The journey of business location factors through years: a literature review

Harissia Vlachou · Olga Iakovidou

Abstract Entrepreneurship has been widely considered as the power that drives development and well-being in the regions it affects. In other words, it is increasingly recognized as the vehicle that is improving the quality of life of individuals, families and communities. As a result, local, regional and national institutions as well as researches in different disciplines have focused on finding and researching the factors leading to the installation of business on a certain location. Research studies that have been published from time to time deal with the business location factors either by approaching individually one factor (i.e. the labor cost), or by studying a specific business category (i.e. biotechnology firms) or by researching the location where it is developed (i.e. urban). The scope of this article is to present past and present research studies related to the business location factors and have been occasionally examined and, showcase, at the same time, how they have developed in time. Thus, the presentation and documentation of the existing literature review could be a valuable tool for policy makers in regional and national level as well as for active entrepreneurs and researchers engaged in relevant academic discipies. Policy makers could take advantage of the business location factors so as to attract investments in regions seeking development while active entrepreneurs could realize the important role played by the factors affecting the location of their business in a specific place and researchers could trace and fill in potential research voids on this subject.

Keywords business location decisions, business location factors, economic factors, quality of life factors.

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1 Introduction

As entrepreneurship has currently been an important element of economic development and innovation policy (Lafuente, Vaillant and Serarols, 2010), public and private economic development organizations, for many years, focused their efforts in a country or at a local level on attracting or nurturing new businesses, expanding existing businesses and retaining companies that are in situ. Where firms locate and why, has been a major question for researchers (Von Thünen, 1826; Marshall, 1890; Weber, 1929; Christaller, 1933; Hayter, 1997; Trullén, 2001; Parker, 2004; Autant-Bernard et al. 2006; Van Praag and Versloot, 2007; Ferreira et al., 2010; Lafuente et al., 2010) in economic geography, strategic planning, regional economics and organizational behavior for over fifty years (Kahn & Henderson, 1992).

Location theory has a long and rich historical tradition; its early development is associated, among others, with authors such as Weber (1929), Hoover (1948), Lösch (1954). Von Thünen (1826) was the first to conduct a study on this subject in view of the monthly rents of real estate ownerships. He claimed that distance is the most important factor in defining the price of the rent. Marshall (1890) focused on the agglomeration economies in view of industrial districts. Weber (1909) examined the factors influencing industrial location assuming that industrialists chose a location in view of cost minimization. Hoover (1948) outlined the spatial market-sharing agreement by combining the scale and agglomeration economies with the transportation cost.

After the unfolding of location theories, in the early 50s a growing body of researchers through empirical study boosts the investigation of the driving forces behind firms’ location decisions. Yet, since then until nowadays much has changed, reclassification of markets, preferences of consumers, new environmental regulations, technological progress, evolution of transportation and renewed structural policies. In the same way, following all these changes the factors leading to the companies’ location have evolved too.

The literature on business location factors can be broadly classified into categories: (a) studies measuring the influence of a specific factor or set of factors on firm location decisions; (b) studies explicating the location decision process for a specific industry or a business with specific characteristics and (c) studies identifying the location factors leading businesses in specific areas.

Examples of the first type include analyses of the impact of taxes, subsidies, and incentives (Buss 2001; Gius and Frese 2002; Hanson and Rohlin, 2011), environmental regulations (Bartik 1988; Brunnermeier and Levinson 2004), quality of life and amenities (Gottlieb 1995; Johnson and Rasker, 1995; Love and Crompton 1999; Granger and Blomquist 1999; Dissart and Deller 2000; Salvesen and Renski, 2003; Dahl and Sorenson, 2007; Kilvits, 2012), transportation and access (Krugman, 2001; Forkenbrock and Foster 1996; McQuaid et al., 1996; Bruinsma et al., 1997; Bryan et al., 1997; Button et al, 2005; Holl 2004a; Holl 2004b; Leitham et al., 2000; Targa, Clifton, and Mahmassani 2006) among others.
Research of the second type includes studies of the location decisions of biotechnology firms (Goetz and Morgan 1995; Feldman 2003; Koo, Bae, and Kim 2009; Su and Hung 2009), companies in the automobile sector (Bilbao-Ubillos and Camino-Beldarrain 2008; Klier and Rubenstein 2010), call centers (Bishop, Gripeios, and Bristow 2003; Richardson and Gillespie 2003) high-tech firms (Jarboe, 1986; Galbraith and De Noble, 1988; Frenkel 2001; Hackler 2003a,b, 2004) and many others. Even more specific are the studies of the location decisions of family firms (Kahn and Henderson, 1992); small enterprises (Sullivan et al., 1998; Liang et al., 2001).

Last but not least is the group of studies that connect location factors with special areas, like urban center (Cohen, 2000; Shukla and Waddel, 1991:) or rural areas (Johnson and Rasker, 1995; Yu and Artz, 2009; Lafuente et al., 2010; Vaillant et al., 2012).

As Kimelberg and Williams (2013) argue all types of research have clear implications for policy and practice. Data that illustrate how individual economic, social, or political factors affect the likelihood that firms will locate in a given place can inform policy decisions and economic development initiatives at the local, regional, state, and national levels. Similarly, a deep understanding of the array of factors that need to be present before a specific firm or industry will establish operations in an area is necessary to help government officials determine whether their municipality or region is—or could be—a viable candidate for such investment.

The purpose of this article is the timeless search and presentation of the literature on the factors business setup through empirical studies. More specifically, comparing the factors every 20 years as they are presented through the bibliography and distinguishing the most important ones are tasks of vital importance, for both the local authorities and government policies, as they can benefit from utilizing the findings of the researches in attracting new businesses and preventing the existing ones from leaving to other locations.

## 2 Employed Methodology

The core idea with a literature review is to summarize the state of art in the subject field, as a basis for identifying areas in which further research would be beneficial (Rowley and Slack, 2004). They state that literature reviews are important in: (i) supporting the identification of a research topic, question or hypothesis; (ii) identifying the literature to which the research will make a contribution, and contextualizing the research within that literature; (iii) building an understanding of theoretical concepts and terminology; (iv) facilitating the building of a bibliography or list of the sources that have been consulted; (v) suggesting research methods that might be useful; and (vi) analyzing and interpreting results. In conducting this literature review, we follow the general guidelines from Rowley and Slack(2004): (i) material collection, including (i) scanning documents, (ii)
making notes, (iii) structuring the literature review, (iv) building the bibliography, and (v) writing the literature review.

A comprehensive search of related articles from 1950 to 2013 was applied to produce a synthesis of peer-reviewed literature. The choice of the date 1950 as the starting point of the literature review was chosen for two main reasons: firstly, 50 years is a good timeframe to study the evolution of the location factors. Secondly, most search databases of scientific articles can be found from that period onwards. These 50 years, were divided into three groups of almost 20 years per each. It seems that this time is sufficient for the evolution of a phenomenon. The search strategy is based on selected databases (Scopus, Ebsco and Google scholar), and selected titles (“business” in combination with “location factors”, “location decisions”, or a combination of the following: “quality of life factors”, “rural areas”, “small firms”. For example, one such combination was “quality of life factors + business location + rural areas”. Also we used the terms “business/firms/plant location factors or business/firms/plant location decisions. Based on this and in the selected period 69 papers were mostly identified.

These 69 articles we reviewed are distinguished among 39 different international scientific journals. Seven (7) journals account for 26 articles (table 1), while the other thirty one (31) articles are from 31 different journals. We also included three articles that are cited in two books and 9 papers that has been presented in Conferences. The articles of both cases, display highly in databases and are mentioned frequently in most of the articles. The highest number of articles is found in Economic Development Quaterly, Land Economics, Urban Studies, Growth and Change, Journal of Regional Science, Regional studies, Regional Sciences and Urban Economics and Technovation (Table 1).

Table 1 Distribution of articles in Journals the period 1950-2013.

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<thead>
<tr>
<th>Journal</th>
<th>Number of papers</th>
<th>Percentage (%)</th>
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<tr>
<td>Economic Development Quaterly</td>
<td>3</td>
<td>3.45</td>
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<td>Land Economics</td>
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<td>2.76</td>
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<td>Urban Studies</td>
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<td>2.76</td>
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<td>Growth and Change</td>
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<td>2.07</td>
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<td>Journal of Regional Science</td>
<td>3</td>
<td>2.07</td>
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<tr>
<td>Regional Studies</td>
<td>3</td>
<td>2.07</td>
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<tr>
<td>Regional Sciences and Urban Economics</td>
<td>2</td>
<td>1.38</td>
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<tr>
<td>Technovation</td>
<td>2</td>
<td>1.38</td>
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<tr>
<td>Other</td>
<td>31</td>
<td>21.3</td>
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<tr>
<td>Chapters in Books</td>
<td>2</td>
<td>1.38</td>
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<tr>
<td>Papers presented in Conference</td>
<td>9</td>
<td>6.21</td>
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</table>

The literature of empirical surveys on location factors begins in the early 50s and until 1970 exhibit a low number of articles and a few years with no articles. The average number of publications during these first 20 years is 0.25 per year during this period. At this point, it must be noted that this particular period the scientists that has been occupied with this particular subject, preferred to write a book based in a theoretical perspective than presenting an article with empirical
survey in a scientific journal. From 1971 until 1990 the number of articles starts to rise and the average number of publications is 0.8 per year. In the last period from 1991 until 2013 there has been a baby boom in the study of business location factors and the average number of papers is 2.08 per year.

3 Business location factors: determinants of site selection

Given the researches and theories that have appeared from time to time, an important number of researchers has put into groups the business location factors (Johnson and Rasker, 1995; Gottlieb, 1994; Van Dijk και Pellenbarg, 2000; Love and Crompton, 1999; Vailant, Lafuente and Serarols, 2012; Fernandes, Ferreira and Marques, 2012; Kimelberg and Nicoll, 2012; Kimelberg and Williams, 2013), while others (Baumbeck et al, 1973; Blair and Premus, 1987; Moore, Tyler & Elliott, 1991; Guimarães, Rolfe, and Woodward, 1998; Fisher και Peters, 1998) have focused either on the study of specific factors or of specific industry.

A classification of location factors has been made by Lloyd and Dicken (1977) followed by Van Dijk and Pellenbarg (2000) which distinguish them between: “firm internal” factors (e.g., quality of management, organizational goals, ownership structure, growth rate of turnover, employment and profits), “location” factors (absolute and relative characteristics of the location site, e.g. lot size and size of possible expansion space; distance to customers and suppliers), and “firm external” factors (e.g., government policy, regional economic structure, technological progress, etc.).

A totally different classification has been developed from Johnson and Rasker (1995), who examined the location decisions of firms to an amenity rich area of the Western USA. The four groups of location factors were: “Economic”, “Qualitative”, “Community and Recreation”. More than four groups of location factors identify Karakaya and Canel (1998), they actually synthesize six: “cost” (with two component start up cost and cost of running a business), “quality of life” or “standard of living”, “accessibility”, “resources”, “business environment” and “availability of existing building”.

One year later, Love and Crompton (1999) put the variables related to the business location in five categories: "Quality of life", "Labor and cost issues", "Government involvement and taxes", "Daily living concerns" and "Proximity to relevant publics".

Many years after Lloyd and Dicken (1977) followed by Van Dijk and Pellenbarg (2000) classification, a similar approach has been chosen by Wardner (2012) categorizing the factors in three main groups: "Area factors" (community environment, market and competitors, cost of inputs, housing and recreation, physical characteristics, transportation and access). "Internal factors" with two sub-themes (firm: clients, employees, owners, profitability, supplier and work area to suit their specific requirement / building: physical conditions, image, facilities and amenities, flexibility, lease cost and tenure) and “external factors” (taxes and government incentives, costs and availability of utilities such as telecommunication cables and infrastructure, governance on a state and local level, environmental issues and the availability of both public and private capital).

More recently, two studies on Knowledge Intensive business location choices catalogued differently the factors. The first by Vailant, Lafuente and Serarols (2012) separate them in three groups: “infrastructure and economic motivations”, “personal motivations” and “location-related motivations”, while the second by Fernandes, Ferreira and Marques (2012) preferred four categories: “Economic conditions and local infrastructure”, “Access to technologically superior knowledge”, “Individual motivation” and “local characteristics”.

Also, Kimelberg and Nicoll (2012), in their research on business location factors in the Medical device industry, grouped the 39 different factors into six broad topical categories: “labor”, “permitting processes”, “development and operating costs”, “business environment”, “transportation and access” and “quality of life/social environment”. One year after the first author Kimelberg with Williams (2013) this time, grouped in the same way the locations in another research study.

3.1 The Period 1950 – 1970

As it can be argued the literature review on the business factors, has not been particularly rich these first twenty years. Articles in scientific journals are very measured while writing books about this theme richer. The interest of researchers focuses mainly on industry in different areas of USA and the factors that will lead to the choice of location.

At the beginning of this period Katona and Morgan (1952) tried through empirical research to clarify the factors influencing manufacturer’s firm location in Michigan. They concluded that the major location factors were found to be: Personal reasons, to be near markets, availability of plants or sites. Ten years later in a review of various empirical studies Muller and Morgan (1962) found that traditional factors such as market access, labor costs, and raw materials were the most commonly mentioned by manufacturers.
Also in 1965 McMillan concluded in the following important factors with some minor variations. Markets tend to rank first or second. If the industries surveyed are resource oriented, raw materials will rank first and markets second. Market oriented industries will tend to rank markets first, labor second, and raw materials third. Transportation whether it is reported in terms of "central location to market" or "transportation facilities" will customarily rank third or fourth. One year later, in another empirical study of office decentralization, Wabe (1966) found the most important factors for the decentralization. These were expansion, integration of several offices, cost reduction and lease expiring.

At the end of the first twenty years Logan (1970) also argues by far the most important locational consideration cited by manufacturers was access to markets, both industrial and consumer. Labor availability and skills were listed also as being particularly important. Industrialists indicated that they were deliberately seeking out rural areas of relatively low income (low wages) where there was a labor surplus: that is, the counties experiencing out-migration or high unemployment rates. The two other economic factors - the availability of land and buildings for industry and access to linked firms - would tend to attract firms to established industrial areas and possibly urban areas or communities from isolated rural districts. Also, a large proportion of the respondents listed "home area - personal reasons" as being important. Logan interprets this to mean industrialists locate in a particular area because they live there. Someone would therefore expect this factor to operate to the advantage of urban areas and industrial areas where most people likely to establish industries already live.

Table 2: Surveys on Business Location Factors the period 1950-1970

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<td>1952</td>
<td>Katona &amp; Morgan</td>
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<td>1962</td>
<td>Mueller &amp; Morgan</td>
<td>Manufacturers (4)</td>
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<tr>
<td>1965</td>
<td>McMillan</td>
<td>Manufacturers (65)</td>
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<td>1966</td>
<td>Wabe</td>
<td>Office Decentralization (6)</td>
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<td>✓</td>
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<tr>
<td>1970</td>
<td>Logan</td>
<td>Industrial Plants in Winconin (1)</td>
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</table>
3.2 The Period 1970 – 1990

During this period literature review begins to change regarding both the factors considered and the type of businesses. Industries are no longer the dominant topic of interest, as technology evolves and other forms of entrepreneurship thrive. At the same time, the usual industry location factors such as market access and labor give way to others, such as environmental regulations, trade unionism and quality of life. The issue of business location factors is just beginning to be of interest to both researchers and politicians alike.

3.2.1 Studying the “factor”

In the late ‘70s Foster (1977) was the first who studied the economic and quality of life factors in USA and Canada. A list of economic factors was presented and the one which was considered most important by respondents in USA from the survey was “dependability/productivity of workers”. A second factor receiving a substantial percentage of respondents’ choice was “wage rates”. It should be obvious that productivity and wage rates are inter-related. In terms of labor, “availability of skilled workers” was also very important to respondents, and to a lesser extent “availability of semi-skilled/unskilled workers”. Although not as important as the foregoing factors, “labor relations” were considered simply important. Factors as “nearness to customers” and “nearness to raw materials” were considered important by the Canadian businessmen.

In the same survey the respondents were requested to choose from quality of life factors those that are important to them personally, important to them in the daily operation of their plant and in terms of their perception of importance to their key personnel. The results were quite interesting as “good medical services” was the factor which rated highest in the individual personally category than in the other two. Also, “clean environment” was considered important in all three types of responses, and most particularly of the individual personally. “Good schools” are considered important for the respondent personally and for key personnel, but less important in terms of daily plant operation. Last the “streets safe from crime” seems to be one factor which figured prominently in all categories and most especially for the respondent personally.

Another factor was studied extensively by Fox (1981). In his research he argues that although there has been doubt about the importance of fiscal variables as determinants of industrial location, he has found that when areas which zone-out industrial firms are excluded from the sample, tax variables are statistically significant determinants of overall industrial location patterns. Also Wasylenko (1982) and Charney (1983) examined the role of fiscal factors in the intrametropolitan location decisions of manufacturing firms. Both of them emphasized on analyzing location choices of relocating firms, rather than existing patterns of economic activity or estimating changes in net employment. They
resulted both that the property tax rate is a significant location factor to relocating firms selecting sites within an urban area and that income tax differential has a negative but weak influence on those decisions. The location disincentives of property taxes are strongest for large firms and tend to decrease with firm size.

In 1985 Bartik searched the importance of unionization in business location decisions. The strongest conclusion of his is that differences in unionization across states are having a major impact on industrial location in the United States. The results also contradict the common view of those who argue that state and local taxes and public services exert no influence on business location patterns. This could have important implications for the incidence of state and local policies; as business location patterns change in response to taxes and services, land rents, local wages, and other prices will shift. In other words, he suggested that US states with lower wages and lower tax rates had higher odds of being chosen as sites for new plants in a study of the expansions of existing organizations.

Bartik (1988) also a few years later studied the relation between environmental regulations and business locations. He concluded that there isn’t any statistically significant effect of state environmental regulations on the location of new branch plants. The point estimates suggest that even sizable increases in the stringency of state environmental regulation are unlikely to have a large effect on the location decisions of the average industry. In the same conclusions, that the regulations didn’t matter, resulted also the survey of McConnell and Schwab (1990), who studied the impact of environmental regulations specific to the motor vehicle industry location decisions.

3.2.2 Studying “The Business”

Dorf and Emerson (1978), have chosen to study the main determinants of manufacturing business in nonmetropolitan location. Findings occurred that the main factors were community size, distance from urban areas, and labor force. These determinants of plant location or expansion are independent of public action or control. Of secondary importance were property tax, railroads, and housing, of which two can be affected through public policy.

On the other hand in Epping’s (1982) study the three most important factors to the manufacturers- locating-in-Arkansas group were labor, taxes, and industrial site. The three least important general factors were personal preferences, business services, and markets. The low ranking of markets was unexpected in light of earlier studies which found this factor to be very important. It could be that this factor is becoming less important over time.

Also Hekman (1982) studied the business location factors in North Carolina, South Carolina, and Virginia for the five-year period prior to 1982. His sample of 204 firms was largely composed of branch/plant operations of multiplant firms headquartered in the Northeast and Midwest. The business executives in the
mail/telephone interviews were asked to rate the importance of 19 business location factors and 12 quality-of-life factors on a scale of one to five. The significance of this approach is that it allowed for a comparison of the relative importance of business and quality-of-life location factors, at least for branch plant operations in the Southeast. The most important business location factors were state and local industrial climate, labor productivity, transportation, land availability (and room for expansion), and cost of land and construction. It is doubtful that land cost or availability would have induced the firm to locate in another region. Also, interestingly, markets did not appear as a significant factor in branch plant location choices. Last, it has been found that, the firms were more interested in a good business climate and low production costs (labor productivity). Quality-of-life factors were important in Hekman’s survey study but their overall rating was less than the overall rating of traditional economic factors. The educational system, cost of living, housing, quality of air and water, and personal taxes were the top-ranked quality-of-life factors. Other quality-of-life factors such as climate, recreation, cultural resources, and entertainment received comparatively low ratings. Hekman’s study also showed a rough degree of uniformity among different types of industries.

Hart, Denison and Henderson (1989) investigated directly the locational preferences of firms across different industrial sectors and various levels of technological sophistication. As the results of the majority of the same surveys the conclusions ended to be “proximity to markets/customers”, “availability of space and facilities”, “overall quality of the locality”, “proximity to owner's or employee's residence”.

Also, the same year, Lopez and Henderson (1989) studied the location decisions of 56 single-establishment, small manufacturing food processing firms in Mid-Atlantic states that were involved in processing vegetables, fruits, eggs, poultry, and/or seafood. Plant location decisions were found to be similar to the decisions of other manufacturing industries, i.e., input supply, product markets infrastructure, labor, and environmental regulations influence site selection. However, firms in their study were generally restricted to locations within commuting distance of the owner's residence.

Another type of businesses has been studied by Galbraith (1985). He concluded that high technology firms operate on a different set of factors from traditional industries in making their location decision. He identified five salient components which are the keys to high technology location decisions: the availability of professional and technical personnel; the general ambiance and lifestyle of the area; and the desire of the owner/CEO to live in the area, the climate and the community attitude towards business.

In another effort to discover the location determinant of high-technology firms in the Ann Arbor area of Michigan, Jarboe (1986), addressed to forty six firms of small, rapidly growing new companies with a large percentage of their personnel devoted to research and development activities. The results of the survey concluded that access to area universities and the general quality of life, transportation networks and ability to attract and retain professional and skilled
workers are the most important location factors for the high-technology firms in the area.

Similarly, a year later in 1987 a survey was conducted by Galbraith and De Noble (1988) in 226 high technology firms regarding location decisions. Results of the survey suggested that higher technology firms are “footloose” in geographical location decisions, emphasizing the importance of ambience and availability of labor and property. Results also suggested smaller firms place more emphasis on ambience, while larger ones emphasize business-related factors. For site-specific decisions, firms (smaller companies in particular) were influenced by cost and access factors. These findings are relevant for municipalities and other ancillary services interested in high technology development.

The above state of empirical knowledge regarding factors that influence location of firms have been sought by Blair and Premus (1987) in the end of the two decades. After reviewing the theoretical foundation of locational determinants, they described the decision process and discussed empirical findings with emphasis on findings from survey and econometric studies. Their conclusion from the review reveal that prior to the 1970’s the conventional view of the dominant location factors were: access to markets, labor, raw materials and transportation. In more recent studies it is indicated that the traditional factors are still most important, but their dominance has been reduced as productivity, education, taxes, and community attitudes toward business and other factors have been recognized as influential. In other words the list of important locational determinants has been expanded with others noneconomic factors.
<table>
<thead>
<tr>
<th>YEAR</th>
<th>AUTHOR/S</th>
<th>Study in Business Location (citation)</th>
<th>Market</th>
<th>Cost Factors</th>
<th>Labor</th>
<th>Raw materials</th>
<th>Transportation</th>
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<th>Financial Incentives</th>
<th>Taxes</th>
<th>Government Regulations</th>
<th>Infrastructure</th>
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<th>Personal Motives</th>
<th>Quality of Life Factors</th>
<th>Business Climate</th>
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3.3 The period 1991 – 2013

The last two decades show great interest in the issue of business location factor. The list of articles in scientific journals abounds in various fields, related to the factors or the companies’ divisions. To these areas of interest the site factor was added, with various studies focusing on urban or rural areas.

3.3.1 Studying the “Factor”

Transportation

The role of transport has a long tradition in classical location theory. Several survey studies (Krugman, 1990; Button et al., 1995; Forkenbroch & Foster, 1996) examined the relation between transportation and location decision of firms. For example new economic geography models emphasize the importance of transport costs along with imperfect competition, market size and economies of scale in explaining the location of industry (Krugman 1991). In 1995, Button et al., estimated the importance of transport (road links, bus links, air links and rail links) included and related infrastructure in the location/relocation process. The analysis showed that road links were considered by a firm’s representatives as the most important factor in company location. The survey concluded that weak transportation infrastructure does not stimulate the firm’s migration, but the nature and quality of the transportation system become a very important factor for companies’ decisions to locate/relocate.

Among empirical location studies, several have adopted a survey approach for the relation between transportation and business location decisions (McQuaid et al 1996; Bruinsma et al 1997; Bryan et al 1997; Leitham et al 2000). Such studies generally involve a series of questions relating to firm characteristics and various location factors including issues of transport. Among the various types of transport infrastructure, roads are frequently reported as the most important type.

Although firms perceive the availability of good transport infrastructure as very important, it is seldom the decisive factor in a location decision. The findings of such survey research show that new transport infrastructure seems to relax location constraints, allowing firms to examine a wider range of locations. Nevertheless, most location decisions and relocations are made over very short distances, and firms are often found to relocate within the same region (Bruinsma et al 1997).

The range of potential benefits to firms due to transport improvements has been highlighted by Bryan et al. (1997) in their survey of local firms following the construction of the A55 motorway in North Wales. Their findings suggest important logistical impacts. Most firms are reported to have benefited in terms of reduced input ordering times, improved output delivery and customer service. Whilst the findings reported above are useful, the main drawback of the survey approach is that the results are restricted to the particular research context and
cannot easily be generalised, nor do they provide explanations of why a particular behaviour of a firm has been observed, i.e. a particular ranking of location factors.

Also, Holl (2004a) studied the impact of road infrastructure investment on the location of new manufacturing establishments in Spanish municipalities from 1980 to 1994 using Poisson regression. These results showed that new motorways affect the spatial distribution of manufacturing establishments by increasing the attractiveness of municipalities close to the new infrastructure. Holl (2004b) reports similar results for manufacturing plant location in Portugal.

Similar to the previous studies, Arauzo (2005) also found that in Catalonia the location of industry is effected by transportation and accessibility, especially highways which are important determinants for the location of firms and more so than trains.

Apart from previous studies several others have recognized the extent to which transportation investments may improve access to markets and, by doing so, influence firms’ location decisions. Such an empirical study developed by Targa et al. (2006) in the geographical area of the region in Maryland. The analysis established significant association between transportation supply and firm-level relocation decision in the study area and underscores the role of other firm and area-of-influence attributes in this process. The findings suggest a positive association between access to primary highway facilities and the level of economic activity. Also the results confirm expectations that roads with higher functional form and capacity are likely to be more influential in the location and relocation decisions of businesses.

Another factor has been investigated by Fotopoulos and Spence (1999), who proxy the availability of infrastructure by the amount of public investment per capita as an explanatory variable in a regression model accounting for new plant openings in Greece. They find a significant and positive effect of public infrastructure on new plant openings. These findings are supported by Holtz-Eakin and Lovely (1996) who test the impact of public infrastructure in a general equilibrium context and find that impacts of public infrastructure primarily work through increases in the number of manufacturing establishments.

In 2004 the researchers Brunnermeier and Levinson offer a review and critique of the large literature on the pollution havens hypothesis: “the state of environmental regulations in the early literature, based on cross-sectional analyses, typically conclude that they have an insignificant effect on firm location decisions. However, more recent studies that use panel data to control for unobserved heterogeneity, or instruments to control for endogeneity, find statistically significant pollution haven effects of reasonable magnitude. Furthermore, this distinction appears regardless of whether the studies look across countries, states, counties, or industries, or whether they examine plant locations, investment, or international trade patterns”.

Financial Incentives- Taxes
Atikis et al (2011) in an attempt to determine the degree of relevance of industrial location policy to the location criteria used by manufacturing firms, identified 16
location factors which are of importance in Greece, regardless of geographical area, type of business or the respondents’ functional responsibility. The main purpose of the research was to assess financial incentives as a motivation for business attraction in particular areas. The result showed that government financial incentives are not of particular importance in the selection of the location for a plant in Greece, so there is a need to reevaluate its approach towards regional economic development.

Almost ten years later Polyzos and Minetos (2007) in their study in regional development incentives and their influence on industrial location decisions report on their findings: “The results on direct and indirect population potential suggest that interregional transportation infrastructure is of outmost importance for industrial location. Other transportation infrastructures such as ports and airports may not be of the same importance as road infrastructure. On the other hand, the provision of suitable locations for industrial uses is an important location factor. In addition, proximity to metropolitan areas or to large urban concentration seems to be highly influential on the behaviour of firms. Incentives set by the state are important location factors but not always and everywhere. In certain localities, other factors might be more important. The tradition of a region in accommodating on activities of the secondary sector is also an important location force. Hierarchy and human capital need to be interpreted very carefully. As regards hierarchy it is often ranked relatively low by companies when seeking suitable location. The complex indicator of human capital may need further investigation and may also require distinguishing particular manufacturing activities within the secondary sector”.

In the beginning of 2000, Buss (2001) collected and reviewed the tax study literature to assess the state of knowledge about the relationship among taxes, related factors, and economic growth as well as the use of tax incentives to influence business locations. In the end he concluded by arguing that tax literature, now in hundreds of publications, provides little guidance to policy makers trying to fine-tune economic development. Taxes should matter to states, but researchers cannot say how, when, and where with much certainty. Firms may need tax incentives to increase their viability in some locations, but researchers cannot definitively say which businesses or which locations.

Next year the study of Gius and Frese (2002) attempted to determine the effect of state personal and corporate tax rates on firm location. Using a random effect model on a data set of 14,000 observations, the present study finds that a state’s personal tax rate has a negative effect on firm location but that a state’s corporate tax rate has no statistically-significant effect on firm location. These results suggest that the locational decision of a firm is affected more by the impact that high personal taxes will have on the manager’s and/or owner’s income than by the negative impact of high corporate tax rates on firm profits.

A wide range of state and local governments use tax incentives as an economic (re)development tool. Part of the hope of policy makers is to attract new establishments to the local economy. Hanson and Rohlin (2011) examined how offering tax incentives in a local area affects the entry of new business
establishments. They resulted that there was a positive and statistically significant effect of a specific tax incentive program on attracting new establishments, a result that is particularly strong in the retail and service industries.

**Quality of Life – Personal motives**

In 1994 Gottlieb (1994) tried to capture quality of life as a determinant factor in a firm’s location decision. He actually reviewed the theoretical, survey and econometric literature on amenity oriented firm location and employment growth. The results were quite surprising, as environmental quality for both categories (all firms and high-Tech firms) ranked first as the main factor for business location. As he moved from all category firms to high-tech category school quality, cultural amenities and public safety dropped in importance. On the contrary, cost of living, cost of housing and community issues rose in importance for high-tech firms.

A year later, Johnson and Rasker (1995) studied the economic and quality of life values and suggested that in the familiar view of business location values, such as tax structure and cost of doing business, it should be added also other values that may be important to the business location decisions, such as the role of a quality environment, scenic beauty, low crime rate, and recreational opportunities. In their empirical study, the findings -over 500 firms in Greater Yellowstone Region between long-time resident business (old-timers) and relative newcomer business owners (newcomers)- indicate that values that reflect the quality of the living environment are important to the business location decision by rural business owners. More specifically, those who have lived in the study region for more than five years tended to rate the importance of the quality of life values more highly than did newcomer business owners.

Love and Crompton (1999) tried to capture from key decision-makers the role of quality of life elements in the location of 174 businesses that had relocated, expanded and been launched in Colorado. Five domains of elements were derived and the set of quality of life elements ranked in importance behind labor and cost issues and daily living concerns. As the authors argue, quality of life was most important to companies that moved into Colorado outside the state, were relatively footloose, had fewer than eight employees and employed a high proportion of professionals.

Another study the same year by Granger and Blomquist (1999) investigates the notion of amenities in influencing manufacturers’ location choices in urban areas. The authors suggest that if amenities affect wages, land values and other costs, then amenities will influence location decisions. Using urban, county-level, Census data and regression models they estimated the location of small and medium-sized manufacturing establishments. Holding constant scale and agglomeration economies, amenities, measured by a quality-of-life index, are found to influence manufacturers’ location with the effects varying by industry. Labor-intensive industries are more strongly attracted to high-amenity urban locations.
In the beginning of the decade Dissart and Deller (2000) presented an overview of the literature on the topic of Quality of Life. Among the topics reviewed was the quality of life as a determinant factor for business location decisions. In their conclusions they mention characteristically: “Subsidy incentives are not particularly significant predictors of firm location. And, as the United States shifts to a more service-based economy, the overall importance of nontraditional locational factors will increase in significance while traditional locational factors decline in significance. This is not to say that the latter do not lay a role: traditional factors (land, labor, capital, infrastructure, location) are vital ingredients for economic development. It is only after these basic factors are satisfied that one may turn to more intangible factors such as quality of life to increase the competitive edge of a place”.

“The importance of Quality of life in the location decisions of new economy firms” is the exact title of Salvesen and Renski’s (2003) research. They have conducted a pilot study to examine the actual location decisions of a small sample of firms that have recently located in Raleigh, Durham and Chapel Hill metropolitan area of North Carolina. The researchers argue that none of the respondents cited quality of life as being the most important factor in their business location decision. Several firms stated that quality of life was one of the important factors including cost of land and the quality and cost of labor.

Regarding personal motives, Dahl and Sorenson (2007) argue that social capital places strong constraints on an entrepreneur’s ability to found a firm in a region in which he or she does not have connections. The main purpose of their thesis was to investigate whether entrepreneurs tend to open and locate businesses in regions in which they have deep roots (‘home’ regions). Also, they further investigate if their ventures perform better (survive longer) when they locate in these home regions. The results ended with the outcome that the value of social capital moreover appears substantial, similar in magnitude to the value of having prior experience in the industry entered (i.e. human capital).

Finally, according to Kilvits (2012) nowadays soft factors such as “quality of life” (housing, environment and infrastructure), “image” of places or “private” reasons are important determinants of firm locations. The climate, low crime, educational system, cost of living, quality and cost of housing, quality of air and water, recreation facilities, etc. (all modern living and work environment) are very important for potential high-technology investors and skilled labor.

### 3.3.2 Studying the “Business”

During these twenty years, the studies have focused on the examination of the establishment factors of individual firms and have been about businesses of a specific entrepreneurial activity, of a certain size and of a particular administrative organization.
In the late ‘90s Crone (1997) identified variables related to manufacturing firms’ business locations decisions, without examining the influence of firm size. The variables examined in his study were accessibility to the market, facilities, the region cost of some important inputs, labor costs, energy prices, and taxes.

Another attempt remarkable was a study of 87 Australian SMEs manufacturing in Adelaide undertaken by Kupke and Pearce (1998). In this survey the authors found that the two most important industrial location factors for owner-managers were being close to the central business district (CBD) and having direct access to main roads. This finding appears to be similar to those of large firms. On the contrary the approach of small manufacturing enterprises in Vermont considering the key factors influencing location decisions was made by the application of a nonparametric analytical procedure. The findings of the study seem to indicate that small manufacturers’ location decisions are often related to personal factors including environment (quality of life) and local residence (want to stay home). Also important business factors were related to finance (access to capital) markets (customers in the local and regional area) and the availability of facilities (Liang, et al, 2001).

The objective of Henderson and McNamara (2000) study was to identify local characteristics influencing the location of new food manufacturing plant investments. In the study, the county characteristics have been analyzed and associated with the location of food processing plant investments. The results of the survey concluded in these major factors: access to input and product markets, agglomeration economies, access to a transportation system, low wages, and local tax policies are factors that influence food manufacturing investment locations.

Much of the research has focused on the decision-making processes of large firms; however some attention has been given to how SMEs make such decisions. For example, an attempt has been made from Moore, Tyler and Elliot (1991) who identifies the key factors in the small and medium enterprises (SME) location decision from a survey of almost 1400 companies. The most important factor was the availability of regional development assistance, followed by the quality and size of the labor supply, including wage levels, and the potential for future expansion. Infrastructure was found to be relatively unimportant as a locational determinant. These factors apply with considerable uniformity to different industrial sectors, but there are major differences between countries within the European Community (EC).

Also Sullivan, Halbrendt and Buescher (1998) studied the small business location considerations and extendedly conclude that there are different factors affecting location decisions, between firm size. So large-size firms in comparison with small and medium size firms, place most importance on physical infrastructure, such as access to the interstate, situated on a freight bearing highway, access to railroads, access to a commercial airport, port or harbor facilities. Also, large firms compared to the others two categories, place significantly greater importance on the availability of managerial/professional workers, availability of unskilled labor, availability of mass transportation for workers, favorable local labor costs, availability of low cost commercial loans and
availability of development assistant. As for quality of life factors, small firms considered low relative to their location decision significantly more than other size firms. On the other hand, large firms considered availability of social services (such as hospitals) relative to their location decision significantly more than other size firms.

Another approach has been developed by Coughlin and Segev (2000). They examined the county-level pattern of new foreign-owned manufacturing plants in the United States from 1989 through 1994. They concluded that economic size, educational attainment, the existing manufacturing base, and transportation infrastructure are found to be positive, statistically significant determinants of location. In addition, foreign investors tend to prefer urban locations. Meanwhile, higher average labor-intensiveness and higher taxes as a share of gross state product are found to deter foreign direct investment. A surprising finding is that foreign investors tend to locate in counties with higher percentages of black population.

As it is known in all decades industrial location attracts the interest of the scientific community regardless of the country and continent the researcher comes from. One such study is the Badri’s (2007) effort to approach the dimensions of industrial factors. In his research he identified fourteen critical factors utilizing judgments by previous scientific authors and a group of industrial location professionals. These fourteen critical factors are transportation, labor, raw materials, markets industrial sites, utilities, government attitude, tax structure, climate and community. But Badri argues that five detailed factors did not meet the criteria set for being “critical” or “important”. These factors were availability of postal services, worker stability, adequacy of sewage facilities, availability of religious facilities, and availability of library facilities.

Jensen & Pompelli (2002) examined the perceived importance of site location characteristics identified in a 1999 survey of 198 small Tennessee agribusinesses. As they characteristically express “Responding firms ranked proximity to buyers/customers, labor, and raw materials above other factors. However, the relative importance of all factors varied by industry subsector. For example, compared to food processing firms, textile milling and lumber/wood products firms perceived community incentives as less important. Projected firm growth and current location also affected the perceived importance of site location factors. The diversity of perceived factor importance across agribusiness subsectors supports the idea that incentives and promotion of site location factors to attract small agribusiness may need to be tailored to meet specific firms’ needs”.

Kahn and Henderson (1992) study the location preferences of family and nonfamily firms and they conclude that both categories ranked proximity to costumers and markets first, suggesting that business success is the primary concern regardless of ownership form. It is also interesting than while family firms are more concerned with proximity to residence, there are not with other quality-of-life items. On the other hand, nonfamily firms prefer locations that minimize
facilities and employment cost while providing access to skilled labor and access to public and private research facilities.

Recently the location decisions of Knowledge Intensive Business Services (KIBS) and Knowledge Intensive Service Activities (KISAs) became a major topic for many researches mainly in Spain and Portugal. Example of such a case is the empirical study of 500 KIBS in Portugal (Fernandes, Ferreira and Marques, 2012). From a set of twenty nine factors explaining the choice locations of such firms, three have been found to be of most significance: economic conditions and local infrastructures, access to technologically superior knowledge, individual motivations and local characteristics.

A more specified research developed Kimelberg and Nicoll (2012) by studying 48 Medical device firms in Massachussetts. The findings of the survey clearly emphasize that the availability of appropriate labor is the single most important factor driving site selection for medical technology firms. Also the availability of on-site parking, the timeliness of approvals and appeals, the crime rate in the local area and the state tax/financial incentives round out the top five most highly rated factors.

3.3.3 Studying the “Area”

Urban Areas (Cities)
Against previous studies which deal with business site selection decisions mainly concerned in cost factors, Karakaya and Canel (1998) attempt to provide empirical evidence on the importance of cost but also other location related variables among 84 fastest – growing businesses in New England and New York. Availability of skilled labor, transportation facilities, state tax rate, state regulatory environment and real estate tax were the major factors that the survey concluded in influencing site selection.

As Cohen (2000) argues the business sector is a fundamental determinant of a firm’s location choice. The rankings vary when businesses are classified by industry sector, corporate function, size or technological intensity. Retail and personal service businesses locate to maximize sales revenue rather than to minimize transportation costs. The location of retail and personal service firms are largely dictated by existing and anticipated patterns of target residential populations, particularly affluent households with greater disposable income. There is also a tendency for specialty retail and personal service establishments to cluster in specialty shopping or entertainment districts, typically in or near the downtowns of major urban centers. Such agglomerations of similar activities tend to attract more patrons then if they were spread across a larger area.

In 2006 Prat and Marcén reported an examination of factors that have influenced Spanish companies in Aragon in their choice of business locations. In the province of the city Zaragoza 129 industries were surveyed to serve as the primary source of information. The results have been interesting as the high
number of customers in the area ranked first with small difference with personal/subjective factors, such as factory’s proximity to the entrepreneur’s residence and the business being original to the area were given the next highest importance. Other factors which also mattered in varying degrees were: proximity to supply sources in general, industrial density of the area, proximity of the markets in terms of communication, the fact that the area has industrial tradition in the sector, proximity to densely populated areas, availability of qualified industrial soil, the existence of good financial centers, the existence of skilled labor and urban infrastructure.

**Rural Areas**

Firms created by locals (rural local entrepreneurs) and their location decision, was the main subject of the Michelacci and Silva (2005) study. As they support, family background and social factors affect entrepreneurs’ location decision making. The experience of growing up in a particular community with a certain entrepreneurial climate or culture can impact both an individual’s decision to become an entrepreneur and their decision about business location. Rural residency experience may shape attitudes toward rural entrepreneurship and provide rural entrepreneurial role models.

As Yu and Arzt (2009) argue it is commonly known business located in rural areas will suffer from less local demand, infrastructure, or supportive assistance than in urban areas, but will benefit from lower land rents and wages. Starting a business in a rural or urban area is an important but complex decision to make. Multiple dimensions deserve attention in rural entrepreneurship and rural development: business nature, human capital and expertise, family background and social capital. In their empirical study they conclude that entrepreneurs from origins tend to choose to start businesses in rural areas. Social capital and social networks established in one’s home region are shown to be a strong factor in the location choice of entrepreneurs. Half of the entrepreneurs migrate back to their home state after graduation, likely to take advantage of local networks or due to familiarity with local comparative advantages.

Serarols, Vaillant and Urbano (2009) analyzed the establishment of high and medium technology-based manufacturing firms (HMTBMFs) specifically in rural areas. The survey was conducted in 34 firms and resulted contrary to the most literature, that the location decision of technology-based entrepreneurship in rural areas is not a fruit of calculative and rational economic thinking, nor is it apparently swayed by the potential benefits that may come from institutional spillovers or from public incentives. The conclusions coming from the sampled entrepreneurs point toward a decision-making process that is more emotional, revolving around the entrepreneurs’ desire to establish residence or remain part of the rural community where they located their businesses. More specifically the interviewed rural Catalan HMTBMF’s search for a specific lifestyle and quality of life dominated in their business location decision-making process.
In another study the variables that influence the choice of location made by rural and urban knowledge intensive activity firms (KISA), have been the major purpose of Lafuente, Vaillant and Serarols (2010) study and therefore they extensively studied them. The findings of that survey indicated that in the case of the surveyed new Catalan KISAs, the search of the lifestyle and quality of life dominated the business location decision-process. In other words, the personal motivation factors, such as the entrepreneur’s personal motives and the search of quality of life attracted KISA’s towards rural areas. This on the contrary was not found to be the case for urban-based new created KISAs, as their entrepreneurs placed more importance on aspects related with local attitudes to entrepreneurship and their business, or to the availability of physical infrastructure. Two years later, in 2012 the same authors Vaillant, Lafuente et Serarols (2012) presented in their article the same results.

**Table 3** Surveys during the period 1991-2013

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4 Conclusions

The study of the business location factors in an area, according to the literature review, has been the topic of research of many different scientists and science alike for over 50 years. Its importance appears to be increasing over the years and to be varying as it evolves.

Therefore, ever since 1950 until today, researchers from different continents have either been studying the effect that specific factors have on business establishment in a place or have been looking for business location factors in the establishment of specific type of companies. Of course, in many studies both cases are combined during research, e.g. the role of quality of life in high-technology firms location decisions.

Over the first twenty years (1950-1970) the empirical studies on the business location factors, presented in scientific journals’ articles, are few and derive mainly from research in various areas of America. The industry and the factors that shape its decision to establish are the dominant entrepreneurial activity being studied. As expected, the survey results in three key variables: proximity to markets, labor and raw materials.

Another point worth mentioning about this period is that the term used most often in database articles is the word ‘plant’ instead of ‘business” or “firms’. One could characterize this era as “industrial location economically oriented”.

The next twenty years (1971-1990) witnessed a growth of empirical studies dealing with “business location factors”, particularly in the second decade. These empirical studies are divided into two categories: a) those researching the effect of a particular factor on a business location and b) those researching a particular category of businesses.

In the latter category, the interest of researchers in manufactures seems to prevail, while at the same time others appear to be really interested in high-technology firms. Moreover, it is apparent that while certain factors, like distance from markets, labor and raw materials have an impact on manufactories, other minor factors are added in this period to the first ones, such as state and local taxes, community attitudes toward business, and transportation. This is further reinforced by the study of Jungthirapanich and Benjamin (1995) which conducted a hierarchy of eight location factors in industry location starting with "market" as the most important, followed by labour, site consideration, raw materials, transportation, and services utilities, government concerns and in the end "community environment“ as the least important factor.

Unlike manufactories, high-technology firms are influenced by different factors such as: availability of professional and technical personnel, the general ambience and lifestyle of an area as well as the desire of the owner to live in an area.

Regarding the first category, studying a specific business location factor, the ones that stand out are: fiscal factors, unionization, environmental regulations and quality of life factors, with the latter one to be gaining more and more ground during the past twenty years.
The term "plant" used in most articles appears to be decreasing while the term "business" begins to appear dynamically. This era could be characterized as "a transition from economic factors to noneconomic factors in business location".

Over the last 22 years, since 1991 onwards, the study of business location factors has been of immense interest to many researchers both in America and Europe. Many a researcher has been studying individual specific factors (transportation, taxes, etc) to investigate the influence of each one separately on business location.

Thus, in the early 90s there is a large number of articles focusing on the study of transportation and accessibility factors, sometimes combined and at other times synthetically. Most scholars conclude that the existence of transport infrastructure (motorways, ferries and airports), or the means of transport and accessibility are essential factors in many cases. Worth quoting is the article by Krugman (1991) that has 8,162 citations in Google Scholars’ database, showing of what great importance the transportation factor is for researchers and maybe politicians.

Other recently studies relating to the importance of “public infrastructure” or "environmental regulations" in business location decisions, reach the same conclusions with “transportation” factor. Similar results derive from empirical studies examining the factor "financial incentives", which seems not to be a powerful one either.

As far as “tax” factors are concerned, it is not clear whether it has a major effect on a business establishment; therefore, conclusions vary according to each case separately. The truth is that high taxation of individual and business income has a negative impact on attracting business investment.

Last but not least, the “Quality of life” factor appears to hold all the more particular interest for researchers who investigate which variables (environment, climate, crime safety, schools, cultural amenities, etc.) are likely to lead businesses to a site location. The truth is that for some business categories (e.g. high-technology firms) this factor is the most influential one so for the businessman to settle in a place as for the set up of his business.

Regarding the study of business, industries during this period continue to appear in articles with unflagging interest until the late 90s. This time, the influence of location factors appears in different sizes and industry sectors, suggesting that the classical factors are less significant, while the importance of non-economic factors is gradually rising.

The same conclusions are drawn in articles on numerous studies in recent years on Knowledge Intensive Service Activities (KISA) and Knowledge Intensive Business Services (KIBS).

What is worth mentioning about this period is that more recently there has been a shift of interest from researchers from the study of factors and that of businesses to the study the site (urban or mostly rural areas) and its features to the business location decisions. The findings indicate that “quality of life” factor has played a major role for both cities and particularly rural areas.

In these last twenty-two years the term “plant” doesn’t appear very often in the scientific articles, while the terms “business” or “firm” are most used by authors.
This era could be characterized as “The increasing importance of quality of life factors”.

To sum up, the main conclusions drawn from this literature review are the following:

1. The study of business location factors was and still remains the subject of study of many different disciplines. Moreover, as Schmenner, Huber, and Cook, (1987) claim ‘...determining factors which influence a company's location has remained an elusive quest’ and to date Paleti, Bhat and Singh (2012) ‘...the choice of a location to start a new business or to expand into new locations for an existing business is critical to the success of the entity making such decisions’.

2. None of the researchers end up in their studies in the same conclusions, even when they investigate the same industries, the same business categories or the same factors. Blair and Premus (1987) emphasized that no two studies reveal identical findings because of regional differences, evolving conditions of production, industry-specific versus more general studies, and new firms versus expansion of existing ones.

3. The latter leads to the conclusion that the decisions taken by entrepreneurs vary depending on the type of business, the place and the criteria chosen as to where they will settle.

4. The literature seems to be driven from economic factors (market, labor and raw materials) to non-economic factors (transportation, quality of life).

5. Finally, the results of various research projects reveal that no conclusions can be drawn or generalized. In this way, the entrepreneurs’ decisions leading to a business location are not always the same and are not to be taken for granted._

References


Hayter, R., 1997. The dynamics of industrial location: the factory, the firm and the production system. New York: Wiley


