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Research Memorandum Alert 2004-5B

Faculteit der Economische Wetenschappen
en Bedrijfskunde (FEWEB)

Drivers of entrepreneurial location as an innovative act

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**Peter Nijkamp
Jos van Ommeren**

DRIVERS OF ENTREPRENEURIAL LOCATION AS AN INNOVATIVE ACT

Peter Nijkamp

Jos van Ommeren

Abstract

This paper regards locational choice as an entrepreneurial act and seeks to identify the drivers of locational choice of SME firms. Based on a recent database on Dutch entrepreneurs, factor-analytic methods are deployed to trace three clusters of driving forces.

The authors wish to thank Ronald Dierdorp for his assistance in collecting the data base.

1. Locational Choice as an Entrepreneurial Act

Locational behaviour is increasingly regarded as a strategic part of an innovative and entrepreneurial act, through which a creative entrepreneur seeks to improve his competitive position (Nijkamp 2002). The choice of an optimal location is based on a pioneering attitude of an 'entrepreneurial hero' (Petzinger 1999). Such a choice is driven by personal motivation, the social environment and the external business culture (including the market the firm is operating in) (see Acs 1994 and Baumol 1990). In deciding on a new location a firm tends to consider also the decisions by other firms ('behavioural externalities'), as this may lead to risk reduction (the 'Silicon Valley syndrome'). Against the latter background, the trend towards industrial concentrations in large metropolitan areas is conceivable (apart from the usual driving forces based on economies of density).

In recent years we have witnessed also an increasing importance of networks as drivers for industrial location. Such networks may be physical in nature (e.g., transport infrastructure), or business-oriented (e.g., industrial networks or clubs). Furthermore, network orientation tends to incorporate also clustering behaviour in nodal concentrations of networks (see Camagni 1991 and Malecki 1997). Thus, it seems plausible that both physical and immaterial factors, as well as agglomeration behaviour tend to be the dominant driving location forces of a modern firm in a network economy.

This proposition will be tested in the present paper on the basis of empirical research among Dutch firms. This paper is organised as follows. In Section 2 we will offer a brief description of the changing scene of industrial location behaviour. Then we will describe the empirical database among Dutch SME firms, followed by a factor analysis applied to these multidimensional data. The paper will be concluded with new research perspectives.

2. Setting the Scene

Spatial innovation analysis over the past decades has witnessed a shift in attention from *spatial technogenesis* to *network technogenesis*. *Spatial technogenesis* indicates the physical and institutional urban and regional conditions that support and create new technological advances. Research on regional incubators and urban seedbed conditions is illustrative for this approach (see e.g. Davelaar 1992). The success stories of Silicon Valley have encouraged many regions to imitate this profile by creating similar images, as reflected in such terms as Silicon Island, Silicon Vineyard, Silicon Parkway, Silicon Hill, Silicon Triangle or Silicon Corridor. In various cases, image building seems to be even more important than real-world facts. Cities and regions have clearly deployed many acquisition mechanisms to attract new investments.

The emerging information and telecommunication (ICT) sector has emphasised the spatial connectivity potential in favouring new and innovative activities. In particular, the city

has become a new source of socio-economic progress, and this is witnessed in concepts like the e-city (or electronic city), the flexicity, teletopia, cyberville, agora, or telecity. Also here we observe an abundance of urban phantasies, often without a sufficient degree of substance (see for a critical review also Graham and Marvin 1996). An important element in the emerging new popularity of the city is the recognition of one of the fundamentals of city formation, viz. agglomeration advantages of various kind (see e.g. Glaeser 1999; Vass 2001). Despite negative externalities, the city offers still a unique portfolio of opportunities and benefits of both a physical and intangible nature, which are hard to compete with. It is indeed noteworthy that innovation tends to have an urban bias (Nijkamp 2002).

In recent discussions on new urban roles and profiles the concept of the *network* society has gained much popularity (see Castells 1996). This concept refers to an organised structure of human activity, which manifests itself as an interconnected system of functional cores and related links in regions of different geographical architecture. In this new organisational constellation the region and the city become a kernel in a broad – sometimes global – network. The emphasis here is less on physical distance, but more on *virtual connectivity*. Networks do not only manifest themselves in physical space (e.g., transport networks) but also in human interactions (e.g., as club externalities). Regions and cities have in recent years tried to qualify as cores of a global network, and have offered fascinating images such as the electronic cottage, the wired village, the spaceless place, the invisible location, the virtual site, the e-location and the like. The spatial domain of networked places may even cover the whole world. In the vein of the increasing popularity of network strategies, in recent years the awareness has grown that a competitive position of localities is largely contingent on their *knowledge base*. Knowledge does not only refer to academic knowledge, but to the whole intellectual and informational resource base in urban areas; it comprises universities, higher education institutes, private and public research laboratories, training facilities and the like. In this context we observe the emergence of new creative concepts for the urban future, as witnessed *inter alia* by the following nomenclature: the knowledge city, the intelligent city, the informational city, the know-how city, the science city or the 3-C (communication, creativeness, culture) city. Also here, there seems to be much scope for fascinating marketing concepts rather than real contents. Entrepreneurs seem to be rather responsive to such imaginations, and policy-makers are even more fascinated by such visions.

The importance of knowledge and information as a foundation for spatial economic competitiveness is clearly widely recognised in many cities, regions and countries of the developed world. Knowledge creation and acquisition has become a factor of paramount importance. The current scientific interest in endogenous growth has put knowledge, education, training, skills, research and information in the centre of science policy and of innovation analysis in both the public and the private sector (see Bennett et al. 2000). We

witness also a burgeoning interest in the process through which knowledge as an intellectual resource of a social nature is shaped and shared (Brouwer et al. 1999; Curran and Blackburn 1994). In this context, the notion of a *learning region*, a *learning city*, or a *learning decision-maker* has gained much popularity. Human resource management, knowledge creation and evolution, social and institutional knowledge networks, and innovation culture have become focal points of modern growth policy in the knowledge society (see also Amin and Cohendet 1999; Cooke 2001; Román 2000).

This new framework of innovation and knowledge creation calls for appropriate scientific analysis tools, in which regional and urban development theory is complemented with organisational learning theories, evolutionary thinking on neo-Schumpeterian behaviour, and social-legal theories on trust, learning behaviour, social co-operation and social-spatial association (see also Antonelli 1995; Batten 1995; Camagni 1991; Cooke and Morgan 1993; Dosi et al. 1988; Knight 1995; Lundvall 1992 and Storper 1996).

The above sketched developments prompt also a re-orientation of our views on the space-economy. Different visions are developed, ranging from a footloose economy with firms and households operating in global networks (the 'death of distance'; see Cairncross 1997) to a reinforcement of urban agglomerations acting as 'global command centres'; see Sassen 1996). It goes without saying that much innovative research is needed to understand the driving forces and spatial implications of our current knowledge-based economy, in which urban areas are prominently present.

It is, therefore, no surprise that urban rejuvenation based on creative network concepts appears to be a major focal point of research and policy. In this context, a reference is often made to a new type of Marshallian district, in which the city plays a central role. But in contrast to the past, there are two obvious differences. In the first place, the emphasis is less on industrial innovation, but rather on knowledge creation and diffusion. Against this background perspective, Marshallian districts turn into knowledge districts, with largely the same economic meaning as previous creative business districts. In the second place, the knowledge-based city becomes a nodal point in a multi-layer regional-national-global network. The typical hinterland of the modern city – spreading its information and knowledge to other places – is often covering the whole world. Cities become international exchange cores in a complex network governed by interaction, communication and association. From this perspective, the concept of an '*associative city*' is becoming 'en vogue'. Furthermore, city domains are no longer physically limited to the urban centres, but are covering metropolitan areas (including edge cities) and poly-nuclear urban configurations. In general, innovative activities appear to grow in such a new economic-geographical constellation. The region is then back on the scene, but mainly as a spatial support system reinforcing the nodal function of broadly-based urban areas.

The main question is now: do entrepreneurs share these new visions? Are their locational motives driven by imaginative concepts or do they still rely on 'old-fashioned' industrial location ideas? This question calls for empirical research. The next section will introduce the database employed in this study to test the above-mentioned propositions.

3. Information Base for a Behavioural Approach to Entrepreneurial Location

In this empirical study, our research will be exploratory in nature in trying to identify which locational factors are regarded as important by firms, against the background of the emerging network economy as outlined in Section 3.

It is noteworthy that in the standard empirical research regarding locational choices of firms the presence of a possible location appears to play an important role. In other words, lack of space appears to be a crucial factor for a firm to move location. Lack of expansion on a current location is not only a quantitative factor, but may also comprise qualitative elements (such as quality and image of the present location or the access to high-quality human resources). Thus, the geographical location contains many motivational factors for entrepreneurs. Consequently, an opportunity-rich environment (e.g., in a metropolitan area) offers from a behavioural viewpoint the best range of choice options for a locational act of an entrepreneur.

There is a considerable amount of literature on the relative importance of various location factors (such as price of land, investment subsidies and accessibility) (see Bruinsma and Rietveld, 1997). There are two main strands of literature on the assessment of these factors, viz. expert opinion and stated preference methods. Expert opinions are often used in a first exploratory investigation, but cannot claim a high level of objective empirical validity. An example of the second type of approach can be found in the well-known Healey & Baker studies, where a broad panel of entrepreneurs assigns relative scores to various locational factors (see Table 1).

	1990	1992	1994	1996	1998
Entrance to market, clients and suppliers	60	62	71	63	66
Transportation networks with other cities/international	57	49	51	52	62
Quality of telecommunication	59	43	48	46	54
Costs and availability of staff	35	39	40	43	50
Tax and subsidy regime	30	34	31	36	36
Quality/price proportion of offices	24	23	22	26	26
Quality of urban transport infrastructure	-	22	25	22	21
Availability of offices	27	22	19	22	25
Knowledge of (foreign) languages	17	17	16	18	22

Environmental regulations	-	11	7	11	12
Quality of living	14	10	10	10	13

Table 1 Relative importance of location factors

Source: The entries in this stated preference table represent the percentage share of entrepreneurs that finds the listed factors absolutely essential (a '*conditio sine qua non*'). The various factors are ranked from the most important to the least important ones. It should be noted that most firms included in this panel operate on international markets, and hence may have a different locational profile demand than e.g. regionally-oriented firms.

There is normally a significant difference between the location criteria of incumbent firms and new firms. New firms tend to be risk-avoiding and more oriented towards the place of residence of a starting entrepreneur. Incumbent firms are more seeking for new market opportunities and expansion, and hence are more often looking for other locations (Bruinsma and Rietveld, 1997). In general, the commuting time of a starting entrepreneur is shorter than that of an existing firm. New enterprises form also an interesting category from a locational perspective, as they are not yet embedded in their local environment. For example, they have not yet an established contact network of buyers or suppliers and are less geared to the existing local labour market. On the other hand, starting entrepreneurs have more detailed information on local circumstances. For them the choice of a location is a real innovative act (Peneder 2001; Roper 2001). In the present paper we will address the location decision of starting entrepreneurs in the context of their regional environment. Clearly, almost all starting enterprises belong to the SME sector. To collect data on locational choice behaviour of new enterprises we concentrated our attention on the economic heartland of the Netherlands, which is the most dynamic region in terms of the establishment of new activities. With the help of the information base of the Chambers of Commerce a survey questionnaire was sent out to some 200 recently established new firms (Spring 2001). Apart from general information on e.g. age, education, gender, type of economic activity and specific location, this survey questionnaire contained a series of systematically organised statements on the importance of a wide variety of potentially relevant locational criteria, as suggested by the literature on SMEs. A five-point scale was used, with the following response categories (see Table 2). The response rate for our questionnaire was 33 percent, which is rather high compared to standard practice.

Scores for degree of agreement	Response category
1	I completely disagree
2	I largely disagree
3	I have no opinion
4	I largely agree
5	I completely agree

Table 2. A five-point scale for the degree of agreement on the importance of locational choice criteria

In the survey questionnaire the following locational choice criteria were addressed in particular:

- accessibility via the road for private cars
- accessibility via public transport (mainly rail)
- availability of parking space
- representativeness of the building
- representativeness of the locational environment
- accessibility via the road for goods transport (trucks)
- presence of ICT and telecom infrastructure
- access to and vicinity of suppliers
- access to and vicinity of consumers or markets
- presence of competitors
- presence of bank or other financial institutions
- prices of land and real estate
- availability of locational subsidies
- presence of strict environmental regulations.

These items will now be further analysed in Section 4, with a view to the identification of locational drivers.

4. Results

The various location criteria listed in the previous sections were compared in terms of their perceived importance (see Table 3). The results show quite some variation.

Location criteria	Mean	Std. Deviation
Accessibility by car	4.0000	1.3243
Representative building	3.4394	1.3488
Parking space	3.4242	1.4257
Representative environment	3.3846	1.3997
Consumers	3.2879	1.4963
Competitors	2.8182	1.3690
Accessibility by train	2.6515	1.3067
Suppliers	2.4545	1.5902
Accessibility for trucks	2.4545	1.2792
Land prices	2.3939	1.4975
ICT infrastructure	1.6515	1.0741
Bank and financial institutions	1.2424	0.6339
Environmental regulations	1.1667	0.6465
Subsidies	1.1212	0.5411

Table 3. Importance scores for locational choice criteria (N=66).

The results are interesting in the sense that accessibility by car is the dominant locational choice criterion, followed by representativeness of the building and availability of parking space. It is also noteworthy that subsidies and environmental regulations hardly play any role. The same holds for banks and for ICT infrastructure, most likely because these facilities are ubiquitously available.

From the ten most decisive location factors we may try to extract a more clear and coherent structure by applying a multivariate factor analysis. The main results of this factor analysis are given in Table 4, based on factor loadings which exceed the significance level 0.5.

Location criteria	Factor A	Factor B	Factor C
Accessibility by car			✓
Representative building		✓	
Parking space		✓	
Representative environment		✓	
Consumers	✓		
Competitors	✓		
Accessibility by train			✓
Suppliers	✓		
Accessibility for trucks			✓
Land prices		✓	

Table 4. Qualitative main results of a factor analysis applied to the 10 most significant location criteria

The results in Table 4 are interesting. One important factor for starters (factor A) is the *accessibility* to specific groups: consumers, competitors and supplies. This factor suggests that group-specific accessibility is of preponderant importance in starting a new enterprise. The next factor (factor B) comprises *characteristics of the site* such as the quality-price ratio of the site and comprises the representativeness of the building and of the broader environment, the availability of sufficient parking facilities, and the prices to be paid for the site. And finally, the third factor (factor C) is clearly a *transport-related* component and refers to general accessibility by private car, by public transport and by truck.

5. Conclusion and Further Research

In the current study, it has been demonstrated that entrepreneurs choose the location of their new firm in particular on the basis of accessibility by car, parking space and the representativeness of the building. The factor analysis applied in our study suggests that the location choice is influenced by three factors: accessibility in general (e.g. the car), characteristics of the site (e.g. the price), and group-specific accessibility (customers, competitors etc.). One of the main lessons from this study is that starters appear to distinguish

between accessibility in general and group-specific accessibility. Such a distinction is relevant, but it also raises a number of questions. In particular, how do entrepreneurs trade off the two types of accessibility? Are entrepreneurs willing to pay more for a site which offers more accessibility in general (e.g. closer to a railway station), but does not have any effect on group-specific accessibility? It goes without saying that in a network economy the interactive locational choice of entrepreneurs deserves due attention. Public policy may play an important role in facilitating those locational factors that favour spatial externalities (e.g., in terms of accessibility and interaction).

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