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The demand drivers for clustering and dispersal of functions across geographical area.

Richa Singh
MSc thesis
Corporate real estate management

Delft University of Technology
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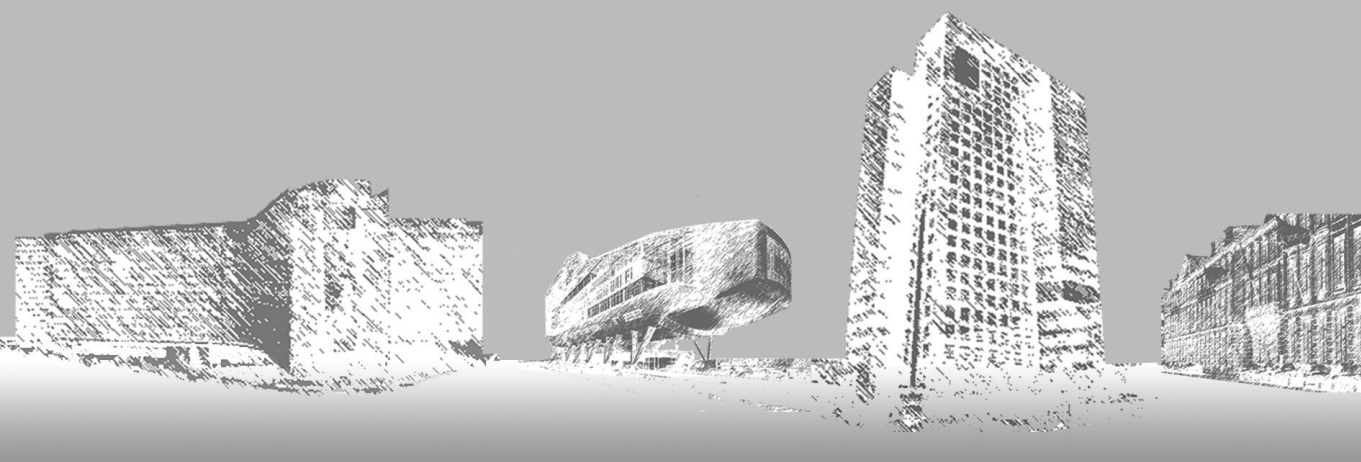
June 2010



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PREFACE

This masters' thesis is carried out at the Real estate and housing department, Faculty of Architecture at the Technical University of Delft in the year 2009-10.

The initial ideas of this research came up after doing an assignment in the second semester of this masters' programme where an accommodation strategy for the European Commission in Brussels was designed. This gave an opportunity to study the real estate portfolio of the organisation and to interact with officials at the corporate real estate department of the organisation. And from here, the main research idea regarding location choices and their drivers was formed. Going further, three other organisations were chosen to be studied in this research. These are BNP Paribas Fortis headquartered in Brussels and the ING Group and ABN AMRO headquartered in Amsterdam.

The primary objective of this research is to assess the location choices of large-scale organisations and the internal and external demand drivers that cause organisations to cluster and/or disperse their activities across geographical space.

To understand these internal and external location demand drivers, theories from the field of urban economics and corporate real estate management are used. The theories of urban and regional economics that explain the organisation of economic activity at urban and regional scale levels are also applied at the individual scale level of a firm/ organisation[1].

This research has proven to be one of the most intense learning experiences for me. Through this research I got to learn the scientific way of researching which taught me the ability to translate theories and concepts into measurable components.

Any questions or suggestions regarding this research are welcome at all times.

Richa Singh
Delft, 25 June 2010

1 The two terms – firm and organisation - are used interchangeably in this research. This is so because in available literature both the terms have been found and when quoting or referring to certain text from literature, the term used there has been maintained.

SUMMARY

Introduction

Organisations tend to cluster large parts of their real estate portfolio together. This is seen in the case of European Commission headquartered at Brussels. Over eighty-five percent of the total corporate real estate portfolio of the European Commission is located in the Leopold Quarter in Brussels. This accounts for over 800,000 square metres of space in this location. This area over a period of few decades has grown to largely become a mono-functional office area. The developments in this area have faced opposition from the citizen of Brussels and have given the organisation a poor image of being a 'European ghetto'.

The European Commission now has plans to restructure its portfolio in the Leopold Quarter and spread out the total space usage more efficiently in other parts of the city in two to three poles (though the largest concentration would still be in the Leopold Quarter). While this restructuring of the real estate portfolio of the European Commission takes place, it is also important for the organisation to be able to distribute the various departments across these three to four poles in an efficient way.

This tendency to cluster large parts of their portfolio together is seen with other organisations too. Many reasons can be attributed to this location behaviour by organisations, an important one being the benefits of agglomeration economies.

While there are 'forces', such as seeking benefits of agglomeration economies, that lead organisations to cluster, there are also equal and opposite 'forces', such as high rents, traffic congestions, pollution, that lead organisations to disperse their real estate portfolio across a geographical space. These equal and opposite forces shaping the economic geography in space form an important part of the New Economic Geography given by Paul Krugman (1999).

The location choices of organisations are essentially based on the internal organisational demands as well as the demands originating from the external context. In this research, four large-scale service sector organisations are studied. The two fields of study that have been used to develop an understanding of the location choices are corporate real estate management and urban economics.

The main objective of this research is two-fold. Firstly, it is intended to start a dialogue between the two fields of urban economics and corporate real estate management such that the knowledge gained from the theories of urban economics can be interpreted at the

scale level of firms and can be incorporated in corporate real estate decision-making. And secondly, it is aimed to define the location requirements of various functions within an organisation which is elemental to decide how they can be concentrated or dispersed across geographical space.

Research design and approach

This is a qualitative case-study research where four in-depth case-studies are conducted. This research has been designed in five parts along which the report too has been organised.

The first part of the research mainly identifies the main research subject and defines the primary objectives of the research. The second part explores the theoretical framework in the two theoretical fields of urban economics and corporate real estate management. The third part gives the framework for analysis which is derived from an iterative process between the theoretical input and the preliminary case-analysis. This framework gives the parameters to be examined for internal and external drivers of location choices as well as a classification of functions within an organisation. This part also gives three theoretical propositions which are to be tested through in-depth case analyses. The fourth part conducts in-depth case study analyses of four service-sector organisations – European Commission, BNP Paribas Fortis, ING Group, ABN AMRO. The fifth part evaluates the results of the analysis by proving/disproving the propositions and answering the research questions.

Theoretical input

Urban economics

The field of urban economics explains the geographical organisations of economic activity in an urban area. There are several theories in urban economics which explore the location choices of organisations and the reasons behind them. For the purpose of this research, the various theories have been explored under five themes.

The first is that of agglomeration economies, which primarily explains the decision of organisations to cluster large parts of their own portfolio together or to co-locate with other like or diverse organisations.

Secondly, the opposite forces – centripetal and centrifugal – which help develop an understanding of the clustering as well as dispersal of economic activity are discussed.

The market principle and transport principle are the third and fourth themes where the location of firms as a response to market demands and transport facilities is described.

And finally the theme of urban spatial structures is explored where the focus is on understanding the different urban forms and related theories are discussed.

A number of the theories of urban economics describe the location behaviours for the manufacturing sector which have been translated to the present day service economy for each of the above themes.

Corporate real estate management

Corporate real estate management is increasingly moving from having an operation role of providing accommodation to orienting real estate to realise the strategic goals of the organisation. This means that corporate real estate can increasingly add more value to the organisation and its primary process. Some of these value adding elements by corporate real estate include increase in productivity, reduction in costs, increase of flexibility and the real estate serving as a marketing tool.

The present day service economy has brought about several changes in the work processes. These, categorised by O'Mara (1999), are globalisation of customers and competitors, advances in computers and communication, lifestyle and demographic changes, changes in corporate form, changes in external real estate environment and overall rapid rates of change.

O'Mara's analytical framework to assess the corporate real estate strategies adopted by organisations includes the demands related to the external environment and the internal demands.

Analysis framework and theoretical propositions

The theoretical insights gained through literature study combined with preliminary examination of cases gives a framework of analysis as well as three theoretical propositions.

Firstly, a framework to analyse the internal and external drivers of location choices is developed. These internal and external drivers are derived from O'Mara's analytical framework as well as the urban economics theories.

Secondly, a framework distributing the organisation into eight different categories of functions is proposed. Further, the location demands of these different functions are defined based on several criteria such as required representation, transferability, nature of agglomeration etc. The eight categories of functions that are proposed are main headquarter, line headquarter, client interface, business backoffice, support backoffice, support interface, partially outsourced and offshored functions.

And finally, the geographic scale levels at which the analysis would be made are defined. These are the country, city, area as well as building scale levels.

The three theoretical propositions aimed at getting new insights into organisations' location choices, that have been proposed are:

Proposition 1: Corporate hierarchies play a strong role in distribution of different functions across geographic space and correspond to the urban hierarchies.

Proposition 2: The sources that generate the benefits of external economies and cause firms to agglomerate in geographical area are recognisable internally within an organisation, which cause its various functions to agglomerate in space.

Proposition 3: The opposite forces – centripetal and centrifugal – shaping the geographical organisation of economic activity at higher scale levels (that of city and regions) are also be found to be active at the scale level of a firm.

Case-study analysis

The four case-studies used in this research include European Commission and BNP Paribas Fortis that have their headquarters in Brussels and the ING Group and ABN AMRO that have their headquarters in Amsterdam.

In the case study analyses, the history of the organisation and the real estate choices made over several years are traced and the drivers for particular location choices are analysed. This is done at the different geographical scale levels mentioned earlier. After this, the current real estate portfolio of the organisation is assessed and divided along the eight categorisation of functions that were proposed earlier and the actual location characteristics of these functions in each organisation is matched with the location demands that were identified in the previous section.

As a conclusion, it is assessed how far the proposed categorisation of functions match the supply in the studied organisations. It is found out that while the proposed categorisations can be found in these organisations, one of the functions – business back-offices – can further be divided into two separate categories – core business and business back-office.

Also, some of the location demand criteria that were derived from the theoretical input and the preliminary case analysis are adapted after the in-depth case-studies.

Evaluation and conclusions

Having completed the theoretical and empirical parts of the study, an evaluation of the proposed propositions is made and some other important observations are discussed.

Upon testing the three theoretical propositions, it is seen that the second and the third propositions are proven through this research while the first proposition remains unproven.

The first proposition that expected to relate corporate hierarchies of an individual firm to the urban hierarchies of cities was not proven because firstly the identified functions of an organisation could not be put on a scale of corporate hierarchies and secondly, it was observed that in the polycentric region of Randstad, clear urban hierarchies did not exist.

It was seen through the cases that the benefits of external economies that cause several like or diverse firms to agglomerate at urban area, metropolitan or country level are also recognisable internally within firms. These cause the various functions of the organisation to agglomerate in space. This was the second propositions.

Secondly, as proposed in the third proposition, the opposite forces shaping the geographical organisation of economic activity at higher scale levels (that of city and regions) can also found to be active at the scale level of a firm.

Amongst the other significant observations, one of the discernable patterns in the corporate real estate portfolios of organisations is that of change in the usage of buildings from higher to lower order functions over time. This means that the buildings that earlier served as the main headquarters over time became the line headquarters and later accommodated the backoffice functions. This change in use of real estate is particularly seen after important mergers and acquisitions.

The other observations include the role of public policies in development of large urban projects and its influence on the real estate choices of corporations, the choice of multiple or single users in a building as well as the importance organisations place on maintaining flexibility to accommodate changes.

To conclude, the research questions of the research are reviewed where it is seen that while many organisations tend to divide their portfolio along the lines of different departments, it is also possible to divide their portfolio on the lines of particular functions. This latter approach responds to the particular location requirements of the functions and it is less generic in nature.

Finally, some reflections on the case of the European Commission are discussed and some recommendations for further research are also made.

CONTENTS

part I

RESEARCH DEFINITION

Chapter 1 RESEARCH INTRODUCTION

1.1 Motivation

The initial intent of this research originated from a question related to location pattern put forth by the European Commission in Brussels [1]. This question was –

'Why is the pole approach, which we are most inclined to, better than a more dispersed grid-like approach?

The portfolio of the European Commission (EC) in Brussels consists of over 900.000 square metres of office space. Approximately eighty-five percent of this office space exists in several buildings in the Leopold Quarter situated in the centre of the city of Brussels.

The Leopold Quarter today has come to be known as a 'European ghetto' due to the monofunctional nature of the area which consists of mainly office functions, most of which are related to the European Union and its different institutions. Now, the European Commission on its part is working together with the municipality of Brussels to transform this area into a mixed-use area by restructuring its real estate portfolio and introducing other functions in the area. This, the organisation finds essential to create a better image for itself towards the people of Europe, a better living environment for the people of Brussels and a good working environment for the employees of the organisation.

The portfolio of EC is in the process of restructuring and the approach towards location choices the EC seems to be adopting is a 'multi-pole' approach. According to this, the real estate portfolio of the EC would be concentrated at three to four locations in Brussels with the Leopold Quarter accommodating the maximum space.

While adopting this multi-pole approach, the EC also questions the advantages and disadvantages of this strategy as opposed to a more dispersed approach across the city.

Additionally, the organisation is faced with the question of how it can split the various departments and functions across the different poles. The question of who goes where and based on what is an important one for the organisation. The decision of locating different departments at different locations needs to be answered by organisations not only at the time of a large scale portfolio restructuring, but also when there are changes in the organisation in terms of growth or shrinkage or adding or elimination of new departments.

[1] This was during an interaction following a presentation session attended by the author and some other students from TU Delft at the OIB, European Commission in Brussels in Seeptember 2009

It was this reflection on the part of EC, a large-scale organisation that triggered this research concept. The first issue to explore in this regard is whether the location choices of large organisations in an urban area followed a similar approach (of locating in poles/clusters) in terms of spatial allocation of resources? And secondly, on what lines are the different parts of the organisation split across the various clusters.

The broader perspective with which this research is conducted concerns the decision of organisations to cluster or disperse across a geographical area.

1.2 Research Domain

The location choices of an organisation originate from the internal demands of the organisation as well as the external context of the area it is being located in. The latter consists of the relationship of the organisation with other organisations, the urban area and its characteristics etc.

To define the research domain of this research, first of all, certain boundaries in terms of the scale and scope are identified. The important aspect, when looking at the location choices of organisations is that location choices vary across industries as well as across geographic scale levels.

This research focuses on the service industry or the service sector[2] organisations. It is the service sector that shapes the spatial geography of economic activities in large urban areas which according to Organisation for economic co-operation and development (OECD) accounts for upto over sixtyseventy percent (sometimes as high as seventy percent) of the economic activity in OECD member countries (OECD, 2000, p. 3).

According to the core-periphery model of the new economic geography (NEG), the service sector locates at the core of cities while manufacturing is found at the periphery (Ottaviano and Thisse 2002, p.3).

The service sector can be categorised as consumer and producer services. Consumer services are those that are directly 'consumed' at source by the consumer such as restaurants, concert halls etc. Producer services, on the other hand, are services produced for organisations, whether private sector firms or governmental entities, rather than the final consumers (Sassen, 2001, p.91).

De Jonge & den Heijer (2008) identify five main types of corporations that can be distinguished referring to important functions in a city that generate or support economic growth:

Figure 1.1: Location choices of organisations

[2] The service sector is the tertiary sector of the economy. The primary sector comprises of extraction work such as mining, agriculture and fishing and the secondary sector includes the manufacturing industry.

- knowledge-intensive institutions – education, research
- development,
- industrial corporations,
- service based institutions, with mostly office like working enviro ments – public organisations, banks, insurance companies,
- health institutions and
- organisations that accommodate retail & leisure functions.

It is the third category 'service based institutions' which defines the first research boundary.

The next step is to define the geographical scale level at which this research is conducted.

There are many demand drivers that prompt organisation to cluster or disperse at different scale levels. Agglomerations, in fact, occur at several geographical scale levels and have varied compositions. While, there are agglomerations at neighbourhood shopping level such as that of restaurants or different car dealers locating in one area, there are also agglomerations at city level. Examples include Amsterdam serving as the financial centre of the Netherlands while Rotterdam accommodating the port-related business activities. Similar observations can be made for international locations too, such as the 'Silicon Valley' of San Francisco Bay Area in the United States or its counterpart in Bangaluru (earlier Bangalore) in India serving as the high-tech information technology centres or the concentration of the motion picture industry in Los Angeles (Hollywood), US or Mumbai (Bollywood), India.

In this research, the main focus would lie on the cities accommodating the headquarter locations of 'service based institutions'. Taking this city as the starting point, an analysis of the organisations' portfolio at higher and lower scale levels is also made. So essentially, parts of the organisations' portfolio at the country level are analysed as are the location choices and their reasons at cluster and building levels too.

And finally, the location decisions by organisations are a result of the internal and external demands of the organisations (as shown in figure 1.1) and the available supply of real estate in an urban area. The scope of this research has been limited to the demand side and though some references to the supply side would be made, this is not covered in its totality.

1.3 Relevance of the Research

1.3.1 Academic relevance

The theme and domain of this research relates closely with the seminar concept of 'Corporations of and Cities' which was organised in Brussels by TU Delft in association with Berlage institute in May 2008. This seminar focused on the relation between the accommodation of large scale organisations and urban planning. In particular, this graduation thesis is in line with one of the five themes of 'Corporations and cities' – agglomeration strategies and location choices. The description of this theme is given below.

> 'What are the needs, advantages and risks of corporate accommodation clustering strategies such as corporate cities, special economic zones and business parks?
> What is the impact of organisational urban planning models on mixed-use versus mono-functional development?
> How and why do urban amenities, cultural life and city image attract corporate headquarters?
> How do local choices affect global outsourcing, labour availability and retention, and peripheral mobility?' (Vande Putte, 2008, p. 7)

This graduation thesis topic also fits in with the research theme of 'Implementability of accommodation strategies – Design and evaluation of a methodology by types' at the TU Delft, Faculty of architecture, department of Real estate and housing.

An important area of concern of this research is the identification of patterns organisations develop when settling in a certain location, the patterns along which cities have developed and the analysis of synergies and conflicts between the two groups of patterns. This is aimed at predicting the feasibility of an organisations' accommodation strategy under design with respect to the organisations' environment i.e., the city.

There are two aspects of this master thesis that are oriented to the above mentioned research theme of TU Delft. The first one relates to 'the problems accommodation managers report when implementing accommodation strategies.' The EC is confronted by the problem of making appropriate location decisions which need to be implemented with immediate effect. This research may not provide direct answers to the questions put forth by the EC but will look at arriving at important guidelines and recommendations with a wider application which can assist EC and other organisations confronted with the question regarding clustering.

Secondly, it has been stated in the research theme that 'empirical research into the design and implementation of accommodation strategies is scarce'. This thesis fulfils this criteria by aiming at

empirically finding the reasons for organisations to cluster and the consequence of such decisions by conducting four qualitative case-studies.

The objective is to add to the theoretical body of literature of Corporate Real Estate Management by explaining some aspects of firms' behaviour in an urban area and the location choices they make.

1.3.2 Social relevance

Organisations' location decisions have wider implications than effects on organisational performance and profitability alone. Fate of cities and their economic progress get influenced by organisations' decision to locate in a particular city or region through employment generation, boost in real estate markets etc. The real estate portfolio of an organisation and its location can have enormous impact on the urban morphology of the city. Organisations influence the urban context of the city as much as they get influenced by it. The decision for an organisation to cluster large parts of its portfolio in a particular area can have rather negative impact on the urban character of the city as has been the case with the European Commission in Brussels.

Through this research, it would be possible for managers to weigh these different perspectives while making location choices leading to clustering. It would assist decision making regarding the extent to which clustering must be carried out to optimise stake-holder objectives instead of working with the assumption that clustering inevitably leads to economies of scale benefiting the performance and profitability of the organisation, which may or may not be the case.

1.3.3 Target group

• Academicians seeking understanding of the behaviour and location choices of firms in an urban area through empirical case-study analysis.

• Managers of service sector organisations seeking to re-locate in a particular area.

• Consultants who are requested to design accommodation strategies for service sector organisations.

1.4 Objectives and Research Questions

When looking at the existing literature, the most common reason attributed to organisations' locations in specific urban clusters is that of organisations seeking benefits of agglomeration economies. However, this is only one aspect explaining the concentration of economic activity and seems to be insufficient. Krugman (Fujita and Krugman, 2004, p. 141) refers to a physicist taking a jibe, 'so economists believe that companies agglomerate because of agglomeration economies'.

Krugman's new economic geography (NEG) stresses, instead, on explaining a 'general-equilibrium' story based on factors resulting in concentration and dispersion of economic activity – the two opposing forces acting on spatial organisation of economic activity. These opposing forces have been referred to as early as Marshall (1890), Hoover (1910), albeit in different ways. That there are two opposing forces that drive organisations to concentrate and disperse spatially is the position which has been elemental in building up this research.

As one of the important starting points of this research, it is believed that since there are opposing forces acting in an urban area, it would be beneficial for individual organisations to distribute their real estate portfolio in accordance with these opposing forces. This essentially entails developing a clear understanding of the location requirements of particular activities and functions within an organisation and choosing locations for each of these activities separately instead of clustering within an urban area which most organisations seem to do.

Information exchange and its nature plays a critical role in this respect. The advancement in information technology (IT) has facilitated the dispersal of economic activity. This aspect has been touched upon by authors such as Sassen (2001) and Castells (1989). These authors also believe that along with dispersion, the development of information technology has also lead to specialised concentration in urban areas. This aspect will be discussed in detail. A study by Beauteaux-Orain and Guillian (2004) empirically tests if IT has lead to a dispersal of economic activity away from the Central Business District in the region of Île-de-France.

It is believed that economic activity self-organises itself in geographic space. And this organisation of economic activity can be explained in different ways using different theories such as basic location theory, agglomeration economy as well as new economic geography. However, it is seen that this knowledge is not sufficiently incorporated in decision-making with regards to location choices by individual firms. This research is a step in this direction.

The main objective of this research is twofold. On the one hand, the intention is to start a dialogue between the two fields of urban economics and corporate real estate management such that the

knowledge gained from theories of urban economics can be interpreted at the scale level of individual organisations and can be incorporated in corporate real estate decision-making.

And secondly, it is intended to define the location requirements of the various functions of service sector organisations. This is done by, first of all, developing a clear understanding of the different aspects - internal and external - that affect location choices of organisations in an urban area. Further, it is aimed that the different functions of service sector organisations are categorised such that the location requirements for each of those can be then defined.

There are three main research questions which must be answered to clearly address the issue of location choices of organisations.

The first question is a broad one that seeks to establish important demand drivers, both internal and external, that are fundamental to make location decisions for by organisations. This is line with the research domain as it was described in section 1.2 that locations decisions lie at the intersection of internal and external demand drivers

1. **What are the main internal and external demand drivers that play a role in location choices of large service sector organisations in an urban area?**

The second research question is based on the supposition as seen in the EC case that organisations tend to cluster their functions in an urban area. This may or may not be a strategic choice, but is a tendency displayed across most types of organisations. The question asked here seeks to explore if there are other possibilities to location choices. For this, it is important to identify and classify different types of functions performed by an organisation and explore their particular location demands.

2. **Is there an alternative approach for location of different functions of a service sector organisation than clustering large parts of the portfolio together?**
   - Is it possible to identify different categories of functions within a service-sector organisation?'
   - Do these functions have particular location demands? If yes, what are they?

The third research question relates to the theoretical bent of this research.

3. **Is it possible to apply the theories of urban economics at scale level of an individual organisation?**

This is aimed at gaining new insights into location choices made by organisations which can be ued for corporate real estate decision-making as well as would add to the growing literature of corporate real estate management.

Chapter 2 RESEARCH METHODOLOGY

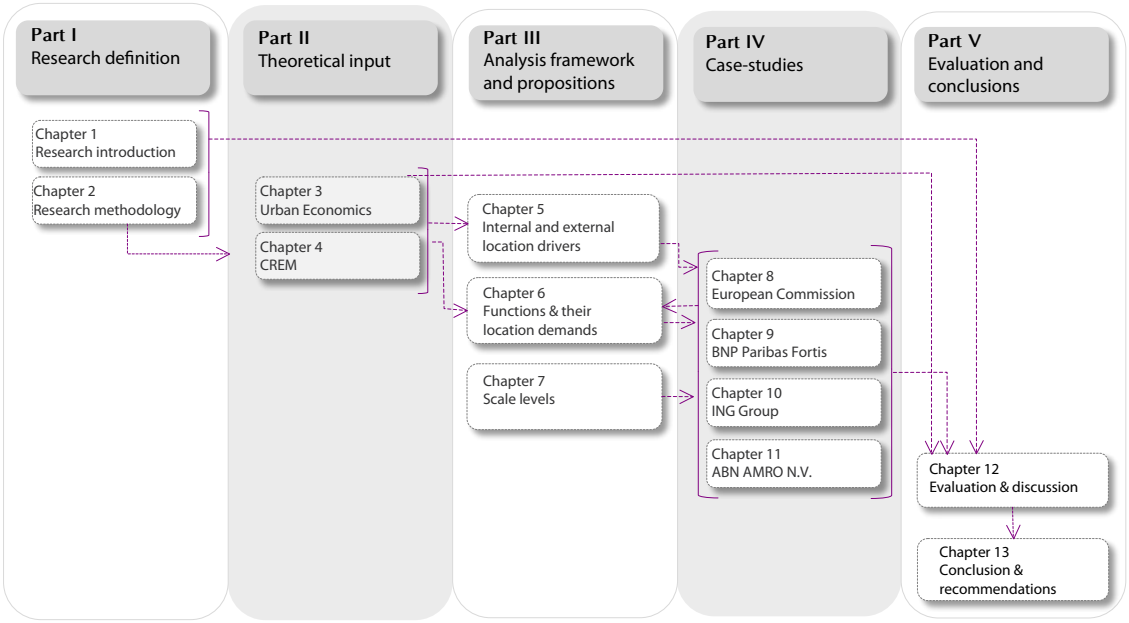


Figure 2.1: Research Model

2.1 Research Model

The figure above shows the overall research model as well as the structure of different chapters in this report which has been divided in five parts.

The first part, research definition, is where the research subject is explored, the research questions formulated and the research objectives defined. After this, the research methodology is designed, fields of research are identified and the cases as well as the different research instruments are selected.

In the second part, theoretical input, detailed literature study from two fields of study – urban economics and corporate real estate management – is conducted.

In the third part, parts of research questions are answered, the framework of analysis is designed and three theoretical propositions are proposed. Parts of analysis framework also get input from the preliminary case-study analyses. This in fact is an iterative process which is shown in figure 2.2.

In the fourth part, the detailed case analysis for four cases is presented.

In the fifth part of this report, the research questions are answered and the propositions are proven or disproven. Finally, conclusions are drawn and recommendations are made.

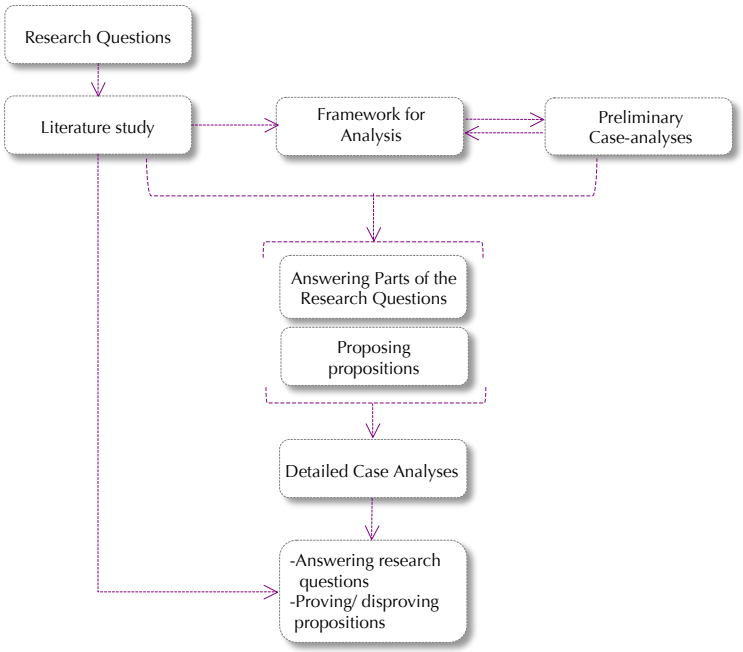


Figure 2.2:
An iterative process design to answer research questions and prove/disprove propositions

2.2 Case Selection

European Commission, the organisation with which this research was originated and defined, forms a part of this research. In order to identify the other cases, the main criteria used is that they must be service sector organisations having a minimum portfolio size of 400,000 sq m. This is so because organisations with a smaller portfolio size in a metropolitan area will not have enough functions located across multiple locations to assess.

In addition, it is intended that organisations having their global headquarters in cities of comparable sizes be included in this research.

Since the research required an in-depth analysis of the cases' portfolios as well as several rounds of interviews, the availability of information was the other consideration.

The four organisations that qualified on all the above criteria and form part of this research are:

- European Commission, Brussels
- BNP Paribas Fortis, Brussels
- ING Group, Amsterdam
- ABN AMRO, Amsterdam

2.3 Research Instruments

The research instruments used for this research include interviews, observations, data collection and document analysis.

Since the research is explorative in nature, the interviews are kept open in nature. Through the literature study, important themes and parameters are outlined. The interview questions are formulated based on these themes and parameters.

In addition, site visits are used for observations regarding several aspects of the site such as the quality of the buildings, density etc. Relevant data from office market reports is gathered while document analysis is used to assess some other aspects of the cases which include parameters like space usage, organisational structure etc.

2.4 Fields of study

It was discussed in the previous chapter that location decisions by organisations depend on the internal organisational demands as well as on the demands related to the external context.

The two fields of study which form a part of this research are corporate real estate management (CREM) and urban economics. While the theories of CREM focus on the requirements of an organisation, the theories urban economics explain the spatial organisation of economic activity in an urban area.

Both these fields of study explain location drivers internal and external to an individual firm to varying degrees. Through a detailed literature study, a comprehensive understanding of these internal and external drivers would be developed drawing from both the fields of study.

One difference in these two fields of study is that the theoretical base of the urban economics theories is more extensive than that of CREM. The history of urban economics is generally traced back to Marshall in the 1890s but it was even earlier in 1826 that von Thunen's 'Isolated state' gave the first theories of land-use. CREM, on the other hand, is a much younger discipline.This is seen in the very recent establishment of professional associations related to the field of CREM as discussed by O'Mara (1999, p. 32) These include The international development research council (est. 1960s) and International association of corporate real estate executives (est. 1974).

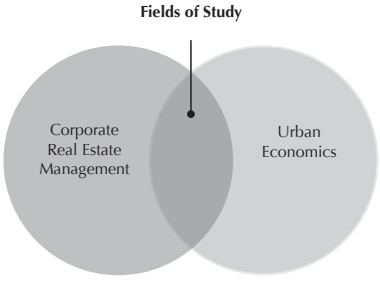


Figure 2.3: Fields of Study

2.5 Originality Value

This research lies at the intersection of the two disciplines of urban economics and corporate real estate management. This approach in our knowledge has rarely been attempted before. While the fields of

urbanism and urban economics have been associated (such as by Rocco 2008) earlier, a closely linked model comprising of urban economics and CREM theories is rare. The originality value of this research is, therefore, high.

This research, in fact, goes a step further and in addition to using the two disciplines to develop an understanding of location choices of organisations, it also intends to apply the theories of urban economics at the scale level of an individual organisation. This is expected to give new theoretical insights and add to the growing body of literature of CREM.

2.6 Mentorship

2.6.1 First mentor

MSc. Eng. Arch Herman Vande Putte MRE is an assistant professor at the Faculty of Architecture at Delft University of Technology. He is the project leader of the Corporations and Cities project, an initiative of TU Delft in association with the Berlage Institute, Rotterdam. He specialises in project feasibility analysis and strategic corporate real estate planning and management processes.

Vande Putte is also a PhD researcher at the department of Real estate and housing at TU Delft and his topic of research is 'Implementability of accommodation strategies – design and evaluation of a methodology by types'. The prime area of concern in this research is the accommodation strategy of organisations with regards to location: whether the firms should cluster their portfolio or opt for dispersed location.

Not only is the research domain of this graduation project closely related with the theme of Corporations and Cities, it is also the starting point of the inspiration behind this research. Hence the mentorship of Herman Vande Putte has been elemental for the research.

2.6.2 Second mentor

MSc. Philip Koppels is the second mentor for this graduation thesis. He is a PhD researcher and assistant professor at the same department as Vande Putte.

Koppels' research focuses on the relationship between utility and financial-economic value of the building and how a higher quality of building translates into higher financial and economic value for the building

This research lies at the intersection of the fields of urban economics and corporate real estate management for which Philip Koppels' experience and knowledge in the fields of urban economics as well as the office markets is extremely valuable.

part II

THEORETICAL INPUT

Chapter 3 URBAN ECONOMICS

The main purpose of urban economics is to explain the spatial distribution of economic activity in an urban area. This includes a view on the spatial composition of urban areas as well as explanation of individual location choices of firms in an urban area.

After studying several theories of urban and regional economics, these have been divided under five main topics suitable for this research.

The most common reason attributed for firms to cluster together at various scale levels (international, regional urban etc.) is **agglomeration economies**. This also forms the main topic of this research and would be the first topic of discussion in this chapter.

While agglomeration economies explain the concentration of activities within an urban area, the second section describes two opposing forces – **centripetal and centrifugal** - which shape the spatial composition of urban areas.

After this, the relevance of market size determining the spatial structures and the related theories such as the central place theory and urban hierarchy theory are elaborated in the **market principle**.

Following this, the relevance of minimisation of transport costs and how this factor has formed the basis of several urban economic theories is expanded in the **transport principle.** These include the basic location theory, bid-rent function and highest and best use.

The next section would focus on the **urban spatial patterns** including the monocentric and polycentric city models.

Most of the theories of urban economics are found to be oriented towards the manufacturing sector and it is required to translate these theories to the service sector active in the present day service economy.

Therefore, following a discussion on the above mentioned main themes, an adaptation of these theories is made to the service sector in each of the above mentioned sections.

3.1 Agglomeration Economies

Agglomeration economies are regarded as cost savings to the firm which result from the concentration of production at a given location, either on the part of the individual firm or by firms in general (Parr, 2002, p. 718).

The first reference to agglomeration economies was made by Marshall in 'Principles of economics' (1890,1920), where he explained the benefits of labour and infrastructure pooling achieved by firms to locate together in a geographic space.

Over several decades, many different theories on agglomeration, their classification, sources as well as approaches have been proposed by different authors. Numerous empirical studies have also been conducted on several of these aspects – either testing the suggested theories or mapping the agglomeration effects.

Since the research on agglomeration economies is rich and varied, it was critical to identify the literature which could be used for the purpose of this research. The most relevant literature was investigated through a literature survey on agglomeration economies, which was largely found to have been developed for the manufacturing sector. This choice of literature is based on the applicability of the theoretical aspects of the selected literature on this research specifically for service sector firms.

The three topics across which the chosen literature is divided are classifications, sources and approach of agglomeration economies.

3.1.1 Classification of agglomeration economies

Bertil Ohlin (1993), in 'Interregional and international trade', provided what is now the standard system for classifying agglomeration economies. Ohlin (1933, p. 203 cited in McDonald and McMillan, 2009, p. 36) suggested that it is meaningful to set off the following categories of agglomeration economies:

- economies of scale within the firms;
- localisation economies, which are external to the individual firm and arise from the size of the local industry;
- urbanisation economies, which are external to the local industry and arise from the size of the local economy.

The terms localisation and urbanisation were used by Hoover (1937) who also kept his focus on the first three categorisations – economies of scale, localisation and urbanisation economies.

The first category (economies of scale) is considered internal economies the other two (localisation and urbanisation economies) are external economies.

3.1.2 Sources of agglomeration economies

It was Marshall who first gave the sources of agglomeration economies which have come to be known as the three Marshallian externalities. Interpreting these externalities in modern terminology, Fujita and Krugman (2004, p. 153) express them as;

- knowledge spillovers ('the mysteries of trade become no mysteries; but are as it were, in the air');
- the advantages of thick markets for specialised skills; and
- the backward and forward linkages associated with local markets

Since Marshall, several researchers have identified many sources of agglomeration economies such as Ottiviano and Thisse (2002), Capello (2008). Rosenthal and Strange (2002), in their paper 'Evidence on the nature and sources of agglomeration economies', reviewed the available literature on agglomeration economies and gave seven categories, of what they called, the microfoundations, or sources of agglomeration economies. For this research, an eighth source of 'infrastructure sharing' offered by Ottiviano and Thisse (2002) has been added to those given by Rosenthal and Strange. A short description of each of the eight sources is given below. Also, an interpretation of these sources and their benefits at the individual level of an organisation is made.

- Infrastructure sharing

This aspect can be found in both internal and external economies where firms locate in an area to be able to use the available good quality infrastructure such as highways, transport infrastructure including airport, train and metro networks, telecommunication facilities as well as schools, hospitals and other public amenities.

In terms of the internal economies, the infrastructure sharing could take place between the different buildings of the organisation as well as by sharing the available amenities.

- Input sharing

Marshall's notion of input sharing depends crucially on the existence of scale economies in input production (Rosenthal and Strange, 2002, p. 27). It is due to the existence of these economies that a downstream firm is able to procure inputs at a lower price when located in an agglomeration compared to an isolated location. The input sharing typically refers to the cost effectiveness when the input such as raw material etc is supplied at a lower cost due to the presence of other firms resulting in scale economies.

When viewing this internally, the sharing of specialised services such as facility management, ICT, training facilities can be intended which is achieved locating in a larger building or locating in different buildings close-by in an area.

- Knowledge spillovers

Knowledge spillover is an important source of agglomeration economies and accomplished through face-to-face contacts (called the cognitive/ socio-cultural dimension by Capello (2008). When the exchange of knowledge between individuals belonging to different organisations, either from like or diverse industries, generates positive outcome, these are external knowledge spillovers.

Glaeser et al. (1992) reviewed and categorised the theories of external knowledge spillovers in three types –

Marshall-Arrow-Romer (MAR) externalities

The Marshall-Arrow-Romer (MAR) externality concerns spillovers between firms in an industry. While it was Alfred Marshall (1890) who first gave the idea of knowledge spillovers within the same industry, the theory was further expanded by Kenneth Arrow (1962) and Paul Romer (1986). The MAR theory also predicts that local monopoly is better for growth than local competition, because local monopoly restricts the flow of ideas to others and so allows externalities to be internalised by the innovator (Glaeser et al 1992, p. 1127). Specialised business parks can be an example of the MAR externalities.

Porter externalities

Like MAR, Porter (1990) also argues that knowledge spillovers take place in specialised industries. Portar, however, introduces the concept of local competition, instead of local monopoly of MAR, within the industry which stimulates growth of the industry as a whole.

Porter describes clusters as geographic concentrations of interconnected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition (Porter M., 1998, p. 78). Clusters, according to Porter, increase productivity, innovation, entrepreneurship and competition, all of which put together encourage growth. The Silicon Valley of San Fransisco is one such example given by Porter.

Jacobs' externalities

Jacobs' (1969) externalities emerge out of diversity and, differing from MAR and Porter, she reasons that the most important knowledge transfers come from outside the core industry. According to her, the variety and diversity of geographically proximate industries rather than geographical specialisation promote innovation and growth (Glaeser et al 1992, p. 1128). One of the examples given by Jacobs is that of the brassiere industry which grew out of dressmakers' innovations rather than the lingerie industry.

From the perspective of internal economies too, knowledge spillovers can be achieved by locating various functions of an organisation together. These spillovers take place through, both, formal and informal face-to-face contacts.

- Labour market pooling

This refers to the availability of skilled labour in an urban area which leads to concentration of firms from the same or diverse industries. The different departments of an organisation and their particular labour requirements may act as an agglomerative force internally.

- Home market effects

The idea is here is that the interaction between internal scale economies in production and transport costs lead to a "magnification," where home market size expands in a self reinforcing process of agglomeration (Rosenthal and Strange, 2002). These become less prominent in the service economy since they primarily relate to goods and their production.

- Consumption

The source of consumption as a source of agglomeration economies focuses on the ability of cities to enhance productivity. Glaeser et al (2001) elaborate on four fundamental ways that a city enhances productivity. First is the availability of goods of services such as opera and restaurants. Second is the aesthetic charm offered by cities like the Los Angeles climate or Paris architecture. Third is the availability of public goods like specialised schools not available in smaller cities. And fourth is that relatively dense city settlements offer social interactions not possible in smaller cities.

The source of consumption primarily related to the external context and several urban functions therein. It is not an aspect that can be related to the internal scale level of an organisation.

- Rent seeking

This refers to the behaviour of firms where they locate in a particular geographic area to be close to the politically influential and it related to external economies.

Rent seeking as a source is active in the service economy also and in fact can be found to be active at the scale level of an individual firm where some departments and individuals choose to locate close to the head offices and top decision-makers of the organisation.

- Natural advantages

This factor concerns that agglomerations happen in areas having natural advantages. These include availability of natural resources and good climate. The steel industry in North America was initially concentrated in the Great Lakes region largely because of the presence of iron ore and coal.

Similarly, it is certainly true that atleast part of California's growth can be attributed to its climate, which would allow employers to pay lower wages than where the weather was less pleasant. Marshall

(1920, p. 269, cited in Rosenthal and Strange (2002), p. 24) also had considered this effect:

'Many causes have led to the localisation of industry, but the chief causes have been physical conditions; such as the character of the climate or the soil, the existence of mines and quarries in the neighbourhood, or within easy access by land or water'.

3.1.3 Sources of agglomeration economies in the service economy

The benefits of infrastructure sharing, are enjoyed by the service sector as it is in any other case where a good infrastructure acts as an agglomerative force. This, in fact, takes place at different scale levels. For example, in case of transport infrastructure it can be seen that while important airports become global nodes, a good metro network makes for good local nodes.

Input sharing in case of the manufacturing sector primarily referred to the sharing of raw material between various companies. In case of the service economy, it is translated as the input provided in the form of information by different professionals such as lawyers, advertisers, consultants etc.

Knowledge spillover theories have gained focus in the service economy due to their dependence on information transfers. Knowledge spillovers are internal when there is a positive impact of transfer of knowledge between individuals and departments within an organisation.

Labour market pooling, in the service economy, remains equally important because skilled labour is very critical to service economy which is based on knowledge.

Home market effects become less prominent in the service economy since they primarily relate to goods and their production and how the home market and its size affect the productivity of firms. Service sector firms are less bound by region and serve to global markets.

Consumption is an important source of urbanisation economies and relevant in the service economy where the availability of diverse urban amenities and consumption opportunities are important for the white-collar employee.

Rent seeking as a source finds relevance in the service economy where information is critical to carry out business and locating close to the politically and economically influential may assist in accessing critical information for business. At the internal scale level of a firm, this factor can be found to be active as described earlier.

Natural advantages, typically the presence of raw material are very important for the manufacturing sector. For the service sector, the advantage of the presence of good climate is important. But this may not be most prominent reason for service sector organisations to agglomerate.

3.1.4 Approach to agglomeration economies

The approach to agglomeration economies refers to the different dimensions across which they should be measured to make it a comprehensive analysis. This has been elaborated by mainly two studies – Rosenthal and Strange (2002) and Roberta Capello (2008). Both the authors have reviewed the available literature on agglomeration economies and have proposed an approach to understand the existence of agglomeration economies. While Rosenthal and Strange have used four such dimensions which they refer to as 'scope', Capello uses three.

Approach to agglomeration economies by Rosenthal and Strange

- Industrial scope
- Geographic scope
- Temporal scope
- Organisation of industry

Approach to agglomeration economies by Roberta Capello -

- Industrial dimension
- Cognitive dimension
- Geographic dimension

For the purpose of this study the approach by Capello would be used which is briefly described here.

Roberta Capello in 'Indivisibilities, synergy and proximity: the need for an integrated approach to agglomeration economies (2008)' discusses three conceptual dimensions – industrial, socio-cultural/ cognitive and geographic – which build upon the three microfoundations of agglomeration economies – indivisibilities, synergy and proximity.

Indivisibilities occur when the scale of agglomeration activities adds to productivity by causing shifts in a firm's production or cost curve, namely, more output for a given input, or lower input costs for a given output (Rosenthal & Strange 2001; Cohen & Morrison 2009, cited in Capello 2009, p. 146)

Indivisibilities take the industrial perspective into consideration (due to some sectors' dependence on large scale production processes or others deriving more advantage from the presence of other sectors) and arise when the supply of services and goods requires the presence of a certain demand threshold in order for production to take place under efficiency principles.

Interpreting indivisibilities for the internal economies in real estate terms, the service sector firms can increase the output by optimising on space usage and its efficiency. Indivisibilities can also refer to the indivisibilities of the work processes.

Synergies exist in the form of network relationships among economic agents which allows outsourcing and flexibility in production, hence becoming an important efficiency source. Capello relates synergy to the socio-cultural dimension which brings in aspects such as trust, sense of belonging, cultural and religious homogeneity which are typical features of agglomerations. Synergies are important for internal as well as external economies.

Proximity is linked to the geographic dimension of agglomeration economies and result out of both indivisibilities and synergies displaying their efficiency on production processes in concentrated environments. These are found in internal economies where firms cluster their own portfolio and external economies when they co-locate with other like or diverse businesses.

Figure 3.1 presents the three different dimensions (industrial, cognitive and geographic) across six phases between years 1970s to 2000 which have been elaborated by Capello as six different approaches to agglomeration economies.

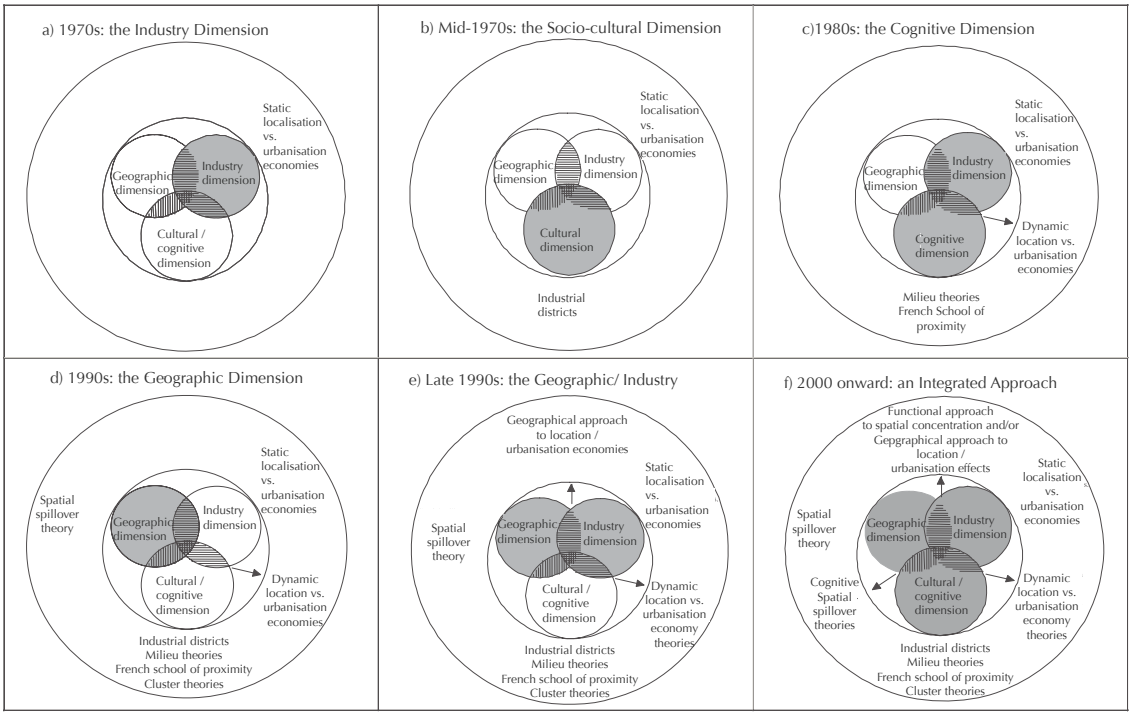


Figure 3.1: Capello's approaches to agglomeration economies
Source: Capello 2009, p. 148

3.2 Centripetal and centrifugal forces

The choices made by businesses to locate in a certain area and these areas growing as centres of economic activity results from a process of circular causation. This has been explained by Fujita and Krugman (2004). It implies that when different types of firms choose to locate in a certain area due to reasons such as natural advantages or low transport costs, the area produces a wide range of products and services. These products and services are enjoyed by the workers of these firms as consumers. Also these workers have a higher income which prompts other workers to move to this area. Next, more firms choose to move to this area due to a better existing market. This phenomenon of circular causation is the active centripetal force resulting in concentration of activities in an area. The centrifugal force on the hand leads to a dispersal of activities due to reasons such as pollution, congestion, crime, high transport costs and rents. This concept of opposite forces shaping the economic geography is at the core of the new economic geography and other theories of urban economics.

According to Geltner and Miller (2007, p. 43), the factors which cause cities to form and activities to concentrate are the centralising forces which include economies of scale, economies of agglomeration and positive location externalities. The factors which cause cities to decentralise are pollution, congestion, crime, high intra-urban transport costs and high rents.

Paul Krugman (2004) takes the three Marshallian externalities as the centripetal forces acting in an area and gives three opposite centrifugal forces for each of these centripetal externalities. These are given in table 3.1.

Market size effects are the backward linkages – sites with good access to large markets are preferred locations for the production of goods subject to economies of scale – and forward linkages – a large market supports the local production of intermediate goods, lowering costs for downstream producers.

The centrifugal force acting against this force is 'immobile factors' which includes land and natural resources as well as people (in an international context).

Centripetal forces	Centrifugal forces
Market-size effects (linkages)	Immobile factors
Thick labour markets	Land rents
Pure external economies	Pure external diseconomis

Table 3.1: Forces affecting geographic concentration
Source: Krugman 2004, p. 156

The second is 'thick labour markets', in particular for specialised labour. The opposing force here is the 'high land rents' which result from a high demand propelled by concentration of economic activity.

The third Marshallian externality causing concentration of activity are 'pure external economies' caused by knowledge spillovers in areas of high concentration of economic activities. The opposing force to this externality is the fact that concentration of economic activity generates 'pure external diseconomies' such as congestion and pollution.

In case of the modelling of the new economic geography, Krugman has considered only linkages as a force of concentration and factor immobility as a force against it. However, the framework of this type of modelling is widely open to further development (Fujita and Krugman, 2004, p. 156).

It was seen in this section that for all Marshallian externalities prompting concentration, there are opposing forces which provide disincentive for further concentration and finally leading to dispersal of activity. This line of thought will be further explored in the next section – the market principle - which will expand on the central place theory amongst others.

3.2.1 Opposing forces in the service economy

One of the most prominent features of the service sector firms in the service economy is their reliance on exchange of information. The developments in the ICT sector have, on the one hand, allowed the transnationalisation of the service sector organisations, and on the other, the need for agglomeration has intensified. This aspect is explained by Manuel Castells below.

'The global city epitomises the contradictory logic of the space of flows. While reaching out to the whole planet second by second and round the clock, it relies on the spatial proximity of its different command centres, and on the face-to-face interaction of its anonymous masters. Based on telecommunications and information systems that overcome time and distance, it needs a technological infrastructure that can only be provided by agglomeration economies and access to skilled labour' (Castells, 1989, 1991, p. 344).

As a result of this, there is seen a tendency by the service sector firms to centralise and decentralise at the same time. Noyelle and Dukta (1998: 91, cited in Sassen, p. 106) found a dual tendency towards centralisation, resting on scale economies, and toward decentralisation, resting on the computation of procedures.

The two opposing forces – centripetal and centrifugal - continue to act in the spatial organisation of knowledge economy. According to Castells, the space economy of technological innovation appears to follow the same pattern of dispersal and agglomeration (Moss 1986; Castells 1989, cited in Sassen 2001, p. 109). Their characteristics have however changed and they now cater to the new economic requirements.

So, it can be said that while at a global scale the activities of transnational firms are increasingly being decentralised, at the local level (city or metropolitan area level), these activities concentrate in clusters of varying sizes in different parts of the urban area (CBD, suburban business district, edge cities, industry towns etc).

While the global decentralisation is facilitated by development in ICT, the requirement for face-to-face contacts continues to act as an important agglomerative force at smaller scale levels.

3.3 The market principle

It was von Thünen who first gave the model of agriculture land-use in 'The isolated state' in 1826. This is considered by many as the starting point of economic geography. Samuelson (1983, p. 1468 cited in Fujita & Krugman 2004, p. 151) has called von Thünen the 'founding god' of economic geography and location theory. While the von Thünen model was given before the industrial ages, it continues to be insightful in many ways to the modern economists. According to this model, there is a central city at the core and there are several activities related to agriculture which are distributed in the hinterlands.

The core-periphery model of the new economic geography given by Krugman is, in fact, based on the von Thunen model where the manufacturing lies at the core and agriculture at the periphery of the urban areas. The manufacturing sector agglomerates into a single region due to the centripetal force generated through a circular causation of forward and backward linkages (Fujita and Krugman, 2004, p. 152). The manufacturing sector, as mentioned earlier, has given way to the service sector in the core now.

According to Fujita and Krugman (2004), also described earlier, after the economy created by a circular causation of centripetal forces has grown enough for the outer reaches of the hinterland to become sufficiently far from the centre, it becomes worthwhile for some economic activity[1] to defect, giving rise to a new city. This process repeated many times over gives rise to many more cities and economic centres.

The process of change in the economy can then be regarded involving a sort of co-evolution in which market potential determines where economic activity locates, and the shifting location of that activity in turn redraws the map of market potential (Fujita and Krugman, 2004, p. 147).

This line of thought is seen in the Central Place theory (CPT) which was first given by Walter Christaller (1933) and then improvised by August Losch (1954).

[1] 'manufacturing' by Fujita and Krugman

The two geographers evolved the **central place theory** by examining the problem of location on a homogeneous 'featureless plain' (Geltner and Miller, 2007, p. 45). It was Christaller who first explained this starting with 'Die zentralen Orte in Süddeutschland' (Central places in southern Germany). In Cristaller's theory the only variable is distance in a featureless plain. Christaller introduced the concepts of 'threshold market' and 'range' (figure 3.3).

The 'threshold' is the minimum market (population or income) needed to maintain the selling of a particular good or service. 'Range' is the maximum distance consumers are prepared to travel to acquire goods. The result of this model is a set of generalisations where the results of consumers' preferences produce a system of centres of various sizes, where each centre will supply particular types of goods, forming levels of functional hierarchy (Rocco, 2008, p. 122).

According to Losch, the bigger the economies of scale in industrial production, the bigger and farther apart the cities would be. On the other hand, the higher the transport costs, the closer will be the city and the hinterlands.

The other concept of urban economics, which is in line with the central place theory, is that of **urban hierarchy**. According to this, cities of different sizes exist in a hierarchy according to the economic functions they perform. The economic functions of the cities results from their market size in which the different firms locate so as to achieve a minimum 'threshold market'.

Figure 3.4 shows the hierarchy of market areas and table 3.2 shows seven levels of cities offered by Christaller in central place theory.

The above mentioned theories – the central place theory and the urban hierarchy theory – give an insight into the agglomeration of activities and formation of urban areas where the urban areas perform certain economic functions and serve the city as well as its hinterlands. And the bigger the cities, the farther apart they tend to be.

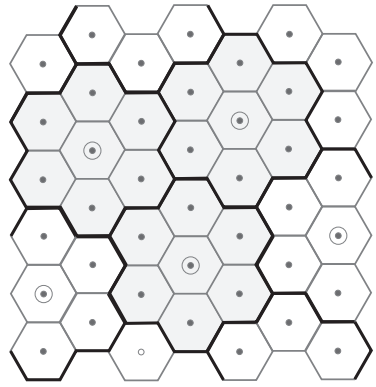


Figure 3.2: Theoretical configuration of the Central Place Theory and Urban Hierarchy
Source: Geltner and Miller (2007, p. 47)

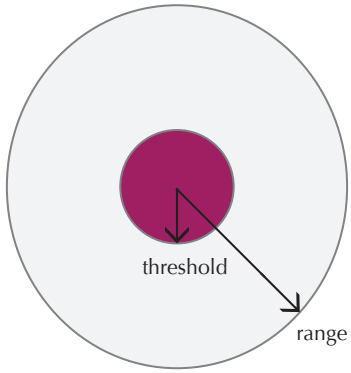


Figure 3.3:
The Market Principles – Threshold and Range

Type	Market area radius (km)	Population of town	Population of market
M (Marktort)	4.0	1000	3500
A (Amtsort)	6.9	2000	11,000
K (Kreisstadt)	12.0	4000	35,000
B (Bezirkstadt)	20.7	10,000	100,000
G (Gaustadt)	36.0	30,000	350,000
P (Provinzstadt)	62.1	100,000	1,000,000
L (Landstadt)	108.0	500,000	3,500,000

[a] Source: Christaller (1966, p. 67); Dickinson (1967, p. 51).

Table 3.2:
The Christaller central place system (1993)
Source: Hall, 1999, p. 182

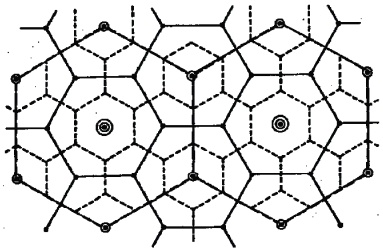


Figure 3.4:
Different Urban centres in urban hierarchy

Though the theory of urban hierarchy explains the tendency of city formation, it has shortcomings which leave out some important features of the real world economy. McDonald and McMillan (2007, p. 61) have listed these unexplained features which include location choices of firms due to presence of natural resources, geographic features of real transportation systems which include transshipment points and port cities as well as the phenomenon of localization economies since according to the model of urban hierarchy firms in the same industry tend to avoid each other. These aspects can be addressed by the basic location theory and theory of agglomeration economies.

3.3.1 Urban hierarchy in service economy

It was Saskia Sassen who gave the term 'Global city' in her book with the same title (1991) According to Sassen, major cities have acquired a strategic role as centres of command in the organisation of world economy. This new role is largely based on some cities being key locations for regional headquarters of large transnational corporations and advanced tertiary activities, which are usually called 'command functions'. These have replaced manufacturing as the leading economic sector of a new phase in capitalist accumulation (Rocco, 2008, p. 19).

Further, 'the combination of spatial dispersion and global integration has created a new strategic role for major cities. Beyond their long history as centres for international trade and banking, these cities now function in four new ways: first, as highly concentrated command points in the organisation of the world economy; second as key locations for finance and for specialised service firms, which have replaced manufacturing as the leading economic sectors; third, as sites of production, including the production of innovations, in these leading industries; and fourth, as markets for the products and innovations produced' (Sassen, 2001, p.3).

Hall (1999, p. 181-182) has given his adaptation of Christaller's central place theory and urban hierarchy theory for the service economy. Hall does this by adding two new categories to Christaller's seven-level hierarchy of urban areas and removing five of the lowest order categories. The final four categories, given by Hall, for the service economy are;

- **global** (population five million+ and upto 20 million in hinterlands);
- **sub-global** (population one to five million and upto 10 million in hinterlands);
- **regional (Christaller's Landstadt)** (population 250,000±one million); and
- **provincial** (Christaller's Provinzstadt) (population 100,000±250,000).

The five categories below the provincial level still exist physically but their functions as a central place has reduced considerable, especially of the last two categories, Marktort and Amtsort, by ceasing to have any service they may have had earlier such as village store or post office.

According to Hall, the lowest level of urban hierarchy which functions as a central place in Europe is the Bezirkstadt, with a population of 10,000 and a service population of 100,000. It is at about this level that one typically finds the establishment of a superstore and of a limited range of national chain stores.

This change in the urban hierarchy and the categories of central place theory indicate the dramatic increase in mobility. This means the 'range of a good' described by Christaller has changed considerably by replacing the small village store with the superstore as basic unit of convenience.

The categories of Hall (based on population) would also be corresponded with GAWC ranking of cities[2] which is based on cities' advanced producer service network.

The GAWC is a research network centred in the geography department at Loughborough University. This research network focuses on the external relations of world cities based upon the existence of world-wide transactions.

[2] http://www.lboro.ac.uk/gawc/gawcworlds.html, 16/05/10, 20:54 pm

3.3.2 Central place theory (CPT) in service economy

To understand the relevance of CPT in the service economy, an empirical research by Parr and Budd will be used. Parr and Budd in their paper 'Financial services and the urban system: an exploration' (2000) have examined the financial services in the UK in terms of the urban system by drawing on the principles of central-place theory taking into account its limitations and applicability.

Financial services, in this study, refer to intermediate services which are supplied to other businesses as inputs to production and not the financial services supplied directly to consumers or households such as the services of high-street banks and branches of building societies.

Parr and Budd, in this paper, conclude that the central place theory, which is used primarily to explain retailing activities, can be applied to other economic activities when the spatial distribution of supply can be related to the spatial distribution of demand.

In case of the particular financial services studied in UK, Parr and Budd found out that after making relevant modifications that can explain joint location and clustering of firms, it was possible to show that the spatial geography of UK financial system can be related to the central place theory.

While Parr and Budd in this paper show that the UK financial system and its spatial organisation can be proven along the lines of CPT, they also clarify that CPT can only be applied to that subset of economic activity which faces a dispersed demand and for which the pattern of supply is related to the pattern of demand.

So while the CPT can be applicable to the branch network of a bank since its spatial organisation responds to a demand, it will not be applicable on the corporate location of offices since their location is generally not controlled by demand unless there are some functions that do respond to demand.

3.4 The transport principle

From the beginning of urban and regional economics, numerous theories have been formulated where the basis has been that of firms seeking minimisation of transport costs through their location choices. Some of these theories will be elaborated here first and then their interpretation in the service economy would be made.

The basic location theory, as explained in McDonald and McMillan (2007, p. 29-34), considers two prime aspects that are responsible for a firm to locate in an area. These are the input location and the output location. When choosing a location for itself, the firm will locate such that it incurs minimum transportation costs.

This can be explained using three models – one input one market model, one input varied market model and the port city model. The port city model, which also explains the formation of initial cities at important trans-shipment ports, is discussed here.

This model can be explained using the production and export of wheat. In the figure 3.5, wheat is grown at R1, R2 and R3 (input locations), the market it is supplied to in the form of flour is M (output location) and P is the trans-shipment point from where it is shipped. The question is that of locating a flour mill at any one of the points in the given figure.

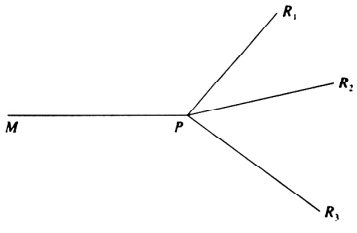


Figure 3.5: Production of wheat for export
Source: McDonald and McMillan (2007, p. 33)

The objective of the firm is to minimise transport cost which is achieved by locating at port P since here the wheat can be turned to flour and shipped at minimum transportation cost. Locating at M is more expensive since transporting wheat is more expensive than transporting flour (weighing down process). Locating at R1, R2 or R3 is more expensive due to multiple trips that may be required to be made or more than one mill may have to set up.

This theory, as the name suggests, is very basic in nature but stresses on the importance of reduction of transport costs for firms. The basic location theory does not differentiate between different types of functions and their relationship with transport costs.

The theory of highest and best use (HBU) and bid-rent theory draw on the relationship between different types of functions and transport cost minimisation.

According to the theory of **highest and best use (HBU)**, each parcel of land has its highest and best use and the land rent varies from place to place as the highest and best use of land varies. For example, the land suitable for a clothing factory (for which locating on a highway is beneficial to minimise costs of input and output) is not the most suitable for a grocery store (for which locating close to its customers is more beneficial).

Transport costs play a pivotal use in determining the highest and best use of a piece of land for business as well as for household purposes. Each function locates such that the transport costs for that function are minimised for that function in that particular location.

The role of transport, as mentioned above, playing a pivotal role in determining the highest and best use of land is also a critical factor in the **bid-rent theory**.

The bid-rent is the highest rent that a potential user would be willing to pay for a site or location (Geltner and Miller 2007, page 64). The bid-rent is determined by the distance from a central point – going higher moving away from the central point. This central point is where the transport costs are minimised for that use, the point at which the bid-rent or residual value is maximised. The function for which this central point (owing to minimal transport costs) provides the highest and best use 'out-bids' other functions from this point.

McDonald and McMillan (2007, p. 100) provide an explanation of the land use phenomenon of bid-rent function by considering a three sector market. The first is the commercial and financial sector that requires face-to-face contacts (with customers, suppliers, government agencies) for which it needs to locate in the downtown area. This includes banks and other financial institutions, law firms, advertising agencies etc.

Second sector taken into account is that of manufacturing such as printers, furniture makers etc for whom locating close to highways, rail lines and airports carries advantage.

The third sector is the residential sector for which the bid-rent function is dependent on downtown employment, shopping and other amenities such as parks, schools etc. Different types of households exhibit different bid-rent functions. Single adults and couples choose to locate close to downtown locations close to many activities while families with children prefer suburban locations close to schools, parks etc.

On considering that the bid-rent function of the three sectors mentioned above is dependent only on distance from downtown and plotting it on a graph (Figure 3.6), the following observations are made.

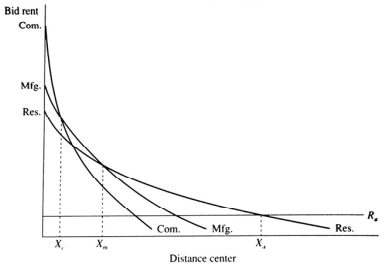


Figure 3.6: Bid-rent function for multiple land uses
Source: McDonald and McMillan (2007, p. 102)

The downtown location is very important for the commercial financial sector and its bid rent function is highest at the downtown location which, given a Normal profit rate, drops sharply moving away from this location. The manufacturing sector, on the other hand, places a lower value on the downtown location and its bid-rent at a normal profit rate declines less as the distance from downtown increases. The residential sector, of the three, places the least importance on the downtown location and for a given utility level with the lowest bid for a downtown location and the flattest slope as distance from downtown increases.

In addition to these theories, the central place theory also considers the transport factor when talking of the principle of 'range'.

3.4.1 The transport factor in service economy - Transferability

According to the above described urban economics theories, a firm locates at such a location so as to minimize transport costs. The port city model of the basic location theory explained why it is profitable for firms to locate at transshipment points or port cities. It was also mentioned that major cities in the US started as port cities and this also holds true for the other parts of the world.

The highest and best use (HBU) and bid-rent theories explain the relevance of land use for different functions trying to achieve minimal transport costs.

In the service economy, transport options have improved and transports costs have drastically reduced but connectivity by transport remains one of the most important features. The connectivity between global cities as well as between the hierarchy of cities are very essential. In fact, accessibility (local, national and international) is one of the most important aspects playing a role in decision-making regarding the location of firms. Important points of connectivity are increasingly becoming important transport hubs. So it can be said that in the service economy also transport options are important determinants of location choices, the focus however has shifted from minimisation of transport costs to better accessibility.

The importance of accessibility or connectivity to a wide range of urban networks forms part of recent literature.

Rocco (2007, p. 134), refers to the aspect of connectivity between different urban networks and calls it 'transferability' or 'scale jump'. Rocco reasons that "the most favourable locations for new corporate centralities are places where the possibility of change/ transferability between several networks (or several scales) is higher (...) A narrow scale jump means transferability between a limited number of networks serving a smaller variety of scales. A wide scale jump is therefore the opposite: it means that the area is served by a wide range of networks covering a broad range of scales'.

3.5 Urban Spatial Structures

As mentioned earlier, it was von Thunen who first gave a model of land-use. According to this model, there is a central city at the core and there are several activities related to agriculture which are distributed in the hinterlands. Several models of land-use since the von Thunen model have been proposed.

The concentric ring model was proposed by Ernest Brugess in 1925, while the sectoral model of land-use was proposed by Homer Hoyt in 1939.

The Burgess (concentric ring) model of urban form depicts concentric rings of functions and the Hoyt (sectoral) model assumes that similar land use do not lie at similar distances from the centre of the city but instead they cluster together resulting in a pie-shaped form with different activities forming the wedges of the pie.

The Burgess model depicts the typical features of an industrial city in the US where the industrial activity is concentrated in the centre and the higher income groups choose to locate in suburban areas. The Hoyt model, on the other hand, recognises that lower income groups tend to locate close to the industrial districts and away from higher income groups, which is not so in the Burgess model.

Both models, however, recognise that similar activities locate grouped together.

The monocentric city model given by Willian Alonso in 1964 focused on the land rent as the main factor determining location choices of different functions within a city. This was supported with the bid-rent theory given by Alonso described in section 3.4.

Though the monocentric model gave some insight about land patterns in an urban area, the large metropolitan of areas today cannot be explained by it since they are essentially polycentric in nature.

It is the polycentric city models which can explain the urban form of the large metropolitan areas of today. The polycentric city model essentially draws from the monocentric city model and other urban economic principles described earlier. The polycentric city model, developed by Fujita and Ogawa (1982) in 'Multiple equilibria and structural transition of non-monocentric urban configurations' explained a centre with several centres.

In Geltner and Miller (2007, p. 89), the polycentric model is explained by describing metropolitan areas as having other centres of activities. These are major activity centres (MAC) and neighbourhood business districts (NBD). The authors also state that some metropolises never have a dominant CBD, which is they do not only have subcentres but multiple major centres. Examples are Los Angeles in the US, the Ruhr region in Germany or the Randstad in The Netherlands.

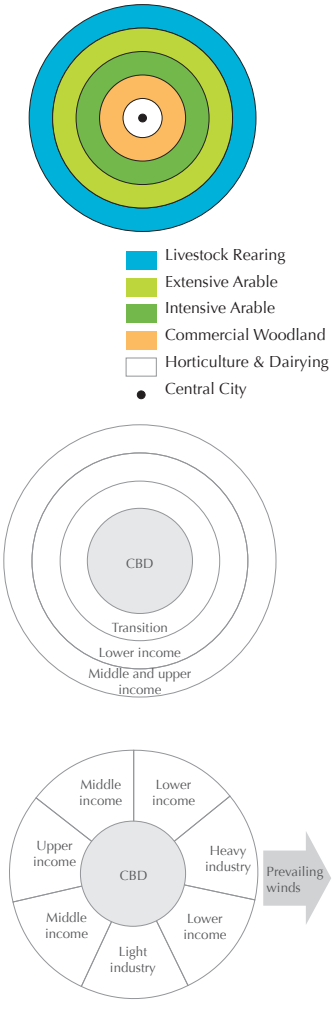


Figure 3.7: The von Tunnen, Brugges and Hoyt models of land-use
Source: Geltner and Miller (2007, p. 86,88)

This phenomenon was less existent in the industrial times but is increasingly common now in the times of service based economies when excellent telecommunications and transport facilities make polycentric developments very easy to operate. Figure 3.8 depicts the rent gradients in a polycentric city.

The polycentric city model presented here is basic in its form but many other theories related to a polycentric growth pattern have emerged. These are the concepts of 'edge cities' by Joel Garreau (1991), 'new centralities' as explained by Roberto Rocco (2008).

These two concepts will be explained briefly but it is essential to, first, outline two other concepts which are elemental in understanding the polycentric urban growth. These are **neighbourhood succession theory** and **obsolescence**.

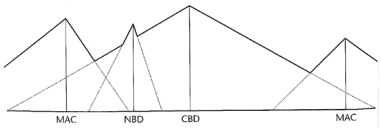


Figure 3.8: Rent gradients in a polycentric city
Source: Geltner and Miller (2007, p. 90)

As per the **neighbourhood succession theory**, each neighbourhood within a city undergoes a natural dynamic process of evolution. Figure 3.9 depicts the neighbourhood succession model.

According to the above, a neighbourhood after its development starts to grow in terms of usage and occupation and after a certain time reaches a period of maturity. Having been in the stage of maturity for a certain amount of time, the neighbourhood can either reinvent itself by undergoing an intensive development or it starts to decline.

The idea of obsolescence relates closely with the neighbourhood succession theory and explains how obsolescence of property impacts the neighbourhood. The property value is a combination of the structure (that which is built) value and the land value.

Obsolescence of buildings can happen at physical, functional or economic levels. This leads to a depreciation of the property value which clearly has an impact at the neighbourhood level.

From the above, it can be inferred that properties and neighbourhoods undergo a lifecycle and have to reinvent themselves after a certain period of use. This lead to the idea of 'new centralities' where the old centres due to obsolescence tended not to cater for the new use – whether commercial or residential.

According to Rocco, the **'new centralities'** started to emerge where new activities related to the tertiary sector could be carried out more properly, thanks to the extension of technical urban networks (e.g. Paris *La Défense* was an early example of this phenomenon, due to the historical density of Paris proper, which did not allow for the development of large office towers kin most of what is considered Paris *intramuros*) (Rocco, 2008, p. 95).

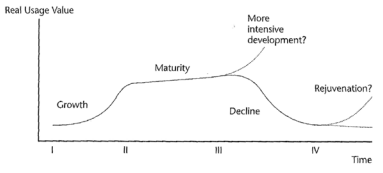


Figure 3.9: Neighbourhood succession model
Source: Geltner and Miller (2007, p. 92)

This created a basic dichotomy between 'old' and 'new' centres, where old centralities were often seen as decaying, derelict and 'abandoned', especially in the case of large American cities, where suburbanisation is an important phenomenon. Most European cities were able to keep old centralities as desirable places for living and leisure, although they too had to create new places for business agglomeration (Rocco, 2008, p 95).

One of the notions that have prevailed until now is that new centralities compete with old centralities, contributing to draw their main functions off. Rocco assumes that new centralities do not necessarily compete with old centralities. In today's city of flows, different centralities compose a network of nodes that can accommodate mutually supportive activities, creating and reinforcing synergies.

Similar to this is the phenomenon of edge cities described by Garreau (1991). This phenomenon of edge cities was happening in the US in the 1960s when suburban development had started and mixed use areas were developed outside the core centre of the city. In his book titled Edge Cities (1991), Joel Garreau described this phenomenon in detail and classified the types of edge cities in three categories: (1) the pre-automobile settlements that gradually evolve into edge cities; (2) the mall-oriented 'boomers' placed next to freeway intersections, which he breaks into three types: strips, nodes and 'pig-in-a-python'; and (3) the greenfield or planned community, where growth follows certain rules established by planning (cited in Scheer and Petkov, 1998, p. 299).

Other authors classified edge cities according to differences in physical and economic characteristics. Leinberger called these developments 'Urban village core;. The types are based on the mix of uses and the classification of office buildings and hotels in terms of their economic status (Class A, B or C), although he also distinguishes two broad categories of form corresponding, respectively, to traditional and suburban origins (Scheer and Petkov, 1998, p. 299).

Edge cities differ from these traditional suburbs. They are not simply bedroom communities or a product of urban decentralization and sprawl. They are the creation of strategically controlled office development, by large-scale land developers (Henderson and Mitra, 1995, p. 614).

Though the edge city phenomenon is prevalent in the US, in Europe too such developments came about with developments of mixed-use locations around the bigger metropolitan conurbations such as the Randstad in Holland, Paris and Lille area in France, development of docklands into new office and residential locations in London.

All such developments have made today's metropolitan areas polycentric in nature, where the different centres carry their own characteristics in terms of use, property value, economic function etc.

Sassen (2008, p. 124) states that the centre can extend into a metropolitan area in the form of a grid of nodes of intense business activity, which she calls a deteritorialised space of centrality. Rocco has given a graphical representation of such polycentric nodes (figure 3.10)

Hall (1999, p. 178) has identified six different types of urban forms that he finds present in today's service industry oriented cities resulting out of the processes related to the service economy and depending on the historic and cultural peculiarities of cities.

1. **Traditional business core**, developing around a port or similar nodal location from the origins of the city; much rebuilt, but retaining traditional street patterns and old buildings (such as seen in the City of London)

2. **Secondary business core**, developed in the 20th century in the former high-class residential area (West End, Paris-XVI); here are now found certain types of once activities (especially headquarters) and entertainment/cultural activities

3. **Tertiary business core** *(`inner edge city')*, developed since 1960 in an urban regeneration zone at some distance from the primary and secondary cores (La DeÂfense, Canary Wharf, Potsdamer Platz); these contain large concentrations of new offices and, sometimes, entertainment

4. **Outer `edge city'** generally around or on the major axis toward the airport (London's `Western Sector', Amsterdam-Zuid)

5. **Outermost `edge cities'**, either planned new towns or expansions of existing towns which have attracted large-scale `back office' concentrations (Croydon, Reading, Greenwich)

6. **Specialised concentrations** of activity requiring large amounts of space and attracting large numbers of people, especially leisure or business tourists (stadiums, arenas, conference and exhibition centres, theme parks); these are commonly on edge-city sites, sometimes produced as part of urban regeneration or land reclamation schemes (Greenwich Dome, Disneyland Paris, Tokyo Waterfront).

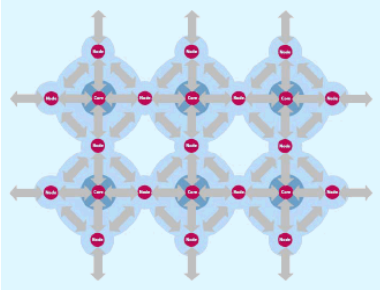


Figure 3.10: The post-industrial polycentric city regions and the 'urban open system' allowed by the multiplication of nodes
Source: Rocco (2008, p.100)

3.6 Conclusions

In this chapter, the various theories of urban economics which are relevant for this research were described under five main categories of agglomeration economies, centripetal and centrifugal forces, the market principle, the transport principle and urban spatial structure.

While *agglomeration economies* – both internal and external – have been one of the most frequently given reason for clustering in urban areas, there are other factors also responsible for clustering to take place. One of these is firms locating so as to minimise transport cost. The port city model in fact explains how clustering at important trans-shipment points takes place. The bid-rent function also explains how firms of similar order locate together by out-bidding the lower order functions to achieve minimum transport costs.

The *transport principle* has been interpreted in the present day service economy as 'transferability' or the 'level of scale jump'.

The *market principle* explains the spatial organisation of economic activity in response to serving a particular market. The central place theory, however, is applicable to the firms that respond to a dispersed demand such as consumer services or retail functions including retail bank branches. The corresponding theory of urban hierarchies gives an insight into the different levels of cities and is useful to assess the location of service sector firms and their various functions.

The *urban spatial structures* covered the monocentric and polycentric land-use models as well as theories related to new centralities and edge cities which result in part due to obsolescence.

The *opposite forces – centripetal and centrifugal* – form an important part of this research that continue following the trend of concentration and dispersal of economic activity in the present day service economy and ICT forms an important part of this trend. This aspect will, therefore, be used when carrying out the analysis, synthesis as well as evaluation of the research.

Chapter 4 CORPORATE REAL ESTATE MANAGEMENT

Corporate real estate management is defined as management of corporate accommodation in order to obtain maximum added value for the organisation (presentation de Jonge, 2009).

De Jonge distinguishes between Corporate/ Public real estate management (C/PREM) and Real estate management (REM). REM is portfolio management by investors which strives for a return on investments in real estate, directly generating income from real estate and C/PREM covers the use of real estate as a corporate resource for the primary process (de Jonge et al, 2008/09, p. 10).

According to NACORE, real estate and facility costs constitute about 25% of the average corporation's total annual assets for Fortune 500-type companies (O'Mara 1999, p. 235). This makes it an important resource having substantial financial implications. Apart from the financial implication, corporate real estate, its management and the choices related to it also have significant impact on the work processes, productivity as well as the image of the organisation amongst other things. De Jonge et al. refer to this as the added value of corporate real estate and list seven elements of added value that contribute to the transformation of real estate from mere 'cost of doing business' to a true corporate asset (Krumm 1999, cited in Lindholm and Laveinen 2006, p. 450). A short description of these value-adding elements is given below.

Increasing productivity

The aspects through which corporate real estate management can support the primary business process leading to increased productivity of the organisation include providing adequate accommodation, ensuring appropriate site selection as per the demands of the business, introduction of alternative and innovative workplaces and through such measures reduction of absence of leave of the employees.

Cost reduction

Efficiently managed corporate real estate assets leads to reduced costs for the organisation. This includes reduction of workplace costs, facilities costs as well as overall accommodation costs. In addition, a controlled cost of financing by creating an insight into the cost structure is also achievable.

Risk control

Risk control is another important element which can be achieved through corporate real estate management. This is possible by retaining a flexible real estate portfolio, selecting suitable locations, controlling the process risk during (re)construction, controlling the value development of the real estate portfolio and controlling environmental aspects and labour conditions.

Increase of value

This refers to the increase of value of the real estate portfolio itself which can be ensured by timely acquisition and disposal of real estate and redevelopment of obsolete properties. The knowledge and insight into real estate market through market analysis is another key value that corporate real estate can add.

Increase of flexibility

Corporate real estate management can enhance the overall flexibility, including the organisational flexibility (working hours, occupancy rates), financial flexibility (mix own/rent/lease) as well as technical flexibility (Figure 4.1).

Changing culture

Corporate real estate plays an important role in changing culture of the organisation, most importantly by the introduction of workplace innovations.

PR/marketing

Increasingly, the corporate real estate assets of the organisation are being used for the PR and marketing of the organisation. This is focused on selection of appropriate location as well as the image of the buildings.

Corporate image is a factor that has been in discussion in recent corporate real estate literature. Koppels et al. (2009) in their paper 'Added value of image' investigate if image or prestige explain why certain locations are preferred more than others based on which organisations are willing to pay a higher price.

The results of this study indicated that the image of location and building, in fact, has a strong influence on the site and building choice of office organisations.

That corporate real estate and its management have significant effect on the overall performance of the organisation is now widely accepted by firms and their top management. Not only can this shift be found in the recent literature of corporate real estate, but it was also evident within the companies that served as case studies for this research.

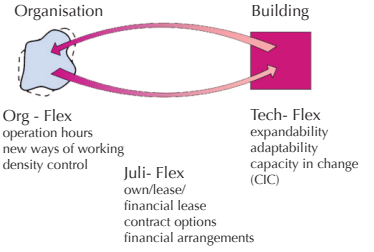


Figure 4.1:
Organisational, financial, technical flexibility
Source: de Jonge, CREM lecture 2009

During the several discussions at these companies, it was reiterated time and again that the corporate real estate department is increasingly becoming a prominent participant in important discussions related to changes in the organisational structure and related policies of the organisation. There is clearly a paradigm shift in the role of corporate real estate management from earlier performing more operational functions to achieving more strategic goals of the organisation now.

4.1 Corporate Real Estate Literature

The field of corporate real estate, which is in its nascent stages, derives its foundations from the extensive literature available on business administration. There are several schools of business administration propagated by various scholars, authors and management 'gurus'. Mintzberg et al. (1998) in 'Strategy safari' categorises these schools as prescribing, describing and integration schools.

The theoretical literature on CREM consists of strategy context analysis as well as strategy design instruments and tools. The objective of this research is not to design an accommodation strategy for an organisation but rather the assessment of organisations' approach towards location choices in particular. Location choices are intrinsic to the overall (real estate) strategic choices of the organisation and cannot be viewed separately. However, a deeper focus would lie on those theories of CREM which bring to light particular aspects of location choices.

Some of the important methods of designing a strategy given in de Jonge et al. (2008/09) include scenario planning given by Dewulf et al which assists in developing long-term real estate plans taking into account several future possibilities and accommodation functionality assessment given by Vijverberg which is based on functionality aspects including technical condition, adaptability, expansibility etc. Several strategy design methods approach real estate strategy design as an extension of the corporate real estate strategy. These include the generic strategies and context analysis given by O'Mara, aligning corporate real property to corporate strategy by Roulac and strategic alignment model by Osgood.

Amongst these, it is O'Mara's generic strategies and context analysis that is used for the purpose of this research. This choice is mainly based on the fact that O'Mara's generic strategies belonging to the positioning school (the prescribing school of Mintzberg) can be used as a very useful tool to classify the different approaches taken by the organisations towards their real estate strategies. Also, while Roulac and Osgood also look at the internal and external factors affecting decisions regarding real estate, O'Mara's classification is most clear and serves as a good instrument for a comprehensive analysis.

4.2 Developments affecting corporate real estate management

There have been several developments, such as globalisation, developments in ICT etc., in the recent years that have affected the approach towards corporate real estate management. These have been brought about with the advent of the service economy. The underlying reasons of these developments relate with the adoption of neo-liberal and post-Fordist approaches in business processes.

Neo-liberalism refers to liberal economic policies and free markets. It was Adam Smith in his book titled Wealth of Nations (1776) who first proposed that the markets should be free of government interventions and that commerce should be free.

Post-Fordism refers to the change in production system to become more flexible in nature as opposed to the Fordist[1] production system which is more standardised. Figure 4.2 shows the differences between Fordist and post-Fordist sytems.

O'Mara (1999, p. 32) refers to these developments in the nature of business processes as 'forces driving changes in the management of corporate real estate and facilities' and categorises these under six categories, which she shows are interrelated to each other.

1 Fordism referred to mass production and consumption of goods typical of sophisticated industrialization, mainly in the period post WW II (Rocco 2008,p. 15)

4.2.1 Globalisation of customers, competitors and employees

The aspect of globalisation was also briefly discussed earlier as one of the important elements of the service economy. Essentially the process of globalisation has allowed for a global disaggregation of business activities which allows companies to seek cost and quality advantages worldwide. This also leads to a wider choice in terms of locations and management of corporate real estate on a global basis.

In the context of this research, it will be seen that global transferability for some functions such as that of the headquarter has become very important. There are companies that operate on a twenty-four hour basis across the globe. Such global networks are made possible because of the advances in ICT facilities.

FORDISM	POST-FORDISM
ECONOMY	ECONOMY
1. Protected national markets. 2. Mass production of standardised products 3. Bureaucratic hierarchical organisations 4. Compete by full capacity utilisation and cost cutting	1. Global Competition 2. Flexible production systems/small niche markets 3. Flatter and flexible organisational structures 4. Compete by innovation, diversification, subcontracting
LABOUR	LABOUR
1. Fragmented and stardardised work 2. Low-trust / low-discretion majority employed in manufacturing sector / blue collar jobs 3. Little on the job training required for most jobs 4. Small managerial and professional elite 5. Fairly predictable labour market histories	1. Flexible specialisation / multi-skilled workers 2. High-trust / high-discretion majority employed in service sector / white collar jobs 3. Regular on the job training, greater demand for knowledge workers 4. Growing managerial and professional service class 5. Unpredictable labour market histories due to technological change and increased economic uncertainty

Figure 4.2: Fordism versus post-Fordism
Source: Rocco 2008,

4.2.2 Advances in computers and communication

According to Manuel Castells (cited in presentation Wigmans, 2008).), 'because of ICT possibilities economies can now, wherever they are situated in the world, function in real time, on a global basis

and 24/7, effectively as a unit'. Webber (1968, cited in Moss, 1987, p. 535) wrote 'for the first time in history, it might be possible to locate on a mountain top and to maintain intimate, real time, and realistic contact with business or other associates. All persons tapped into the global communication net would have ties approximating those used today in a given metropolitan.'

O'Mara (1999, p. 35) describes the changes caused by advances in computers and communication as having first-order and second-order effects on planning, design and management of corporate real estate. The first-order effects are the impacts of using computer and communications technology equipment on the physical design and management of space. The second-order effects on real estate occur due to the changes required to accommodate the organisational changes made possible by technology.

As far as the location choices with reference to this research are concerned, they are affected by the nature of information exchange required. Although, the developments in ICT and digital communication offer the possibility to locate at distance, but the processes requiring face-to-face contacts still need to be co-located.

Boiteux-Orain and Guillain (2004) identify two main types of information. 'Codified information,' being systematic, repetitive, and articulated, can be transmitted easily and reliably via information technologies. 'Tacit information' by contrast, requires dialogue between parties and gradual clarification because it is highly personalised and contextualized (Foray and Lundwall, 1996 cited in Boiteux-Orain and Guillain 2004, p. 554).

Archer and Smith (2003, p. 140) describe the two categories requiring different types of information exchange as 'routine' and 'non-routine'. While the 'routine' functions are clerical in nature and can be facilitated by ICT, the 'non-routine' functions are decision-making functions that require face-to-face contacts.

4.2.3 Lifestyle and demographic changes

According to O'Mara (1999, p. 36) there have been several lifestyle changes in the past few decades where two-career families have risen and ethnic diversity at workplaces has also grown. People change jobs faster now and employees' expectations from their companies and work environments have also grown.

These workers are more vocal about their needs at the workplace and they increasingly have a say in the choice of the workplace location as well as its design and management.

There is now increasingly high demand for flexible work hours as well as alternative work arrangements such as telecommuting and working from home. Companies and employers are ever more

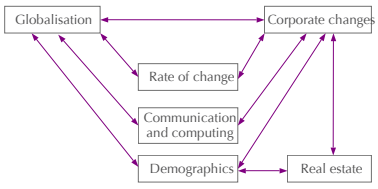


Figure 4.3: Sources of changes are interrelated
Source: O'Mara 1999, p. 33

required to accommodate these changes in their culture and work processes having a significant impact on location choices.

It will be seen in the different cases studied that demographic demands as those mentioned earlier are taken into consideration more and more by the organisations.

4.2.4 Changes in corporate form

One of the important aspects of post-Fordism, described earlier, is flatter and flexible organisational structures (figure 4.2). O'Mara describes the new corporate forms as hybrid organisational structures having the characteristics of both hierarchical and market relationships. While organisations have become less hierarchical, the functional reporting lines tend to be more than one – referred to as matrix organisation.

Additionally, the boundaries between suppliers and customers have blurred and quite often suppliers are housed within the company's offices or the employees of the company locate at the customers' premises. Also, due to companies having many short-term projects, the space demands become unpredictable.

Ownerships of companies is now more broadly-held and there is greater scrutiny of corporate decisions. Highly visible commitments of capital, such as real estate, often attract the critical eye of stock market industry analysts. More detailed analysis of real estate and facility management costs is in place.

4.2.5 Changes in external real estate environment

Amongst the changes in external real estate environment, the important aspects O'Mara mentions are reduction in speculative office spaces and an increase of a hybrid between speculative and custom-designed facilities. Another relevance aspect in this respect is securitization of ownership where these securities are traded in the same way as stock by large funds.

4.2.6 Overall, increasingly rapid rates of change

Change, at several levels of product development and work organisation, is an ongoing process. the rate of product development has increased and the product life-cycle has become shorter. In fact, for many industries, time more than cost has become the basis for competition.

The fact is that while such changes are taking place in the overall business and its processes, the rate of building and constructing real estate has not become shorter. How corporate real estate adapt to and accommodates such fast paced developments happens to be one of the most critical questions.

4.3 Generic Strategies and Their Approach by O'Mara

In her book, Strategy and place (1999), O'Mara provides both a classification of generic strategies as well as an analytical framework which gives an insight into the strategic context. For the purpose of this study, it is the analytical framework which is expanded and used in detail to assess the location choices by different organisations. This, however, is done in the wider purview of the three generic strategies given by O'Mara – incremental, standardisation and value-based.

The two main variables that determine the nature of one of the three generic strategies are 'strategic uncertainty' and 'view on action' as shown in figure 4.4 (Singer, 2005)

4.4 O'Mara's Analytical Framework

In Strategy and Place (1999), O'Mara explains that corporate real estate strategy is a result of two sets of demands – those external to the firm and those internal to it. The external demands are those that arise as a response to the strategic environment in which the firm operates and the internal demands are the demands arising from the internal functioning, culture and other specifics of the organisation itself.

The external strategic environment is composed of (a) the competitive milieu in which the corporation operates within its industry and of (b) other environmental pressures which relate to the physical setting.

The internal organisational demands are both (a) structural and (b) cultural; they relate to the process by which the corporation and its workforce does business, and they respond to the unique personality and behaviours that have evolved within the organisation over time.

O'Mara has categorized the internal and external sets of demands in two categories each. The strategic environment composes of the various industry forces and the environmental constraints and opportunities. The organisational demands consist of the structural and cultural demands of the organisations. These are further categorized into several parameters as shown in figure 4.5 each of which will be explained. How they impact the location choices will be the main focus.

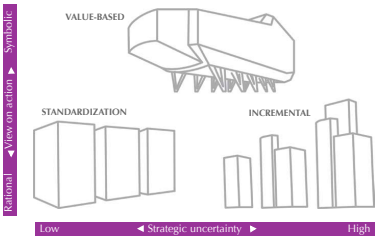


Figure 4.4: Generic strategies
Source: Singer 2005, p. 30

4.4.1 Industry forces

The industry forces are primarily the competitive challenges faced by the organisation and its relative strengths and weaknesses within the industry. O'Mara uses Porter's model of five competitive forces for this which comprises of buyers, suppliers, barriers to entry, substitute products and rivalry between firms.

In terms of location, the competitive advantage can be ensured by locating close to the buyers and in a building that enhances the company's public image. Companies also look to locate in an area with maximum number of **suppliers** as well as an area with a large talent pool for their industry.

Barriers to entry refer to the costs and impediments which make it difficult to enter an industry. A location can serve as an entry barrier for competitors if it offers advantages that cannot be achieved at another location by competitors. This can include easy physical access to low-cost suppliers and local labour supply with industry-related skills.

Substitute products are those that provide the same benefit as your product but are different in a fundamental way. Real estate and its location in this regard plays an indirect role where the work environment encourages innovation as well as flexibility to change its work systems and services easily in response to competitive threats.

Rivalry or competition between firms exists and is also expressed in terms of the corporate real estate location decisions. This is done in a symbolic way such as by choosing to occupy a building in a location that outdoes the building occupied by competitive firms.

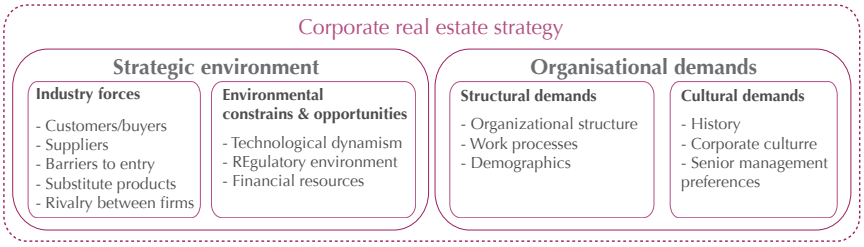


Figure 4.5: Diagnostic framework for corporate real estate decision making Source: O'Mara 1999, p. 191 (Visualisation: author's)

4.4.2 Environmental constraints and opportunities

The environmental constraints and opportunities as external forces are the environmental pressures which directly relate to the physical setting of the organisation. These include technological dynamism, regulatory environment and financial resources.

Technological dynamism is the rate of change and product lifecycles for the technologies that are part of the company's core product. It is also the technologies that support its production. This can be encouraged by supporting innovation through workplace design. It is seen more and more that companies opt for newer locations and buildings that offer them the possibility to adopt the latest norms of workplace design and ICT systems in their workplace design.

There are several aspects of **regulatory environment** that direct how a company does its business. In terms of real estate and in particular its location, one of the factors that have an impact is the tax structure for the occupation of real estate which varies from area to area. There are also local regulations that govern companies which accepted local and regional economic incentives for locating in a specific area.

Another important regulatory position affecting location choices is when the government asserts that multiple sites must be maintained by the company for the purpose of business continuity. This is generally done to minimise the impact in case there is a natural disaster or calamity affecting a particular site leading to loss of business.

The third factor, **financial resources**, determines the ability a company has to invest in new facilities and to upgrade existing facilities. In terms of corporate real estate this gets reflected in whether the company goes for leased or owned real estate assets. O'Mara lists four factors that affect this decision-making – the project characteristics, the real estate market dynamics, the corporate context and the financial considerations.

4.4.3 Structural demands

The structural demands relate to the various aspects of internal structure of the organisation. This determines how these facilities are developed, designed and managed. The three aspects that make up for the structural demands include the structure of the organisation, the work processes and the demographics.

The main questions about the structure of the organisation concern the formal **organisational structure** – whether its centralised or decentralised, the positioning of the corporate real estate department, if the business units are autonomous or not and how the businesses are charged for their use of real estate and facilities.

Other factors related to the structure having a significant impact on the company's real estate location decisions and must be examined are the different functional and hierarchical relationships and the kind of integration that different departments require with each other.

Work process refers to the way different tasks are performed within the organisation. The main aspects that determine work processes and their effects on real estate decisions concern the value chain of the organisation and what are the different work processes involved at the different levels of this value chain. The modes of transaction required to perform the different tasks are important to determine the location requirements. These are primarily the level of face-to-face contacts required or the possibility of digitisation of the work processes. Also, if these face-to-face contacts are internally oriented or externally oriented in relevant.

Demographics refers to the profile of the people who work at the company – their age, education and lifestyle. These several factors have an influence on the choice of location. Whether the employees prefer to work in an urban or suburban setting, the distance they are willing to travel to work, the on-sire amenities required by the employees such as day-care centres etc.

4.4.4 Cultural demands

The cultural demands, as the name suggests, relate to the culture of the organisation. The cultural demands are shaped by three particular aspects – the history, culture and the senior management preference of the organisation.

The **history** of the organisation – where the company was founded, by whom as well as market opportunities affect the future decisions, especially those that are highly symbolic and visible. The location of a company's headquarters has a relationship to the early history of the company.

The various mergers and acquisitions that the company has gone through have an impact on the present real estate portfolio of the company. The different companies that merged or were acquired have their own real estate assets which now are part of the current real estate portfolio. These real estate assets are generally spread out across a region or country.

The **culture** of the organisation develops over a period of time owing to several influences – deliberate and accidental. How conventional or modern the culture is reflects in the choice of layout. Also, the level of participation by the employees in the real estate and facilities planning process is also determined by the culture.

The **senior management preferences** play an important role in the design and management of the work environment. The preference of the senior management reflects in the assets, amenities as well as aesthetics aspects of the real estate.

Asset management refers to how the organisation allocates its financial resources and what percentage gets diverted towards the real estate. Amenities are the different features of the workplace which promote comfort or serve employees' personal needs. Aesthetics, as the name suggests, refers to the visual pleasures and design quality.

part III

ANALYSIS FRAMEWORK AND PROPOSITIONS

Chapter 5 INTERNAL AND EXTERNAL LOCATION DRIVERS

The first approach of analysis is oriented towards an understanding of the location decisions of large service sector organisations in an urban area and the drivers behind particular location choices. This involves an exploration into both, the internal as well as external drivers that cause organisations to cluster/ agglomerate or disperse.

An analysis framework is developed by answering the first research question.

> **'What are the main internal and external demand drivers that play a role in location choices of large service sector organisations in an urban area?'**

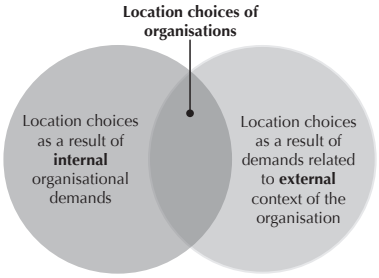


Figure 5.1: Location decisions depend on internal and external demand drivers

To answer this question, the theories and concepts discussed in both the fields of study – urban economics and corporate real estate management in chapters three and four are used. In both the fields of study, internal and external drivers that cause organisations to locate were examined.

Here, drivers from both the fields have been combined to answer the first main question. Table 5.1 shows the main internal and external location demand drivers. Further, the important parameters to examine these drivers have been identified. These parameters have also been used as a basis for interview questions to the organisations (Appendix I).

internal location drivers	**Structural demands**	**Cultural demands**	**Internal economies**	**Corporate hierarchy**
	Structure	History	Indivisibilities	Strategic value to business
	Work processes	Senior management preference	Synergy	
	Demographics	Culture	Proximity	
external location drivers	**External economies**	**Transferability**	**Urban hierarchy**	**Other**
	Industrial	Global	Global	Market conformity
	Cognitive	Continental	Sub-global	Highest and best use
	Geographic	National/ regional	Regional	Bid-rent function
		Local	Provincial	

Table 5.1 Internal and external location demand drivers

5.1 Internal Demand Drivers for Location Choices

5.1.1 Structural demands

Structural demands, one of the two 'organisational demands' of O'Mara (1999, p. 245), result from the internal dynamics of the organisation and determine how the different facilities within the organisation will be organised and managed. This holds for the overall corporate real estate strategy, and also for the location decisions of the organisation. The factors that determine the structural demands are the structure of the organisation, the work processes involved and the demographic requirements of the organisation.

To assess the structure of the organisation, several aspects such as the different lines of business, the functional and hierarchical lines etc. are examined. The work processes are essentially the different tasks performed within the organisation, whether they are internally or externally oriented. Work processes can also be distinguished by the nature of information transfers – tacit or codified. To analyse demographics as a location driver, aspects such as how the location of employees, their preference towards certain work environment and urban areas could be assessed.

Table 5.2 shows the parameters to assess the influence of the structural demands as a location driver.

Location drivers		Parameters to examine
Structural demands	Structure	Building portfolio and its location split along the main lines of business
		Hierarchical lines
		Communication and functional lines relevant for location
		Changes in organisational structure
	Work Processes	Distinction along internally/ externally oriented work processes
		Work processes with differing information transfers
	Demographics	Employees' locations
		The modes of transport (public or car)
		Employees' preference to certain urban environments

Table 5.2: Structural demands

5.1.2 Cultural demands

Cultural demands are the other 'Organisational demands' given by O'Mara (1999, p. 276). These demands are those that get built up into the organisation's work processes and what it 'stands for' owing to the history of the organisation and the corporate culture it has developed over a period of time. These demands are symbolic or representational in nature and also arise from the preferences of the senior management. O'Mara, therefore, calls the cultural demands threefold: history culture and senior management preferences.

The history of the organisation and its growth in its present form affects the present day real estate portfolio for organisations as well as related future decision-making. This driver has strong influence on the real estate portfolio of organisation.

The corporate culture in this case refers to the several aspects of decision-making that affect the real estate choices such as a top-down or bottom-up approach as well as the level of employee participation indecision-making. Senior management preference is the third aspect that is a cultural location driver. The main parameters to examine relate to decisions on assets, amenities and image. It will be seen with all the cases that image and decisions related to that reflect the senior management preference very strongly.

Location drivers		Parameters to examine
Cultural demands	History	The history of the organisation, where it was founded and how it grew
		The locations of different companies that merged together
	Corporate culture	Decision-making top-down or bottom-up
		Participation from employees for real estate decision making
	Senior management preference	The preference of senior management affecting the assets and amenities of the organisation
		The preference of senior managers towards the image of the buildings and their locations

Table 5.3: Cultural demands

5.1.3 Internal economies

Rephrasing the definition of agglomeration economies given by Parr (2002, p. 718), it can be said that internal economies are cost savings to the firm which result from the concentration of production at a given location on the part of an individual firm.

Organisations seek direct and indirect cost savings across the industrial, cognitive and geographic dimensions that have been explained by Capello for external economies (as elaborated in section 3.1.4). These three dimensions will be applied for the analysis of internal economies at individual firm level here along with 'sources of agglomeration economies' given by Rosenthal and Strange. These sources, such as input sharing, knowledge spillovers etc were also adapted for individual organisations in the service economy in sections 3.1.2 and 3.1.3 and will be analysed with the case-studies

Both these approaches by Cappelio and Rosenthal and Strange have been combined to arrive at the parameters that can be examined to assess the approach of the case-study organisation towards internal economies and its implications on location decisions and clustering.

Location drivers		Parameters to examine
Internal economies	Indivisibilities (Industrial dimension)	Infrastructure sharing internally within the organisationin terms of building and amenities
		Input sharing in terms of specialised internal services isuch as FM, IT and Legal shared
		Availability of appropriate labour pool
		Tendency of rent seeking within the organisation
	Synergies (Cognitive d.)	Extent of formal face-to-face contacts between different departments
		Extent of informal face-to-face contacts between different departments
	Proximity (Geographic dimension)	Required proximity between different departments to enable infrastructure sharing
		Required proximity between different departments to enable input sharing
		Required proximity to skilled labour pool
		Proximity required for rent seeking
		Proximity required for formal and informal face-to-face contacts

Table 5.4: Internal economies

5.1.4 Corporate hierarchies

The corporate hierarchy is a term given in Sassen (2001, p. 106) and refers to the different levels of functions performed within an organisation. There are functions that can be termed higher order and others lower order depending on how strategic they are to the business.

It would be analysed if the different levels of functions performed in an organisation have an effect on the location choices of these different functions.

5.2 The external demand drivers for location choices

5.2.1 External economies

External economies are the most commonly cited reasons for firms to cluster in an area. These are either external to the individual firm and arise from the size of local industry or they are external to the local industry and arise from the size of the local economy.

The external economies, as the name suggests, arise due to factors external to the firm and consist of many sources such as input sharing, knowledge spillovers, infrastructure sharing etc (refer section 3.1.2).

As it was described in the case of internal economies, the three aspects of indivisibilities (industrial dimension), synergy (cognitive dimension) and proximity (geographic dimension) also combine to give the various parameters along which external economies can be examined.

External economies are of two types – localisation and urbanisation, which has been explained earlier. Employment location quotient as a factor would be used to assess if the nature of agglomeration economies is localisation or urbanisation. This has been done previously in Boiteux-Orain & Guillain (2004)

The employment location quotient for a given area is the area to the percentage of the total employment in city.

$$LQ = \frac{e_i/e}{E_i/E}$$

Where:
ei = *employment in an industry i in area*
e = *total employment in area*
Ei = *employment in an industry i in city*
E = *total employment in city*

If LQ>1, this indicates a relative concentration of the activity in area, compared to the city as a whole.
LQ =1, the area has a share of the activity in accordance with its share of the city.
If LQ<1, the area has less of a share of the activity than is more generally, found in the city.

Thus, an area is specialised in a particular industry if its location quotient exceeds the location quotient of all industries in that area.

5.2.2 Level of transferability (or scale jump)

Minimisation of transport cost has formed the basis of many urban economics theories such as the basic location theory, bid-rent theory. While in case of service sector organisations, minimization of transport costs does not carry the same relevance but achieving high levels of transferability is very important.

It was shown in section 3.4 that the transport cost form the basis of several urban economics theories including the basic location theory, the bid-rent theory, highest and best use etc. This transport principle was adapted to the present service economy where the transport costs have reduced and transport options have improved manifold.

Therefore the principle of transport becomes that of transferability or scale jump in the service economy. Transferability refers to the existence of transfer nodes between different scales and networks (Rocco, 2008).

For the purpose of this thesis the transferability can be assessed as global, continental, national/regional and local.

Global transferability could be assessed using the number of connections offered by the international airport across the globe and the proximity of the particular location being assessed from the airport. This is measured using the Airports Council International (ACI) 2009 ranking[1] for the World's Busiest Airports as well as the OAG Max Online 2009 ranking[2] for European Airports for Most Destination.

Continental transferability refers to the level of scale jump within Europe (since the cases are in Amsterdam and Brussels). National/ regional connectivity are at country level and local transferability refers to the level of scale jump offered at a particular location to other important nodes of the city.

Accessibility forms an important aspect of this which refers to the more local aspects such as provision of parking facilities and distance from public transport or important ring roads. How this public transport or ring roads connect with other networks can be understood by transferability.

[1] **http://www.aci.aero/aci/aci/file/Press%20Releases/2010/PR_170310_PrelimResults_2009_final.pdf, 14/05/10, 19:23 hrs**

[2] **Cited in http://www.airportbusiness.com/2009/03/europes-airports-see-routereductions-of-around-7-in-2009/, 14/05/10, 20:33 hrs**

5.2.3 Urban hierarchies

Urban hierarchies form a part of the market principle which was described in section 3.3. This refers to the fact that different cities in a region or a country have different urban hierarchies based on their market size.

It can be seen in section 3.3 that in the original concept of urban hierarchy, Christaller had given seven categories of cities based on the population and market area served. These were modified by Hall to include four categories. Hall's basic categories have been used for this analysis.

In addition, the GAWC ranking of cities (discussed in section 3.3.1) is also used which is based on the presence of advanced producer services in a city.

While Hall's categories are based on population, the GAWC ranking gives an indication of economic activity in the service sector (although limited to APS firms).

The urban hierarchy of a city would be measured using the population and its GAWC ranking.

Hall's categorisation of cities	GAWC World ranking
Global	Alpha++ Alpha+ Alpha Alpha-
Sub-global	Beta+ Beta Beta- Gamma+ Gamma
Regional	High sufficiency Sufficiency
Provincial	

Figure 5.5:
Hall's categorisation have been combined with the GAWC ranking by author

5.2.4 Others

Bid-rent function

This operates within a city where functions outbid other functions to claim space in an urban area and closely relates to the theory of highest and best use. This is derived from the distance of the chosen location from a central point where the transport costs for that particular function are minimum. For example big businesses outbid medium and small businesses for the prime area in the city. Similarly, different functions of an organisation can also outbid other organisations. Figure 5.6, as an example, shows how the frontoffices would outbid the backoffices to from the centre of the city.

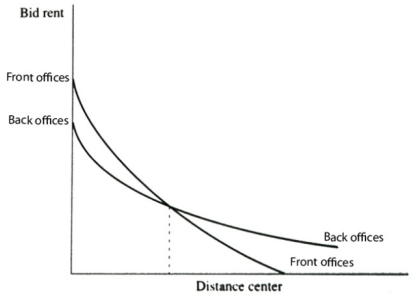


Figure 5.6:
Bid-rent function at the individual scale level of anorganisation

Market conformity

Market conformity is a factor that takes into account the aspects that make certain assets marketable. In this case, it refers to the real estate assets which must be market conformed in case they have to be disposed off at any point in time. There are many factors that ascertain if certain real estate assets are marketable or not. The two more important ones are the location itself and the grain size of the building compared to other buildings in the city and the organisation sizes. These factors depend on the size of the city. Large buildings in small cities have a lower marketability than in larger cities. This is also true for large buildings that are located in less 'prime areas' as will be shown in the cases.

Chapter 6 FUNCTIONS AND THEIR LOCATION DEMANDS

Service sector organisations, in most available literature, are considered those that perform 'office-like' functions and typically deal in knowledge intensive work. In our opinion, this is not an incorrect description, but it is rather limited. One of the objectives of this
research was to investigate if a range of functions within such service-sector organisations can be identified based on wider criteria than just office-like functions and also if their particular location demands can be ascertained individually.

The second research question was also based on this particular viewpoint

> **'Is there an alternative approach for location of different functions of a service sector organisation than clustering large parts of the portfolio together?'**
>
> Is it possible to identify different categories of functions within a service-sector organisation?
>
> Do these functions have particular location demands? If yes, what are they?

In order to explore if an alternative approach for locations based on function, instead of clustering along department lines is possible, the two sub-questions are answered here.

This is done through an iterative process by taking input from the theoretical study as well as from the preliminary case explorations. Certain categorisations of functions or their location choices were in fact modified in this process as the case analyses became deeper. These would be done as a conclusion of the case-study analyses.

6.1 Classification of functions

First of all, in order to identify different categories of functions within an organisation, the criteria had to be defined. The first selection of these criteria was done from theory. It was modified to the most relevant criteria with input from preliminary case analysis that enables clear categorisation of functions.

This iterative process involved conducting first rounds of interviews with organisations and gathering preliminary data, assessing this information and then going back to the organisation with more questions for a second round of interview. This process was also repeated via e-mail contact. The intent here was to understand the precise work process that each department performed as well as the reasons for it to be located in a certain way within the portfolio.

		Criteria used			
	Functions	Strategic value to business	Integration required	Nature of information transfer	Focus of work process
1	Main headquarter	Core	Lateral	Tacit pooled	Internal/external
2	Line headquarter	Core	Vertical	Tacit pooled	Internal
3	Client interface	Core	Lateral	Tacit sequential	External
4	Business backoffices	Supporting	Lateral	Tacit pooled	Internal
5	Support backoffices	Supporting	Vertical	Tacit pooled	Internal
6	Support interface	Supporting	Lateral	Tacit sequential	Internal
7	Partially outsourced	Specialised/ support	Lateral	Tacit pooled	Internal/ External
8	Off-shored	Specialised/ support	Vertical	Codified	Internal

Table 6.1: Identification of functions

Table 6.1 shows the eight classifications of functions that take place within service sector organisation along with the four criteria on which the functions have been classified. First, a description of the criteria used for this classification is given which is followed by a description of the eight functions along with references from the cases where required.

6.1.1 Criteria used

Strategic value to business

As the name suggests, this criterion assesses how strategic a particular function is to the main business itself. The function is either a part of the core business process, or it has a supporting role to the business or sometimes it is a 'specialised' function which is there for a specific purpose. The specialised functions can also be short term functions brought in for a limited period of time.

Required integration

Required integration refers to the way in each function relates with other functions within the organisation – either laterally or vertically. In fact, these are the functional lines of each function within the organisation instead of the hierarchical lines of an organisation structure. Lateral integration is when a particular function integrates with a range of other departments and divisions of the same level. A vertical integration is when functions integrate with a variety of functions at different levels but within the same department/division (figure 6.1)

Nature of information transfer

Nature of information transfer is assessed on the basis of codifiability of information. There is the tacit information transfer that requires face-to-face contacts and the other is the codified information transfers which allows standardisation of work processes and requires fewer face-to-face contacts. The tacit information transfers can be either pooled – requiring input from all the different agents or sequential, where information transfers follow a sequence. The former require more face-to-face contacts, while the latter require less.

Focus of work processes

The focus of the work processes can be internally oriented within the organisation or can be externally oriented that requires association with external agents.

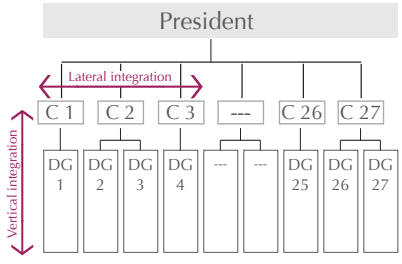


Figure 6.1: Vertical and lateral integration

6.1.2 Functions

Main headquarter

The main headquarter is the highest order function within an organisation and the most strategic in terms of defining the business and its various goals and objectives, areas of work as well as constraints and limitations.

It is the head quarter that most significantly affects the culture as well structure of the organisation which is particularly true for a top-down approach, but even in a bottom-up approach, the strategic value of the headquarter does not get diminished. In addition, it is the headquarter that becomes the face of the organisation to the external environment and a strong projection of what the organisation stands for.

The headquarter requires a lateral integration of the top management spanning the entire range of business lines and services that the organisation offers. From this laterally integrated top line, the connections to the different business lines are maintained.

The nature of information exchange is tacit pooled that requires continuous face-to-face contacts. These contacts are required internally to facilitate critical decision making as well as external collaboration with economic agents of various types such as input suppliers of high order (lawyers, consultants), people in the government and other industry counterparts at global and national level.

Line headquarter

The term line headquarter stands jointly for the business-line headquarters and in some cases second-line headquarters. The second-line functions are those that 'spillover' from the main headquarter.

The line headquarter is strategic to the business and is therefore a core function. Unlike the main headquarter, the business line headquarter requires vertical integration, which means have a wide scope of functions within that particular business. This includes the top management together with other levels of management and administrative staff overseeing various products and services within that business. The information exchange is tacit pooled in nature and is oriented internally. This means that face-to-face contacts within the organisation are very important.

Client interface

Client interface, as the name suggests, is a function involving interaction with clients of the particular business that the organisation deals with. In this research, only those client interface functions that form a part of the corporate portfolio have been included. The bank branches, for instance, are a part of the retail portfolio of a bank which is approached differently. These are organised along the market principle discussed in chapter three.

Business back-offices

The business backoffice functions are supporting functions which support the core business of the organisation. These are laterally oriented and provide services to the various lines of business and the departments within them. They require a significant amount of face-to-face contacts that are largely internally oriented serving the different departments of the organisation. In most cases these functions follow a matrix organisation, where they report to the CFO of the organisation as well as to the heads of business they provide service to.

Support back-office and Support interface

As the name suggests, the support functions provide support to the organisation and can also be referred to as the infrastructural support functions. The back-office and interface are two different functions within the same line of departments. These include the HR department, IT department as well as the facility management department.

The support back-office functions are the administrative end while the support interface functions are the representative end and are those that operationalise these support facilities by being in touch with the various departments they serve.

The support back-office functions are vertically integrated while the support interface functions are laterally integrated throughout the portfolio of the organisation. Both these functions have tacit information flows which are internally oriented within the organisation, those required by support back-offices are pooled in nature and those required by support interface are sequential in nature.

Partially outsourced

These are the functions that generally involve an external provider on contract who collaborates with one of the internal departments for particular services or activities. They provide support to work processes on regular basis and can be classified as 'support' in terms of their strategic value to business. Alternatively, these functions can also be 'specialised' functions involved with the particular departments for a limited time period. Partially outsourced functions are laterally integrated with the departments they work with. The nature of information transferred is 'tacit pooled' in nature and it is internally oriented

Offshored

Offshoring, here is not taken in the traditional sense where some parts of the business are offshored to another country. Here it refers to the relocation of certain activities to strategically chosen areas aimed towards minimisation of costs by means of hiring cheap labour or incurring lower rents.

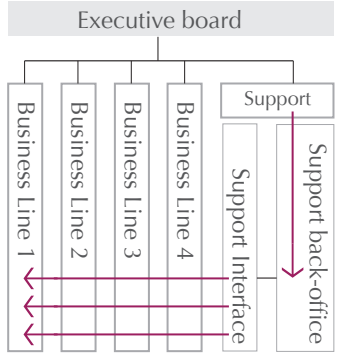


Figure 6.2:
Support back-office and interface functions

Such offshored functions can be either those that provide support to the primary work process or other 'speciality' functions. Some examples of the offshored functions include call centres, archives, mailing and publishing facilities etc.

These functions are vertically oriented and operate well as self-sufficient units. The nature of information transferred is codified which is what allows these functions to be off-shored.

6.2 Proposition 1

The first proposition for this research states that a strong link can be found in the different functions and their corporate hierarchy within the organisation and the urban area they are located in.

Corporate hierarchies play a strong role in distribution of different functions across geographic space and correspond to the urban hierarchies.

This refers to the fact that within organisations, there are different levels of functions that have varying location requirements. These higher and lower order of functions lying at different corporate hierarchies have their particular location requirements that can be linked to the different levels of urban hierarchies and in turn to other aspects such as nature of agglomeration economies, transferability and representation.

6.3 Location demands of the classified functions

This section deals with the second sub-research question regarding the location characteristics that the eight categories of functions demand. A significant part of the case analysis will include the location supply of the different functions as will be seen later.

The location demands for each function are based on certain criteria which would be elaborated first, following which the location demand profiles for all functions would be given.

6.3.1 Criteria used

Representation
The representation required for particular functions vary significantly and are also critical for location choices. This is assessed based on the quality of the building as well as the area. Rent levels are also used as an indication of the prestige associated with the area. The focus on representation for various functions and their locations is:

Transferability
Transferability, as will be seen in the case-studies, was found to be an important factor for organisations to locate. And this is a factor which based on which location demands for different functions vary depending on the functions' external links, labour market etc. The levels of transferability incorporated in this are global, continental, national/ regional and local.

Input sharing
The input sharing factor refers to the cost effectiveness when same inputs such as from lawyer firms, accounting services etc are shared by multiple companies. Depending on the particular function, this can be required at different degrees - high, moderate or low.

Knowledge spill-over
This refers to the external knowledge spill-overs that occur as a result of formal or informal face-to-face contacts. Different functions may require different degrees of knowledge spill-overs and these are also considered as high, moderate or low.

Labour market pooling
Labour market pooling varies for different types of functions. While some functions may require a specialised work force, other functions may require diverse labour. This can be assessed at different scale-levels which are global, national/regional or local.

Rent seeking
Depending on how far the particular function can influence the political and economical climate and raise its production factor by doing so is the determining factor. This is measured as high, moderate or low.

Type of external economy
This refers to the external economies required by different functions. These are assessed in absolute terms – if the particular function requires localisation or urbanisation economy and also in terms of the various sources of the external economies. various sources of the external economies. The sources include input sharing, knowledge spillovers, labour market pooling and rent seeking.

Consumption and infrastructure sharing which are important sources of external economies are equally important for all the functions and hence have not been incorporated.

		Location demand criteria						
	Functions	Representation	Transferability	Input sharing	Knowledge spillovers	Labour market pooling	Rent seeking	Type of external economies
1	Main headquarter	High	Global/ Continental/ National	High	High	Global/ National	High	Urbanisation
2	Line headquarter	Moderate	National	Moderate	Moderate	National	Moderatele	Localisation
3	Client interface	High	Local	Low	Low	Local	Low	Urbanisation
4	Business backoffices	Low	National/ local	Moderate	Moderate	National	Low	Localisation
5	Support backoffices	Low	National/ local	Low	Moderate	National	Low	Localisation
6	Support interface	Low	National	Low	Low	National	Low	Dependant*
7	Partially outsourced	Low	National/ local	Moderate	Low	National	Low	Dependant*
8	Off-shored	Low	Local	Low	Low	Local	Low	Localisation

* these depend on the different departments they serve or work with

Table 6.2:
Location demand profiles of different functions

6.3.2 Location preference of functions

Main headquarter

The headquarter is the most visible as well as influential function in an organisation. It not only represents what the organisation stands for to the external world, but also plays a role in creating the image of the organisation within its employees' minds. The choice of location and its character, therefore, plays very strategic role for the headquarter function and has to be particularly representational.

The headquarter function also requires undisrupted contact within the organisation as well as with the external environment. The top management is highly mobile nationally as well as globally. It is important for the headquarter to locate, therefore, at nodes with high scale jump or transferability. This transferability must be available at different scale levels – while the global and continental transferability allows the top management to be in touch with other high order functions (public and private), the national transferability enables quick contact within the organisation, different business lines and teams.

The factors of input sharing, knowledge spillovers and rent seeking required in case of the main headquarter function are high because of a high level of decision-making involving a wide range of factors. The labour market pooling in this case is specialised and of high level which involves national and even global level experts.

Owing to the fact that the headquarter function needs a wide range of input sharing as well as government and political agents with whom a high level of formal and informal knowledge sharing takes place, it is expected that the headquarter function would be located in an urbanisation economy. The labour force, being high-level white-collar executives, also is a consumer of the a range of amenities offered by an urbanisation economy.

This is of importance at the urban area level as well as cluster level. So locating in large cities that are urban milieus is sought. At cluster level too, this is desirable to facilitate high knowledge transfers and input facilities.

Line headquarter

The line headquarter is sometimes used for branding and marketing but may not always be the case. The representation required, therefore, depends partly on this factor. However, being the second order function, the required representation is moderately high but the functional aspect gains prominence over it.

The required integration for this function is vertical which means that different levels and types of work processes takes place internally. A scale jump or transferability of national level is most important because different levels of work processes require a varied labour pool having varied different skills. The top management of this function is globally connected too, so global transferability can be beneficial.

A moderate level of input sharing, knowledge spillovers and rent seeking are required in case of the line headquarter function. The labour market pooling is largely national in nature. The input sharing, knowledge spillovers are specialised in nature, hence the agglomeration required in localisation.

Client Interface

This function services the clients of the organisation. The representation should be considerably high which creates a positive image of the organisation towards the important clients. The transferability required for this function is at local scale level since the location of this function is determined by the location of the client at local level.

It was shown earlier that the information exchange was tacit pooled which requires less of decion-making. therefore the input sharing and knowledge spill-overs required for this are low. The Labour market pooling is mostly local and regional, where the highly skilled professionals are not required on a regular basis. The rent seeking for this function is low.

The nature of agglomeration required for this function is urbanisation economies where the maximum number of varied clients are.

Business backoffices

The business back-office functions that are laterally oriented within the organisation work with most parts of the organisation and the various departments. Most of these functions appear in a matrix organisation that report to the executive board of the organisation as well as to the different lines of business.

Since their work requires regular interaction with the different departments who are their ‘clients’ as well as the main headquarter, they need to be situated close to them. These back-office functions are functional in nature and do not require to be representational.

This function requires a good national scale jump for employees coming in from other parts of the country. So locating close to train stations is important. A local transferability is important to be able to co-ordinate with other departments they serve.

A moderate level of input sharing and knowledge spillovers are required for business backoffices and the required labour-market pooling is national in nature while rent seeking is low.

Since this function is internally oriented, it can be located in business parks which are localised but are functional in nature providing quick accessibility to different businesses that they work with.

Typical examples include the audit service, payments, translations, etc.

Support backoffice and Support interface

The support interface functions being the operational end are required to be in continuous contact with their clients i.e., the various departments of the organisation they serve. They can either be located within these departments or such that they can establish continuous contact with the departments.

The support backoffice functions, on the other hand, are self-sufficient being the administrative end. However, they require easy contactability with the support interface functions. So locating in a business park which is central enough to provide good accessibility to different businesses with which the support interface functions are located is good for these.

These functions have a focus on highly functional location requirements and are not representational. There is rather limited input sharing from external agents required as is the external knowledge spillover. The nature of agglomeration required for the support back-offices are localisation economies and as for support interface, they are mostly located within the different departments and buildings occupied by them.

Partially outsourced

The partially outsourced functions involve an external provider to whom some aspects of the business are outsourced but in collaboration with the department itself. These are on contract basis and depending on the duration of the contract can be located within the department itself or separately. When they are located separately, it is done in office areas with short leases.

The focus on representation is generally low and is high on the functionality.

The transferability required depends on the particular nature of each such function but it is important for it to be such that easy accessibility between it and the department if serves is possible. The input sharing is moderate as are knowledge spillovers. The labour market pooling is generally national of continental and rent seeking is low.

The nature of agglomeration required depends on the particular nature of each function again in the case when they are separately located.

Offshored

The offshored functions either support the primary process of the organisation or they are some specialised functions. Since the offshored functions are not core, these do not require to be high on representation. It was mentioned earlier that these functions are relocated to another location so as to optimise on rents and find cheaper labour. The cities where offshored functions are located are low on urban hierarchy. Since most of the work processes here happen digitally, the transferability does not require to be global or national but it is the local connectivity which is important to facilitate movement of employees to work.

As mentioned before, one of the main reasons for these functions to be offshored is cheap labour availability. Therefore, this is an important location criteria. The input sharing and knowledge spillover aspects required for these functions are low since the work processes involved are standardised. The overall agglomeration required is localisation economies in an area such that these operations of the organisation can be scaled-up so as to optimise on the costs involved.

Chapter 7 SCALE LEVELS

The third line of approach which is important to take into consideration for the purpose of this research concerns the various scale levels at which the different location characteristics can be applied. This relates to the third research question.

> Is it possible to apply the theories of urban economics at the scale level of an individual organisation?

Urban economics consist of theories related to the spatial distribution of economic activity at urban area scale level. Through this research question, it is explored if the various theories of urban economics can also be applied to the scale level of a firm.

For this, it is important to first develop a clear understanding of the several scale levels at which the various theories will be explored in this research.

7.1 Scale levels

The scale levels at which the different location drivers have been assessed are country level, city level, cluster level and building level.

Distances have been ascribed to these scale levels for clarity. These are not fixed but are given for a relative sense of distance.

While building scale level concerns building of any size as a unit, the area scale level would essentially refer to an office cluster of buildings. The extent of distance in this case is 100 m to 3 km and the buildings located within this.

The city level concerns the different clusters at the scale level of a city. Taking into account the size of the cities Amsterdam and Brussels, this can be taken from 3 to 20 km of distance and the office clusters located within this distance.

The country level, considering the size of the Netherlands and Belgium, is taken from 20 to 300 km.

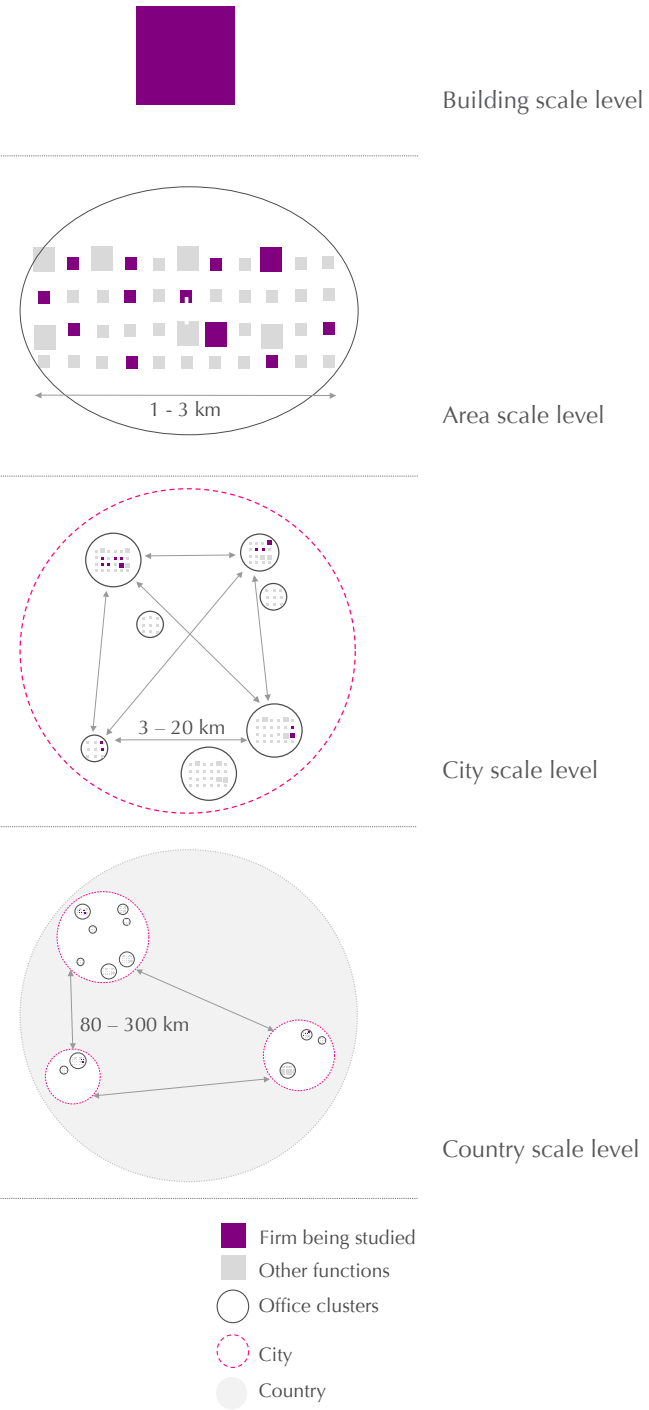


Figure 7.1: Scale levels of analysis

7.2 Propositions 2 & 3

The propositions are related to the main research question regarding application of urban economics theories at lower scale levels of a firm.

Proposition 2:
The sources that generate the benefits of external economies and cause firms to agglomerate in geographical area are recognisable internally within an organisation, which cause its various functions to agglomerate in space.

Most of the available literature on agglomeration economies explores and explains the external economies - localisation and urbanisation - causing firms from the same industry or diverse industries respectively to cluster in a geographical area. The internal economies have been explained as economies of scale within firms (Ohlin categorisations, refer section 3.1.1).

This proposition takes a more inclusive approach to internal economies and proposes that the sources that cause external economies between firms also cause internal economies between departments of an organisation. In sections 3.1.2 and 3.1.3, suggestions of how the different sources of agglomeration economies can be applied to an individual firm level in the service economy were made. These sources include infrastructure sharing, input sharing, knowledge spillovers, labour market pooling, consumption and rent seeking. It was discussed in section 3.1.3 that home-market effects and natural advantages as sources of agglomeration economies are not particularly active in the service economy and hence are not included.

The precise nature of these sources would be assessed through case-study analyses to test this proposition at different geographical scale levels. The parameters to examine for this have been given in section 5.1.3.

Proposition 3:
The opposite forces – centripetal and centrifugal – shaping the geographical organisation of economic activity at higher scale levels (that of city and regions) are also be found to be active at the scale level of an organisation.

It was elaborated earlier (section 3.2) that the centripetal and centrifugal forces are the underlying principle of New Economic Geography and are found to be active in the evolution of cities and regions.

According to this proposition, these opposite forces can be found to act at the level of a firm in terms of the location of different functions of the firm. This means that while there are some forces causing the concentration of the different functions of a firm in an urban area, there are others that cause the dispersal of the functions.

part IV

CASE-STUDIES

Case-study Introduction

The case-study analysis is carried out in two stages. First of all, the portfolio of the organisations would be studied across different timeframes and the location choices that were made at different stages in the evolution of the organisation. This is elemental to understand the present composition of the real estate portfolio. Depending on the available information, an analysis would be made at different scale levels (chapter seven) of the internal and external location drivers (chapter five) at different stages of the growth of the organisation.

And secondly, the location characteristics of different functions as outlined in chapter 6 will be analysed in the present portfolio of the organisation.

In the conclusion of the case-analysis, it would be assessed if the location demands defined in section 6.3 are applicable and have been found in the cases. After this, based on the outcomes of the case-studies, some aspects of this classification will be modified at the end of the case-studies.

Chapter 8 CASE EUROPEAN COMMISSION

Introduction

The European Commission is the executive body of the European Union. Together with the European Parliament and the Council of Ministers, it is one of the three main institutions of the EU. The primary functions of the Commission are to propose legislations, to manage and implement EU policies and to enforce law.

The main seat of the Commission is in Brussels (Belgium). It also has some offices in Luxembourg as well as representations in all EU countries. It also has about 130 delegations in various countries of the world.

As described in the first chapter, it was, in fact, the case of European Commission which initiated this research. The portfolio of the Commission in Brussels is presently undergoing restructuring where important decisions are being taken at the urban area and building scale levels. This is taking place together with urban area redevelopments within the city initiated by government of Brussels.

The real estate portfolio of the European Commission in Brussels has grown incrementally with the growth of the organisation itself as new member states joined the EU over the years. In the case of EC, it is possible to discern significant points of decision-making regarding location and describe the reasons associated with those decisions.

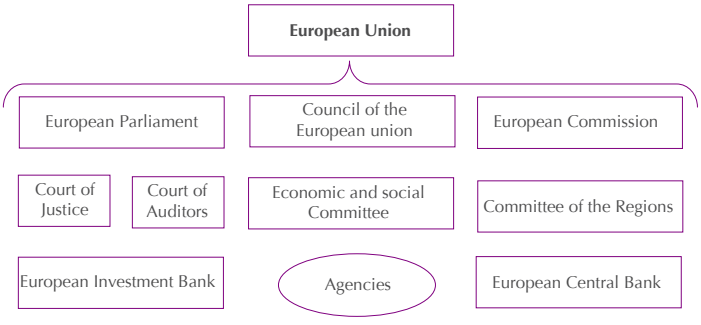


Figure 8.1: EU Institutions and other bodies
Source: http://europa.eu/institutions/index_en.htm, 08/03/10, 12:08 hrs

8.1 Real Estate Location Choices and Their Drivers

The foundation for the European Union was laid by the European Coal and Steel Community (ECSC), a six nation international organisation in 1951. The six countries forming part of ECSC were Belgium, Netherlands, Luxembourg, Germany, France and Italy. Today, the EU has 27 member states that joined the EU through different years. Figure 8.2 shows the timeline of the different countries joining the EU.

As mentioned earlier, the real estate portfolio of EC grew with the ascension of new member states. In the course of this growth, location decisions regarding clustering and dispersal of the portfolio at different stages was made.

Five important phases of location choices have been identified using information from three primary sources - Berlaymont – an exhibition dossier from the EC, building policy communication 2003, building policy communication 2007 – as well as interviews with the officials at EC. Each of these five phases is described along with the main drivers of location decisions at different scale levels.

Figure 8.2: Timeline of countries joining the EU
Source: Presentation Ramselaar, 2010

8.1.1 Settling-in in the Leopold Quarter: 1950s till 1965

The first phase of the development of the real estate portfolio was during the initial years of the European Steel and Coal Committee (ECSC). Brussels was chosen as a location to house the ECSC instead of a city in another one of the six countries as a political decision agreed by all member states.

When locating at city level, the urban hierarchy and its relevance as an important factor becomes apparent in this case. During the Treaty of Paris in 1951, the discussion on having Brussels as the only headquarter of the then six country alliance was also discussed. But the government of Belgium proposed Liege, a city at a lower level of hierarchy. This was rejected by the member states who, instead, decided to make Brussels the temporary headquarter and the other functions were subsequently accommodated in Luxembourg and Strasbourg.

The first buildings of the organisation came up in the Leopold Quarter, just outside the historic centre of the city. This area, then largely residential, was one of the first residential areas to be built outside the centre of the city in the nineteenth century and was popular amongst the aristocracy and the middle class. This area offered open green spaces and a gridiron street pattern which facilitated the construction of large buildings. In the twentieth century, the residential functions of Leopold Quarter were being out-bid by the new office functions. This area had begun transforming into an administrative area, partly owing to the gridiron street pattern nabling the construction of big offices and also due to the availability of space.

The main reasons that can be attributed to the choice of this site at cluster/quarter level are the new office developments in the area, proximity to residential possibilities for the officials[1] as well as the high prestige associated with this area.

The first building occupied by the organisation was in Rue Belliard in 1958, following which seven to eight more buildings were occupied in different locations in the Leopold Quarter depending on the availability of buildings as the organisation grew. The development in this area was carried out by private developers who changed the residential development into office buildings on parcel basis sporadically throughout the area. At this time there was one building within the historic Pentagon and rest all were outside in the Leopold Quarter (figure 8.3).

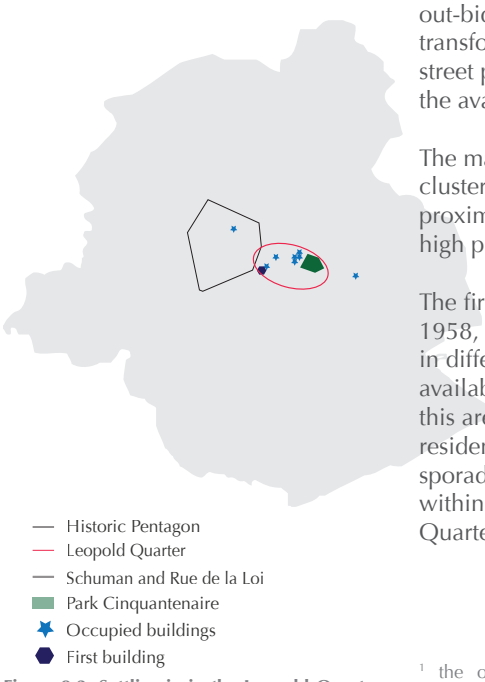


Figure 8.3: Settling-in in the Leopold Quarter (till 1965)

[1] the officials of the organisations resided around Parc du Cinquantenaire in the initial years (Berlaymont – an exhibition dossier)

8.1.2 Clustering at Schuman roundabout: 1965 till 1980s

The second phase of important location decisions of the European Commission consists of the latter part of 1960s, 1970s as well as 80s. It was in 1967 that the ECSC, EEC and Eurotom were merged. Brussels serving as the single headquarter came up again at this time, but could not be achieved after a process of negotiation between the member countries.

Since 1958, the Belgian government was eager to increase the chances of Brussels becoming the Commission's permanent headquarter and had offered to erect a building to house the Commission's departments near to the offices it already occupied. The Commission by 1965 had 3,200 employees spread across eight buildings and was looking to group them together.

The main drivers for grouping all the functions together at building scale level were to project a strong unified image by being in a single large building as well as to work more efficiently. Reasons of 'poor work conditions' and 'chronic lack of space' have also been mentioned as reasons to move to a new building (Berlaymont – an exhibition dossier)

Since the EC was unable to commit due to uncertainty regarding a permanent seat, it was at the initiative of the Belgian government that Berlaymont project was started. It was designed to house all the different departments and employees of the EC. The design of Berlaymont was influenced by the UNESCO headquarter in Paris and was a structurally ambitious project at the time. The building was occupied in phases between 1967 and 1971.

Another interesting element seen at this time was that of competition (a factor of external economies) between the different European institutions affecting the location choices and leading to clustering in an area. The Commission at this stage had refused to share the Berlaymont with the Council for the prestige of having their 'own' building. The secretariat of the Council of ministers then occupied the building Charlemagne constructed around the same time next to the Berlaymont.

Later, in 1995, the Council occupied the Justice Lipius building at Schuman roundabout opposite the Berlaymont.

Subsequently, in 1973, 1981 and 1986 the EU grew to accommodate more member states leading to an increase in the number of employees in the Commission as well. These lead to the European Commission occupying more buildings and clustering its activities around the Schuman roundabout.

It was also seen that the government of Brussels had also started making investments to upgrade the infrastructure of the Leopold Quarter. The first metro line was started between Schuman and De Brouckère in 1967.

Figure 8.4: EC headquartered at Berlaymont
Source: Wikipedia Commons

Figure 8.5: The Charlemagne building
Source: Wikipedia Commons

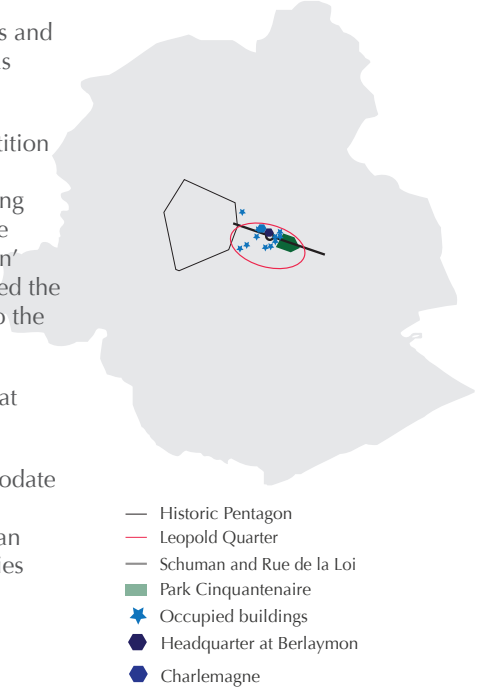


Figure 8.6: Clustering at Schuman roundabout (till 1985)

8.1.3 (forced) Dispersion across three sites: 1990s till 2002

The next significant location decision was made in 1990 when due to the presence of flaked asbestos in the building, it was decided to have Berlaymont renovated . This was the responsibility of the Belgian state which had bought the building from OSSOM (Office de sécurité sociale d'Outre-mer) in 1985.

It was decided that the Commission would continue paying the rent of Berlaymont and the Belgian state would provide the Commission with an alternative to house the displaced Commission staff. This is when a number of buildings in two new sites, of Evere and Beaulieu, were made available for the Commission. The Berlaymont was vacated in 1991 and while several departments were moved to these new sites, the head quarter of the Commission was moved to Breydel at Avenue d'Auderghem (figure 8.7).

This dispersion of activities, caused by a necessary condition, forced the organisation to be split across different sites which later lead the Commission to rethink its location strategy, as will be seen in the next phase.

8.1.4 Adopting of a multi-pole approach: 2003 to 2007

It is in this time period, that the organisation made strategies regarding its corporate real estate and its location by looking at various options and eventually adopting a multi-pole approach. The various aspects of this decision-making and the associated reasons have been formalised in two communications from the organisation – the building policy communications of 2003 and 2007.

Building policy communication 2003

The renovation activity of the Berlaymont building which took much longer than expected was finally finished after many delays in 2004. This coincided with the biggest enlargement of the European Union with ten new member states and first Barroso Commission. The result of the enlargements was the requirement of more space.

It was decided, at this stage, to retain the two poles of Evere and Beaulieu along with the Leopold Quarter. The significant difference in rent between these two areas and the Leopold Quarter was one of the reasons to do so. Comparing by the present day rent levels, Leopold Quarter prime rents at Euro 260 per sq m per annum (DTZ market report 2008) are the highest in the city. The prime rent levels of Beaulieu and Geneve, on the other hand, range between Euro165-185 per sq m per annum.

It is apparent that at this stage, EC had taken note of the disadvantages associated with concentrating in one area – high rent levels, pure external diseconomies such as traffic problems, pollution and congestion.

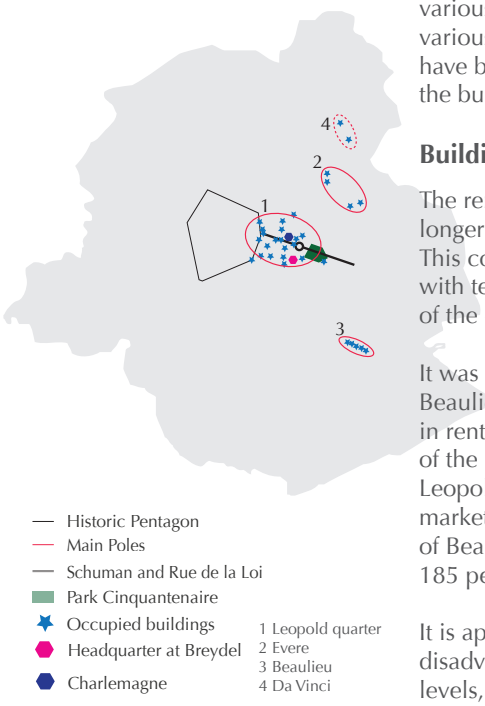


Figure 8.7:
(Forced) dispersion across three sites (1990-2002)

One of the main reasons to take this decision was that the concentration of buildings (including of other EU institutions) in the Leopold Quarter had direct impact on rent prices. In addition, it was also acknowledged that the area of the Leopold Quarter, that came to be known as 'European ghetto', had become an enclave, which resulted in traffic problems and an imbalance in terms of urban functions facing opposition from the residents of Brussels.

It can be seen from the building policy communication of 2003 that the decision on having more than one pole in the city was reached. The contracts in the Geneve and Beulieu sites were renegotiated and the decision to scan other probable locations was also made. The industrial dimension of indivisibilities formed an important reason to reconsider the distribution of space across the three poles. This aspect is mentioned in the 2003 building policy communication (p. 14), 'the distribution between three poles of different sizes and characteristics does not assist departmental operations or continuity'.

Emphasis was also laid on mobility in this paper where focus on, both, work-home journeys as well as between the various departments of the Commission and also between the different institutions was assessed. This included a discussion on the location of buildings, on the transport conditions in the city and on alternative work arrangements like tele-working.

At the end of 2003, the Commission occupied 734,000 m² of office space and the Institutions as a whole almost 1 600 000 m², or around 45% of all office space in the European Quarter.

Building policy communication 2007

The next significant step towards important location decisions was initiated in the building policy communication 2007. This communication strengthened the important aspects of the building policy communication of 2003 by weighing the possibilities of different location choices and reaching a decision.

In this communication, in order to devise a clear long term strategy, different approaches to location strategy of the European Commission in Brussels were considered. Three principal options, in this regard, were discussed. There are –

Retain and redevelop the 'Quartier européen' as a single pole, concentrating all activity except archives and other ancillary services.

The main advantages of this approach included having a strong presence in Brussels while creating economies of scale. Also, this was considered to be in line with the wishes of the staff who according to a survey overwhelmingly wanted to work in the European Quarter. However, carrying out such a large scale redevelopment posed several problems including the reduction of flexibility towards future

needs to expand by being in one location as well as putting increasing pressure on property prices. Also, it was feared that availability of so much space may be problematic which then would require overall requirements for space to be reduced.

A multi-pole approach, based on redeveloping the 'Quartier E uropéen' as the main site of Commission activity, together with up to three large poles outside it.

This approach would also require major regrouping and construction in the European Quarter, in addition to which up to 3 other poles would be chosen. It has been outlined in this paper that preliminary examination showed availability of a number of viable sites for this purpose. Each site would have to offer a minimum critical mass in order to be viable and offer the necessary economies of scale – ranging from 100.000 to 250.000 square metres. This would address the issues of flexibility in case of expansion as well as achieving a better negotiating position with regards to property prices. The main disadvantages of this approach include the travelling between sites and the geographical dispersal of staff, which could entail additional costs caused by the need to foresee social infrastructure such as catering facilities on site.

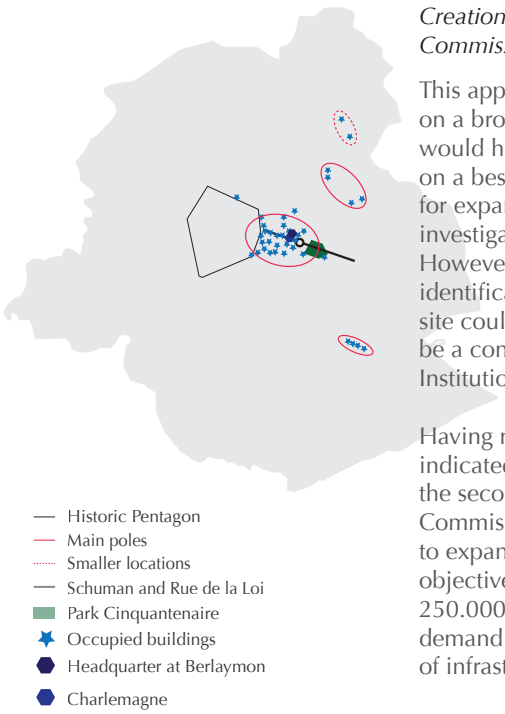


Figure 8.8: Adopting a multi-pole strategy (2003-2007)

Creation of a single, new site, outside the 'Quartier européen', for Commission operations.

This approach is based on the construction of a new 'European city' on a brownfield/greenfield site outside the 'Quartier européen'. It would have the advantages of regrouping all Departments and staff on a bespoke, modern site and give both flexibility and capacity for expansion and / or reorganisation of services. Preliminary investigation has shown that a number of viable potential sites exist. However, this has some strong disadvantages: the lead time for the identification, planning and construction is very long, and such a site could not be ready in a reasonable future. Also, there could be a considerable distance between the Commission and the other Institutions.

Having made an assessment of the possible approaches, it was indicated in the building policy paper that Commission favoured the second option – a muti-pole approach to locate the European Commission in Brussels. The industrial dimensions of the flexibility to expand formed an important reason for this choice as did the objective to achieve economies of scale by having 100.000 to 250.000 sq m of space in each pole. This would ensure a minimum demand for amenities like catering facilities at each pole, an aspect of infrastructure sharing.

The focus on economies of scale can also be seen at building level as stress was laid on concentrating in fewer but larger buildings.

The multi-pole decision was seen as a loss of the synergies between different departments and individuals located across different poles in the city. This cognitive dimension of synergies has often been deemed important in the location decisions of the organisation. These synergies have mainly been internal and with the other institutions of EU (the Council and Parliament) and not external with other functions or organisations within the city.

In terms of location of its buildings, special attention to mobility has been drawn in the communication of 2007 where the location of buildings and their integration into the public transport network is an important factor. It has been outlined that the main commission buildings and poles of Commission activity must be located close to public transport hubs including rail, metro or light rail, or have a high level of access to public transport links. This is aimed at enabling the use of public transport, both to and from work as well as between Commission buildings and other EU institutions.

8.1.5 Project Urban Loi and Implementation of Multi-pole Strategy: 2007 Onwards

At the end of 2009, OIB manages 27 Cabinets, 32 DGs, 1 Service and 4 Offices and other facilities such as archives, restaurants, executive agencies, conference etc. The total area being managed by OIB includes approximately 1.000.000 square metres in 65 buildings. When looking at the offices alone, the total area being managed by the OIB is 940.000 square metres of space, which can be divided as following:

Quartier Europeen: 814.000 square metres
Beaulieu: 80.000 square metres
Geneve/ Da Vinci: 46.000 square metres

At this stage, important decisions regarding location choices are being implemented. These are based on the building policy communication of 2007 where the preferred approach to location choices was indicated. This was a multi-pole approach based on redeveloping the 'Quartier européen' as the main site of Commission activity and to finalise up to three poles outside it.

As per the presentation of Ramselaar 2010, the implementation of the real estate policy includes two important aspects - The Projet Urbain Loi (PUL) and Office Satellites (Poles).

The Projet Urbain Loi is aimed towards concentration of activities of the EC on Rue de la Loi and leaving the dispersed locations within the Leopold Quarter with the expiration of leases. It is intended to double the total surface area of office use here, the permission for which from the municipality is yet to be received. A concentration at building level is one of the objectives of this plan where each building would be 50,000 to 100,000 sq m in size accommodating two or more departments of the organisation.

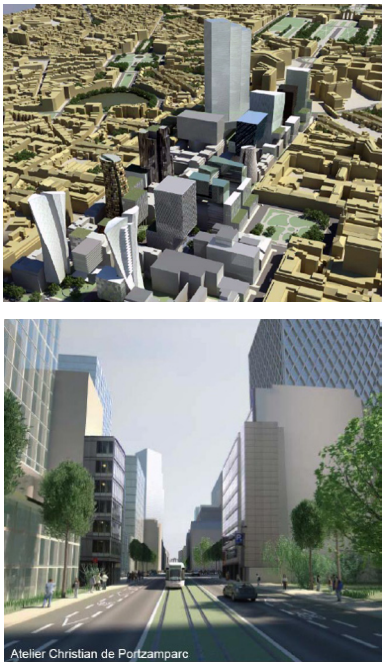


Figure 8.9: Rue de la Loi as visualised by Atelier Cristian de Portzamparc; *Source: Presentation Ramselar 2010*

Figure 8.10: Opening up of the Rue de la Loi and opening of transversal lines
Source: Presentation Ramselar 2010

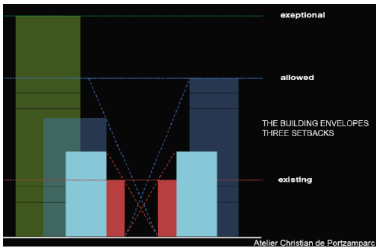


Figure 8.11: New alignment and heights
Source: Presentation Ramselar 2010

One of the main drivers for this relates to the industrial dimension of internal economies. Since organisations grow and shrink and new services and departments are added or reshuffled, the space demand of different departments does not remain constant. When these departments are located in many different buildings, a situation of 'cheese with holes' arises across a number of buildings due to these frequent changes in the organisation. It is, therefore, intended that by having bigger grain sizes, the growth or shrinkage of departments would be better adjusted within a building or adjacent buildings easier. This is essentially the industrial dimension of indivisibilities arising from building infrastructure sharing.

Another outlined objective of this development is a better mix of functions. For this, several social as well as commercial functions such as galleries, cafes, restaurants have been proposed in the plinth of buildings.

The estimated time of commencement of Project Urbain Loi, based on the designs of Atelier Cristian de Portzamparc, is 2014 – 2015 and the time of delivery has been estimated as 2018 – 2019.

Concerning the new poles (or office satellites), the OIB is in the process of identifying locations in the Brussels Capital Region. So far, one location which has been shortlisted as the probable location for a new pole is at Delta train station in the south-east area of the city.

The main drivers for this location choice are the possibility of accommodating a space of 150.000 to 200.000 sq m resulting in economies of scale, close proximity to the Beaulieu pole, close to the residences of the EC employees residing in the south and south-east municipality of Brussels, proximity to Delta train station as well as the metro network ensuring access to the Leopold Quarter area and also proximity to the European school and child-minding centres nearby. Table 8.1 shows the timeline of the changes in the organisation placed against the five identified phases of location decisions

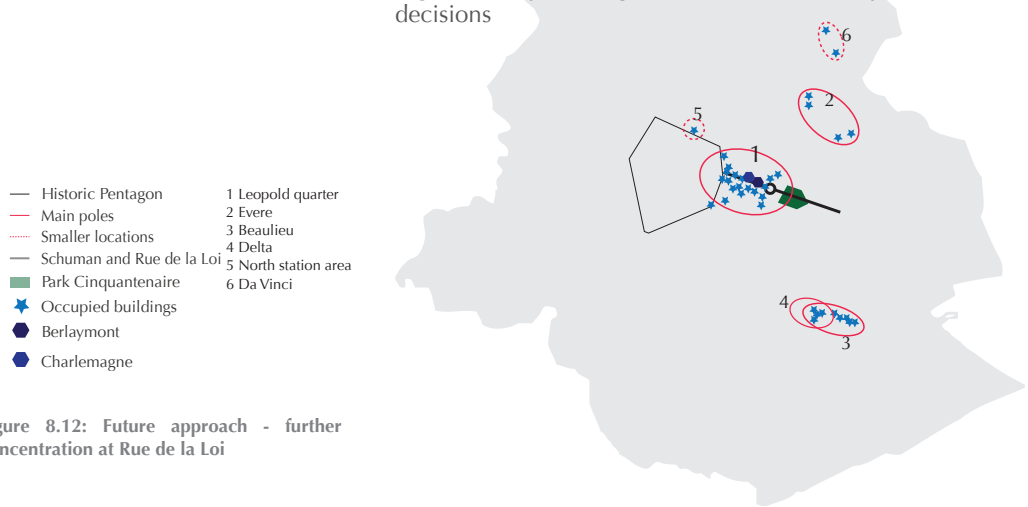


Figure 8.12: Future approach - further concentration at Rue de la Loi

Table 8.1: Significant phases of important location decisions by the EC

Phases of Location Decisions	Approach to Real Estate Locations	Significant Years	Important Treaties	Member States joining/ enlargements	Number of Staff	Total Occupied Space (gfa)
The 1950s till 1965	Mainly private Initiative All locations within the Leopold Quarter but dispersed and based on what what was available	1951 1957	European Coal and Steel Community (ECSC)/ Treaty of Paris Treaty of Rome	Belgium Netherlands Luxembourg	3200	112000 (approx)
The 1965 & till 1980s	Proposal for Berlaymont made by the government of Brussels. Decision to concente all staff within the Berlaymont Further enlargements leading to occupying other buildings at Schuman roundabout	1965 1973 1981 1986 1987	Merger Treaty, Brussels Single European Act (SEA), Luxembourg and the Hague	 Denmark Ireland United Kingdom Greece Portugal Spain		272000
The 1990s & till 2002	Leaving of the Berlaymont building due to renovation. Brussels government offered the two sites of Beaulieu and Geneve The head quarter moved to Breydel building The Commissioners located with their respective departments	1992 1995 1997 2001	Treaty on European Union, Maastricht Treaty of Amsterdam Treaty of Nice	 Austria Finland Sweden		
2003 to 2007	Due consideration given to location strategy and inclination towards a multi-pole strategy expressed in 2003. Owing to the biggest enlargement in 2004, more space requirement arose Objective to have a critical mass in each pole as well as big grain sizes requirement defined	2004		Cyprus Czech Republic Estonis Hungary Latvia Lithuania Malta Poland Slovakia	22000	846500
2007 till now	Multi-pole strategy decided. Competition for Rue de la Loi in 2008 Search for new sites in 2009	2007	Treaty of Lisbon	Bulgaria Romania	30000	1000000

8.2 Organisational structure, functions and their locations

In the 2003 Communication, it was mentioned that 'while the way in which the institutions operate entails a geographical concentration of their departments, the Commission could consider grouping together outside the European Quarter a number of departments which do not have to be in the immediate proximity of the seat of the Commission and the other institutions. In this respect, the question as to whether certain Directorates-General, agencies and departments really need to be located at the heart of the European Quarter will have to be considered in the light of actual operational requirements' (Communication from the Commission on buildings policy and infrastructures in Brussels, 2003, p. 15). It is further stated that 'in carrying out such a scrutiny, account must be taken of the principle of concentrating and grouping together Directorates-General and Services operating in similar policy areas. Such a move would serve to boost competition and curb the upward pressure on property prices and rents'.

This is the first attempt by the organisation at looking at different functions and departments of the organisation and differentiating between them in terms of their location requirements. Though this formed a subject matter of discussion, a clear communication or decision on it is not available. Through the conducted interviews and examination of building-department matrix, as assessment of the eight categorisation of functions and their location supply is made.

The Commission has 27 Commissioners, one from each member state and it is headed by a president who is chosen by the EU governments and endorsed by the European Parliament. The Commissioners, on the other hand, are nominated by their national governments in consultation with the incoming president and must be approved by the European Parliament.

POLICIES	EXTERNAL RELATIONS	GENERAL SERVICES	INTERNAL SERVICES
Agriculture and rural development	Development	Communication	Budget
Competition	Enlargement	European anti-fraud office	Bureau of European policy advisers
Economic and financial affairs	EuropeAid co-operation office	Eurostat	European Commission data protection officer
Education and culture	External relations	Joint research centre	Human resource and security
Employment, social affairs and equal opportunities	Humanitarian aid	Publications office	Informatics
Energy and transport	Trade	Secretariat General	Infrastructure and logistics – Brussels
Enterprise and industry			Infrastructure and logistics – Luxembourg
Environment			Internal audit service
Executive agencies			Interpretation
Maritime affairs and fisheries			Legal service
Health and consumers			Office for administration and payment of individual entitlements
Information society and media			Translation
Internal market and services			
Justice, freedom and security			
Regional policy			
Research			
Taxation and customs union			

Figure 8.13: Categorisations of DGs
Source: http://ec.europa.eu/about/ds_en.htm

The Commissioners do not represent their own country like in the case of the Council, but instead each Commissioner is responsible for one or more of the departments – referred to as Director Generals, Services or Offices. These three, essentially, are the departments of the organisation. Figure 8.13 shows the categorisation of different DGs and Offices in four different categories – Policy, External Relations, General Services and Internal Services.

The **main headquarter** function includes the President of the Commission, the College of Commissioners as well as their administrative arm, the Secretariat General. The College of Commissioners can be compared to the board of directors of a company who work together and are responsible for the entire business of the organisation and its different departments. In case of the College, however, each Commissioner is responsible for one or more particular areas of work. The headquarter function is laterally integrated across the entire organisation. The President and the College of Commissioners along with the Secretariat General are located in the Berlaymont building at the Schuman roundabout.

This function is internally as well as externally oriented in terms of the focus of its work processes. And to manage the external communication, DG Communication is located with at the headquarter building too.

Between the years 1990 and 2002, when the Commission had left the headquarter building of Berlaymont due to renovations, the College was split across different buildings and the Commissioners were placed with their respective departments (DGs). This essentially, is a vertically integrated location choice between the Commissioners and their departments. This was found to not be feasible since the Commissioners, who meet often, now had to travel each time to the (make-shift) headquarter building.

Also, issues of providing high-level security at all the buildings that housed Commissioners was expensive and difficult to coordinate. With the advent of the Barrosso Commission in the year 2004, this was reorganised and the Commissioners returned to the newly renovated Berlaymont building.

This demonstrates, primarily, the relevance of locating certain category of functions together or based on the actual requirements of that function itself which is clearly different from the other functions as was seen in this case.

As far as the location supply of the headquarter function is concerned, the first criteria is it requires to be highly representative. The Leopold Quarter is indeed a prestigious area of Brussels. The building, influenced by the design of the UNESCO headquarters in Paris, was impressive and structurally superior at the time it was designed.

[3] Figure 8.14: UNESCO headquarters in Paris
Source: http://typo38.unesco.org/typo3temp/pics/9af30f7168.jpg

It was proposed in section 6.3 that global and national transferability is important for the headquarter function. In case of the headquarter of EC, its location does not offer a very high global transferability.

While there is a train connection from Brussels Central station to the airport, the connectivity by car can be difficult due to traffic congestions. The location, however, offers good national and continental transferability being five minutes from the Brussels Central station, either by car or metro. This station (along with Brussels Midi station) is an important rail hub which connects by direct high speed lines with London by Eurostar, Paris and Amsterdam by Thalys and Cologne and Frankfurt by the German ICE.

The nature of agglomeration required for headquarter functions generally are urbanisation economies as was discussed in section 6.3. The headquarter of Berlaymont, at cluster level is essentially in localisation economies where the other functions in the area belong to the same industry. These are the other institutions of EU or the administrative offices of Belgian national and Brussels local governments. At cluster level, not a lot of input sharing takes place but knowledge spillovers between the different institutions of EU – the Council and the Parliament has been cited as an important reason for locating in close proximity with them. At the scale level of a city, the headquarter and all other functions enjoy a high level of urbanisation economy, Brussels being an alpha city according to the GAWC ranking[3].

The second category of function identified is that of **line headquarter** referring to the business lines or (sometimes) spillover from the main headquarter. In general, it can be said that the Policy and External Relation DGs are the 'business lines' or the 'areas of work' that the Commission is involved in, such as Energy and Transport, Regional Policy, Development etc. These, therefore, will be considered the line headquarter functions.

Most of the Policy and External relations DGs are largely found to be located at the Schuman roundabout and at Rue de la Loi. Some others are also found around the Breydel cluster (refer figures 8.15 and 8.17). It is seen that most of the line headquarter functions either occupy a single building or are located in adjacent buildings which are also connected to each other through internal openings and essentially function as one unit.

Three Policy DGs – Economic and financial affairs, Information society and Media and environment – are located in the Beaulieu pole. This decision was a political one and was not based on the functional or hierarchical lines.

The location demand of the line headquarter function as shown in section 6.3 varies from main headquarter in terms of the level of representation, transferability as well some aspects of the external

[3] http://www.lboro.ac.uk/gawc/world2008c.html

agglomeration. The location supply of the line headquarters is in the two areas of Leopold Quarter and Beaulieu.

The level of representation required for line headquarter function is 'moderate'. The DGs belonging to this function located in the Leopold Quarter enjoy the same level of representation as the main headquarter which is high considering the prestige associated with the area and those located in Beulieu have a moderate level of representation.

The level of transferability required is national and regional which is achieved in case of both the sites being close to train stations. In case of the Leopold Quarter, a continental connectivity is also achieved as it was done for main headquarter, being at five minutes from Brussels Central station.

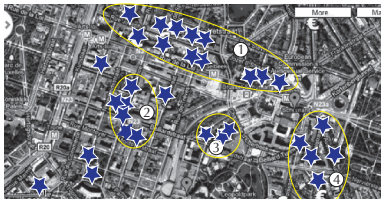
The Leopold Quarter and Beaulieu both offer localisation economies which is higher in case of the former than latter. This is because of the size of cluster itself. Beaulieu being in a residential area does not have a lot of other office functions, while Leopold Quarter accommodates a large number of administrative offices.

In terms of knowledge spill-overs between the different European institutions and the proximity required for it, a good example is that of DG External Relations. This DGs also works together with the other institutions of the EC (the Council and the Parliament) and are, therefore, mostly grouped around the Schuman roundabout in the Charlemagne building.

The third category of function is **customer interface**. In case of the EC, this can be translated as the representation of the organisation in different countries, as it is the citizens of Europe who are the 'customers' of the Commission.

The representation office of the Commission in Belgium is located in a stand-alone building in Leopold Quarter. This building is moderate on image and is not well accessible. It is in a localised office area where a large number of people would not visit. Another information office of the organisation is at the Schuman roundabout, the location of which better matches the demand. However, an appropriate location for this function would be in a highly urbanised area, in a small but representative building. The city centre would be a good location for this where the number of people visiting here would increase manifold.

Business backoffice functions are those functions that support the main lines of business and are laterally integrated. In case of EC, this function would include DGs Joint Research Centre, Budget, Legal, Bureau of Policy advisors, EC data Protection Officer. Some other DGs, though they do not provide the same level of input to the business lines, can be put in the same category of function include DGs Communication, Translation, Interpretation.



① Schuman-Loi
② Belliard I
③ Belliard II
④ Breydel

Figure 8.15:
Sub-clusters within Leopold Quarter

The business backoffice functions that are laterally integrated are generally found located in areas which are easily accessible for most of the line as well as main headquarter functions. In this case, most of these DGs are present within the Leopold Quarter but away from the core concentration of the Schuman roundabout. It can be seen in figure 8.17 that these are located in the Belliard I and II clusters.

A difference between the nature of information transformations reflects in the location choices of different departments. DG Translation, which is largely a standardised work process and involves codified information transfer is located in the Evere-Geneve pole, while DG Communication which involves continuous tacit information exchange is located in the main headquarter building of Berlaymont.

Support backoffice and interface functions include OIB (Infrastructure and Logistics), DG Information Technology, and HR. While the support back-office functions are vertically integrated, the support interface functions are laterally integrated running across all other departments of the organisation.

It can be seen that the backoffice of OIB is located at Rue de la Loi and the rest of it is spread in different locations across the portfolio as expected. The headquarter building of Berlaymont houses 100 FTEs of OIB, which is a large figure to be placed in the main headquarter. The HR back-office is accommodated in the Belliard I cluster while its other part is found in other buildings in Leopold Quarter and some in the Evere-Geneve pole, but not in the Beaulieu pole. The DG Information Technology is clustered together in the Belliard I cluster and is not spread across the portfolio.

From the above it is seen that the location demands and supply of the support functions do not match very closely. The operational end (support interface) of IT generally found to be located within the different buildings across the entire portfolio, is not so in this case. In the other case-studies, as will become apparent ahead, this is a common pattern. The location of OIB is in the core in this case, which will also not be seen in other cases.

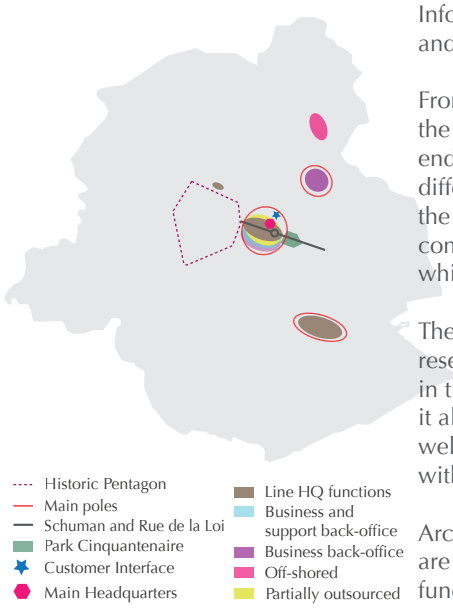
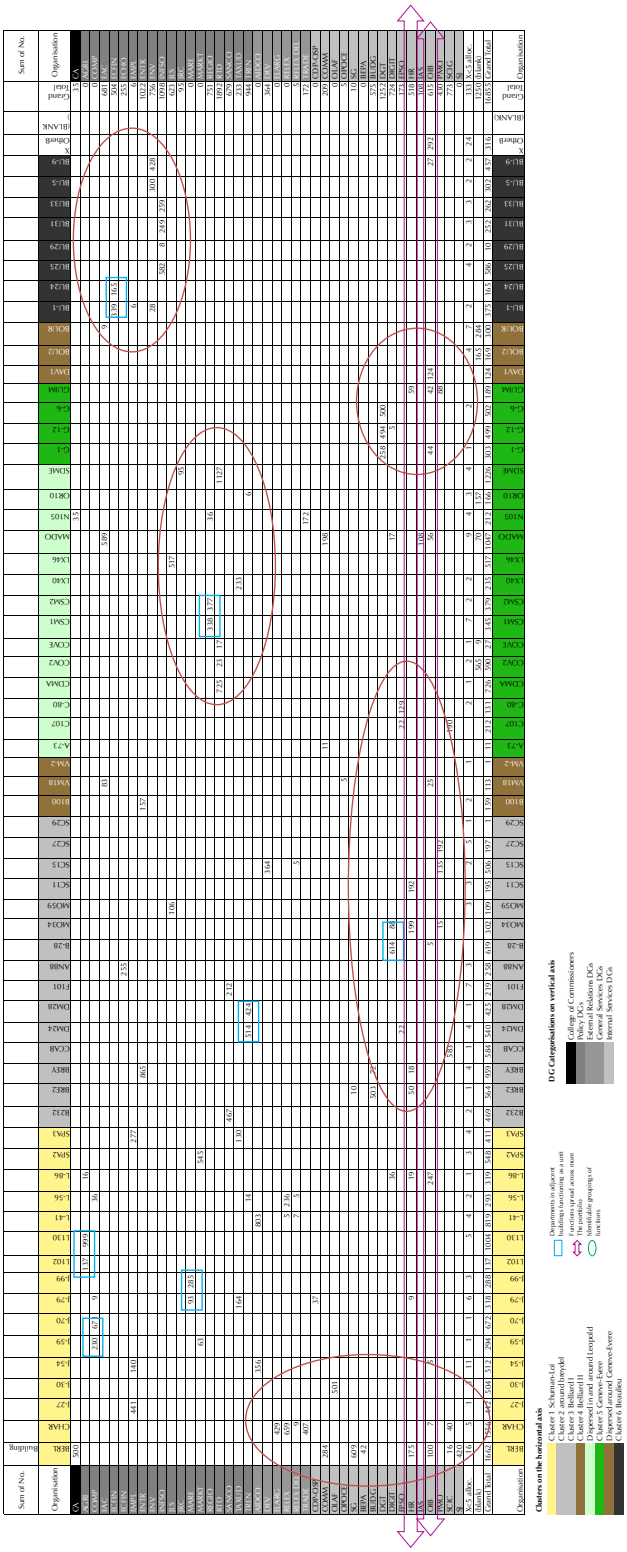


Figure 8.16: A multi-pole approach

The **partially outsourced** functions in case of the EC are the research agencies which are located in the Covent Garden building in the North Station area. This location is good for the agencies since it allows them the required mobility at national and regional level as well as good local connectivity to co-ordinate their work processes with the research committee located in the Leopold Quarter.

Archive as well as publishing office are the functions within EC that are **off-shored** from the main premises of the organisation. Both these functions are standardised requiring minimal information exchange. Another example is that part of the translation service is located in Luxembourg.

Figure 8.16: Building-department matrix EC



Chapter 9 CASE BNP PARIBAS FORTIS

Introduction

BNP Paribas Fortis is a new ent¬¬ity formed after acquisition of almost 75 percent of the shares of Fortis Bank Belgium by BNP Paribas in the year 2009[1]. The main markets of BNP Paribas Fortis are Belgium, Turkey, Poland and Luxembourg and globally it employs a staff of 35,000 FTEs half of which are in Belgium.

Under the brand of Fortis Bank, the main areas of work included insurance, banking as well as investment management. Following the financial crisis of 2008, however, the insurance activities were separated from the banking and investment management activities and these are now the main businesses carried out by BNP Paribas Fortis.

Figure 9.1: AG site at Rue Montagne du Parc
Source: Fortis archive

The real estate portfolio of the bank in its present form is the result of several mergers and acquisitions and the real estate choices made over several years.

An analysis of the history of the organisation and the real estate choices is based on information gathered from the online archives[2] as well the conducted interviews.

Figure 9.2: Fossé aux Loupe site
Source: Herman Vande Putte, personal archive

9.1 History of the organisation and real estate location choices

Fortis came into being in 1990, as the result of a merger of AMEV, a large Dutch insurer and VSB, a Dutch Banking Group; these were joined later that same year by AG, a Belgian insurer. The office location of AG was in the centre of Brussels on Jacqmainlaan.

In the year 1999 with the acquisition of Algemene Spaar- en Lijfrentekas / Caisse Générale d'Epargne et de Retraite (ASLK/CGER) and General Bank, Fortis Bank was created. These two merging banking organisations also had their location within the historic pentagon at Fossé aux Loups and Rue Montagne du Parc.

A large part of the ASLK/CGER shares were acquired by Fortis in the year 1993 before a full acquisition in 1999. Through ASLK/CGER, Fortis took over the Belgian bank SNCI-NMKN in 1997. This bank, also had locations close to the city centre and after the merger one of the buildings, Astro Tower, that was added to the building portfolio of Fortis in Brussels is a part of the current portfolio.

[1] The shareholders of Fortis Bank SA/NV, being the legal name of BNP Paribas Fortis, are BNP Paribas (74.93%), the Belgian State (25%) and Minorities (0.07%).

Source:
[2] http://www.fortisbank.com/en/general/brief.asp
http://www.fortisbank.com/en/general/history.asp;
http://www.holding.fortis.com/en/Pages/history.aspx

Owing to the mergers of 1990 and 1999, Fortis Bank had a portfolio mainly within the centre of the city spread across four sites as shown in figure 9.4. And figure 9.3 shows the timeline of the important mergers and acquisitions. In the recent portfolio history of the organisation since the acquisition of 1999, ASLK-CGER and General Bank by Fortis and launching of the Fortis Bank brand, four important moments of locations decisions can be discerned. Each of these will be described here.

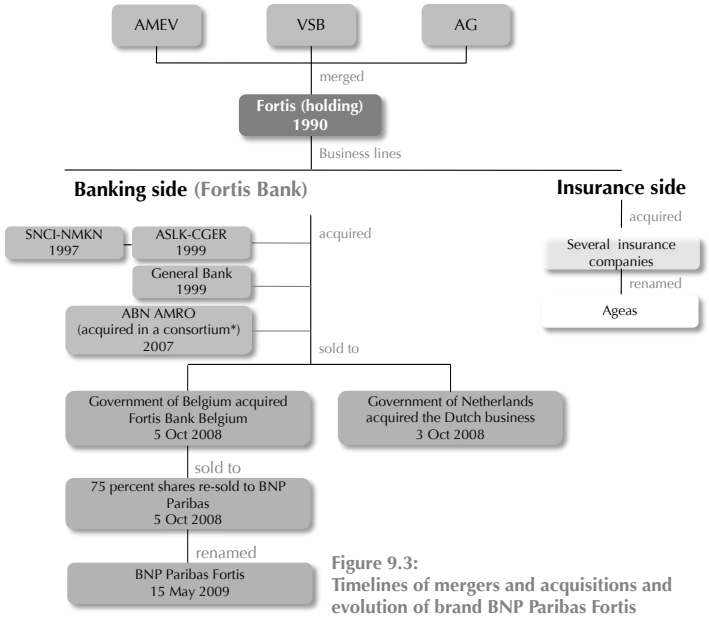


Figure 9.3:
Timelines of mergers and acquisitions and evolution of brand BNP Paribas Fortis

9.1.1 Grouping of departments: 1999

After the acquisition of 1999, it was decided to regroup the equivalent departments of the three banks as soon as possible to quickly benefit from the merger synergies. This large-scale reshuffling exercise was done within the borders of the existing portfolio as it was decided that the new bank should accommodate within the existing premises. During this exercise, the older buildings of the portfolio were upgraded to the higher standards of the portfolio to provide similar working conditions for all employees. The headquarters of the new firm were located at Rue Royale 20 in Brussels, adjacent to the headquarter of Suez, the former Generale Maatschappij. In 2002-2003, the bank headquarters were fully renovated.

9.1.2 Concentration: 2005

It was in the year 2005 that the first strategic plan aimed to optimise the real estate portfolio of the organisation that resulted from the mergers was made.

Many buildings of the portfolio dated from the 1970s or earlier and were in need for an overall renovation if Fortis wanted to continue using them. Also several business lines asked for concentration. The plan kept the accommodation of the insurance and banking activities separated but grouped together at Jacqmainlaan and Rue Montagne du Parc quarter respectively.

To concentrate the banking activities, the choice was essentially between the Rue Montagne du Parc and Fossé aux Loups sites. The former of the two was chosen because firstly, the buildings at Fossé aux Loups site were older than at Rue Montagne du Parc and required more of a renovations.

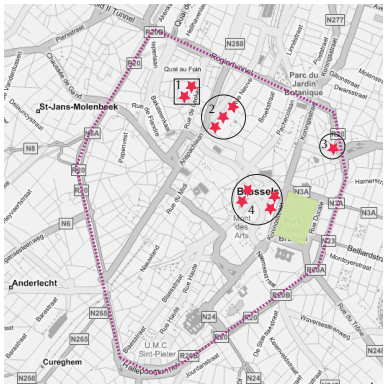
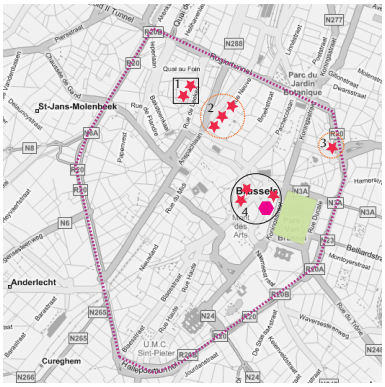


Figure 9.4: Name of image Locations of Fortis sites in Brussels.

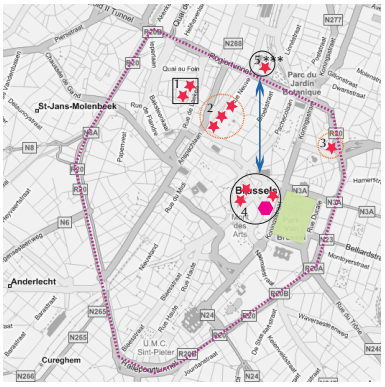


Retained sites
Buildings in portfolio
Historic Pentagon
Sites planned to closed down
Headquarter

1 Jacqmainlaan: Concentration of insurance activities
2 Close the site by 2015 with the expiration of leases
3 Close the site by 2011 with the expiration of leases
4 Rue Montagne du Parc: Concentration of Banking activities

Figure 9.5:
Single site strategy for banking operations

Figure 9.6: Noth station area
Source: Corporations and cities



Retained sites
Buildings in portfolio
Historic Pentagon
Sites planned to closed down
Headquarter
Spread across two sites

1 Jacqmainlaan: Concentration of insurance activities
2 Close the site by 2015 with the expiration of leases
3 Close the site by 2011 with the expiration of leases
4 Rue Montagne du Parc: Concentration of Banking activities
5 North Station area: New site added
*** At a 'safe' distance outside The Pentagon as advised by CBFA

Figure 9.7: A two site approach

The second and apparently the more important driver for this choice concerns the fact that the image and prestige associated with Rue Montagne du Parc quarter is very high. This site is close to the political heart of Belgium where the parliament, the King's palace and embassies like the US are located.

So at this stage, it was decided to adopt a one-site model for the banking activities of the organisation which were decided to be concentrated at Rue Montagne du Parc while the Fossé aux Loups site was decided to be closed down and sold.

9.1.3 The two site approach: 2007

The strategic plan of 2005 was revised two years later in 2007. In 2006-2007 the space demand increased with 2500 workplaces due to the 'banking bubble'. Additionally, the merchant banking department merged with the commercial and private banking department. This created a large department of 3,000 to 4,000 people and the management of this new business requested their employees to be accommodated on a single site at Rue Montagne du Parc. The headcount to be accommodated became too large for the uptown location given also that a reserve capacity was required to deal with the increasing unpredictability of space demand.

Another reason for revision of the single site accommodation plan was business continuity. CBFA, the Belgian banking regulator, requested fifteen to twenty percent of the banking staff be located in a second pole at a 'safe' distance from the main one to guarantee continuity of the banking operations in case of a catastrophe in one area.

The two-pole strategy seemed the best option for the organisation at this stage and the decision in favour of it was made when the North station area was chosen to be developed as the second site for the organisation. The most important criteria that were used to design and examine the location strategies included aspects like grouping, real estate opportunities, mobility etc. The drivers are elaborated here.

Grouping of the activities, which was an important criteria of the first strategic real estate plan continued to be important at this stage also. Synergy between departments is considered an important objective of the bank, which requires physical proximity. In practice all departments ask for maximal proximity to other departments, which leads to the preference for a single location concept.

Rent-seeking within the organisation also became an important reason for concentration where proximity to top management is claimed by all department managers being essential to their business (and vice versa).

Another important aspect, which formed one of the important drivers for concentration in the 2005 plan was corporate image associated with the Rue Montagne du Parc location.

In this plan also this continued to be an important driver where being located in a prime location was important. The clustering of buildings together to form a sort of 'Fortis Square' was aspired for.

As mentioned earlier, one of the drivers for dispersion across two sites was to ensure business continuity. This ensures the saving of data, systems, buildings, people, competencies and suppliers.

Mobility and vicinity to train stations was outlined as one of the important considerations for the selection of the second site. This is important as seventy five percent of the employees come by train from the regions. A ten-minute walking distance from a main train station is considered acceptable and a location that offers this is preferred. The general tendency is also to diminish parking places.

Real estate opportunities as a driver refers to the availability of a certain location at a certain moment in time of real estate that complied with Fortis requirements on space and technological requirements. It determines the feasibility and cost of the location strategy.

According to the organisation no area in Brussels allows a big enough development like La Défense in Paris or Canary Wharf in London to accommodate a totally new large-scale development. Big business districts of several hundred thousands square metres do not exist in Brussels. The only important concentration of offices is the centre of the city. At the Brussels South station, area developments were not far enough to be considered as an alternative. The central station area is where the actual headquarter Rue Montagne du Parc is situated. The north station area was Brussels main development pole close to a railway station as the Leopold Quarter is fully occupied with European Union related offices and is much more expensive. Fortis therefore decided to develop a new building in North station of 2600 workplaces.

The organisation also had a clear view on not moving out of Brussels to the peripheral sites due to reasons of cultural differences. Belgium as a country is divided in the Dutch – Flanders and French – Walloon regions.

Brussels is the only place where people from both cultural and linguistic sides live and work together. Fortis being a bank operating in both the regions, wished to retain its neutral position. This was also very important to ensure that people from both the regions joined the organisation as employees. Generally, it is believed that people from Flanders region do not go to work in the Walloon region and vice versa. This is due to the language barrier but also due to cultural differences. This as a condition imposed by the external environment has played an important role in the location choices of the organisation and the organisations' focus on finding the second site within Brussels.

Amongst the other criteria that were outlined in this strategic plan are real estate modularity, financial impact and employee satisfaction. Real estate modularity and flexibility refers to the variability of

Figure 9.8: Brussels and the regions

demand that necessitates modular and flexible supply on the different scale levels and time horizons, the mix between propriety and leased buildings and different types of rents and breaths, the possibility to sublet.

Preferred building, cluster and site sizes: based on its experience with large departments and a heterogeneous portfolio, Fortis' targeted size is 1500 workplaces for a standalone building, 3000 workplaces for a cluster and 6000 workplaces for a site.

Financial impact: analysis of the recurring costs (the total cost of ownership per workplace) and the one time costs (e.g. impairments, potential future capital gains) on the profit and loss statement.

Employees' view on certain buildings and their performance was also taken into consideration.

When this two-site model was opted for at this stage in the year 2007, the distribution of the percentage of area across the two sites was discussed. One strategy was to go for centralising the maximum of workplaces in one pole (80 to 85%) and the rest in the other place. Another strategy is the twin-pole strategy, where both sites are almost equal in size. The latter strategy was adopted.

9.1.4 Reduction of demand: April 2008

In April 2008, the plan once more was updated. The aspect of modularity and flexibility of workspace usage was becoming increasingly important for the bank at this stage.

This is when ABN AMRO entered the organisation which was acquired through a consortium of Fortis Bank, Royal Bank of Scotland Group and Banco Santanders. ABN AMRO had experience with shared workplaces and the management desired this was implemented. Fortis agreed on this as it stated already earlier in its strategy of 2007 that the only way to adapt to changes and respond to unpredictable demand is by switching the workplace concept.

Additionally, this structurally reduced the number of installed workplaces for a given workforce. It was decided to continue the twin pole strategy including the closing of the Fossé aux Loups site in the long term, the development of the North station pole and the renovations of the uptown buildings. But due to this vision of adopting a shared workplace concept, the number of workplaces on the north station site reduced drastically. Therefore, the requirement of space at this location became smaller. Fortis Bank, that had plans to occupy the entire building that was being developed by Fortis Real Estate (part of Fortis Insurance) , now required only one of the two towers in the building.

In 2008 – upon the banking crisis – Fortis cut off the banking operations from its insurance activities. After a series of negotiations, the bank ultimately was taken over by BNP with a reduction and elimination of several businesses, a.o. the dealing room activities.

The ongoing development in the North station area by Fortis Insurance was stopped as from the two towers that were under construction, only one was needed by Fortis Bank. Fortis Insurance eventually has let the entire building to Tractebel and Tha Fortis Bank has rented the former Proximun building next to Belgacom towers., where the retail banking headquarters would move. In the north station area, BNP Paribas Fortis now will occupy three buildings.

The present portfolio size of BNP Paribas Fortis is approximately 810,000 square metres lfa of which 80 percent is in Brussels and the remaining 20 percent is outside Brussels.

9.2 Organisational structure, functions and their locations

The main operations of BNP Paribas Fortis include Retail banking, Corporate and public Banking and Corporate and investment banking (Figure 9.9).

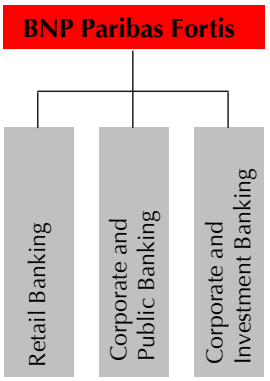


Figure 9.9:
BNP Paribas Fortis main lines of business

The **main headquarter** function is at Rue Montagne du Parc, this location houses the management board. One of the main drivers for the location of the main head quarter is the prestige associated with this area being in close proximity with the Belgian Parliament, the King's palace and the embassies. This is clearly in accordance with the first location demand for the headquarter function given is section 6.3 which is of high representation.

The other demand of the main headquarter function is that of global and national transferability. The international airport of Brussels when compared to other airports of Europe appears at number 10 with 144 routes[2]. This makes it low on global connectivity when comparing to other big cities of Europe such as Paris, Milan, Amsterdam etc. The location of the main headquarter in the city centre means the connectivity to the airport is poor which is situated in Zaventem in the Flanders region. As far as the continental and national transferability is concerned, being at a distance of approximately 800 metres from the Brussels central station is rather high. Highway connectivity from the main headquarter location is poor, being in the city centre. To connect to the outer ring of Brussels, the connection is mainly via Rue de la Loi going on to N23 and N3. All these roads carry heavy traffic.

The criteria of input sharing, knowledge spillovers and rent seeking are all high for the main headquarter location of BNP Paribas Fortis being in the city centre and this makes it an urbanisation economy at area level.

The second function that was classified is that of **line headquarter**. The main business lines of BNP Paribas Fortis are Retail Banking, Corporate and Public Banking and Corporate and Investment Banking.

The headquarter of Retail banking is currently in the Astro Building at Bisschofsheimlaan which is to be closed down in 2011 and the retail headquarter will move to the North Station site. The headquarters of Corporate and Public Banking and Corporate and Investment Banking are to be fully concentrated in the Rue Montagne du Parc site.

Presently Corporate and Public Banking are spread across in a number of buildings, which will be regrouped in the new building Kanselarij in 2012 when this building is expected to be delivered.

It was expected that the line headquarters require moderate representation. In this case the site of Montagne du Parc is very high on representation while North Station site is moderately high. The difference in rent between these two areas is also not very large. According to DTZ Research, the prime rent for the Centre was Euro 210 per sq m per annum, for the North Station area, this was Euro 200 per sq m per annum (DTZ Research, 2009, p. 11).

The level of transferability between these areas is good at continental, national and local levels. This is relatively higher for the Commercial and Public Banking functions at Rue Montagne du Parc site than the North Station area site. This is because not all the international trains – Thalys, NS hispeed and ICE stop at the Brussels North Station while they do at the Brussels Central Station.

While the line headquarter at Rue Montagne du Parc enjoys a higher urbanisation economy, the one at the North Station Area site is primarily an office development. However, many urban functions exist across the inner ring at a distance of six to seven hundred metres. The factors of input sharing, knowledge spillovers and rent seeking are relatively high in case of the Rue Montagne du Parc site too. The labour sharing for both cases is at a national level (75 percent of employees come from the regions) and the location at two of the three main stations in the city is elemental.

Figure 9.10: Headquarter builfing at Rue Montagne du Parc
Source: Herman Vande Putte (personal archive)

The **client interface** function mainly concerns the clients of Corporate and Public banking and Corporate and Commercial Banking. The client interface of Retail banking takes place at the retail bank branches which are not in the scope of this research.

The client interface function in Brussels is located in all the line headquarter buildings and it is in the smaller properties in the regions. These are combined with some back office and sales functions in the five big cities - Liege, Gent, Antwerp, Leuven and Charleroi. These offices in the region are called the Fortis house concept and these buildings accommodate three to five hundred people. Also there are smaller offices (housing 50 to 200 people) in other small cities for client interface.

Figure 9.11: View of the meeting room at the headquarter building
Source: Herman Vande Putte (personal archive)

The representation for the client interface functions is expected to be high which is true for the offices in Brussels.The transferability, which is to be local is also true for the sites in Brussels as well as in the regions. The reason for the client interface functions to be spread across the entire country is in fact to enable local accessibility for the clients who seek advice.

The nature of agglomeration economies is expected to be urbanisation holds true at the sites, being in the centre of Brussels. The **business backoffice** functions include legal, risk, cash management, finance, credit etc. While most of the business backoffice functions are in Brussels and are located in the Rue Montange du Parc site, there are some like credit that have been decentralised to the regions.

There are teo main drivers for this decentralisation. Firstly, there are already some legacy buildings in these cities which need to be occupied and secondly, the employees that have been working in the regions prefer to continue to do so and not move to Brussels for work every day. The unions support this demand. Fortis, in fact, was a decentralised organisation till a decade ago and these employees have been working in the regions for fifteen to twenty years or more.

Focusing back at the business backoffice activities in Brussels, it can be seen that most of these activities are presently located in the downtown site (Fossé aux Loups). With the closing down of this site by the year 2015, these activities will be clubbed with main and line headquarter functions at the Rue Montagne du Parc site. The reasons cited for this (BNP Paribas Fortis interview 2) are the close working relationship of these functions with the headquarter functions. These are referred to as 'high level support functions' at the organisation.

The representation of these functions, which is generally expected to be low is high in this case. The transferability is continental and national which in other cases is found to be national mainly since the labour force required for these functions comes from other parts of the country but not internally. The nature of economies at this site is urbanisation, while for the backoffice functions, it is expected to be localisation. Overall it can be said that the business backoffice functions in case of BNP Paribas are not found to be as per expectation in section 6.3.

The next category of functions are **support interface and backoffice** functions. The support backoffice functions are presently in the North Station site, while some of the support interface functions are spread across the different sites and some are concentrated at the North Station area site. This category of functions includes HR, IT and FM. It was agreed upon in the second update of the corporate real estate strategic plan when the two-site approach was chosen that the 'second line support functions' would be concentrated in the North Station site.

Presently, the IT department is concentrated in the Manhattan building in North Station site and FM is in the Botanique building at the same site. HR, on the other hand, is in the downtown site in Central Plaza. Fifteen percent of the facility management function is spread across different sites (not per building though).

The **partially outsourced** function can be found in BNP Paribas Fortis mainly in the IT department. These are the body shoppers that work together with the different departments of the organisation on particular projects and are in fact located with that particular department.

As far as the **offshored** function is concerned, BNP Paribas Fortis has a computer centre as well as archives and logistics centre. The call centre is in Anderlecht, one of the nineteen communes of Brussels West. in Evere at the outskirts of Brussels.

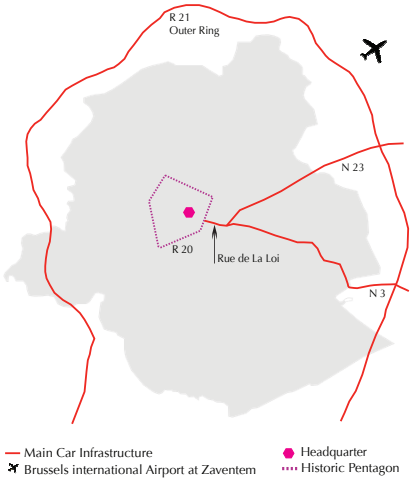


Figure 9.12: Transport infrastructure for global transferability

Figure 9.13: Building at the downtown site
Source: Commons

Figure 9.14: Manhattan building at North station area
Source: http://img45.imageshack.us/f/dscn42973jz.jpg/

Chapter 10 CASE ING GROUP

Introduction

Internationale Nederlanden Groep (ING) is a financial institution of Dutch origin that offers banking as well as insurance services. As of 2009, ING Group serves 85 million private, corporate and institutional clients in over 40 countries, with a workforce of over 100,000 people.

The ING Group, unlike was not conceived as it is in its present form and grew organically. It is a brand that has emerged out of over a century of mergers and acquisitions between different banking and insurance companies. This affects the present day real estate portfolio of the group.

The sources of information used for this analysis include the official website of ING Bank[1] and the conducted interviews with the corporate real estate departments.[2]

Figure 10.1: Headquarter of Postbank building in Harlemmerweg in the north of Amsterdam
Source: http://s262.photobucket.com/albums/ii116/SirFlavius/Holland022008/?action=view&current=HPIM1192.jpg

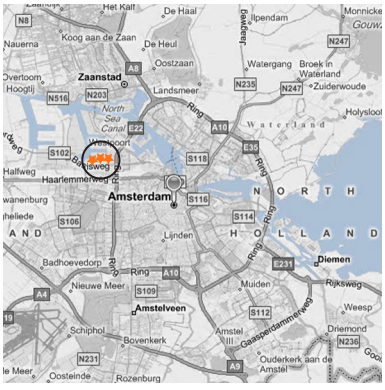


Figure 10.2: headquarter of Postbank building in Harlemmerweg in the north of Amsterdam

10.1 History of the organisation and real estate location choices

Similar to most banking institutions, Internationale Nederlanden Groep (ING) came into existence through a series of mergers and acquisitions. The two sides of operation of the present day ING Group include the banking side and the insurance side.

10.1.1 History of the banking operations

The banking side of the present day ING Group can be traced to Rijkspoortspaarbank (est. in 1881) on the one side and Postcheque- en Girodienst (est. 1918) on the other. The former was established by the Dutch government as a savings bank for the workers. The latter was also founded by the government as a part of the PTT (Dutch postal, telegraph and telephone service).

Both these companies were located in Amsterdam, which as Rocco (2008, p. 198-200) recounts was an important centre of trade and finance from as early as the 16th and 17th centuries.

Both these companies merged in the year 1977. Subsequently, in the year 1986, along with privatisation they were renamed Postbank N.V. the headquarter of Postbank was established in a built-for-use building in north of Amsterdam in near the office development of Sloterdijk area. This building is approximately 50,000 sq m lfa in size

[1] http://www.ing.com/group/showdoc.jsp?docid=074177_EN&menopt=abo|his
[2] Appendix II – list of interviews

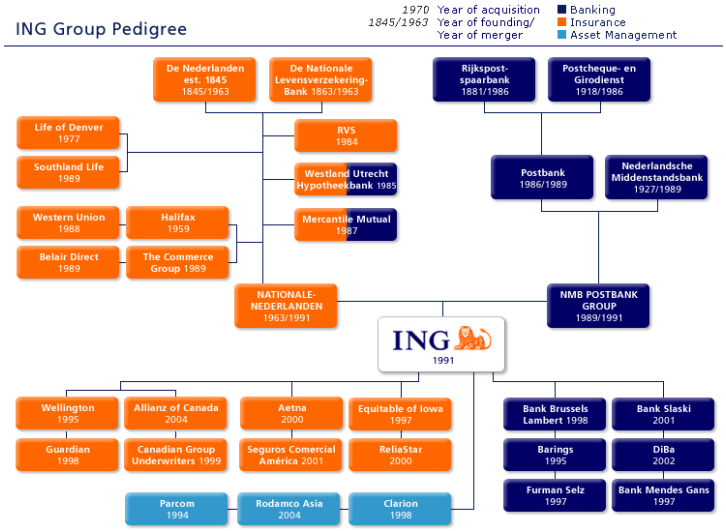


Figure 10.3: ING Group Pedigree
Source: http://www.ing.com/group/showdoc.jsp?docid=074177_EN&menopt=abo|his

The other important company on the banking side is Nedelandsche Middenstandsbank (NMB Bank) which came into existence in 1927 with the reorganisation of a number of banks. The NMB Bank which primarily focused on the retail market attained growth in 32 countries and was one of the top five banks in the Netherlands.

Aa per Brower (1989, p. 260), decentralisation from the city centre of Amsterdam had started in the latter part of 1960s, which was due to the local government policy of preserving the character of the inner and discouraged any large scale construction in that area. The NMB Bank which was dispersed over 28 buildings mostly in the city centre was the first bank to leave the city centre in 1970 with the opening of a new headquarter in Amsterdam South (Brower, 1989, p. 268).

Figure 10.4: Headquarter of NBM, an 'unusual' organically 'S'-shaped building
Source: www.maps.bing.com

In the year 1978, the decision to have a new and bigger headquarter building with a new image was reached by the management board of the company. This would also consolidate the various spread-out functions.

A strong influence of the senior management and their preference towards the quality of architecture determined the style and quality of the building. The board asked for an organic building that would integrate art, natural materials, sunlight, green plants, energy conservation, low noise levels, and water (Browning, 1992, p. 23). The location chosen for the new headquarter was the newly developing office location of Amsterdam Southeast. The new headquarter building called Amsterdamsepoort with its 'unusual' design incorporated these characteristics. The building was started in 1983 and completed in 1987.

Figure 10.5:
Headquarter of NBM completed in 1987
Source: Browning 1992, p. 24

The area of Amsterdam Southeast was mainly a residential area with the 1960s post-war housing development. In the year 1977, the new metroline of Amsterdam connected this area to the centre of Amsterdam. The office development in this area had started in the 1980s. The Amsterdamsepoort shopping area was opened first in 1987.

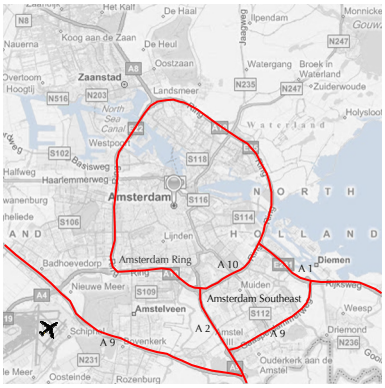


Figure 10.6: Highway infrastructure, Amsterdam Southeast

The choice of location for its headquarter by the NMB Bank was in fact in a new and upcoming office location on the outskirts of the inner city of Amsterdam. Since the bank moved there in the initial years of the development of this area, the choice of location clearly is not influenced by factors such as input providers or knowledge spillovers or even factors of consumption or rent seeking.

Infrastructurally, this area was well connected – by public transport and highway both and in fact the infrastructure sharing aspect of external economies is one of the drivers for this location choice. This area is encircled by the A10 - the main ring of Amsterdam, A1 – the main road to Almere and the inlands of the country and A2 – connecting to Utrecht as well as A9 – the second ring of Amsterdam.

In the year 1989, Postbank and NMB merged to form the NMB Postbank Group. The banking operations were then carried out under two brands – Postbank and ING Bank. When these two brands merged under ING Group around 2007-08, the new headquarter of retail banking was moved from their former headquarter buildings to a building called Acanthus in Amsterdam Southeast.

10.1.2 History of the insurance operations

On the insurance side, the history is traced back to two companies De Nederlanden van 1845 (est. 1845) and De Nationale Levensverzekering-Bank (est. 1863). The latter of the two was founded in Rotterdam and had its first headquarter at the river Maas. These two companies merged to form the Nationale-Nederlanden (NN) following which several international acquisitions by the NN were made as shown in figure 10.3.

In the year 1991, National-Nederlanden moved to its new headquarter building in Rotterdam, called Delftse Poort. This building at the time was the tallest building in Rotterdam with 41 storeys. The building is located at Weena next to the Rotterdam Central station. A landmark building located at an important transport hub is noteworthy pointing at the relevance of branding/ image as well as the infrastructure sharing factor of external economies. Also, the concentration of most of the organisation (including the acquired companies particularly RVS) in one building is notable.

A few years ago, however, the headquarters of the insurance operations were moved to Prinses Beatrixlaan in the Hague. due to reasons of poor maintenance of this building.

Figure 10.7: Nationale Levensverzekering-Bank in Rotterdam
Source: http://www.ing.com/xpedio/internet/history/nl_nationale.html

10.1.3 Merger of banking and insurance to form the ING Group

It was also in the year 1991 that ING Group was founded with the merger of NMB Postbank Groep and Nationale-Nederlanden. The new company now provided combined Bank-Insurer-Asset Management services. It was also in the year 1991 that ING Group

was founded with the merger of NMB Postbank Groep and Nationale-Nederlanden. The new company now provided combined Bank-Insurer-Asset Management services. The global headquarter of ING Group was decided to be at Amsterdamse Poort in Amsterdam Southeast, the former headquarter of the NMB Group.

Despite the development of the retail and office areas in the 1980s, The area of Amsterdam Southeast was considered 'unsafe' by many and the area around Bijlmer station was largely monofunctional. In the following few years, more commercial and cultural development came up in this area. The Amsterdam Arena was constructed between 1992 and 1996. A recent upgrading of the Amsterdam Bijlmer station and the retail was carried out and opened in 2007.

The area of Amsterdam Southeast also grew to accommodate a large number of businesses from the financial sector and today essentially is a localization economy. As per O+S (2009), there are over 15,500 people working in the financial sector in this area. The location quotient of this area against Amsterdam for financial services sector is 2.37, with only Bos and Lommer area being higher at 2.87 (Appendix III). This indicates typically a localisation economy in this area with firms from the same sector located together.

While the main headquarters of the banking side of the ING Group are in Amsterdam, the headquarter for insurance are in the Hague. Both the operations – banking and insurance – lie at the same level of corporate hierarchy within the ING Group. Their locations, however, are in cities with different levels of urban hierarchies –Amsterdam and the Hague (and earlier Rotterdam). The reason that these two sides of the business grew in different cities owes to the history of the organisations - the banking side founded in Amsterdam while the insurance side was founded in Rotterdam. The drivers for the move of insurance headquarters from Rotterdam to the Hague are not very clear, though poor maintenance of the previous headquarter was cited as a reason during the interviews.

A few years after the merger of NMB and NN into ING, it was decided by the group to move its global headquarters to the business area of Amsterdam Southaxis. The construction of the ING House was started in the year 1999 and the building was opened in 2002.

The building was once again (after Amsterdamse Poort) aimed to be used as a branding tool as decided by the senior management. 'The building was designed to reflect the image of ING: innovative and transparent, dynamic and sustainable'.[3]

To understand the nature of external economies in this area, the several factors of infrastructure sharing, urban mix and location quotient of this area are studied.

Amsterdam Southaxis is strategically positioned and one of the most important urban developments in the Netherlands. It is also one of the largest. According to the official website[4], the total area covered by

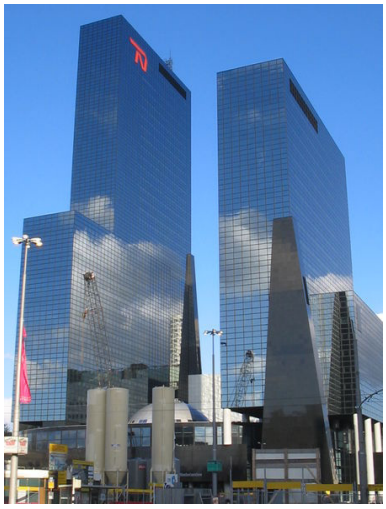


Figure 10.8: Previous headquarter of Nationale-Nederlanden, 1991
Source: Wikipedia commons

[3] http://www.ing.com/group/showdoc.jsp?docid=412285_EN&menopt=abo|vir, 9/04/10, 13.30 hrs

[4] http://www.zuidas.nl/feiten, 11/05/10, 14.48 hrs

Figure 10.9: ING House, the global headquarter of ING Group at Amsterdam Zuidas
Source: http://architypes.net/files/image/cache/ing-house.jpg. 12/05/10, 8:40 hrs

Southaxis is 270 hectares (ha) and currently one million square metres of construction has taken place. The project is aimed to be finished by 2040.

Southaxis is proposed to become a mixed used area with 38% offices, 29% residential development and 33% facilities. Presently, mainly it is the office development (less than half of projected) which has been realised at Southaxis while the realisation of the residential development has been limited (400 out of proposed 9000 dwellings). Fifty percent of the proposed amenities have also been realised (750,000 sq mt out of 1500,000 sq mt).

Based on the developed area so far, O+S Amsterdam (2009) lists 8,600 people working here in the financial sector. The location quotient of financial services in Amsterdam Southaxis against Amsterdam is 1.7 which confirms this area as a localisation economy.

Comparing the program of Southaxis to other comparable office area developments, it can be seen that the proposed program of Zuidas offers a higher functional mix.

Real State programme of the Zuidas and some comparable projects (percentages may not total 100 due to rounding)

Project	City	Total (m2)	Functional mixture (% of floor surface)		
			Business	Residential	Amenities
Zuidas	Amsterdam	2 252 000	44	44	12
Euralille	Lille	801 903	40	21	39
Canary Wharf	London	1 350 000	93	3	4
La Défense	Paris	2 710 000	92	0#	8
Rive Gauche	Paris	1 650 000	45	30	24
Postdamer Platz	Berlin	340 000	57	20	23
Donau City	Vienna	500 000	max. 70	20	10
Ørestad	Copenhagen	3 600 000	60	20	20

Table 10.1: RE programme of the Zuidas and some comparable projects
Source: Trip 2007, p. 283

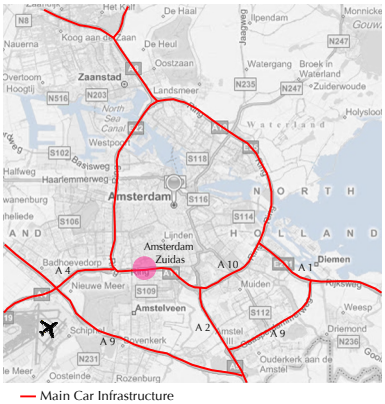


Figure 10.10: Location of Amsterdam Southaxis

The level of transferability offered by the Southaxis is in fact at different levels – global, continental, national/regional and local. Schiphol international airport is at 15 minutes offering global connectivity. The A10 makes a loop to connect to Utrecht via A2. There is also a 15 minute train connection between Amsterdam Zuid to the west of the country to Weesp. The high speed line (HSL) to the west will further be connected to Germany which is presently connected via Utrecht. To the South, the HSL already connects Amsterdam Zuid to Brussels and Paris. Presently this connection is via Schipol which will be made direct once the station is upgraded. Locally also, the area is well connected by train and metro both. Amsterdam Central Station is 15 minutes by metro.

Comparing the prime rents of Amsterdam Southaxis with other areas of Amsterdam, it is seen that this area has the highest rents.The prime rent recorded here in 2009 was Euro 365 per sq m per annum as opposed to Amsterdam Southeast at Euro 195 per sq m per annum (DTZ Zadelhoff 2010).

10.1.4 Present portfolio of the ING Group

Presently, the ING Group in the Netherlands occupies approximately 550.000 square metres of space, primarily in Amsterdam, Rotterdam, the Hague, Arnhem, Leeuwarden, Hoofdorp, Sittard and Zoetermeer. The portfolio has emerged as a result of certain independent choices as well as the 'legacy' buildings that were acquired along with mergers and acquisitions of different companies as described. The main concentration of the present portfolio of ING Group is in Amsterdam.

Figures 10.11 a &b give the total occupied space and their locations in the Netherlands, while figures 10.12 a&b show the space distribution in Amsterdam. The CRE portfolio of ING presently consists of about thirty percent owned space and seventy percent leased.

When looking at the portfolio of the organisation within Amsterdam, it can be divided into three main clusters – the South-axis, the South-east and the North–west. There are also buildings close to the centre of the city and at Hoofdoorp near Schiphol airport.

	Locations in Netherlands	sq m lfa
1	Amsterdam	281,363
2	The Hague	95,366
3	Rotterdam	80,314
4	Arnhem	48,601
5	Leewaarden	35,144
6	Zoetermeer	8,419
7	Sittard	1,829

Figures 10.11 a & b: Locations and space occupied by ING Group in the Netherlands

10.2 Organisational structure, functions and their location choices

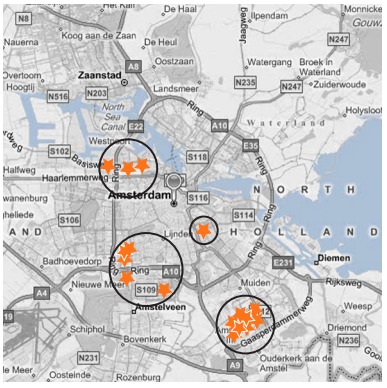
After the global economic crisis of 2008, in October 2009, the ING Group announced that it would separate its banking and insurance operation[5]. The banking operations now include Retail Banking, ING Direct and Commercial Banking and the insurance operations include Insurance Europe, Insurance Americas and Insurance AsiaPacific (Figure 10.13).

From figure 10.13 it can be seen that while banking is divided along business lines – Retail Banking, ING Direct and Commercial Banking, Insurance is divided along the geographic regions – Insurance Europe, Americas and Asia Pacific.

Upon studying the department-building matrix, the eight categories of functions and their location supply becomes clear. This is described here.

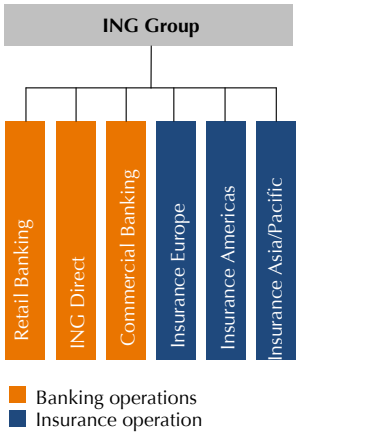
First of all, the **main head quarter** function of ING is at the ING House at Amsterdam Southaxis. The main headquarter function which is laterally integrated was clearly found in this case. On studying the building-department matrix, it can be seen that the ING House accommodates the management board as well as officials from all the 36 departments. This is essentially the top management of the organisation.

	Locations in Amsterdam and around	sq m lfa
1	Ams South-axis	24,489
2	Ams South-east	186,232
3	Ams North-west / Sloterdijk	48,959
4	Ams Centre	21,688
5	Hoofdoorp / Schiphol	20,000



Figures 10.12 a & b: Locations and space occupied by ING Group in Amsterdam

[5] http://www.ing.com/group/showdoc.jsp?docid=417771_EN&menopt=prm%7Cpre%7Capr%7C009, 26 March 2010, 11:00 am



Figures 10.13: ING Group operations
Source: interpreted from http://www.ing.com/group/showdoc.jsp?docid=092825_EN&menopt=abo|fct

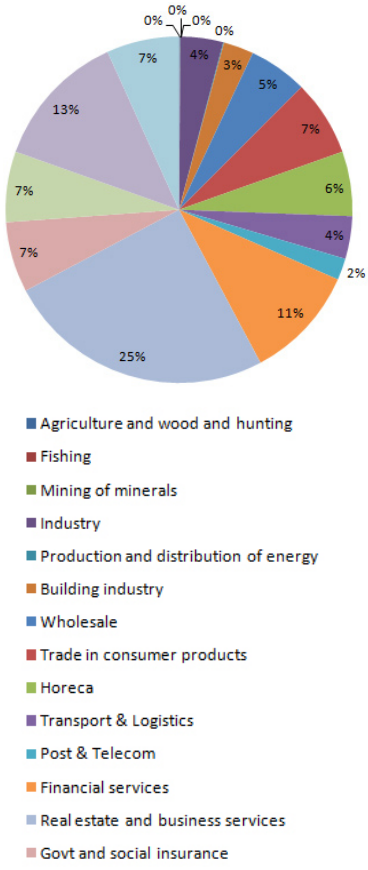


Figure 10.14:
Employment by sector in Amsterdam
Source: O+S Amsterdam

The first location demand of the headquarter function is high representation. This demand matches with the supply of ING house, a highly representative building, located at Southaxis, one of the most prestigious locations of the city.

The other demand, that of global and national connectivity is also satisfied at Southaxis which is at 10 minutes from the Schiphol International airport and is at the Amsterdam Zuid station which connected to all part of the country as well as to important cities of Belgium, France and Germany.

The nature of agglomeration economies required for the headquarter function is urbanisation economies. The Southaxis area, as was mentioned earlier, has a location quotient of 1.7 which makes it a localisation economy. However, since the area is undergoing development, the actual situation would differ when the development of Southaxis is finished. A high quality of urban mix is in fact expected in this area as per was seen in table 10.10 which would also make this an urbanised cluster.

Though not at cluster level, but at city level, Amsterdam offers urbanisation economies having a mix of firms from various sectors, though a large part of it belongs to FIRE (Finance, Insurance, Real Estate).

The next category of function, **line headquarter,** is a core function which is vertically integrated. The focus of work process is tacit pooled and the focus of work process is largely internally oriented within the organisation though some amount of input sharing from external sources may take place.

In case of ING, as was shown earlier, there are six business lines. The Insurance lines which are divided across the geographical lines have one headquarter while the three banking lines have their separate headquarters.

The headquarter of Retail Banking and Commercial Banking are at Amsterdam Southeast in buildings Acanthus and Amsterdamse Poort respectively. The headquarter of ING Direct is at Hoofdoorp near the Schiphol airport. The line headquarter of the Insurance operation, under the brand name Nationale-Nedelanden is in the Hague.

Banking and insurance, the two lines of operations, as mentioned before, lie at the same level of corporate hierarchy within the ING Group but their headquarters, however, are located in Amsterdam and the Hague respectively - two cities at different levels of urban hierarchy.

The first criteria of location demand for the line headquarter function is that of moderately high representation. The location of the Insurance headquarter at Weena in the Hague is moderately high on representation as also in the case of the Commercial Banking headquarter in Amsterdamsepoort in Amsterdam Southeast. Both

these buildings are used for image branding in the company's brochures etc. The Retail headquarter, on the other hand, though located in the same area as the Commercial Banking headquarter is not in a highly differentiated building. The location of ING Direct at Hoofdoorp is also in a modest building.

As far as the factor of transferability is considered, all the locations of line headquarters are strategically located at important transport hubs. The transferability requirement for line headquarter is national and regional. In case of ING Direct located in Hoofdoorp near Schiphol International airport, the transferability is also global.

This was a requirement of the business when choosing this location due to the international clientele of this internet banking business. The locations at Amsterdam Southeast, as described earlier, provide very good national as well as regional connectivity by public transport and car both. The locations of the insurance operations of Nationale-Nederlanden at its headquarter in the Haag are also at strategic railway stations. These two stations are part of the six 'key projects' (Nieuwe Sleutelprojecten) to be developed along the HSL line identified by the ministry of VROM as strategic transport hubs combined with office and commercial development.

It was shown in section 6.3 that the nature of agglomeration economies for line headquarters is localisation.

The area of Amsterdam Southeast as mentioned earlier is a localization economy with a location quotient of 2.37. The location of the insurance line headquarter offices in the Hague are urbanization economies both being the 'Nieuwe Sleutelprojecten'. The location of ING Direct at Hoofdoorp is isolated and also is a localization economy.

The third category of function is client interface. This function is associated with the lines of business and these are primarily the points where customers of each business can visit and discuss various aspects with the officials of the company.

The customer interface of Commercial banking is located in Amsterdamsepoort at Southeast which is in a highly representative building but, as mentioned earlier. is a localised office cluster. During the interviews with ING, it was mentioned that this is not an appropriate location for customer interface and this function should instead be located where the customers are, for example in city centres. The corporate real estate department is already looking at separating the headquarter of Commercial banking which is internally oriented and its externally oriented customer interface functions (Interview ING 3)

Figure 10.15: Back-office functions Nationale-Nederlanden, Rotterdam (earlier the headquarter)
Source: http://www.panoramio.com/photo/18874402

Figure 10.16: Line headquarter ING Commercial Banking
Source: Browning 1992, p. 24

Figure 10.17: Line headquarter Nationale-Nederlanden, The Hague
Source: http://www.flickr.com/people/_fabio/

Figure 10.18: Headquarter, ING Direct
Source: www.maps.google.com

The ING Real Estate department, a part of ING Insurance, has a floor in the World Trade Centre building at Amsterdam Southaxis for customer interface. This is done so as to project a high image in an area with global and national transferability.

The **business backoffice** functions that are laterally integrated and provide input to all the business lines are referred to as 'staff functions' at ING. These functions lie in a matrix organisation where the top management of each department reports to the CFO of the ING Group and the management of the group working with each business line reports to their CEOs.

It can be seen in the department-building matrix that most of business backoffice functions such as Corporate control and finance, Corporate insurance risk management, Capital management etc are located in the ING House. The groups working with each business line are found within the organograms of the business line. This means that some FTEs of Finance, Legal etc would not be found under their respective departments but under that particular department. Figure 10.19 is given as an example.

Some of these business backoffices such as Credit risk management and Corporate audit service (CAS) are located in one or more of the buildings of Amsterdam Southeast. The reason for this is that the ING House itself being a relatively small building of 20,000 sq m cannot accommodate all functions. The spillover from ING House is efficiently accommodated in Amsterdam Southeast lying at a 10 minute proximity from Southaxis. In addition, while some business back-office functions like finance and legal have more tacit information flows, others, like audit and credits, are comparatively codifiable. This enables them to be located at a distance.

It is seen in this cluster of Amsterdam Southeast that several departments are spread across separate buildings and are able to function as one unit efficiently being in close proximity of 100-1000 metres to each other. This is a very important aspect of infrastructure sharing at cluster level where the departments' growth and shrinkage is accommodated within the cluster when an organisation occupies many buildings.

An office of approximately 45,000 sq m lfa in Arnhem accommodates the backoffice functions such as payments etc. of Nationale Nederlanden. This is an owned building which came into the portfolio of ING with Postbank.

The support backoffice and interface at ING are also referred to as 'support functions' like the business backoffice functions and follow a similar matrix organisation like them. These primarily include the facility management, operations and IT, and human resources departments.

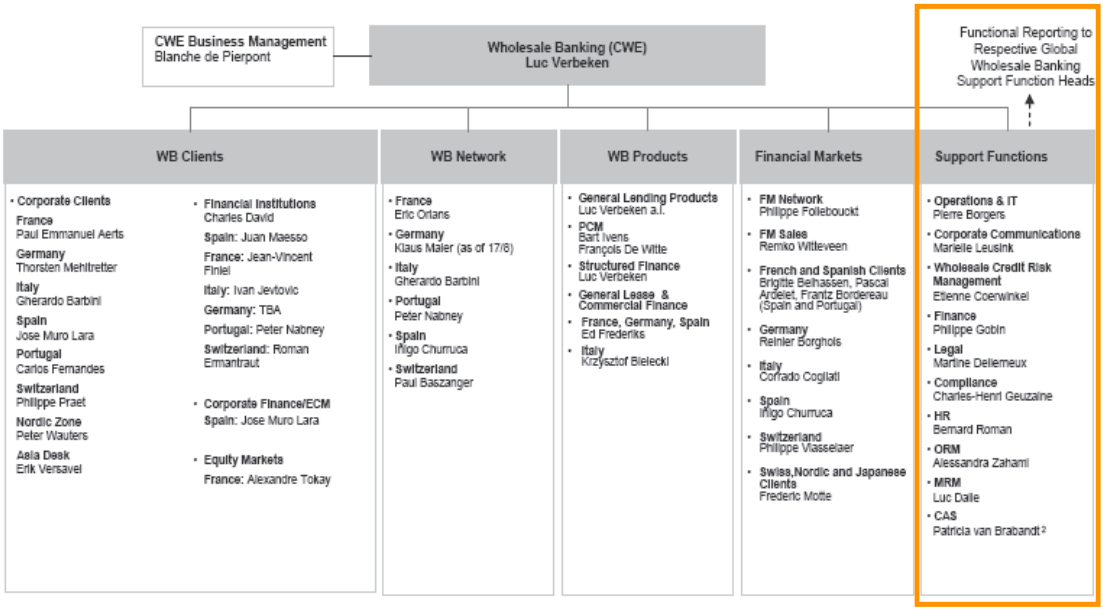


Figure 10.19:
Business and support back-office function within the line headquarter function of wholesale banking *(now called commercial banking)*

The back-office of the Facility management department is in Amsterdam Southeast and the operational end (interface) is found in most of buildings in the portfolio including the ING House.

The facility management department is in all the clusters including Leeuwarden, Rotterdam, the Hague etc. The back-office of the Human resource department is a building in the centre of Amsterdam which is also one of the legacy buildings and its operational end, like in case of FM, is spread across all the clusters of the portfolio.

The back-office of Operations and IT is mainly in the Amsterdam Southeast and in the north of Amsterdam – the former headquarter building of Postbank. There interface part of this department like the other two is in all clusters. In case of Operations and IT, there is a group which provides support to the main business instead of the infrastructural support. This group works together with different businesses to develop new products and their websites etc. This requires close co-ordination with these project groups that are spread across the portfolio too.

The next category of function is partially outsourced. ING has outsourced its archiving to an external agency and is located in Utrecht.

Offshored functions, in this context, are those that can be 'offshored' from the main premises due to possibility of codifiability of information. In case of ING these off-shored functions are the call centres located primarily in Leeuwarden, Heerlem and the earlier Postbank headquarter building at Sloterdijk in the north of Amsterdam. The main reason for the location of the call centre in Leeuwarden is the presence of legacy building here from the earlier portfolio of Postbank, the availability of cheaper and skilled labour for the purpose and lower rents (in case of the rented buildings). For the Nationale-Nederlanden call centre in Heerlen is availability of appropriate labour again while in case of the building in Sloterdijk, the reason is presence of legacy building. The other functions in the building at Sloterdijk are those that require minimal face-to-face contacts. These include the mailing service, transactions, archiving etc.

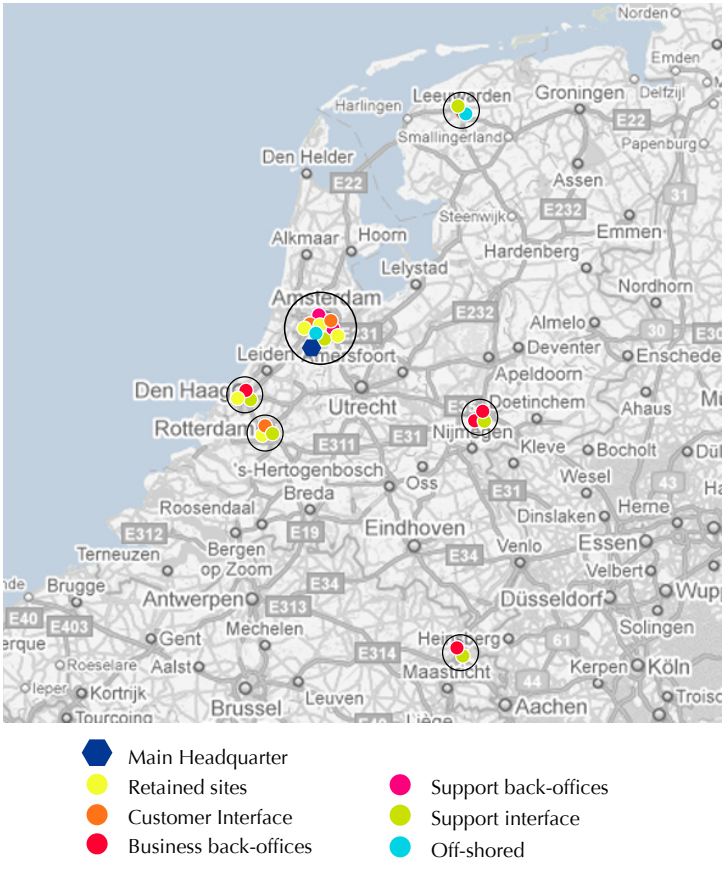


Figure 10.20: Distribution of the functions accross The Netherlands

	Departments	Buildings ACT	ALP	AMP	KC	NA	OL	TRC	FP	BV	IH	AZH	APT	CB	HSP	DP	WP	HIW	HP	ZT	ZM	JA	OV	AH	LN	LV	LZ	LZS	WS	WRG
1	C Oper Info&Security Risk Man	49	1	1				1			1		1						1											
2	Capital Management										19									2										
3	CAS	1	132	5		6					20					10			15	17						2				
4	CC&A	5		10		8					100		2																	
5	Corp Oper & Inform Serv	1																												
6	Corporate Compliance		61			1					4																1			
7	Corporate Control & Finance	1				1					109																			
8	Corporate Development										3																			
9	Corporate Finance Bank										23																			
10	Corporate Finance Insurance										11									1										
11	Corporate Insurance Risk Manag										25																			
12	Corporate Legal										44		1						5											
13	Corporate Risk	1		15							11					1														
14	Corporate Tax			2		1				1	31									1										
15	Credit Risk Management	222		61		24		3			1		1																	
16	Executive Board										19																			
17	Group HR	53		1		2					18		1						1											
18	HR Insurance Asian/Pacific/Eur										3									1										
19	HR NL & EU HRT	35		19		15		2			22		295			44		8	26	3					4	6				
20	ING Bank Nederland	1220	2	227		382	58		31	2	1		17	38		285		1434	148			1		100	1031	26	246			
21	ING Card													1													1			
22	ING Corporate Reinsurance																			18										
23	ING Direct																													
24	ING Facility Management	8	175	83	1	9	1	3	3		14		12			42	24	45	51	4			9		8	26				
25	ING Investment Management															4			2	798										
26	ING Private Banking	7																												
27	ING Real Estate							1								1			2											
28	ING Verzekeringen N.V.														150					18										
29	Insurance Central Europe	49																												
30	Intermediair	3		1		3				1	2		389			2823		1	1940	7		111						97	
31	Market Risk Management	14		59		5		39			2																			
32	OPS & IT	481	378	179	174	1645	774	140	546	36	19		204	3		211	405	1285	95	16					97	262	878			
33	Retail	162	2	11	2	111	10		74	91	2		10			9		69	5							15	5			
34	Staff Asia Pacific										4																			
35	Staff Insurance Americas										3																			
36	Staff Insurance Europe		3								4		1																	
37	Staff Retail Banking	5		1		6					14		4							3										
38	Wholesale			222						2			1			6	1		2										
39	Wholesale Banking	39	1	1179		116	19	177	10	44	2		3	9		19		2	6	1							1			
		2356	755	2076	177	2335	862	366	664	177	531		942	51	150	3455	430	2844	2299	890	20	112	9	100	1140	337	1132		97	

Spillover staff functions

Laterally integrated functions

Lateral integration at other

Laterally integrated support

Retail banking headquarter

Commercial banking

Insurance headquarter

Amsterdam South east
Amsterdam South Axis
Treublaan
In Haarlemmermeer, close to Schiphol
Rotterdam
Haarlemmerwerg (near Sloterdijk)
Den Haag
Arnhem
Leeuwaarden
Sittard

Figure 10.21: Building-department matrix ING

Chapter 11 CASE ABN AMRO BANK N.V.

Introduction

ABN AMRO Bank N.V. is an independent bank, wholly owned by the Dutch Government under the supervision of the Dutch Central Bank.

At the end of the third quarter of 2009, the total assets of the ABN AMRO amounted to EUR 203 bln. With an international presence in 16 countries and territories, this 'new' ABN AMRO employs about 22,300 people, of which 3,000 are outside the Netherlands. The Dutch State-owned business serves over 4 million retail clients and more than 370,000 business clients. The various products and services offered by ABN AMRO Bank include retail baking, private banking and commercial and merchant banking. The bank is headquartered in Amsterdam.

In the recent history of the organisation, ABN AMRO has undergone several changes – from being taken over by a consortium of three banks in the year 2007 and being split to its Dutch part being taken over by the Dutch Government. In the near future, ABN AMRO and Fortis Nederland are in the process of being merged into a single organisation.

The history of the bank, as was seen in case of the ING Group, is full of many acquisitions and mergers which will be recounted here as well as the associated real estate choices. The sources used for the analysis include the interviews with the organisation as well as its online archive[1].

11.1 History of the organisation and real estate location choices

The history of the bank dates back to the year 1824 with its roots in trading. The history of the bank has been divided into three phases. In the first phase of the development between 1984 and 1946, the trading organisations grew from trading into banking. It can be seen in these phases that one of the main objectives of all the banks was to find their way into the Amsterdam stock exchange and relocate to Amsterdam, as it was the financial centre of the country.

11.1.1 1824 to 1964: Initial years and growth into banking

As seen in the figure 11.2, this first phase consists of the (almost) parallel developments of four companies except Netherlands Trading Society, which was established 40 years before the other three.

[1] **http://www.abnamro.com/about/history/ahistory.cfm**

The **Nederlandsche Handelsmaatschappij** or the Netherlands Trading Society (NTS) was established in the Hague in 1824. This company played an important role in developing trade between the Dutch East Indies and the Netherlands. In the year 1831, the headquarter of the company was relocated from the Hague to Amsterdam, which was the centre of trade.

According to the official archive of ABN AMRO Bank, in the year 1858 the head office of NTS was shifted to the corner Herengracht and Spiegelstraat in the centre of Amsterdam by renovating an old canal house. This building was demolished in 1992.

Figure 11.1:
Head office of NTS in Amsterdam, 1858
Source: ABN AMRO online archive

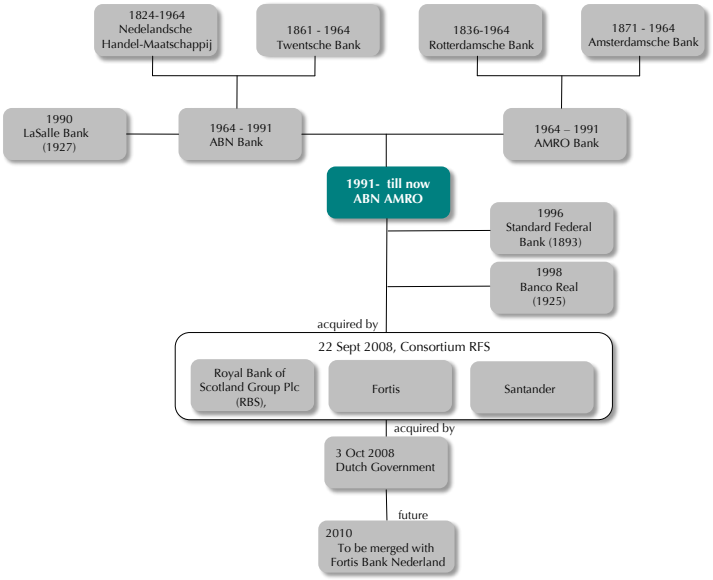


Figure 11.2: ABN AMRO Pedigree

It was in 1882 that the trading company started its banking operations. For many years, the only real estate assets of the company in the Netherlands were its head office in Amsterdam and a branch office in Rotterdam. It was after 1931, that the branch network of NTS in the Netherlands grew when the company took over Geldersche Credietvereeniging.

The **Twentsche Bank** was established as Twentsche Bankvereeniging in Amsterdam on June 24, 1861 as a partnership. The name was changed in October 1869 to Twentsche Bankvereeniging B.W. Blijdenstein & Co. (TBV). The bank grew fast and by the end of the 19th century had acquired subsidiaries (that carried their own names) in Rotterdam, Utrecht, the Hague as well as in Germany.

In 1917, the company became a limited liability company and was renamed Twentsche Bank. Following this the subsidiaries in different parts of Netherlands were changed to Twentsche Bank branches.

Figure 11.3: Rotterdamsche Bank-vereeniging Amsterdam head office on Rokin in 1914 (demolished 1987).
Source: ABN AMRO online archive

Rotterdamsche Bank was founded in Rotterdam on May 16, 1863 by a group of businessmen and bankers. The expansion of this bank really started in the year 1911 when it merged with Rotterdam's Deposito- en Administratie Bank (est. 1900) on April 19, 1911 to form Rotterdamsche Bankvereeniging (Robaver).

Rabover, soon after the merger, found its way into the Amsterdam Stock Exchange, which was a bold move given the rivalry between the cities of Amsterdam and Rotterdam.

Several other acquisitions followed and a process of concentration and amalgamation among the commercial banks was triggered by Rovaber which heralded the demise of many of the smaller banks.

During the general banking crisis of 1922-1925, Robaver was one of the most prominent victims. The bank re-adopted its old name of Rotterdamsche Bank in 1947 and took over Nationale Handelsbank in 1960

Figure 11.4: Head office of Amsterdamsche Bank, opened 1932 dominating Rembrandtplein, Amsterdam
Source: ABN AMRO online archive

Amsterdamsche Bank was established in Amsterdam on December 5, 1871 by a group of mainly German banks led by Bank für Handel und Industrie of Darmstadt.

After initial years of difficulty, Amsterdamsche Bank established Amsterdamsch Wisselkantoor in 1901. Although officially a separate company, in reality it was Amsterdamsche Bank's first branch. Between 1901 and 1908, Amsterdamsch Wisselkantoor opened branches in the cities of Utrecht, Eindhoven, Almelo and Enschede. It was then closed down and its branches turned into Amsterdamsche Bank branches.

Following the example of Rotterdamsche Bankvereeniging, Amsterdamsche Bank took over a number of local banks and turned them into branches. After this expansion and concentration characteristic of the entire Dutch banking industry around this time a period of consolidation began for Amsterdamsche Bank.

With the revival of banking after world war II, there were moves towards concentration. Amsterdamsche Bank and Incasso-Bank signed an agreement in October 1947 under which the two banks merged. This considerably expanded Amsterdamsche Bank's branch network.

11.1.2 1964 to 1991: Diversifications in banking and mergers

Two decades after the II World War, diversifications in the banking industry were on the rise where agricultural banks had started financing non-agricultural enterprises, savings banks had branched out into commercial banking and institutional investors had decided to provide medium-term loans to companies. It was at this time that ABN and AMRO banks were formed.

Amsterdamsche Bank and Rotterdamsche Bank announced their merger on June 11, 1964. **The new Amsterdam-Rotterdam Bank (Amro Bank)** was established as a holding company in Amsterdam in July 1964 and the old banks became operating companies.

Amsterdamsche Bank and Rotterdamsche Bank recognised that a merger was the correct response, although they first had to call a truce in the traditional resentments between Amsterdam and Rotterdam companies.

Like other banks, Amro Bank saw its retail banking grow enormously in the 1960s and 1970s. It strengthened its position in wholesale banking by taking over Pierson, Heldring & Pierson (PHP) in 1975.

Nederlandsche Handel-Maatschappij (Netherlands Trading Society/ NTS) and Twentsche Bank announced their intention to merge on June 4, 1964. The merger was finalised on October 3, 1964 and the new organisation began trading under the name of **Algemene Bank Nederland (ABN Bank)** of Amsterdam. An important reason for the merger was the international trend towards concentration. Banks were obliged to scale up their operations. The extensive international network of NTS and the strong Dutch home base of TB – notably in stockbroking and foreign exchange dealing – complemented each other perfectly.

The headoffice of ABN Bank was opened in 1973 at Vijzelstraat.

It was seen in this phase, that the different banks were either established in Amsterdam or they were moved later to Amsterdam. The banks expanded within Netherlands by acquiring smaller banks and converting them into bank branches. Figure 11.7 shows the headquarter buildings of different banks that were all in the inner city of Amsterdam. It will be seen ahead how with other developments, the organisation left the city centre and moved to the outskirts.

11.1.3 1991 to 2004: formation of ABN AMRO and growth

The two largest commercial banks in the Netherlands, Algemene Bank Nederland (ABN Bank) and Amsterdam-Rotterdam Bank (Amro Bank) announced a merger feasibility study in March 1990. The legal merger between ABN Bank and Amro Bank took place on 22 September 1991.

The reasons for the merger lay in the need to combine forces in order to expand and reinforce the prominent positions the two banks occupied in their own right. The worldwide scaling up of companies and financial institutions called for a bank with a strong capital base and broad expertise.

Figure 11.5: The 1930s building on Rembrandtplein Amsterdamsche Bank's old head office was drastically renovated and extended by Amro Bank in 1966-1972. In April 2002 the bank left the building.
Source: ABN AMRO online archive

Figure 11.6: ABN Bank's main office for the Amsterdam district at 68-78 Vijzelstraat, opened 1973
Source: ABN AMRO online archive

- Headoffice of NMB in 1958 (demolished 1992)
- Rotterdamsche Bankvereeniging Amsterdam head office in 1914 (demolished 1987)
- Head office of Amsterdamsche Bank opened 1932 Renovated to become head office by Amro Bank in 1966-1972
- ABN Bank main office for the Amsterdam district, opened 1973

Figure 11.7: Headquarters of different banks in the centre of Amsterdam

Figure 11.8: Foppingadreef, Amsterdam, head office of Amro Bank (1987-1990) and ABN AMRO (1992-1999).
Source: ABN AMRO online archive

Figure 11.9: ABN AMRO head office, Gustav Mahlerlaan 10, Amsterdam, opened 1999
Source: ABN AMRO online archive

Figure 11.10:
Oval tower in Amsterdam Southeast

With the merger, the bank decided to change its real estate location policy. While the bank already had a number of buildings in the centre of the city, ABN AMRO decided to have its headquarter in one of the buildings on the outskirts of the city. Amsterdam Southeast was an upcoming area at this time. Amro bank had already been in the Foppingadreef building between 1987 and 1990. This was the building chosen to serve as the main headquarter of the new ABN AMRO bank.

The two main reasons for this change were that the new bank was seeking a new image. The buildings in the centre of Amsterdam carried strong image of the different banks they had housed for several years, especially the headquarters of ABN and Amro banks at Vijzelstraat and Rembrandtsplein respectively. And secondly, these buildings were old and required large-scale renovations to accommodate modern technology and ways of working.

Soon after its movement to Foppingadreef in the area of Amsterdam Southeast, the bank had started looking at Amsterdam South-axis as a probable option for head quarters around the year 1994 which was the largest project within the country.

The building of ABN AMRO at Gustav Mahlerlaan was started in 1996 and was opened in 1999. The reasons for the choice of this location are the proximity to Schiphol international airport as well as the 'trend' of a diverse range of services moving to this area already such as lawyers and consultants.

However, since this is one of the first projects in Amsterdam South-axis, reasons of knowledge sharing, input sharing, rent seeking do not seem to be the most important reasons. In fact incentives from the government to the bank to move here cannot be discounted.

It was decided by the bank to leave all its buildings in the centre of Amsterdam and remove its presence from the centre while relocating in the peripheral office areas, Amsterdam Southeast in particular. The last of the buildings were sold by the bank in the year 2002.

A process of concentration in the Amsterdam Southeast area was subsequently carried out. Many buildings were leased in this area between 2000 and 2005, including the oval tower since the year 2001.

The choice of this area for concentration of activities has to do with the transport infrastructure offered by this area including easy connectivity to the inlands of the country as well as in Randstad, proximity of this area to the headquarter building at the Southeast, rent prices which are at sixty percent of those at Southeast and the redevelopment and renewal of the area offering new possibilities of

The other important buildings in the portfolio at this time included a building at Coolsingel, in the centre of Rotterdam which an owned building dating back to the 1940s to the time of Rotterdamsche Bank. There are two parts of this building, which were constructed in different periods. The low-rise part towards the front was finished in 1948 and accommodated the Rotterdamsche Bank. The modern high-rise part was constructed in the 1970s and housed the Amro Bank.

Amstelveen, which had the data centres of both banks ABN and Amro were combined within the same location.

11.1.4 2005 to 2010: problems and acquisition

In 2005, the company started to have problems and possibilities of mergers were discussed. A deal was eventually struck on 17 October 2007, whereby ABN AMRO was acquired through RFS Holdings by a consortium made up of The Royal Bank of Scotland Group plc (RBS), Fortis, and Santander.

On 3 October 2008, amid the turmoil in the financial market, the government of the Netherlands fully acquired all of Fortis's businesses in the Netherlands, including the Fortis share in ABN AMRO. The Dutch government intends that once separation of all ABN AMRO businesses has been finalised, it will integrate Business Units Netherlands, Private Clients and the International Diamond & Jewelry Group with the banking operations of Fortis Nederland to form a new Dutch bank.

The ownership of RFS Holdings/ABN AMRO is now RBS 38%, Dutch state 34% and Santander 28%.

The real estate portfolio of ABN AMRO after the split and taking over by the consortium had to be redefined and some parts of it went to RBS. The portfolio of ABN was considerably downsized at this time.

11.1.5 Present portfolio of ABN AMRO Bank N.V.

Presently, there is downsizing going on, where the objective is to group buildings further. Some buildings in the area of Amsterdam Southeast will be closed with the expiration of leases.

ABN AMRO occupies about 320.000 square metres of space in the Netherlands, 180.000 square metres of which is in and around Amsterdam. Figures 11.11a&b and 11.12a&b give details on these locations. While sixty percent of the total space in owned, forty percent is rented.

	Locations in Netherlands	sq m lfa
1	Amsterdam	182,500
2	Rotterdam	25,600
3	Amstelveen	52,100
4	Amersfoort	33,300
5	Utrecht	10,500
6	Almere	5,400
7	Zeist	4,100
8	Zaandam	3,700
9	Zoetermeer	2,000

Figure 11.11 a&b:
Portfolio of ABN AMRO in the Netherlands

	Locations in Amsterdam and around	sq m lfa
1	Ams South-axis	24,489
2	Ams South-east	186,232
3	Ams North-west / Sloterdijk	48,959
4	Ams Centre	21,688
5	Hoofdoorp / Schiphol	20,000

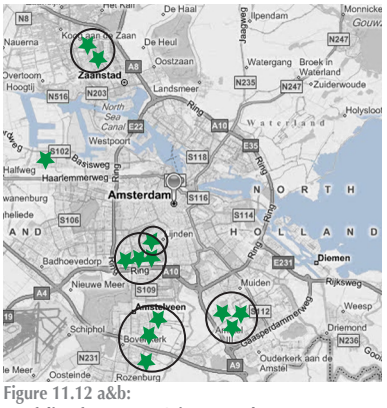


Figure 11.12 a&b:
Portfolio of ABN AMRO in Amsterdam

11.2 Organisational structure, functions and their location choices

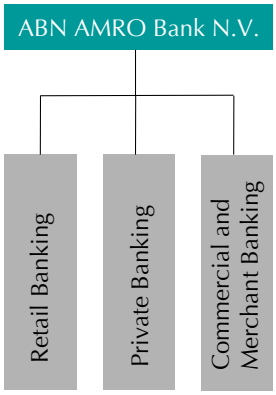


Figure 11.13:
ABN AMRO Bank N.V. operations

ABN AMRO N.V. in its present form has three business lines - retail banking, private banking and commercial and merchant banking (figure 11.13).

The retail banking business has been divided into four regions – Asia Pacific, Americas, European Union and the Netherlands.

It will be seen that the location choices of ABN AMRO and ING Group are similar for two of their most important locations in Amsterdam.

The main headquarter of both the organisations are at Amsterdam Southaxis while some line headquarters as well as backoffice functions for both are at Southeast. Therefore, in the analysis of functions and their location supply characteristics, each aspect is not repeated here.

The **main headquarter** of ABN AMRO is at the South-axis which is an owned building. ABN AMRO was one of the first organisations to move to the South-axis.

The building as well as the area is high on representation and the transferability offered here is at all scale levels of global, continental, national and local as was described in the case of ING Group headquarters also.

The area, with a 1.7 location quotient is a localisation economy that mostly accommodates business and financial services. The urban mix of the area, however, is plannedroposed to be high but not yet realised.

The most important difference between the ING Group main headquarter and the ABN AMRO main headquarter is the difference in their sizes. While the ING House was about 20,000 sq m in size, the ABN AMRO headquarters are about 80,000 square metres in size. This essentially means that in case of ABN AMRO, other functions are also combined with the the main headquarter function in this location.

Figure 11.14: ABN AMRO headquarters at Amsterdam South-axis
Source: Wikipedia commons

The **line headquarters** of ABN AMRO are at Amsterdam Southaxis and Amsterdam Southeast. The commercial and merchant banking headquarters are located at Amsterdam South-axis, while the retail and private banking headquarters are located at Amsterdam Southeast at Foppingadreef and the Oval Tower respectively. Foppingadreef building is the previous headquarter of Amro Bank and later of ABN AMRO for a few years.

In terms of representation, Amsterdam Southaxis is higher than Amsterdam Southeast as it is also in terms of the transferability. The expected representation for the line headquarter function as per section 6.3 was moderate. While the Southaxis offers global, national as well as local transferability, Amsterdam Southeast offers good

national and local transferability. Both the areas have a high concentration of the financial sector and are localisation economies.

The **client interface** function for commercial and merchant banking as well as private banking is located in Southaxis and at Apollolaan towards the centre of the city. The client interface office is in a separated smaller building close to the main headquarter building. The reason to do so was to keep a clear distinction between internally and externally oriented work processes. It was said during the interview (ABN Interview 2) that 'a small building is easier for clients to find and they don't get lost in the big headquarter building'. The representation of this office, being at Amsterdam Southaxis is high. The transferability offerred here is at all levels.

There are also client advice centres all across the Netherlands. Some of these advise centres are combined with the bankshops and others are combined sales and back-office functions. Some places that have the advise offices include Utrecht, Rotterdam, Zoetermeer.

The **business backoffices** include functions like finance, legal, risk as well as payments, credits etc. While finance, legal, risk are located at the Southaxis location with some spillovers at Southeast, others are at Southeast as well as in Amersfoort. The expected representation for this was low, while the transferability was at national level. The functions at the Southaxis location are high on representation. The input sharing, knowledge spillovers, rent sharing were average for this function and the nature of agglomeration, localisation.

The **support backoffice** that includes functions like IT, FM, HR, mail processing areas etc. In case of ABN AMRO, most of the support backoffices are located in Amsterdam Southeast and Amersfoort. The data centres are in Amstelveen. The main reasons for locating in Amersfoort relate to it being easily accessible since it is in the centre of the country for the employees. In addition, the area of Amersfoort also has availability of cheaper labour. The data centres in Amstelveen are there due to historic reasons – the data centres of both ABN as well as Amro Banks before the merger were in this area, which after the merger were combined together. Amongst the **support interface** functions, HR is grouped together at Amsterdam Southaxis while FM and IT departments are located across the portfolio in all cities.

The **partially outsourced** function in this case were not identified.

The **offshored** functions include call centres, warehouse, historical archives. There are about five call centres that are spread across various cities such as Zwolle, Almere, Breda. Rotterdam, Nijmegen, Utrecht. One of the advantages of being in a big city like Utrecht is that more number of people are available to work 24 hours which is an important requirement for call centres. The reason for this is availability of cheap labour. The archives and warehouse are in Weesp.

Case-study Conclusions

On the basis of the literature study and a preliminary case analysis, eight functions were identified based on certain criteria and their location demands were defined in chapter six.

Having conducted in-depth case studies, a reflection on the location characteristics of these functions would be made.

Main headquarter

The main headquarter being a representation of the organisation to the external world as well as of the organisations' culture and its aspirations to its own employees demanded a high representation. In all the four cases, the main headquarter functions were found in the most prestigious locations of the city – at the Leopold Quarter (European Commission) and Rue Montagne du Parc (BNP Paribas Fortis) in Brussels and at the Southaxis in Amsterdam (ING Group and ABN AMRO).

The level of transferability that was expected was global, continental as well as national to be able to connect to the important economic agents globally as well as the organisations' own departments nationally.

Analysisng the global transferability, it is seen that even though Brussels is an alpha city, and Amsterdam an alpha minus city according to GAWC rankings[1], the airport connectivity offered by the international airport at Amsterdam is higher than in Brussels. Schiphol Internaltional airport, according to ACI 2009 ranking[2] of the 'World's 30 busiest airports', ranks at number 21, while Brussels does not appear on this ranking . Schiphol is at number 5 within European countries after Paris, London, Frankfurt and Milan. In a ranking of European airports based on Most Destinations by OAG Max Online[3] for 2009 Schiphol airport, with 205 routes, appears at number 3 after Paris andFrankfurt but above London and Milan. Brussels in this case appears at number 10 with 144 routes.

The Southaxis is at 15 minutes from the Schiphol international airport by car and public transport both, offering the headquarters of ING and ABN AMRO a high level of global transferability. The Brussels international airport is connected with the Leopold Quarter and Rue Montagne du Parc areas by train, but the proximity by car is not as high as in case of Schiphol and Southaxis. All the locations, however, offer good continental and national transferability.

The nature of agglomeration economies was expected to be urbanisation economies since the headquarter function requires input sharing and knowledge spillover from varied types of input providers and other economic agents. The rent-seeking was also expected to be high. Considering all these together it was expected that the main headquarters would be located in urbanisation economies. However, it was seen with the case-studies that while all the main headquarters

[1] http://www.lboro.ac.uk/gawc/world2008c.html, 13/05/10, 12:30 hrs

[2] http://www.aci.aero/aci/aci/file/Press%20Releases/2010/P R_170310_PrelimResults_2009_final.pdf, 14/05/10, 19:23 hrs

[3] Cited in http://www.airportbusiness.com/2009/03/europes-airports-see-routereductions-of-around-7-in-2009/, 14/05/10, 20:33 hrs

are in urbanisation economies at city level, at area level they are primarily in localisation economies except the BNP Paribas headquarter at Rue Montagne du Parc which, being in the city centre, enjoys urbanisation economies at area level.

Line headquarters

The representation for line headquarters was expected to be moderately high. This was true in the case of ING line headquarters which are located in Amsterdam Southeast and in the Hague. In the case of ABN AMRO, some line headquarters are in Southeast, while some are in Amsterdam Southaxis which is a highly representative area. In case of EC, most line headquarters are in the Leopold Quarter, though they may not be high on representation at building level, the overall prestige associated with the area is high. In case of BNP
Paribas Fortis, the line headquarters are at Rue Montagne du Parc which is very high on representation and the retail headquarter is soon to be shifted to the North Station area.

The transferability was expected to be at national level so that the different businesses can be in touch with their operations through-out the country. This is true for most cases.

The type of agglomeration was expected to be localisation economies. This is true for all cases except for the Commercial Banking headquarter of BNP Paribas Fortis in the centre of the city in urbanisation economies at area level.

Business back-office functions

The representation of the business back-office functions was expected to be low. In the case of ABN AMRO, part of business backoffice functions are located with the main headquarter and hence have a high representation. And others are located in Amersfoort. In case of BNP Paribas also, these functions are located with the main headquarter. In case of EC, most of the business backoffice functions are in the Leopold Quarter, however they are away from the Schuman and Rue de la Loi clusters. And for the ING Group, the top level of business backoffice functions are in the headquarter building at Southaxis while the others are at Amsterdam Southeast and at Weena (for insurance) in Rotterdam.

The reason for the higher order business backoffice functions' (such as legal, finance etc) location in close proximity (sometimes in the same building) to the main headquarter is because of the close association of decision making at both these places and not yet fully codified communication. The lower order business backoffice functions (such as audit, payments etc) are more standardised and can be located at a distance which gives an opportunity to use the existing building stock in different parts of the city or country.

The category of business backoffice functions will need to be redefined to differentiate between high and low order functions since their location demands are different from each other. Therefore, a new category – 'business core' should be introduced here.

The transferability was expected to be at national level, which is true in all cases. In case of ABN however, this is also at global level since the entire department is located in Amsterdam Southaxis.

Client interface

This function was expected to have high representation in a good building and location. The focus on high representation of client interface function is clearly seen in most organisations. In case of ABN AMRO, this is located in Amsterdam Southaxis in a small building next to the main headquarter building. In case of ING, this is at the Southeast location for Commercial and Private banking and at the Southaxis for insurance (ING Real Estate in particular). For BNP Paribas Fortis, this is at Rue Montagne du Parc together with the line headquarters. In case of banks, smaller advice offices are located in the other cities of the country. For EC, the client interface function was translated as the representation office of EC in Belgium.

The transferability for client interface was local, which is found in all the places except EC. The nature of agglomeration was expected to be urbanisation economies at area level. This is true for all organisations but EC because it is located in a stand-alone building in the Leopold Quarter.

Support backoffice and interface

The support backoffice were expected to be low on representation. In case of ABN AMRO, the support backoffice functions are located in Amsterdam Southeast and Amersfoort and the focus on representation at these locations is low. For the ING Group also the focus on representation is low and its the support backoffices are located at Amsterdam Southeast, Sloterdijk as well as in Rotterdam. The BNP Paribas backoffice functions are in the North Station site and at the downtown location at Fossé aux loups, both moderate on representation. The support backoffices for EC are within the Leopold Quarter which is high on representation.

The support interface functions in most cases are spread out across the portfolio with some exceptions such as HR being largely groups in the case of BNP Paribas as well as ABN AMRO.

Partially outsourced functions

These functions vary from department to department and their location characteristics depend on the departments they are associated with.

Offshored functions

Offshored functions include functions like call centres, computer centres, archives, warehouses etc. The reasons for them to be offshored are lower rents and availability of cheap labour (in case of call centres). Therefore, these are found in cities where such possibilities exist.

Table 11.1, shows the changes and additions made in the categories of functions and their location requirements. Those marked in red are the changes or additions to the proposed categories.

	Functions	Revised location characteristics of different functions						Examples from cases
		Representation	Transferability	Input sharing	Knowledge spillovers	Labour market pooling	Rent seeking	Type of external economies	
1	Main headquarter	High	Global/ Continental/ National	High	High	Global/ National	High	**Localisation**	Management board
2	Line headquarter	Moderatele	National	Moderate	Moderate	National	Moderate	Localisation	Business lines, Policy DCs
3	Client interface	High	Local	Low	Low	Local	Low	Urbanisation	Advise offices, client meeting areas
4	**Business core**	**High**	**Continental/ National**	**Moderate**	**Moderate**	**National**	**Low**	**Localisation**	Legal, finance, corporate tax, risk
5	Business backoffices	Low	National/ local	Low	Low	National	Low	Localisation	Transactions, payments, audit, translations
6	Support backoffices	Low	National/ local	Low	**Moderate**	National	Low	Localisation	IT, facilitiy management, HR
7	Support interface	Low	National	Low	Low	National	Low	Dependant*	IT, facilitiy management, HR
8	Partially outsourced	Low	National/ local	Moderate	Low	National	Low	Dependant*	Archives, agencies, body shopping
9	Off-shored	Low	Local	Low	Low	Local	Low	Localisation	Archives, Call centres, translations, warehouses, computer centres

Table 11.1: Improvised categorisation of functions

* these depend on the different departments they serve or work with

part V

EVALUATION AND CONCLUSIONS

Chapter 12 EVALUATION AND DISCUSSION

The first part of this research posed certain research questions and based on the nature of inquiry, a comprehensive literature study was carried out as elaborated in the second part. This literature study gave, on the one hand, a framework of analysis by answering the first research question, and on the other, four theoretical propositions.

In this chapter, the theoretical and practical insights gained from the research are evaluated and discussed.

Whether this research has provided any theoretical insights is explored by making an assessment of the four propositions based on the knowledge gained from the empirical study. It will be seen that three of the four propositions have been proven through the empirical research.

12.1 Testing proposition I

Corporate hierarchies play a strong role in distribution of different functions across geographic space and correspond to the urban hierarchies.

Through this proposition, it was intended to discover if a strong and linear relationship between the corporate hierarchies of different departments of the firms and the urban hierarchies of different cities exists.

Having studied the organisation structures and the different departments and their functions within a firm, it was apparent that a distinction between higher-order and lower-order functions exists. This distinction, however, is difficult to place on a scale which will sort different types of functions in a hierarchical order. For example, it would be difficult to put the support backoffice, support interface and client interface functions in a hierarchy. What is possible and has been done is that the eight different functions have been identified as either core or supporting or speciality (table 8.1). This gives an indication of the relative importance of different functions but is not enough to place them in a hierarchical order.

As far as the urban hierarchy aspect is considered, it was seen that Randstad being a polycentric conurbation does not comply with the proposed idea that the highest order functions locate in the highest order cities. In case of ING Group, it was seen that the headquarter of the banking operations are in Amsterdam but the headquarter of insurance oprations are in Rotterdam – a city lower on urban hierarchy in terms of population as well as global connectivity.

The polycentric nature of Randstad, which offers high level of connectivity between its centres resulting in a high movement of labour, allows the spread of different levels of corporate functions to varying sizes of urban centres.

Finally, it must be said that there is some evidence of corporate hierarchies and urban hierarchies in the studied cases, where it is seen that the offshored functions are generally lower on corporate hierarchy and located in smaller size cities such as Leeuwarden, Weesp etc. However, this evidence is not strong enough to support this proposition. Hence proposition II remains unproven in this research.

12.2 Testing proposition II

The sources that generate the benefits of external economies and cause firms to agglomerate in geographical area are recognisable internally within an organisation, which cause its various functions to agglomerate in space.

The sources that cause firms to agglomerate in geographical space considered in this study are infrastructure sharing, input sharing, knowledge spillovers, labour market pooling, consumption and rent seeking. Based on literature, the precise nature of these sources for external economies is first presented at the geographical scale levels of urban area and cluster in table 12.1.

Correspondingly, these sources are examined for internal economies at the scale levels of cluster and building. From the table below, it can be seen that in case of internal economies, it is infrastructure sharing, input sharing, knowledge spillovers and rent seeking that have an impact as sources at cluster as well as building level. Labour market pooling and consumption, on the other hand, prove to be sources of external but not internal economies.

A description of each of these sources, for external economies and for internal economies at different scale levels follows.

Infrastructure sharing

Infrastructure sharing, in case of external economies, is active at both, the urban area level as well as cluster level. In the former, this refers mainly to the overall public infrastructure that includes the road, rail and metro network, airport and the connectivity it offers, schools etc. At the cluster level, this refers particularly to the transport nodes as well as high digital connectivity by internet and telecommunication.

For internal economies, the infrastructure sharing takes place at cluster level as well as at building level. In the former, it is found that all the case-study organisations share their building infrastructure between their different departments. This, in particular, offers the organisation the required flexibility when there is a change in structure or the organisation itself is growing or shrinking. At cluster level, some facilities such as parking and training facilities get shared. While sharing of parking was seen in all the case-studies, the latter was seen

	External economies		Internal economies	
	Urban area level	Cluster level	Cluster level	Building level
Infrastructure sharing	Overall public infrastructure - transport, schools, infrastructure	Important transport nodes at different levels of transferability, telecomm	Buildings in a cluter shared between departments esp. in restructuring. Facilities like parking & training	Floors shared between departments. Cafeterias in one building get shared
Input sharing	In urbanisation/ localisation economies esp. for high order functions (HQ, line HQ)	In urbanisation/ localisation economies depending on types of functions	Business back-office and support interface provide input to all business lines	Business back-office and support interface provide input to all business lines
Knowledge spillovers	Face-to-face contacts in urbanisation and localisation economies by virtue of diversity and specialisation	Face-to-face contacts in urbanisation & localisation economies	Formal face-to-face contacts common due to the presence of shared training and conference facilities. Also, other organised meetings	Formal and some informal contacts, owing to the presence of having a common cafetria, restaurant
Labour market pooling	Different hierarchies of urban areas offer different different labour markets	Not at cluster level. Good accessibility allows movement	No evidence	No evidence
Consumption	Active by virtue of the size of city and urbanisation economies therein	Not at cluster level	No evidence	No evidence
Rent seeking	Firms locate in the same cities as political and governmental institutions	Locating in the same cluster is seen	Strong tendency to be close to the headquarter and top management exhibited	Proximity to top management found in buildings but to lesser degree

Table 12.1:
Sources of external and internal economies

in the case of the European Commission where the administrative school is located in the Leopold Quarter as well as at ING where the audio-visual and conference rooms are shared by many different departments. The child-minding centres located per pole at EC are another example where infrastructure is shared at cluster level.

Input sharing

At urban area level, input sharing as a source of external economies exists in the form of urbanization and localisation economies where different firms receive input from various input services such as lawyers, consultants etc.

At cluster level also input factor for service sector firms are found as localisation or urbanisation economies.

In case of internal economies, the input sharing factor also acts as a source of agglomeration of different activities of the organisation. Business back-office (legal, tax etc) and Support interface (IT, HR etc) functions are two laterally integrated functions (refer table 8.1) that provide input to the main business lines and other departments of the organisation. To take advantage of these internal input functions different parts of the business tend to co-locate at cluster level as well as at building level.

In case of BNP, the support interface departments are located per cluster as in the case of EC.

Knowledge spill-overs

The knowledge spill-overs facilitated by face-to-face contacts are the most difficult to measure. Here, however, it is primarily the organisations' orientation to the possibility of knowledge spill-overs that is considered. From literature, it was seen that knowledge spill-overs take place at urban as well as cluster level owing to the specialisation and diversity at both these scale levels. Rosenthal and Strange (2003, p. 30), quoting Jaffe, say that knowledge spillovers attenuate with distance and are most effective at SMSA (standard metropolitan statistical area) scale level.

In case of internal economies, knowledge spillovers can also be assessed based on the inclination of the organisations towards face-to-face contacts and how commonly do they actually take place between the various departments/ individuals of the organisation. It is seen that at cluster level, these contacts take place at a formal level due to the presence of more formal meeting opportunities like training and large-scale conference facilities. At building level, these contacts tend to be both formal as well as informal since informal areas such as cafeterias and restaurant offer that possibility.

Labour market pooling

Labour market pooling is a very important agglomeration source which acts at different scale levels. Looking at the urban area level, it can be seen that urban areas lying at different levels of the urban hierarchy offer different types of labour – some more skilled than others. This was found in the ING case where the call centre in Leeuwarden offered cheap labour. This factor is not seen at cluster level especially if the accessibility is good which allows labour mobility between areas in a city.

Labour pooling between departments of an organisation was not found at cluster or building level.

Consumption

This is primarily an urban area factor (urbanisation economies) which is found to be active by virtue of city size and the consumption opportunities it offers.

Rent-seeking

The source of rent-seeking, in available literature, has been found to be a significant agglomerative force. In case of external economies, this source is found to be active at urban area level as well as cluster level where various firms choose to locate close to important governmental institutions. This was seen at cluster level in case of BNP Paribas Fortis.

In case of internal economies, the important political institutions are translated as headquarter functions and other top management of an organisation. It is seen that many departments and individuals seek to locate close to these high-order functions at cluster as well as building level. This was confirmed at three of the four case-studies

12.3 Testing proposition III

The opposite forces – centripetal and centrifugal – shaping the geographical organisation of economic activity at higher scale levels (that of city and regions) are also be found to be active at the scale level of an organisation.

The idea behind this proposition has also been elemental in the conception of the research questions. It was presumed that if there are opposing forces acting in an urban area, it should be useful and optimal for firms to choose their location in accordance with these opposite forces. At the level of an individual firm, it would mean understanding the different functions and activities performed within the organisation and then exploring their particular location requirements. This was achieved in the previous chapter.

Here, it will be proven that the two opposite forces do exist at the scale level of a firm and cause different functions to cluster as well as disperse.

In section 3.2, the centripetal and centrifugal forces given by Krugman at urban area or regional level were discussed. The centripetal forces included market-size effects, thick labour markets, pure external economies while the centrifugal forces included immobile factors, land rents and pure external diseconomies.

The centripetal and centrifugal forces acting at the scale level of an individual organisation are shown in table 12.2 and each of these are described.

Infrastructure sharing is the first centripetal force causing agglomeration at area as well as building level and it includes sharing of the building infrastructure between departments as well as facilities such as training and conference areas and parking facilities.

Centripetal forces	Centrifugal forces
Infrastructure sharing	High property rents
Tacit information exchange requiring face-to-face contacts	Legacy buildings that are spread-out
Input sharing	Immobile labour
Rent seeking	Clients located in different areas
	Business continuity

Table 12.2:
Opposite forces acting at individual firm level

The second agglomerative centripetal force relates to the fact that a large number of functions within an organisation involve tacit information exchanges which require face-to-face contacts, that cause different departments of a firm to agglomerate in a geographical area.

The next agglomerative factor is input sharing of internal services, which was explained in depth in proposition I. This includes the business backoffice functions and the support interface functions.

The last centripetal force is rent seeking. As elaborated in the previous section, this refers to the tendency of different departments to locate close to the high order functions of main and line headquarters, which acts as an agglomerative force.

There are five opposing centrifugal force as given in table 12.2. The first one is high property rents. This refers to the fact that when firms' real estate assets in a particular area of the city grow, the rent prices in that area also grow and with it the firms lose their negotiating power in terms of property rents. This was seen, most prominently, in the case of the European Commission, which caused the EC to adopt a multi-pole approach instead of concentrating all functions in an area.

The second centrifugal force relates to the spread-out legacy buildings that become a part of the real estate portfolio as a result of several acquisitions and mergers between organisations. In order to optimize on their real estate assets, organisations spread their functions depending on the location of these legacy buildings.

The third centrifugal force is the factor of immobile labour which refers to employees that reside in different cities and choose not to travel to other cities for work. The firms are found to spread their activities to these areas to accommodate these employees. This was seen in BNP Paribas and ING.

The next centrifugal force is the spread-out locations of clients in different regions. This was also found in case of all banks that have to respond to clients.

The fifth centrifugal force that causes organisations to disperse is business continuity that was seen in the case of BNP Paribas in particular.

The results of the three propositions are summarised in the table below.

Table 12.3: Results of the propositions

Propositions		Proven/ unproven
Proposition I	Corporate hierarchies play a strong role in distribution of different functions across geographic space and correspond to the Urban Hierarchies.	Unproven
Proposition II	The opposite forces – centripetal and centrifugal – shaping the geographical organisation of economic activity at higher scale levels (that of city and regions) are also be found to be active at the scale level of an organisation.	Proven
Proposition III	The sources that generate the benefits of external economies and cause firms to agglomerate in geographical area are recognisable internally within an organisation, which cause its various functions to agglomerate in space.	Proven

12.4 Other important observations

12.4.1 Change in usage of buildings from higher to lower order functions after mergers

One of the clearly discernable patterns in the accommodation approach of the organisations that have been studied relates to the change in usage of buildings from higher to lower order functions. This, in most cases, can be seen to happen when big mergers between organisations takes place. This essentially means that the buildings that earlier accommodated the main headquarter function of a certain organisation after a merger are accommodated with lower order function of line headquarter. The buildings that accommodated the line headquarter functions change to accommodate backoffices over a period of time.

The main drivers for this pattern are twofold. First of all, after a merger it becomes rather important for organisations to create a new image and a brand and to disassociate themselves with the earlier brand. The second factor relates closely to the neighbourhood succession theory (described in section 3.5) according to which neighbourhoods and its buildings start to become obsolete over a passage of time. These buildings ask for large-scale renovations to be able to adapt new technology and new workplace concepts. The organisations in this case prefer instead to move to newer neighbourhoods. This is also good for their image.

This is a pattern which can be noticed particularly in the portfolios of ING Group and ABN AMRO and to a lesser degree in case of BNP Paribas Fortis. In the case of EC, this is not yet seen primarily for two reasons. Firstly, that the organisation and its real estate history is comparatively new. The foundation of EC dates back to the 1950s while the other three studied organisations go back up to the 1800s. And secondly, the EC has been a single organisation where no mergers and acquisitions have taken place.

To illustrate this pattern, examples from ING Group and ABN AMRO are given.

When NBM Postbank Group merged with the Nationale Nederlanden Group to form the ING Group in 1991, the new board of directors were accommodated in the previous NMB headquarter at Amsterdamsepoort at Amsterdam Southeast initially. The construction of a new global headquarter was started a few years after this merger at Amsterdam Southaxis in the same year. The building was opened in 2002 and the board of directors of ING Group moved here. The previous main headquarter at Amsterdamsepoort now became the line headquarter for Commercial Banking business line. The former headquarter of Postbank at Sloterdijk today accommodates backoffice functions – mainly IT.

On the insurance side, the line headquarter of Nationale-Nederlanden in 1991 was moved to its new headquarter at Weena in Rotterdam. A few years later, this line headquarter moved to the Hague at Prinses Beatrixlaan while the former headquarter building at Weena now accommodates backoffice functions.

In case of ABN AMRO, similar observations can also be made. The headquarters of ABN Bank and AMRO Bank which were in the city centre were left to accommodate the new board of directors of the ABN AMRO bank at Amsterdam Southeast in the year 1992. Construction of a new headquarter building was started in 1994 at Amsterdam Southaxis and the building was opened in 1999. The previous headquarter at Southeast now became the line headquarter for the Retail Banking, NL business line. The previous headquarters of ABN and AMRO banks in the city centre accommodated backoffice functions till about 2002 when these buildings were finally sold-off.

In case of BNP Paribas Fortis, this change in functions is not very prominent and the main reason for this is that the organisation has chosen to stay in the centre of the city unlike ABN AMRO and ING Group that left the city centre in the late 90s and early 2000s. This, as was mentioned earlier, also has to do with the limited availability of space outside of Brussels.

In case of EC, the main headquarter has been in Berlaymont since the 1960s except for a period of thirteen or so years when the Berlaymont was under renovation between 1991 and 2004.

In the current plans for Project Urban Loi in the Leopold Quarter, several new buildings have been proposed. It remains to be seen if the headquarter function would be shifted to a more impressive building in this area or would continue to be in Berlaymont which is recognisable by most people as the headquarter of the organisation.

12.4.2 Role of public policies for development of large urban projects

When comparing the approach towards location choices between the two cases each in Brussels and in Amsterdam, it can be seen that the role of public policies at national and regional levels towards development of large urban projects as well as other regulation frameworks have affected the location choices of the organisations in these two cities.

In Amsterdam, the government policy of preserving the character of the city centre clubbed with development of important urban projects at transport nodes (Amsterdam Zuid, Amsterdam Southeast, Rotterdam Centraal, the Hague Centraal stations) promoted the ING Group as well as ABN AMRO to move out of the city centre and locate in these new developments. The municipalities are also often believed to be giving incentives to organisations to relocate to these

new developments – something which is difficult to prove due to high levels of confidentiality involved but has been mentioned in literature (such as Brower 1989, p. 263 mentions about Amsterdam Southeast).

In case of Brussels, due to the political rivalry between Flanders, Walloon and Brussels regions, such large urban projects outside the city centre have not been viable. While many organisations requiring less space did move to the regions at the periphery of Brussels where the office taxes offered were lower, the case-study organisations, BNP Paribas Fortis and the European Commission, which are bigger chose to stay within Brussels. The reason for the EC to continue being in this area is politically inspired and is related to the high-level negotiations with the government of Brussels. And the reason for BNP Paribas Fortis to remain within Brussels is to remain neutral in terms of the culture and language as was discussed in the case-analysis.

12.4.3 Strategy to have single or multiple user per building and its implications

This aspect refers to the fact that while some organisations choose to dedicate one department in one building, others tend to mix different departments within one building.

In the case-study organisations, it was seen that the EC has adopted a single user approach while ABN AMRO, BNP Paribas Fortis and ING Group are multiple user organisations.

One of the implications of this approach is that when a department grows or shrinks, the single-user concept does not offer the flexibility to accommodate it.

The other effect this choice has is that of decentralisation. In a single-user approach, it is possible to let each business include the real estate, its maintenance etc in its profit and loss balance sheets. The corporate real estate department, in the process, loses its importance and eventually the location strategies and workplace concepts are not synchronised or standardised for the organisation anymore.

The single-user approach leads to vertical integration within each department and the distinction along functions may not always be easy to establish.

12.2.4 Maintaining flexibility to accommodate change is high on priority

It is seen in the present-day economic situation that structural demands evolve and change frequently within organisations demanding more flexibility from its accommodation.

The work processes have undergone tremendous changes in the past decades as the shift from Fordism to post-Fordism took place and the service sector replaced the manufacturing sector as the biggest component of world economy. These changes are clearly evident in the high demand for flexible work processes. In addition, the fast-changing economic situations also cause the structure of organisations to undergo rapid changes. In an environment of mergers and acquisitions and growth and shrinkage, the structure undergoes significant changes and off-late complete overhauls have been seen.

This requires the space demand to be flexible to easily adapt to these changes. The course that organisations take to ensure this flexibility is by sharing the building infrastructure between departments. For this, the buildings tend to be clustered.

The demographic demands are also oriented towards flexibility of work hours and concepts of working from home. It was seen in the cases that employees seek such flexibility where they can work in the city of their residence instead of travelling to bigger cities.

Location strategies, therefore, have to be able to accommodate these aspects and many others that in fact are opposite to each other. These were elaborated in proposition II in detail.

12.2.5 The banking sector is localised

From the table 11.1, revised after in-depth case-study analysis, it can be seen that the nature of agglomeration economies at cluster level for all the functions except client interface is localisation economy. This analysis showed that the banking sector seems to be seeking a localisation economies at area level and urbanisation economies at city level. The same was found true for European Commission too.

Chapter 13 CONCLUSIONS & RECOMMENDATIONS

This research started from the European Commission's inquiry about their approach towards organising their real estate portfolio in three to four 'poles' or clusters in the city of Brussels. For the EC, at this stage of large-scale portfolio restructuring, the advantages as well as disadvantages of such an approach are important to assimilate. It is also important for EC to understand how the different functions of their portfolio can be located in these two to three locations. This knowledge is important for most large-scale organisations.

This inquiry, further, lead to a wider research investigation, where the objective was to firstly, understand the factors that drive location decisions, secondly, to explore if it was possible to identify different functions within an organisation which have their individual location requirement and finally to define their location demands.

The main idea around which these inquiries were based is related to the notion that agglomeration economies in various forms are the reason for firms to cluster. But that there are opposite forces acting on an organisation and this fact allows it also to disperse its activities. A balance between these two forces ensures an optimal real estate portfolio.

13.1 Research questions reviewed

There were three main research questions.

> ***What are the main internal and external demand drivers that play a role in location choices of large service sector organisations in an urban area?***

This question, which is a generic one, was answered from literature. Internal and external drivers for location choices were found in the literature of urban economics as well as corporate real estate management. These were combined together to arrive at a comprehensive list of internal and external drivers (chapter 5). This also formed the basis of the framework for analysis of the four case-study organisations.

The second main question concerns the approach for location of different functions of an organisation.

> ***Is there an alternative approach for location of different functions of a service sector organisations than clustering large parts of the portfolio together?***

The first sub-question of this was *'Is it possible to identify different categories of functions within a service-sector organisation?'*

To answer this question, a set of four criteria were used to identify different types of functions within a service sector organisation. Based on these criteria and using the preliminary case-study analysis, eight different categories of functions were identified (chapter 8).

The second sub question was *'Do these functions have particular location demands? If yes, what are they?'*

To assess the location demands of these eight functions, seven location criteria were used. Based on these criteria, it was possible to define specific location profiles for each of the functions. Further, a location supply profile of the current situation was also described. While some of the demands profiles matched the supply profiles, others did not.

A revision of the location characteristics of the different functions was made after the detailed case study analysis. In this, the business back-office function was split into business core and business back-office functions. Also, particular location attributes were corrected where required.

The main question here was if there could be an alternative approach for location of different functions of a service sector firm than clustering different functions together.

Having answered the sub-questions, it can be seen that there indeed is an approach possible that is based on individually identifying the different functions and subsequently ascertaining their location requirements instead of dividing the organisation along the department or business lines (figure 13.1).

This approach responds to individual requirements and is less generic in nature.

The third main question of the research moves back to theory.

Is it possible to apply the theories of Urban Economics at the scale level of an individual organisation?

The two theories that this research is built upon are the theory of agglomeration economies and the theory of two opposing forces

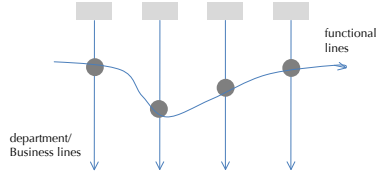


Figure 13.1:Vertical department/ business lines and lateral functional lines

shaping the economic geography. Both of these, in proposition I and II, were applied from larger scale levels to lower scale levels and from external factors outside of the firm to those internal to the firm. Both these propositions were tested positive and proven in this research (chapter 12).

13.2 Clustered or grid-like approach

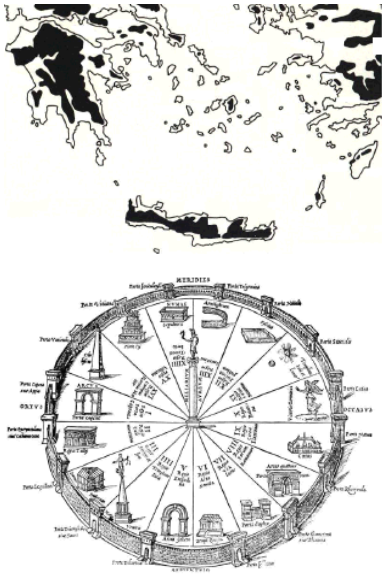


Figure 13.2: The Greek archipelago
Figure 13.3: The Roman empire
Source: Brussels-a manifesto, p. 10

The first question put forth by EC that triggered this research concept was *'Why is the pole approach that we are inclined to better than a grid-like approach?'* This question was put forth by the organisation to receive a reflection on its own real estate location strategy in Brussels which is focused on clustering its portfolio in three to four poles in Brussels.

To reflect on this, it is important to first understand what 'grid-like' and 'pole' approaches mean. The Berlage institute project *Brussels – A Manifesto; Towards The Capital of Europe* took a relook at the portfolio of the EU institutions in Brussels and subsequently proposed a new approach of relocation for these functions. This project looked at two concepts for this, the first one was that of the Greek archipelago and the second one that of the Roman empire.

The Greek archipelago is a group of separate islands with no prominent centre that together can be seen as a whole. The Roman empire, on the other hand, has a centre of command with which the other parts of the empire are connected.

While the Greek Archipelago can be seen as a grid-like approach, the Roman empire is a clustered approach.

In this Berlage institute approach, it was the Greek archipelago that was chosen to redefine the presence of Europe in Brussels and subsequently a proposal was made which spread the different institutions of EU across the 'problem sites' of city of Brussels (figure 13.4)

Figure 13.4: Choice of site in Brussels by Berlage project
Source: Brussels a manifesto, p. 84

The above approach taken by the Berlage institute can be seen as a grid-like approach at the scale level of a city.

Another reflection, which can be made concerning the grid-like approach is that the two factors that enable or encourage a grid-like approach are market demand and transport infrastructure. These two factors were identified in the theoretical input as the market and transport principles (section 3.3 and 3.4). This point will be illustrated with theory and examples from the case studies.

The market principle which included the central place theory (CPT) was not considered in this research due to it being effective when a certain function is influenced by demand. The function, client interface, is considered a corporate function but is influenced by

the location of the clients and in this process follows the principles of central place theory. This was seen in all three case-studies of the private banks where the banks have advice offices from commercial and private banking clients across the countries influenced by the clientele in different areas. The market principle, in this regard, is one of the factors that determine a grid-like pattern of certain functions.

As far as the transport infrastructure enabling a grid-like distribution is concerned, in the case of ING Group it was seen that all the main and line headquarters of the organisation are located at important train stations – Amsterdam Southeast, Amsterdam Southaxis, Den Haag central station and Rotterdam central station (previous headquarter of Nationale Nederlanden). Such a location choice facilitates easy transferability and accessibility for the employees coming from different parts of the country.

The proposal by Berlage also followed a grid-like approach along the transport principle across the city where the European institutions were located at important metro lines across the city. This approach followed the vertical lines along (as shown in figure 13.1) different institutions and spread them across the city.

The question of the European Commission, however, concerned the scale level of urban area – the Leopold Quarter in their case. The current plans of the EC follow the above mentioned approach of the Berlage institute as well albeit at the scale level of an individual organisation. where the different departments are distributed across different sites, instead of distributing the portfolio along the functional lines.

The organisation wished to understand the advantages and disadvantages of clustering the functions together along the axis of Rue de la Loi or to adopt a more grid-like approach where the departments of the EC are interspersed with other urban functions. Leanne Reijnen, a master student at the real estate and housing department at TU Delft made a proposal for such an approach where she grouped a number of buildings of the EC around an iconic building by them and laid five such clusters in the Leopold Quarter. This allowed other urban functions to be located between these nodal points. The five groups lie on the grid of metro lines.

In order to better reflect on the advantages and disadvantages between the clustered and grid-like approaches at different scale levels, the scale levels defined in chapter six are redefined here.

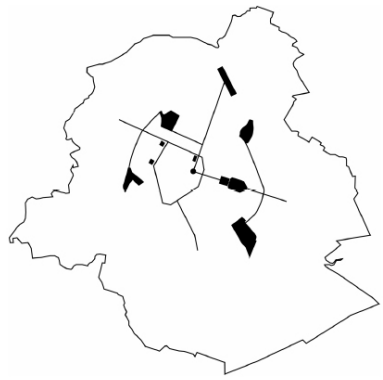


Figure 13.5: Different sites of Brussels to be connected by metro lines
Source: Brussels-a manifesto, p. 84

Figure 13.6: Portfolio of the EC organised along a metro line in Leopold Quarter
Source: Reijnen, p. 10

13.3 Clustered Vs. grid-like approach at different scale-levels

In case of the European Commission, the reflection on the choice between grid-like and pole approach is mainly to be made at the building, area and city scale levels. The country scale level is not relevant to this case because the scale level in question is up to a city level in Brussels.

In order to get a comprehensive understanding of the various advantages and disadvantages associated with adopting a clustered approach as opposed to a grid-like approach, the centripetal and centrifugal forces at different scale levels are analysed (figure 13.7)

At the building level, the centripetal forces that act for organisations to locate in a building instead of being split across buildings are infrastructure sharing and face-to-face contacts. While organisations may seek for large grain sizes for each department or a number of departments, due to regulations with limitations on the total surface are, permissible heights etc, the organisations have to locate in smaller buildings close together. This is seen in the case of EC where departments are split across a number of buildings adjacent to each other.

At area level, the two possibilities to locate are clustered together (100 m to 1000 m) and spread in a grid (1 to 3 km). While the first one allows for very few other urban functions to appear between the portfolio of an individual organisation, the second one lets this take place. The reasons to remain clustered at area level are infrastructure sharing, face-to-face contacts, input sharing as well as rent seeking. The reasons that cause this dispersal at area level are better urban synergies by aiming for a mix of functions as well as bid-rent function where certain organisations may out-bid others to claim a building closer to the highway, parking, train station etc.

Further, the centrifugal forces that cause the dispersion of the portfolio of an organisation from area level to city level are high rent levels within a cluster (as was seen in case of EC in Leopold Quarter) and need for business continuity (seen in case of BNP Paribas Fortis).

At the city level, the two possibilities that have been assessed are again that of clustering (3-8 km) in one part of the city or dispersing across clusters (3-20 km) in the city in a grid-like fashion. The main centrifugal forces in this case include high rent levels as well as legacy buildings that are spread out in different parts of the city (as seen in case of ING with the former headquarter of Postbank in the north of Amsterdam).

The centrifugal forces that cause dispersion of an organisations' portfolio from city level to country level include labour market pooling, client locations as well as legacy buildings.

At country level too, it can be a clustered approach (20-80 km) or grid-like approach (20-300 km) spreading the portfolio of the organisation cities across the entire country.

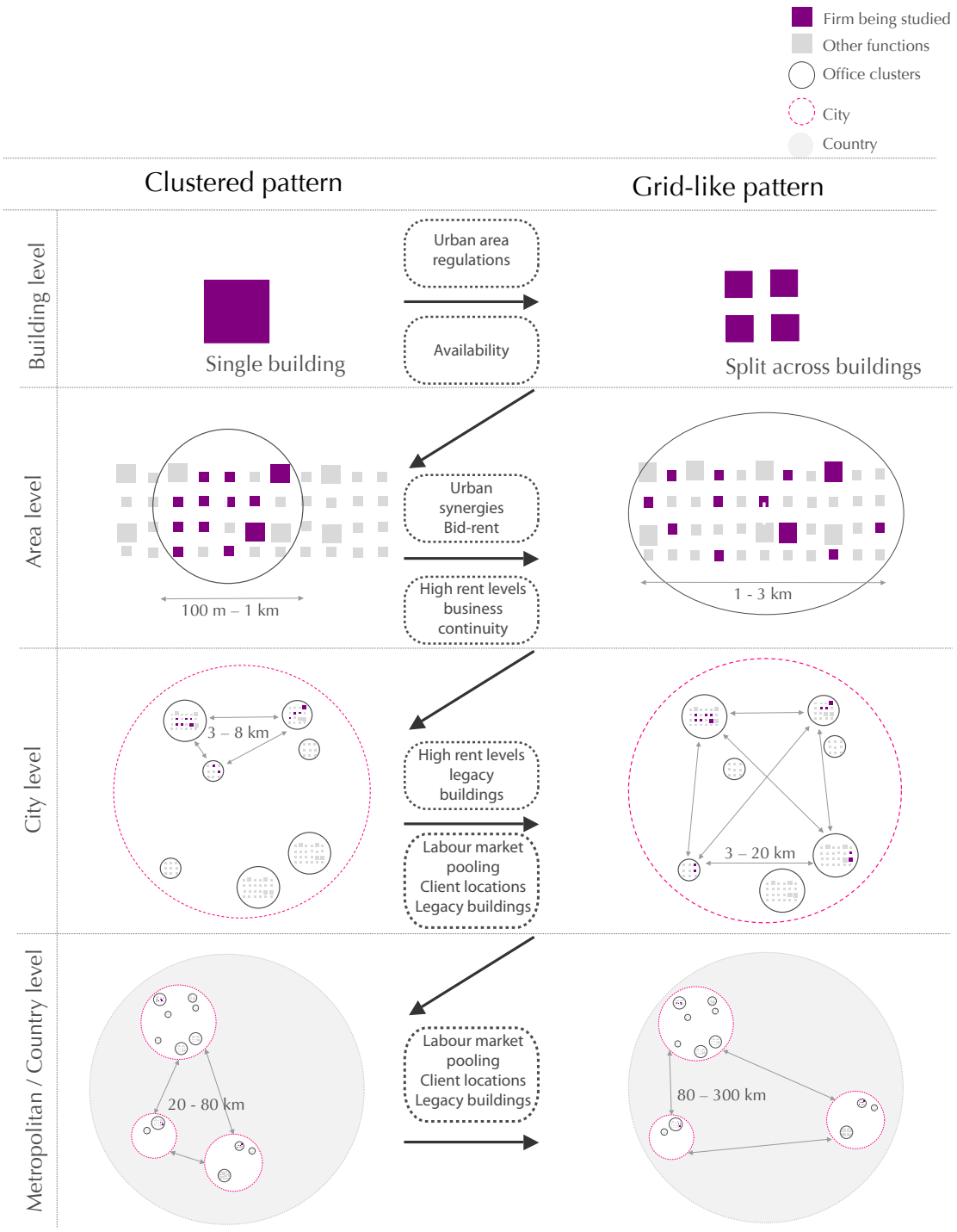


Figure 13.7:
Forces causing dispersion at various scale levels.
The drivers to disperse at various scale levels

13.4 An inter-disciplinary approach

This research is an inter-disciplinary approach developed on the two fields of study – uUrban eEconomics and cCorporate rReal eEstate Management. This interdisciplinary approach was aimed to gain new insights into the particular tendencies of an individual firm locating in an urban area.

It was proven that most of the sources of agglomeration economies which act outside the individual firm to cause the benefits of localisation or urbanisation economies, also exist within a firm between its various departments. The sources that exist at individual firm level and cause the benefits of agglomeration economies are infrastructure sharing, input sharing, knowledge spillovers and rent seeking. The two sources of labour market pooling sharing and consumption are not found at individual firm level.
It was also proven that the two opposite forces of economic geography do exist at individual firm level between its various departments.

Overall it can be said that an inter-disciplinary approach has indeed proven useful to provide new insights.

13.5 Recommendations

This research was a qualitative research which involved several aspects from a wide range of theories. The research was carried out using four cases, each of which has a large real estate portfolio of over 400,000 sq m.

It was intended to discover what the approach of these large organisations to location of their real estate portfolio in a wider purview of these expansive theories is. In view of the limited time and information for this research, most of aspects were explored through interviews with corporate real estate managers.

Including four different organisations in the study did not allow for an even deeper investigation into research questions. What it did achieve, however, is that it was possible to understand and compare the different approaches of these organisations. This allowed theorising about some particular and rather significant tendencies of the service sector organisations to their location choices.

At the same time, these findings cannot yet be generalised. In order to do so, it would be important to add more cases. This would lead to validation as well as further refinement of the findings. Therefore, this research must not be seen as a final product, but rather a beginning of a new approach to corporate real estate.

In another kind of study, it is possible to go more in-depth into one or two of these organisations and could be an interesting next step. This would involve surveys with wide sample sizes within each organisation as well as interviews with people at different levels such as managers of businesses, top-management etc.

Also, it is possible in future to include the location supply factors to this research which has not been done here. Though a factor like 'legacy' is a supply factor, it is from the internal portfolio of the organisation. The external supply factors would include a deeper study into the availability in real estate market, the public incentives associated with different areas etc.

And finally, in a more ambitious research, it is also possible to look at the affects of the different drivers of locations. In this, for instance, the different sources of agglomeration economies would be assessed in terms of their effect on the overall productivity of the organisation. This would include aspects that can measure productivity of a firm along different time spans and associate it to the sources of agglomeration economies.

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Appendix I INTERVIEW STRUCTURE

Theme	Parameters	Interview Questions and Topics	Key Words	Checklist
Organisational outlook to real estate	Location	Changes in organisations' RE portfolio in the past 15 years and how organisation sees it evolving 15 years hence ?	Metropolitan area downtown or suburbs, quality of neighbourhood and quality of buildings	
	Strategy	Is there a real estate strategy in the organisation? What are its key elements?	Reduce costs, improve image, accessibilty, flexibility, transparency	
Portfolio parsing	Line of business	Main criteria along which the portfolio has been divided	Departments	Are location choices for different lines of business distinct ? Are different RE approaches adopted for different lines of business ?
	Function		Nature of work processes	What is the nature of different functions ? What is the nature of information transfer required for this purpose ?
	Strategic value to business		Strategic value of different departments	Classifications (Fitzpatrick et al, 2004)-Critical core, key fluid, captive
	Size			Number of people Square meter space
	Focal Point		Inward looking/outward looking	What are the main elements of the different focal points ?
			Back office/front office	
	Corporate heirarchy		Market size being served	Are the locations of the different departments located in accordance with the corporate heirarchy ? How closely do these locations relate to the market size they are serving ?
Organisational structure	Degree of centralisation	On what lines is the organisational structure divided ?	Decision making, centralisation, heirarchy, dependency between departments, communication lines	What is the degree of centralisation of business activities ?
	Heirarchichal relationships			Is it a heirarchichal organisation ?
	Functional relationships		Dependency between departments	Is the dependency between departments of a high degree ?
	Communication lines			Are the communication lines long or short ?
Bid rent	Accessibility	How critical is the accessibility for location decisions ? How does is vary across functions ?	Airport, highway, train station,	Is the decision on acessibility consistent with the bid-rent theory ?
	Rent		Accessibility from employee living areas	How relevant is the level of accessibility on the function being performed ?+F54
Agglomeration economies				
Internal economies	Space/employee	What is the average space/employee usage for this function?		The reason behind certain figures (flex working, office layout)
	Operating cost per square meter	What is the operatingcost/ employee for different functions?		
	Grain size	What are the grain sizes in the portfolio? What are the main reasons of choosing certain grain sizes?	Maintenance, face-to-face contact, operating costs	Effect of grain size on the TOC and space / sq mt. Does a bigger grain size facilitate interaction among employees?
	Clustering	Is the portfolio located together in a campus-like form or dispersed across the city ina grid like pattern?		Prime reasons of choosing a particular pattern?
	Knowledege spillovers	Is interaction between employees critical to perform certain function in the organisation? What are the decisions the organisation takes to facilitate this?		Facilitating maintenance, facilitating information exchange, better accesibility for employees, improving productivity, lowering costs
External economies	Close to suppliers / customers	Is it aimed to locate close to suppliers and customers? What kind?		Focus on localisation or urbanisation economies?
	Density	What is the density of the area?		High or low
	Functional Mix	Does the area have a high degree of functional mix? What is the nature of this functional mix?	Retail, leisure, sultural centre, etc.	Options for informal interaction? (restaurant, cafes) Was this intended? Is the location in a high functional mix aimed at UE such as consumption?
	Cluster	Is the location situated in an identifiable office clusters? What is the nature?		Does the cluster form a part of localisation or urbanisation economies? What is its relationship with the city?
	Size of the cluster	What is the size of the cluster?		
Representation	Quality of buildings	What is the quality of buildings?		Was this factor important for the firm to prompt its location in a premium area?
		What is the quality of surrounding buildings?		
		What is the image of the neighbourhood?		

Appendix II LIST OF INTERVIEWS

Name of the organisation	Name of the interviewee(s)	Department	Designation of the interviewee(s)	Date
European Commission				
Interview 1	Peter-Paul Ramselaar	OIB,RE,1,PIMM (Building policy)	Project officer	19-2-2010
	Jean-Marie Staquet	OIB.RE.1.PLAN (Provision of accomodation for DGs and services)	Administrative assistant	
	Orlando van Saelen	OIB.RE (management of real estate)	Policy Office	
Interview 2	Konstantin Konstantinou	OIB.RE.1	Head of Unit	4-3-2010
	Peter-Paul Ramselaar	OIB,RE,1,PIMM (Building policy)	Project officer	
	Orlando van Saelen	OIB.RE (management of real estate)	Policy Office	
Interview 3	Piet Verleysen	DG Translation (former Director of OIB)	Director General	4-3-2010
BNP Paribas Fortis				
Interview 1	Herman Gijs	CRE department	Facility manager	25-4-2010
Interview 2	Herman Gijs	CRE department	Facility manager	5-5-2010
ING Group				
Interview 1	Patrick de Gendt	CRE department	Director corporate real estate (EU)	10-3-2010
Interview 2	Johannes van Ussel	CRE department	Consultant Real estate and infrastructure	10-3-2010
Interview 3	Patrick de Gendt	CRE department	Director corporate real estate (EU)	28-4-2010
Interview 4	Johannes van Ussel	CRE department	Consultant Real estate and infrastructure	3-5-2010
ABN AMRO				
Interview 1	Henk Schaap	CRE department	Head Portfolio & Assetmanagement	11-3-2010
Interview 2	Henk Schaap	CRE department	Head Portfolio & Assetmanagement	1-6-2010

Appendix III Amsterdam (O+S, 2009)

sectie	Centrum	Westpoort	Westerpark	Oud-West	Zeeburg	Bos en Lommer	De Baarsjes	Amsterdam-Noord	Geuzenveld - Slotermeer	Osdorp	Slotervaart	Zuidoost	Oost-Wgmeer	Oud-Zuid	Zuideramstel	Amsterdam
A landbouw, jacht en bosbouw	21	2	8	4	5	1	5	49	3	297	3	18	6	12	62	496
B visserij	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
C winning van delfstoffen	-	47	-	-	-	-	-	1	-	-	-	-	-	-	37	85
D industrie	2735	5824	521	296	488	120	138	2908	339	211	546	1482	814	1092	339	17853
E prod. en distributie energie	8	203	-	1	25	-	-	-	-	-	-	-	1	-	138	376
F bouwnijverheid	778	2420	273	284	427	324	275	2402	406	427	409	1634	608	1158	786	12611
G1 groothandel	2500	5019	1344	729	705	727	145	1055	101	330	5498	4013	691	991	723	24571
G2 rep. en handel consumentenartikelen	8874	1509	749	1404	820	511	684	2527	763	1359	794	3880	1813	4315	1854	31856
H horeca	12717	182	585	1298	825	186	332	617	152	268	306	3417	1454	3621	1160	27120
I1 transport en logistiek	4230	5153	149	216	326	160	132	1699	294	349	1094	687	333	1708	1352	17882
I2 post en telecommunicatie	483	3759	130	59	488	47	32	345	67	133	449	2205	308	284	253	9042
J financiële instellingen	9154	1553	143	278	535	2600	70	433	85	262	1186	15748	4871	2156	8678	47752
K onroerend goed, zakelijke diensten	20033	11733	2633	2591	4722	1172	1311	6010	820	1729	7673	13347	11226	12989	14505	112494
L overheid en sociale verzekeringen	7370	4795	519	423	434	1381	818	1050	501	664	2620	1914	3692	1377	2013	29571
M onderwijs	5198	458	464	606	926	536	479	1733	1078	1058	2806	2552	3531	2359	5863	29647
N gezondheids- en welzijnszorg	6102	442	1290	2324	1255	400	1281	4315	1211	1875	8712	10004	5137	4706	8393	57447
O milieu, cultuur, recreatie, ov. dnstv.	9823	2022	868	1182	1525	345	554	1770	311	443	927	1657	2621	4862	1469	30379
P part. huishoudens met werkz. pers.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q extra-territoriale lichamen en org.	49	-	-	32	-	-	-	-	-	-	-	-	-	-	21	148
29-06-2010	90075	45121	9677	11727	13506	8510	6256	26914	6131	9405	33023	62558	37106	41676	47646	449331

Table III/1: People working in each sector in the districts of Amsterdam
Sourse: O+S Amsterdam

sectie	Centrum	Westpoort	Westerpark	Oud-West	Zeeburg	Bos en Lommer	De Baarsjes	Amsterdam-Noord	Geuzenveld-Slotermeer	Osdorp	Slotervaart	Zuidoost	Oost-Wgmeer	Oud-Zuid	Zuideramstel
A landbouw, jacht en bosbouw	0,21	0,04	0,75	0,31	0,34	0,11	0,72	1,65	0,44	28,61	0,08	0,26	0,15	0,26	1,18
B visserij	-	-	46,43	-	-	-	-	-	-	-	-	-	-	-	-
C winning van delfstoffen	0,76	3,25	1,36	0,64	0,91	0,35	0,56	2,72	1,39	0,56	0,42	0,60	0,55	0,66	4,11
D industrie	0,11	5,38	-	0,10	2,21	-	-	-	-	-	-	-	0,03	-	3,46
E prod. en distributie energie	0,31	1,91	1,01	0,86	1,13	1,36	1,57	3,18	2,36	1,62	0,44	0,93	0,58	0,99	0,59
F bouwnijverheid	0,51	2,03	2,54	1,14	0,95	1,56	0,42	0,72	0,30	0,64	3,04	1,17	0,34	0,43	0,28
G1 groothandel	1,39	0,47	1,09	1,69	0,86	0,85	1,54	1,32	1,76	2,04	0,34	0,87	0,69	1,46	0,55
G2 rep. en handel consumentenartikelen	2,34	0,07	1,00	1,83	1,01	0,36	0,88	0,38	0,41	0,47	0,15	0,90	0,65	1,44	0,40
H horeca	1,18	2,87	0,39	0,46	0,61	0,47	0,53	1,59	1,20	0,93	0,83	0,28	0,23	1,03	0,71
I1 transport en logistiek	0,27	4,14	0,67	0,25	1,80	0,27	0,25	0,64	0,54	0,70	0,68	1,75	0,41	0,34	0,26
J financiële instellingen	0,96	0,32	0,14	0,22	0,37	2,87	0,11	0,15	0,13	0,26	0,34	2,37	1,24	0,49	1,71
K onroerend goed, zakelijke diensten	0,89	1,04	1,09	0,88	1,40	0,55	0,84	0,89	0,53	0,73	0,93	0,85	1,21	1,24	1,22
L overheid en sociale verzekeringen	1,24	1,61	0,81	0,55	0,49	2,47	1,99	0,59	1,24	1,07	1,21	0,46	1,51	0,50	0,64
M onderwijs	0,87	0,15	0,73	0,78	1,04	0,95	1,16	0,98	2,66	1,70	1,29	0,62	1,44	0,86	1,87
N gezondheids- en welzijnszorg	0,53	0,08	1,04	1,55	0,73	0,37	1,60	1,25	1,54	1,56	2,06	1,25	1,08	0,88	1,38
O milieu, cultuur, recreatie, ov. dnstv.	1,61	0,66	1,33	1,49	1,67	0,60	1,31	0,97	0,75	0,70	0,42	0,39	1,04	1,73	0,46
P part. huishoudens met werkz. pers.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q extra-territoriale lichamen en org.	1,65	-	-	8,28	-	-	-	-	-	-	-	-	-	3,35	1,34

Table III/2: Location quotient for all the sectors in each district

$$LQ = \frac{e_i/e}{E_i/E}$$

Where:
ei = *employment in an industry i in area*
e = *total employment in area*
Ei = *employment in an industry i in city*
E = *total employment in city*

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