BUSINESS LOCATION: MINDSET OR DECISION OF ECONOMICS AND INDUSTRIAL ENGINEERING?

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Acest studiu îşi propune să ofere un cadru conceptual precum şi o serie de instrumente utile oricărei firme care doreşte să beneficieze de stimulentele şi condiţiile favorabile asociate unei anumite locaţii. Urmare a unui studiu de literatură, în contextul mai larg al teoriei locaţiei, a fost elaborat un set de factori instituţionali determinanţi, atât la nivel regional cât şi microeconomic. A fost analizată distribuţia teritorială a diferitelor sectoare economice de activitate din Regiunea Bucureşti-Ilfov din România şi, ca urmare, a fost construit un model matricial original al factorilor instituţionali determinanţi în ceea ce priveşte locaţia, ceea ce constituie un instrument util de decizie în domeniul ingineriei industriale. Implicaţia este semnificativă pentru proprietarii şi managerii de firme care trebuie să ia astfel de decizii strategice privind amplasarea teritorială (locaţia), indiferent de mărimea firmei sau de sectorul de activitate economică. Studiul este parte a unor cercetări doctorale desfăşurate în cadrul Proiectului european POSDRU/107/1.5/S/76909 co-finanţat de Fondul Social European.

This study aims to provide a conceptual framework as well as a collection of instruments to be used by every individual start-up in order to take full advantage of the opportunities offered by public incentives and favourable conditions available at certain locations. Following to literature survey, a set of institutional determinants was built up, both at regional and micro-economic level, in the larger context of the location theory. The spatial deployment of industries in the Bucharest-Ilfov Region of Romania was analyzed, and an original matrix of the institutional determinants of the location was developed, as a decision support tool of industrial engineering. The major implication is for the business owners and managers who have to make such strategic decisions, regardless the company size or industry. The study is in conjunction with longer term doctoral research under EU Project POSDRU/107/1.5/S/76909 co-funded by the European Social Fund.

Keywords: business location, location theory, institutional approach, institutional determinants matrix, clusters, Bucharest-Ilfov Region of Romania

1. Introduction: Choosing the business location – from mindset to well-documented decision

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There is a multitude of well-liked beliefs associated to the idea of *business success*, very popular among common business people. Many of them proved to be correct, based on centuries-old experiences of success and failures. Others are just baseless mindsets; to mention just a few of them – related to the importance of choosing the right business location:

- *Competition kills the business* (actually the competition is beneficial for both business and clients; it is a prerequisite of healthy market economy).
- *To be successful, one must be the very first in that specific business* (actually it is of vital importance to sell the right product at the right price, in the right place, at the right moment, and so on; there are many business failures reported because of "earliness" … they came too early – despite being the first, often based on a new technology). To note that this refers to the business industry not necessarily to the business location (place).
- *To be successful, one must be the single one in that place* (apparently this is a combination of the above; however: one might be the single one but not necessary the first; one might be the first but having competition around). This assertion is also contradicted by the facts: there are so many examples of single business agglomerations – all successful: flower markets, auto parts shops on the same street, car show rooms in the same area; old one-business streets in the mid-age old towns – named by tradition accordingly (butchers', backers', grocers', to name just a few).

Some facts, practical examples collected in different cities from different countries (and Romania is no exception in this case), at different moments, demonstrate that in a certain business (hospitality industry – restaurants) there might be successful (plenty of customers) and unsuccessful businesses (no customers) placed in the very same location, next to each other (Figure 1). This means that other factors are important as well for the business success; this is why the selection of the business location is a complex decision that has to consider a number of factors, in their intricacy and inter-correlation.

This paper aims at analyzing the factors that influence the success of a business in a specific industry and how these factors should be considered in order to make sound decisions. Following to literature survey, a set of institutional determinants was built up, both at regional and micro-economic level, in the larger context of the location theory. The spatial deployment of industries in the study region (Bucharest-Ilfov Region of Romania) was analyzed as well.

At any rate, the location is a key-factor for the business success and choosing the business location is vital for its longer term success. It is a decision of economics and industrial engineering. *It is a strategic decision.*

a. Bruxelles, Belgium, October 2009

b. Guimaraes, Portugal May 2010

c. Warsaw, Poland, August 2010

d. Tallin, Estonia, September 2010

e. Coimbra, Portugal, May 2011

f. Porto, Portugal, May 2012

Fig. 1. Visual indicators of success or failure in the hospitality industry – examples of packed vs. empty restaurants in touristic and capital cities across Europe

2. The location theory – an institutional approach

Location theory has its roots almost two centuries ago (1826) when von Thünen has published his model for agricultural land use surrounding a city [1]. Related to several other disciplines and sharing some concepts and methods (economic geography, urban economics, regional science, spatial science), different location theories and models (theories) launched at different moments in time are grouped into four major categories: (neo) classical, behavioural, institutional and evolutionary. As each of them brings a different view upon business location, highlighting a new set of factors, the decision on the business location must be consider all of them in a complementary manner.

Business location refers to site selection for an economic activity, in order to achieve a competitive advantage through a convenient access to resources and market, to the benefit of both companies (profit) and individuals (lower costs). Eventually, this will also bring benefits at regional and national level, by means of a better allocation of resources.

This study is focused on institutional factors as being in closer connection with regional studies. Institutional approach places the company and the location decision in the broader context of the whole society, concerned with the interaction between the business and its external environment, i.e. social, legal, cultural, political and so on. Economic activities are integrated with existing institutions and networks. This theoretical approach is also known as organizational or relational. Interaction with the external environment, the way the company influences and is influenced by the external environment, is described by Günther Krumme through the concept of *business geography* [2].

In the conceptual framework of the regional economics [3], Camagni and Capello emphasize the importance of *territorial capital* which has been proposed by OECD in 2001 and currently accepted by the Commission of the European Union: "The empirical analysis is applied to all 259 NUTS2 regions [see Appendix] of the 27 European countries … empirical analysis clearly demonstrates that in those regions where territorial capital assets play an important role on regional growth, the overall performance of the regions is higher. Moreover, it clearly demonstrates that territorial capital, as all production factors, is subject to strong decreasing returns to scale: in fact, in those regions in which the level of territorial capital is higher, its effects on regional growth are more contained." [4, p.19]

Since the 1980s, the institutional approach of location theory becomes dominant, bringing forward the *dynamic external environment* of the company, as opposed to the static, decorative view of external environment, specific to prior theoretical approaches - (neo) classical and behavioural. Also, given the emergence of knowledge society, technology and innovation, the links between

business and public institutions resulted either in formal networks, associations, centres of technology transfer, spin-offs or informal collaboration, mutual trust and solidarity, which become increasingly important. Robert Putnam, integrates all these elements in the concept of *social capital* [5], represented by the system of local institutions and trust between businesses, evolving into local *clusters*.

While in case of (neo) classical and behavioural approaches, the entrepreneur had a dominant role in the location decision, according to the institutional approach, the entrepreneur has less influence (role of *negotiator*). As the bargaining power increases with the size of the firm, small and medium size enterprises (SMEs) must comply with institutional conditions, while larger firms and multinationals can influence their operating environment.

Table 1 displays institutional determinants (set of factors), relevant to this study, related to the location theory, supported by further literature references.

Table 1

Institutional determinants that influence the location (location factors)

Theoretical concepts	Derived location factors
Industrial district, positive externalities	Agglomeration economies (proximity, density)
Cluster theory, triple helix	Functional linkages (cluster formation, networks, support services, education and skills)
Tiebout hypothesis [8]	Public services (utilities, transportation)
Urban planning, land use	Zoning (functionality, restrictions)
Urban planning, urban growth poles	Urbanization (size, density)
International trade and growth, location by product life cycle	Foreign direct investments (FDI)
Bid-rent, land use, central business district (CBD), sub-centres	Real estate market (space, rent, facilities, accessibility, representativeness for the business, image, maintenance cost, incentives, price trend)
Employment flexibilities, closures and layoffs	Labour market conditions (trade unions' activity, employment and layoff legislation)

Alfred Marshall introduced the concept of *industrial district* [6], assuming that industry becomes more efficient in case of firms and population agglomerations, in heavily populated urban areas. Operations of existing companies produce unintended and free benefits to the other companies located nearby, called positive externalities. These benefits include access to skilled labour and exchange of information (spill-over). Thus, in these industrial districts occurs a snowball effect by division of labour, specialization and inter-connections upstream and downstream the production chain. As companies are attracted into the agglomeration, more companies will join the cluster to benefit from these externalities. In turn, companies will attract population with its double role of labour supply and consumers. Overall, proximity and size bring localization advantages, i.e. agglomeration economies. Rosenthal and Strange [7] have shown that doubling the city size, the productivity is up between 3% and 8%.

The impact of public services on business location was identified by Charles Tiebout [8] who noticed that entrepreneurs make their location decision considering the best public service mix, by the trade-off between the needed services and tax level they must pay to local authorities.

If Marshall pioneered the identification of positive externalities within an industrial district, the merits of the in-depth analysis of the phenomenon and paternity of *cluster theory* belong to Michael Porter who has defined competitive advantage of nations as based on business strategies [9]. According to Porter, industrial clusters are formed by integrating four key factors that make up the *diamond* of competitive advantage: factors of production, related and supporting industries, firms' structure and strategies including rivalry, and demand.

More recently, the *triple helix model* developed by Etzkowitz [10] refers to extended inter-connections between three types of actors: universities and research centres, industry (business community) and government (public authorities). The triple helix in metropolitan clusters (which is applicable in case of Bucharest-Ilfov Region of Romania) leads to *clusters of knowledge* [11]. At their turn, the clusters are strong attractors for foreign direct investments (FDI) in the less developed regions [12].

In modern cities, the goal of achieving better living conditions for urban inhabitants led to reshaping urban landscape by urban plans. Jane Jacobs stood against excessive urban planning, in order to preserve functionality, land use, density and mixture [13]. Jacobs also grasped the concept of urban growth poles and supported the idea that cities are great players that trigger economic and social development [14].

In Romania the studies conducted to-date are focused on regional development, regional discrepancies and their reasons mostly ([15], [16]). The intellectual capital components were identified as causes of regional disparities [17]. In larger cities as Bucharest the urban planning and comfort are the central points of research [18]. The territorial discrepancies in connection with SMEs was studied in Romania as in other Central and East European countries in the context of the privatisation process – demonstrating that SMEs generated the majority of the new jobs and private sector contributed to the GDP as much as 70% [19].

The impact of the foreign direct investments (FDI) on business location was described by Vernon [20] from the perspective of the product life cycle. Correlating the growth pole theory and FDI, a study conducted in Romania [21] concluded that the location of the FDI in-flow is related to the level of support services and the number of previously developed FDI businesses. The study has shown that a 10% increase in services employment density had a significant positive effect on the location decision of FDI (6.2% increase). Moreover, a 10% increase in the number of foreign plants in a given industry and county, resulted in 2.2% increased probability that a subsequent foreign investor in that industry

would choose that county. FDI is considered an institutional factor from that standpoint of inter-connection with other states' economies (business networking with foreign companies), as well as from the point of view of the incentives granted by the central and local government. Romania has proven to be an appealing target especially since 2000, fuelled by large privatisation programmes. According to the National Bank of Romania, the final balance of FDI on December 31, 2010, recorded the level of EUR 52.6 billion [22]. The FDI is a determinant factor for the Bucharest-Ilfov Region as 62% of the FDI flow to Romania concentrates in this region.

The trade-off between accessibility and the cost of space was formerly expressed by the land use theory [1] and its urban extensions, bid-rent theory and optimal distances of residential and commercial land uses from the central business district - CBD [23]. A more recent empirical study [24] completed in the Netherlands reveals the major impact that some microeconomic factors of institutional nature such as real estate market (i.e. available space appropriately equipped and its cost) have on the SMEs' location decision. In the same time, other microeconomic factors like regulations, environmental and urban zoning are perceived as less important, excepting the case of manufacturing industry and transports, where they have restrictive impact. The same study mentioned a massive relocation of industrial plants in the past from western Holland to the eastern lands, due to aggressive union activity. Considering that most foreign investors outsource labour-intensive production processes in Romania, we also underline the importance of labour market conditions in FDI location decisions.

This paper is part of a larger research project ([25], [26]) which will conclude with a software decision support system. The paper aims at building a support framework for the SMEs location decision, considering institutional factors, referring to the Bucharest-Ilfov Region from Romania ("the study region"). A brief presentation of this region is enclosed (Appendix). This paper's findings should be a starting point in location analysis conducted by every entrepreneur intending to establish a business in a specific region.

Beside this review of the institutional side of the location theory, the remaining of the paper includes the research focus and methodology, highlights of the institutional determinants of business location both at regional and microeconomic level followed by the research results, discussion on managerial implications, and conclusions. Some directions for further research are suggested as well.

Eventually, peculiar features of certain industries are emphasized and consistent and stabile sources of information for monitoring institutional location factors are identified. When necessary, special references to SMEs particularities are made with respect to the business location theory.

3. Research focus and methodological framework

The research is geographically focused on the Bucharest-Ilfov Region as part of the eight NUTS II regions of Romania (see Appendix). Methodologically, the study consists of two parts:

(i) Secondary research on studies completed in Romania on emergent clusters;
(ii) Territorial analysis of the distribution of economic activities, from the perspective of turnover dynamics within all Romanian regions.

The overall objective is to identify the reasons why some economic activities or industries preferred the study region against others, concluding with the location determinants (institutional factors) *at Bucharest-Ilfov regional level.*

Different studies have identified emergent clusters ([27], [28]) mostly in the city of Bucharest, both in labour-intensive sectors – like textile and clothing (Apaca industrial park), furniture (Pipera industrial platform), construction materials – and in high-added value sectors – like software (26,000 employees in the study region, in 2009, according to Eurostat [29]), graphics and printing. The cluster formation process is much slower in Romania than in the EU industrialized countries. Low performances were observed in terms of cooperation between cluster companies and third-party service suppliers for cluster support. SMEs are not mature enough to cooperate, in order to keep up with international competition. The most successful model for Romanian clusters is grouping small subcontractors around a leading company, with a catalytic and coordinating role (as Dacia-Renault cluster in the South Region of Wallachia).

The original territorial analysis of the distribution of economic activities has the following specific objectives:

- To detect the regions and industries (economy sectors) that have a tendency to greater concentration (specifically in case of the study region);
- To identify the location determinants at both regional level and micro-economic level, i.e. conditions to stimulate business development (friendly business environment);
- To reveal peculiar features of the SME sector, where deviations from general trends exist.

As far as methodology, the analysis was based on the following methods and instruments:

- *Time-series* (the decade 2001-2010);
- *Cross-section analysis* according to the National Classification of Economic Activities (NACE);
- *Two sets of indicators - socio-economic indicators* and *turnover dynamics indicators.*

The s*ocio-economic indicators* are explanatory for the business environment conditions by regions: size of active population; employment rates; structure of the active population (urban/rural) and its education level; labour productivity (yearly turnover/employee); purchasing power (household income); entrepreneurial intensity (number of active firms per 1000 inhabitants); SME profitability (number and share of profitable enterprises); infrastructure (density of roads per 100 km^2, internet accessibility); institutional indicators (EU funds absorbed and the contracted value, perception of public institutions).

The *turnover dynamics indicators*, calculated for each economy sector and for SMEs in particular: turnover by sector and its dynamics (2001-2010), in current and real prices (adjusted with inflation); share of the region in the national turnover in 2010 vs. 2001 by sector; real growth of turnover in 2010 vs. 2001 by sector; share of SME turnover by sector per region in 2010; share of SMEs in the region by sector compared to the national turnover of SMEs by sector in 2010.

4. Analysis of the institutional location determinants (location factors)

The analysis of the institutional location determinants (location factors) is completed at both regional level and micro-level as follows.

4.1. Analysis of the institutional location determinants at regional level

The real turnover growth index (i.e. adjusted with inflation) in 2010 versus 2001 and SMEs share in 2010 are presented in Table 2, ranked by growth rates.

Table 2

Dynamics of the main economic sectors (NACE sections) between 2001-2010

Economy sector – Bucharest-Ilfov Region	Real growth index 2010/2001	SMEs share 2010 [%]
Electricity, gas, steam, water and air conditioning	384.2	49.4
Real estate, rentals and services rendered to enterprises	226.3	86.3
Constructions	200.4	80.9
Information and communications; transport, storage and courier activities	146.2	49.7
Wholesale and retail; repair of motor vehicles and motorcycles	94.3	79.7
Other collective, social and personal services (education and health included) – private sector only	87.8	67.1
Hotels and restaurants	57.8	75.7
Mining and quarrying	38	100
Manufacturing	29.5	71.2
TOTAL	*113.4*	*73.1*

Source: own calculations based on data provided the National Institute of Statistics ([30], [31])

To note that growth index (2010 vs. 2001) was 113.4%, and overall SMEs share in region's 2010 turnover was 73.1%. Regarding the concentration of some industries within the study region, two major trends were observed:

- *Region's specialization in tertiary sectors* mostly with high added value and well-trained labour, such as Information Technology and Communications (IT&C), real estate, constructions, trade and other services, due to Bucharest city contribution only. It should be mentioned that the study region is the only one with the IT&C component turnover exceeding transport and storage component [29], given the fact that both components are aggregated in a single NACE section. Although not included in the analysis, agriculture is still the most important sector in Ilfov County, counting 37% of county's turnover;
- *Deindustrialization trend amid specialization in services.* The place of industrial enterprises in the city of Bucharest was taken in time by residential complexes, shopping centres, and office buildings. However, industrial activity tends to shift to the periphery (Ilfov County) or farther to the nearby Region South-Wallachia in order to take advantage of lower costs for space, yet benefiting from quality infrastructure, employment and accessibility to customers and suppliers. Notable is the SMEs share in the total turnover of manufacturing industry of the region (71.2%), due to entrepreneurial intensity and research & development expenditures well above national averages, and to the specialization in industries accessible to SMEs (clothing, furniture, food etc).

As a result of analysis, the following location determinants were found in Bucharest-Ilfov Region, listed by their impact level.

*1˚ Foreign direct investment (FDI)**:*** are highly polarized towards Bucharest-Ilfov Region, which accounted for 62% of national FDI balance in 2010. As stated in the theory section, FDI territorial concentration is a complex phenomenon, which results out of the interplay of many sub-determinants. In the study region, unlike other regions in the country, there is a strong demand-side component of FDI localization (market seeking), alongside supply-side drivers (factor seeking). Study region is an appealing destination for FDI, thanks to the agglomeration of both population and companies which favours linkages, market potential (as income, growth rates), and to the abundance of skilled labour force at competitive costs, compared to Western EU countries. These advantages foster outsourcing of labour intensive industries from developed countries (software, fashion industry, advertisement etc).

2˚ Urbanization: the urbanization level in the study region is 93%, very high in light of the growth poles theory (urban growth poles). Another strong stand is the population density (1,423 inhabitants/km^2 for entire region, 8,161 inhabitants/km^2 for the city of Bucharest).

3˚ Infrastructure: the region provides access to the main transportation routes (2 highways, to the sea port of Constanța and to the centre and West of the

country, express national roads to other directions, main railway station and airport), good public transportation (surface and underground transport networks) and public utilities.

4˚ Education: Bucharest is the main university centre in the country, acting as a magnet for young people from the rest of the regions, who after graduating find employment and housing within the study region. Education level of population exceeds by far the country average (90% of the population has secondary and higher education), including computer and foreign language skills.

5˚ EU legislation: EU accession and integration process of Romania came along with legislation agenda. This triggered the creation of new companies operating in industries such as waste and recycle management, environment protection etc.

6˚ Business support services: finance and banking, accounting and audit services, business consulting, tax and legal, information services are all concentrated in Bucharest.

*7˚ Linkages***:** represented by relationships between businesses, public and education institutions (e.g. clusters, networks).

8˚ Structural funds: urban growth poles theory is acknowledged by Regional Operational Programme, which allocated over 1 billion euro out of the 2007-2013 EU structural funds for the development of 12 urban growth poles in Romania, Bucharest being the largest among them. However, the study region has a weak stand in EU funds contracting, i.e. 21% at 2010 yearend (slightly higher in Ilfov County than in the city of Bucharest) [34]. An even sharper problem comes in terms of absorption rate, i.e. transfer from the European Regional Development Fund (ERDF) to beneficiaries (only 12.8% in 2010 [34]).

Consequently, the Bucharest-Ilfov Region is a winner in attracting foreign investments. FDI have a positive impact on SMEs, through their horizontal and vertical multiplying effect. The overall location of SMEs is influenced by the general climate of business environment, respectively proximity to customers and suppliers, availability of input factors, infrastructure quality, appropriately equipped sites, population income, education level, public policy institutions etc.

Better results can be achieved in the study region by an increased implication of public institutions, given the underlying forces of higher education and entrepreneurial intensity levels. Several problems were identified (including the low absorption rate of EU structural funds, the metropolitan area fragmentation between Bucharest city and Ilfov County, the low insertion of university and research actors into the triple-helix system etc) and a set of recommendations for public authorities may be developed.

These location determinants reinforce the companies' decisions with regard to the specific business and industries into the study region, and SMEs in particular.

4.2. Analysis of the institutional location determinants at micro-level

According to the theoretical background (as presented in Table 1) the following factors were selected, addressing the location decision at microeconomic level: functional zoning; real estate market; access to public facilities (transport networks, public transportation and utilities); proximity to cluster-like agglomerations.

All of them are interrelated and congruent (e.g. functional zoning aims at developing agglomerations/clusters in related industries, and regulates the real estate development). The intensity and interplay between these factors in certain areas have led to spatial disparities within the study region. Thus, some zones became deprived or degraded: the city south, historic centre and former industrial parks (the latter still covering 13% of the area of Bucharest city). Most of the Ilfov County joins the deprived category, due to the poor infrastructure (transport, water and sewage networks) and recent agriculture abandonment.

On the opposite side, there are some privileged areas: North and centre of the city, North side of Ilfov County close to the National Express Road No. 1 to Ploieşti and Braşov. This is the busiest road in Romania, with a registered yearly traffic of 12.5 million vehicles in 2008 [32], linking Bucharest to the central part of the country, to the touristic mountain resorts, national main airport, and high-end residential areas.

1˚ Functional zoning divides the territory according to urban functionalities (land use). This determinant may have a restrictive character, excluding or limiting some activities from certain areas (e.g. heavy industry and logistics) or a reinforcing character (agglomeration of related activities, support services and facilities). Regarding the location of economic activities, there are three types of areas in urban zoning:

- Dedicated areas and protection zones excluding all other activities (e.g. in case of special use areas, major technical equipment, transport infrastructure, municipal household activities, campuses and science parks; green areas allow only the activities and building share according to initial architecture plan);
- Areas which impose limits and/or special terms to certain industries (e.g. restaurants serving alcoholic beverages must keep out of the 100 m range around public institutions and religious premises; limits imposed to retail units in terms of maximum floor surface or car service capacity within semi/central areas);
- Areas excluding certain industries (e.g. heavy industry, logistics, waste and recycle storing, flammables retail, chemical cleaning, livestock are excluded from most of the areas; yet preschool, primary and secondary education and sport facilities must keep out of industrial sites).

The functional zoning has a lower impact on SMEs as compared to large companies.

2˚ Real estate market refers to location factors as land price, available space and rent level for offices and/or operational activity, due to the interplay of supply and demand, activity of the developers in this sector, their finished and ongoing projects. Lack of space for business extension and seeking for larger, cheaper premises was the major relocation determinant in Holland [24]. The location preference is linked to the firm's life cycle: thus, new SMEs prefer a central location with customer accessibility, while growing firms tend to shift to peripheral locations.

Most office space in the study region is available in the Central Business District (CBD) of Bucharest city [33] i.e. along the arterial road between Victoria Sq. and Charles de Gaulle Sq., and in several secondary centres (sub-centres): Central Area (Unirii Blvd. - Unirii Sq. - University Sq.), North side (Presa Libera Sq.), Pipera district. As far as monthly rent, it averages between 10 euro/m^2 in secondary centres up to 18 euro/m^2 in CBD. Occupancy rates range between an average of 90% in CBD, 80% in sub-centre buildings and even 50% in new or peripheral buildings. Big office buildings located in the CBD or central sub-centres are preferred by large companies either local or multinational. A northwards shift trend, especially in case of large businesses (IT&C, finance) is noticed. Most of the SMEs prefer good accessibility villas and apartments.

In Ilfov County, Otopeni is a fast growing town, incorporating the largest international airport in the country and being located along the main National Express Road. Other targets for residential and commercial projects are also in the North of the study region (Mogoşoaia, Snagov) and fewer to East and West. As for the South part, the authorities are trying to counterbalance and reduce the congestion in the north side, with projects, still on paper though, of a new airport and extension of the Metropolitan Area as far as to the Danube shores in Oltenița.

Logistics are linked to retail and industry, needing large, low rent space. Thus, Bucharest Ring is a preferred location for logistics (heavy transport, wholesale) and A1 highway towards the industrialized South-Wallachia Region, with monthly rent of 4 euro/m^2. The same locations are demanded in case of food and beverages industry for the same reasons. The industrial parks within the city rent space to SMEs active in textile and clothing, shoes, furniture and professional services.

3˚ Access to public facilities (transport networks, public transportation and utilities) together with real estate market cover other important location factors such as *accessibility* and need for *adequate facilities*. Utilities and public transportation are generally available in the city of Bucharest, contrasting with poor infrastructure in all Ilfov County, making it less desirable for services location. The cooperation gap between Bucharest city and local authorities in Ilfov County is expected to be bridged by a Metropolitan Area Plan.

4˚ Proximity (nearby or inside) to cluster-like agglomerations should be sought by SMEs related to the given specialization of the cluster. Agglomeration economies include knowledge spill-over, low transportation costs and a vertical integrated offer addressing common customers. Little has been done by public institutions in respect of integrating education and research institutions with industrial clusters. However, the Văcărești techno-park initiative should be mentioned in this respect.

5. Results and managerial implications

The results of thorough analysis ([25], [26]) is more formally presented as a matrix: the set of 8 institutional determinants of location at the regional level plus 4 institutional determinants of location at the micro-economic level, by economic sector (industry) – as presented in Table 3.

Table 3

Matrix of the institutional determinants of location – in Bucharest-Ilfov Region

Economic sector (Industry)	Regional level								Micro-economic level			
	FDI	Urbanization	Infrastructure	Education	EU legislation	Support services	Linkages	Structural funds	Functional zoning	Real estate market	Access to public facilities	Proximity to clusters
Retail	0	++	++	0	0	+	+	0	+	++	++	+
Manufacturing	++	0	+	+	+	+	+	0	++	+	+	+
Logistics	+	+	+	0	+	+	+	0	++	+	+	+
Real estate	++	++	++	+	0	+	0	+	++	++	++	+
Constructions	+	++	+	0	0	0	0	+	+	++	++	0
IT&C	++	++	+	++	0	+	++	+	0	+	+	+
Professional services	++	++	++	++	0	++	++	+	+	+	+	++
Personal services	+	+	+	+	0	0	+	0	0	+	++	++
Waste and recycling	+	+	+	0	++	0	0	++	++	0	0	0
Hospitality (H&R)	+	++	++	+	0	+	+	0	+	+	++	+
Entertainment	+	++	0	++	0	0	+	0	+	0	++	+

Legend: ++ = high impact, + = medium impact, 0 = low or no impact

This matrix, showing the specific intensity of factors on the most relevant industries in the study region, is a rich source of information for any investor assessing the location opportunity in that area. In addition, it is a decision-support instrument which can be used by macro-level strategists while designing regional development plans as well as by top-managers while conceiving their next strategic move: retrenching, relocating, expanding, diversifying – all have location/relocation implications, either small businesses or larger companies.

6. Limitations and further research

This paper covers institutional forces only. It is a part of a larger research project focused on the general location theory which will conclude with a software decision support system, an iterative tool with the possibility of integrating an individual assessment based of firm internal factors. In this respect, further studies are yet to be published.

On this basis, a conceptual model for the location decision support of SMEs in Romania (Bucharest-Ilfov Region) will be integrated with open source GIS (Geographical Information System) software. The database will contain information on location factors in different industries or areas as well as user inputs (activity, budget restrictions, technologies used, number of employees, other preferences). Information in the database will be represented visually by GIS maps, which will aggregate and overlap in layers and will finally indicate the most favourable business location. Further research is in line with the current trend in the spatial analysis which integrates GeoComputation, GIS as well as computational intelligence technologies such as neural networks [35].

As study in conjunction with longer term doctoral research, there are perspectives to gradually extend the area of research twofold: across Romania and from Romania to other European countries, starting in countries with cultural similarities as Portugal. A comparative survey (Bucharest-Ilfov Region from Romania vs. Greater Porto Region from Portugal) is currently in progress.

7. Conclusions

This study applies the institutional approach in the conceptual context of the location theory in case of the Bucharest-Ilfov Region from Romania (the study region). Literature review was performed and conceptual clarifications offered.

As part of a larger research work, the research objectives were successfully matched. Based on secondary research, a set of location determinants was established: eight determinants at regional and four at microeconomic level. An original matrix of the institutional determinants of the location was developed for the study region, by industries, contributing to the arsenal of industrial engineering.

The implications are important for both theorists and practitioners interested in developing the theory of location and applying the institutional approach to better and documented decide on the location of a business, respectively. The major managerial implication is for the business owners and managers who have to make such strategic decisions for any type of company regardless the size, ownership, or industry.

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Appendix

The Bucharest-Ilfov Region: a brief presentation by SME activity

Romania is divided into eight NUTS II regions (Nomenclature of Territorial Units for Statistics level II, according to the European Union standards), among which the Bucharest-Ilfov Region is the most developed. It counts 2.26 million inhabitants (2010), hosting Bucharest, the capital city, surrounded by small satellite towns and villages. Located in the South-central part of the Romanian Plain, this region covers an area of 1821 km^2, out of which 13.1% is within the administrative borders of Bucharest city and 86.9% falls under the jurisdiction of Ilfov County.

According to Eurostat - regional Gross Domestic Product (GDP) data [29], the Bucharest-Ilfov Region has made an important progress, from 20.4% of EU 27 GDP average in 2000 (EUR per inhabitant) up to the peak of 64.8% recorded in 2008. Though, in 2009, amid steep recession, region's GDP per inhabitant dropped down to 55.3% of EU 27 average. Anyway, Bucharest-Ilfov is still considered a *convergence region*, under EU cohesion policy.

The most relevant NACE sections (National Classification of Economic Activities) in the study region, in terms of contribution to the regional turnover, are presented in Table 4.

Table 4

Contribution of different industries to the Bucharest-Ilfov Region turnover by NACE

NACE section	Contribution
Wholesale and retail; repair of motor vehicles and motorcycles	49%
Manufacturing	11%
Real estate activities, rentals, works and services mainly rendered to enterprises	10%
Electricity, gas, steam and air conditioning production and supply	8%
Construction	8%
Information and communication	7%
Transport, storage, mail and courier activities	4%
Other	3%

Source: processed after National Institute of Statistics, Romanian Statistical Yearbook, 2011 [31]

The disparities among regions are a country-wide issue, with a sharpening trend in time, both between regions and deeper inside them - among counties composing the region (e.g. the poorest region in the country, i.e. North-East, reported, in 2009, a GDP per inhabitant of only 26.2% compared to Bucharest-Ilfov Region).

According to the Romanian Statistical Yearbook, 2011 [31], the Bucharest-Ilfov Region accounts for 24.2% as total number of active SMEs (out of 491,956 active companies in Romania, besides 290,960 authorized individuals and family enterprises). As much as 38.2% of the turnover of SMEs is reported in the Bucharest-Ilfov Region, due to higher entrepreneurial intensity and purchasing power as compared to other regions. However, the share of SMEs in region's turnover is lower in case of Bucharest-Ilfov, compared to the other regions, showing a better consolidation of businesses in this study region, being a preferred location for large companies as well.

A process of polarization of entrepreneurial intensity is reported in the Bucharest-Ilfov Region, as opposed to the less developed regions North-East and South-West [31]: in 2010, Bucharest-Ilfov registered 52 active enterprises per 1,000 inhabitants, compared to the national average of 23 companies, North-East (14) and South-West (16).

In 2011, the Bucharest-Ilfov Region has reported the best economic performance among Romanian SMEs in terms of profitability, turnover, investments, research-development-innovation expenditures etc, close to the trend of the economies of developed countries, characterized by such strong concentration of economic activity in metropolitan areas [36].