geography; a symposium** (ed. K R Cox, R G Golledge), pages 35-67.

Hayter, R, 1997, **The dynamics of industrial location; the factory, the firm and the production system**, Chichester (John Wiley & Sons).

Healey, M J, M B Rawlinson, 1993, Interviewing business owners and managers: a review of methods and techniques. In: **Geoforum**, 24, pages 339-355.

Hessels, M, 1992, **Locational dynamics of business services; an intrametropolitan study on the Randstad** Holland, Nijmegen (Faculty of Administrative Sciences).

Hickson, D J, et.al., 1986, **Top decisions; strategic decision making in organizations**, Oxford (Basil Blackwell).

Hillier Parker, 1993, **Relocation decision-making: a move in the right direction**, London (Department of Industry and Trade)

Huizingh, E, 1998, **Inleiding SPSS voor Windows**, Schoonhoven (Academic Service).

Katona, G, J N Morgan, 1952, The quantitative study of factors determining business decisions. In: **Quarterly journal of economics**, 66, pages 67-90.

Keeble, D, 1978, **Industrial location and planning in the United Kingdom**, London (Methuen).

Kirkham, J D, H D Watts, 1998, Multi-locational manufacturing organizations and plant closures in urban areas. In: **Urban Studies**, 35, pages 1559-1575.

Lloyd, P, P Roe, 1992, **Business relocation; the case of London and the South East Region**, London, HMSO.

Love, L L, J L Crompton, 1999, The role of quality of life in business (re)location decisions. In: **Journal of business research**, **44**, pages 211-222.

Louw, E ,1996, **Kantoorgebouw en vestigingsplaats; Een geografisch onderzoek naar de rol van huisvesting bij locatiebeslissingen van kantoorhoudende organisaties**, Delft (Delftse Universitaire Pers).

Louw, E, 1999, Accommodation as a location factor for office organisations: implications for location theory. In: **Netherlands Journal of Housing and the Built Environment**, **13**, pages 477-494.

Luttrell, W F, 1964, **Factory location and industrial movement**, vol 1 and 2, London, (National Institute of economic and social research).

Machlup, F, 1967, Theories of the firm: marginalist, behavioural, managerial. In: **American Economic Review**, **57**, pages 1-33.

Mason, C M, 1980, Intra-urban plant relocation: a case study of greater Manchester. In: **Regional Studies**, **14**, pages 267-283.

McLaughlin, S Robock, 1948, **Why industry moves south; a study of factors influencing the recent location of manufacturing plants in the south**, Kingsport (National Planning association).

Meester, W J, 1999, **Subjectieve waardering van vestigingsplaatsen door ondernemers**, Groningen (Faculteit der Ruimtelijke wetenschappen RUG).

Milward, H B, H H Newman, 1989, state incentive packages and the industrial location decision. In: **Economic development quarterly**, **3**, pages 203-222.

Mintzberg, H, D Raisinghani, A Theoret, 1976, The structure of unstructured decisions processes. In: **Administrative Science quarterly**, **21**, pages 246-275.

Mintzberg, H, B Ahlstrand, J Lampel, 1998, **A guided tour through the wilds of strategic management**, London (Prentice Hall).

Molle, W T M, 1977, Industrial mobility – A review of empirical studies and an analysis of the migration of industry from the city of Amsterdam. In: **Regional Studies**, **11**, pages 323-335.

North, D J, 1974, The process of locational change in different manufacturing organizations. In: **Spatial perspectives on industrial organization and decision-making, pages 213-244**, (ed. F E I Hamilton), London (John Wiley & Sons).

Pater, B de, H van der Wusten, 1996, **Het geografisch huis; de opbouw van een wetenschap**, Bussum (Coutinho).

Pellenbarg, P H, 1985, **Bedrijfsrelokatie en ruimtelijke kognitie**, Groningen (Geografisch Instituut).

Pen, C J, P H Pellenbarg, 1998, **Firm migrations, theory and practice; an analysis of empirical studies concerning the impact of government policies**, Paper presented at the Conference at the University of Lodz, about industrial restructuring on 26 to 27 March 1999 in Lodz.

Pred, A, 1967; 1969 **Behavior and location Part I and II**, Lund (University of Lund).

Romo, F P, M Schwartz, 1995, The structural embeddedness of business decisions; the migration of

manufacturing plants in New York State, 1960-1985. In: **American Sociological Review**, **60**, pages 874-907.

Rossi, A, P Filipini, 1995, The mobility of establishments and territorial competition: the case of the Zurich metropolitan area. In: **Territorial competition in an integrating Europe**, (ed. Gordon and Cheshire), pages 156-178.

Saxton, T, 1995, The impact of third parties on strategic decision making. In: **Journal of organisational change**, **8**, pages 47-62.

Sayer, A, 1982, Explanation in economic geography: abstraction versus generalisation. In: **Progress in Human geography**, **6**, pages 68-89.

Schwenk, C R, 1984, Cognitive simplification processes in strategic decision-making. In: **Strategic Management journal**, **5**, pages 111-128.

Shrivastava, P, I I Mitroff, 1984, Enhancing organizational research utilization: the role of decision makers' assumptions. In: **Academy of management review**, **9**, pages 18-26.

Simon, H A, 1953, **Models of man; social and rational**, New York (John Wiley).

Simon, H A, 1959, Theories of decision-making in economics and behavioural science. In: **American economic review**, **49**, pages 253-283.

Simon, H A, 1960, **The new science of management decision**, New York (Harper Row).

Soderman, S, 1975, **Industrial location planning**, Stockholm (Almqvist & Wicksell International).

Spanger, U, P Treuner, 1976, **Standortwahl der Industriebetriebe in Nordrhein-Westfalen 1955-1971**, Dortmund (Institut fuer Landes- und Stadtentwicklungsforschung des Landes Nordrhein-Westfalen).

Stafford, H A, 1969, An industrial location decision model. In: **Proceedings of American Geographers**, **1** pages 141-145.

Stafford, 1974, The anatomy of the location decision: content analysis of case studies. In: **Spatial perspectives on industrial organisation and decision-making**, pages 169-188, (ed. F E I Hamilton), London (John Wiley & Sons).

Taylor, M J, 1975, Organisational growth, spatial interaction and locational decision-making. In: **Regional Studies**, **9**, pages 313-324.

Taylor, M J, N J Thrift, 1983, Industrial geography in the 1980s: entering the decade of differences. In: **Environment & Planning A**, **15**, pages 1287-1291.

Thomas, H, 1984, Strategic decision analysis: applied decision analysis and its role in the strategic management process. In: **Strategic management journal**, **5**, pages 139-156.

Townroe, P M, 1971, **Industrial location decisions; a study in management behaviour**, Birmingham (Centre for urban and regional studies University of Birmingham).

Townroe, P M, 1974, Post-move stability and the location decision. In: **Spatial perspectives on industrial organisation and decision-making**, pages 287-308, (ed. F E I Hamilton), London (John Wiley & Sons).

Townroe, P M, 1978, **Industrial movement; experience in the US and the UK**, Kettering (David Green).

Townroe, P M, 1991, Rationality of the industrial location decision. In: **Urban Studies**, **28**, pages 383-392.

Vaessen, P, 1993, **Small business growth in contrasting environments**, Nijmegen (Faculty of Administrative Sciences)

Walker, R, F Calzonetti, 1988, Searching for new manufacturing plant locations: a study of location decisions in Central Appalachia. In: **Regional Studies**, **24**, pages 15-30.

Wins, P, 1995, The location of firms: an analysis of choice processes. In: **Territorial competition in an integrating Europe** (ed. P Cheshire, I Gordon, pages 244-266.

Wissen, L van, 1996, Ontwikkeling van bedrijven onderwerp van demografische studie. In: **DEMOS**, **8**, pages 69-72.

Wonnacott, T H, R J Wonnacott, 1990, **Introductory statistics**, Toronto (John Wiley & Sons).
