

CHAPTER I INTRODUCTION

1.1. Background

The growth pole approach in the development of Indonesia has been started since the reign of the new order. Various development activities are generally concentrated in an urban areas, especially big cities regarding as the capital city (Sujarto, 2005). The concept of the urban systems developed in the 1960s and 1970s, it began with the central place theory followed by the growth pole theory. The concept is the basis of the role of the urban area. According to Friedmann in Soegijoko (2005), the urban area plays an important role in the national development. The importance of the urban area, set by many and breadth of the service functions in the urban area.

One of the external factors that plays a role in influencing the development of the urban area is the interlinkages with other urban areas, both within and outside the country, as well as linkages with its hinterland or the surrounding areas. The linkage is then manifested in a form of municipal systems. In the urban system, the urban area becomes the main element and the nodes. These linkages play the important role in the pattern of formation and the structure of urban systems, and in stimulating the development of the urban area (Soegijoko, 2005).

The government's policy of developing the area is to establish the certain areas, especially the urban area which is the capital to be a growth center that serves as the center of regional development which is aimed to achieve equal distribution of welfare for the local residents and for the hinterland. The studies that utilize the neo-classical theories of local and regional convergence have shown that regions are connected through flows, including those associated with the capital, supplies and materials (as measured in traditional input-output models) but also flows of people (Mayer et.al, 2016).

The main urban areas with the rapid urbanization have extensive functions in the development from the urban center to the surrounding area. The diversification of economic activities, infrastructure development, and the development of other urban activities resulted in the expansion of built-up area

outside the boundary of the urban center. As a result, the functional boundary of the urban area becomes widespread, so that it developed the metropolitan area on the scale of a vast territory, otherwise known as the Extended Metropolitan Region (EMR) (Word & Dharmapatni, 1995; Hudalah, Winarso, and Woltjer, 2010). The development of EMR, among others, is demonstrated by the construction of the large-scale housing and mixed land use where there is a mix of economic activities, particularly in the agricultural and industrial activities (McGee & Robinson, 1995; Firman, 1995). Along with the development of the EMR, the peri-urban area has a major role in supporting the urban functions in the metropolitan core area. The urban function is primarily driven by the development of the industrial activities and settlements which are also followed by the development of infrastructure to generate the interaction on the scope of the metropolitan area.

The interaction, according to Yunus (2010) is a process which influences with each other. In inter-regional interaction there are two aspects, namely the spatial interaction and sociological and geographic interactions (Daldjoeni, 1996). From the spatial aspect, interaction occurs because of the interdependence between the geographic regions with the main focus contains of the movement aspects (goods), people (migrate), passengers (mobility), money, ideas and information.

In Ullman's opinion (in Yunus, 2010: 64), the spatial interactions emphasize on the occurrence of the dependence among several areas and the implications for the occurrence the movement of commodities, goods, people and others among some regions. The relationships or interactions that occur between the cities or between the regions can be realized through urbanization, ruralization, circulation and commuting. The inter-regional interactions form have many variations, which by Yunus (2010) simulated in 3 forms:

- a. Balanced interaction, A and B influence each other, but not dependent on each other
- b. Imbalanced interaction, A influence B however, not dependent on B, but B depends on A
- c. A and B is interdependent

Similarly is the case in Ungaran City, as the capital of Semarang Regency. The shifting function's of the Semarang city from the industrial city becomes a trade and service city pushes the migration of the industrial area of the buffer area of Semarang City, namely Semarang Regency, Demak Regency and Kendal Regency. Ungaran City consists of Ungaran Barat Subdistrict and Ungaran Timur Subdistrict, which are directly adjacent to the Semarang City, which is to be part of the industrial area in Semarang Regency. The industrial development in this area is quite rapid, which contributes to the high rate of migration of the population, the development of transportation connectivity, land-use change as well as the physical, social and economic development in Ungaran City. In other words, Ungaran City experienced a peri-urbanization process, as stated by Webster (2002, p. 5), peri-urbanization can be defined as "a process in rural areas roommates located on the outskirts of established cities become more urban in character, in physical, economic, and social terms, often in a piecemeal fashion ". Ungaran City becomes the new growth center that makes it possible to meet all the needs of the population, but still forms a pattern of interaction with Semarang City which raises the pattern of the population movement. The pattern of the interaction between both cities is not only limited to economic factors alone, but takes place in all aspects of life.

Semarang City and Ungaran City form a clear spatial structure of the metropolitan because the center and sub center activity are interlinked and connected by an integrated transportation system. There are many centers (Polycentric) which form the Central Business District (CBD) and several centers of activities or sub-centers. In the polycentric concept, one of the main characteristics is the phenomenon of cross commuting, which is one form of inter-regional interaction. Cross commuting that occurs only in the territory of the city along with its suburban area indicates that the region is 'a polycentric city' or with another term called 'intraurban polycentric'. While the fact that cross commuting occurs not only in the territory of a city and its suburban area but covers an area that includes two or more cities indicates that the region is 'a polycentric urban

region' or can also be called as 'interurban polycentric' (Kloosterman and Musterd, 2001).

The center and sub-center have a scale of service that can be well defined. Semarang City as the center of the metropolitan area, besides able to serve the entire metropolitan area, also can serve the needs of the regional outside of the metropolitan area, and even national. Ungaran City as the sub-center in the Semarang Metropolitan Area serves in supporting the development of the metropolitan region as a unity of the social, economic and also environment.

1.2. Problem Statement

The development of Semarang City and Ungaran City is the result of government policy on the concept of the growth pole and the ensuing interaction between both of them. The interaction will bring up the movement of the residents for both places as a form of reality. The pattern of population movement from Ungaran City to Semarang City and vice versa can be seen from the density of traffic flows that occurs in Ungaran City during in the morning and afternoon hours, as people go to work and come back from work. The same movement patterns can be observed from the transportation network that connects the Ungaran City with Semarang City.

The number growth of the dwellers in Semarang City who need settlement also influences the changes of the land use in Ungaran City. Many new settlements that grew and developed in the Ungaran City formed as a consequence of the development of Semarang City as a center. The migration of population that occurred in the Ungaran City causes the growth of the service centers to meet the needs of inhabitants and the migrants.

The position of Ungaran City as the Capital of Semarang Regency also further strengthens its role as the growth center in the region. Ungaran City as the center of government, service centers, centers of education facilities coupled with the activities of the industry in both sub-districts, as well as, which is adjacent location to Semarang City makes it experience the rapid growth. It is interesting to observe the linkages and the dependencies between Semarang City as the center and the Ungaran City as the sub center area which grows as the new growth pole.

How is the role of Ungaran City as the sub center area of Semarang City? How is Ungaran City's contribution in assisting the development of the Semarang Metropolitan Area in the form of commodities, services and information? With a such roles, does it mean that Ungaran City can meet its own need and does not depend upon Semarang City or does Ungaran City just experience backwash effects as stated by Myrdal and makes the development of Ungaran City is dependent upon Semarang City? In what terms of the Ungaran City still has the dependence to Semarang City? With all the potential and existing development, supported by the driving force factor of the industrial agglomeration in the two sub-districts, will Ungaran City be able to develop as an independent city, in the perspective of Fisher (2003), whether Ungaran City will evolve as Suburbanisation, Counterurbanisation, Population Retention or Centripetal Migration?. Based on these, the problems are addressed in this research are *how is the dependence of Ungaran City to Semarang City within the metropolitan area and how independent is Ungaran City as the sub center area of Semarang City?*

1.3. Purpose and Objectives

This research aims to examine the characteristic of the people's mobility in Ungaran City towards Semarang City in order to determine the independence of Ungaran City. Furthermore, the objectives that would be achieved in this research consist of:

1. To analyze the availability of the service facilities that support the functions of Ungaran City in order to determine the ability of Ungaran City to fulfill the needs of city dwellers
2. To analyze the people's mobility in order to understand their reason of movement to Semarang City?
3. To analyze the characteristic of people's mobility, in order to determine the type of growth processes of Ungaran City in Fisher's perspective

1.4. Scope of The Study

1.4.1. Scope of Substantial

The scope of substantial restricting the material discussion related to the research objectives of the interdependence between Semarang City and Ungaran City is as follows:

1. The pattern of the interaction between Ungaran City and Semarang City, especially in the term of Ungaran City, because in the context, Ungaran City has a tendency to depend on Semarang City
2. The pattern of interaction amongst both of the cities can be observed from the people's mobility which is occurring every day
3. The dependence of Ungaran City to Semarang City related to the role of Semarang City as the center and Ungaran City as the sub-center
4. A growth pole is a regional and industry planning model for a set of expanding industries located in urban area and inducing further development of economic activity throughout its zone of influence (Hite, 2004)
5. The relationship between the urban area with the surrounding area caused by the urban area that makes up the area of influence. It is stated by Richardson that nodes contained a zone of influence or a spatial field (Richardson, 2001: 60)
6. Polycentric can simply be defined as a multi-center in an urban area. One of the main characteristics of polycentricity is the phenomenon of 'cross-commuting' (Kloosterman and Musterd, 2001)
7. The migration patterns which is described as a process in which people move from urban areas back to rural areas (Boyle, Halfacree, 1998) determined the growth process of peri-urban area (Ford, 1999, Fisher, 2003) as suburbanization, counter-urbanization, population retention and centripetal migration
8. The type of spatial linkages are the physical linkages, economic linkages, population mobility linkages, social interaction linkages, services delivery linkages and the linkages of political, administration and organization (Randinelli, 1985:143).

9. The informants will be obtained with the key person method with the assumption that they had known and understand about the situation of their neighborhood
10. The type of dependence of the Ungaran city to Semarang city will be examined in the type of economic, social and transportation accessibility parameter. The background of economic parameter is economic motives which form a community effort to meet their needs, which may occur due to differences in the resources owned by Ungaran city and Semarang city. While social parameter related to the completeness of availability of public facilities that are considered capable of meeting the needs of the dwellers of Ungaran City. The transportation accessibility parameter will be examined in terms of transportation connectivity such as roads and vehicles
11. The mobility inclination is the comparison of mobility value that occurs in Semarang City and Ungaran city, either because of the economy, social and transportation accessibility factor

1.4.2. Scope of Spatial

The location of this research is Ungaran City, Semarang Regency. One reason for choosing the location of this research is because Ungaran City is located in a strategic area that lies along the Semarang-Solo arteries, and adjacent to Semarang City as Growth Center.

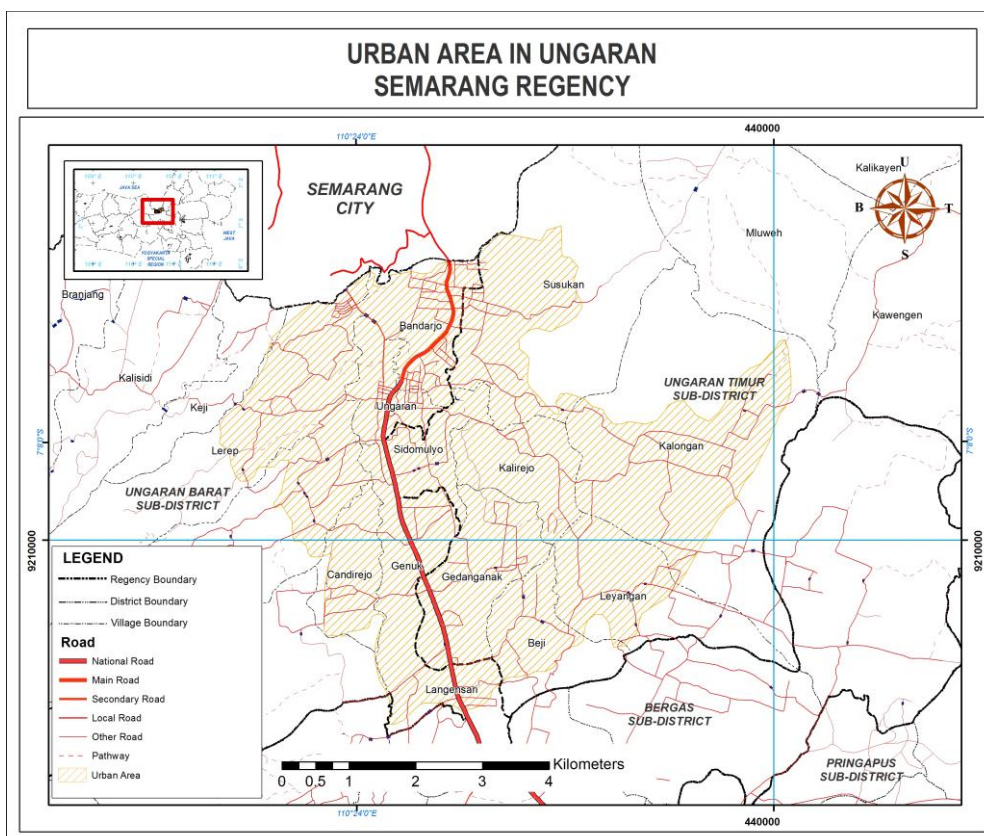
The other justification for this site selection is the people's mobility from Ungaran City to Semarang City is still high. It can be seen from the number of the commuters, especially in the busy hours, in the morning and the noon.

The restriction of research location functionally uses the villages in the Semarang City borders within the administration territory of Ungaran City. The selection of reference is solely for the reasons of time constraints, cost, and energy. However, it is expected that it may illustrate the characteristic of people's mobility in Ungaran City towards Semarang City, and also the type of growth process of Ungaran City.

1.5. Significance of The Thesis

Performing the research on the characteristic of people's mobility in Ungaran City towards Semarang City in order to determine the independence of Ungaran City can give some benefits as a lesson learned for the government in order to compose the urban planning. The results of this research are expected to be useful as:

1. Contribution of thought and considerations of the Local Government of Semarang Regency and its stakeholders in designing the policy and the strategy for the sustainable implementation and planning of the regional development which is synergistic with the Government of Semarang City
2. References to the other research related to the interdependent relationship between the Center and Sub-Center because the topic is interesting and there is a dynamic interaction between the cities which is influenced the development of them



Source: *Spatial Planning of Semarang Regency, 2011 – 2031*

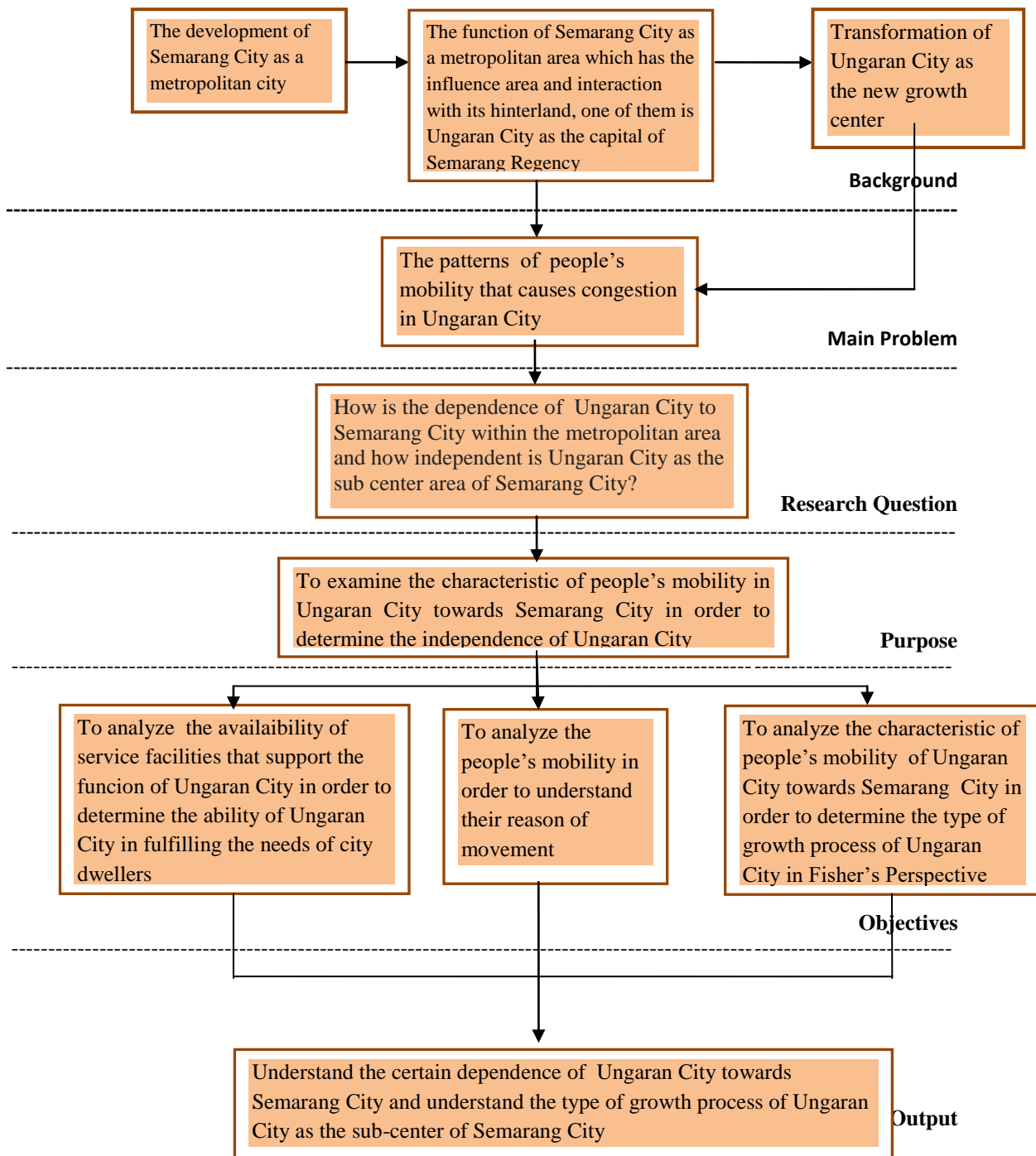
FIGURE 1.1.
MAP OF UNGARAN CITY

1.6. Research Framework

The conceptual framework of this research is based on the development of Semarang City as the center and its interaction with the sub-center, especially with Ungaran City. It is located along the arterial road of Semarang – Solo and adjacent to the Semarang City, the growth process of Ungaran City influenced by such factors. It can be indicated among others from the number of the new settlement development, the establishment of the transport corridor between Ungaran - Semarang (BRT Corridor II), the highway construction of Semarang - Bawen, with the Ungaran City as the lane toll road exit, as well as the construction of the new city square in Ungaran Timur Sub-District. All of these factors increase the interaction between Semarang City and Ungaran City, particularly through the migration of workers.

The shifting function of Semarang City from the industrial city to become the city of trade and services have displaced the industrial area to its hinterlands, including to Ungaran City. The existence of the industrial area in Ungaran City triggers the role and the function of the city as the center of the growth in Semarang Regency. The agglomeration changes the growth process of Ungaran City. With all the potencies and the driving factors which is possessed, Ungaran City is ideally capable of developing itself into the independent city that is able to meet all the needs of its citizens without being too dependent on the Semarang City. Although in the perspectives of the concept of regional development, Ungaran City still cannot be separated from the development of Semarang City as the capital of the province and the growth center in the Central Java Province.

This research will attempt to examine the characteristic of people's mobility in order to determine the independence of Ungaran City. People's mobility are related to the availability of service facilities and their reason in making mobility to another city which in this case is Semarang City. The output of this research is the explanation of on what factor of the dependence of Ungaran City to Semarang City and also the explanation of the certain type of the growth process which happens in Ungaran City.



Source: Analysis, 2016

FIGURE 1.2.
RESEARCH FRAMEWORK

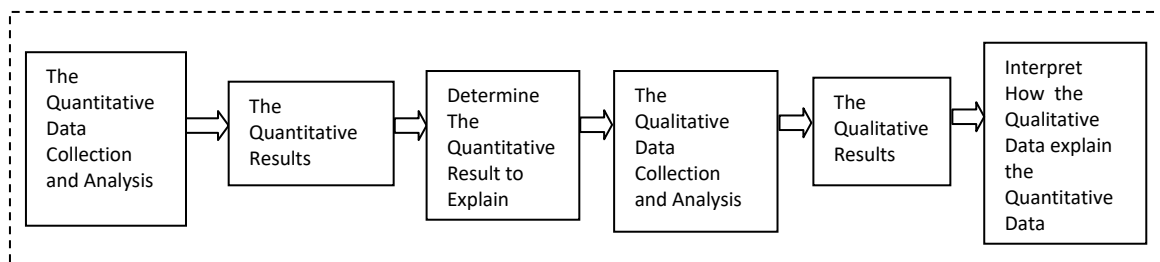
1.7. Methods

Research methods is a system to solve a problem which is contained in the research activity. According to Nazir (1988), research methods are an integral part

of the research system that consists of the procedures and techniques that need to be done in a study. The procedure gives researchers the sequence of work to be done in one study, while the research techniques provide the necessary measurement tools in conducting a study.

The method that used in this research is a mixed method. According to Creswell (2009:5), mixed methods is an approach to inquiry that combines or associates both qualitative and quantitative forms. There are three designs of mixed methods, namely the sequential mixed methods, concurrent mixed methods and transformative mixed methods (Creswell, 2009).

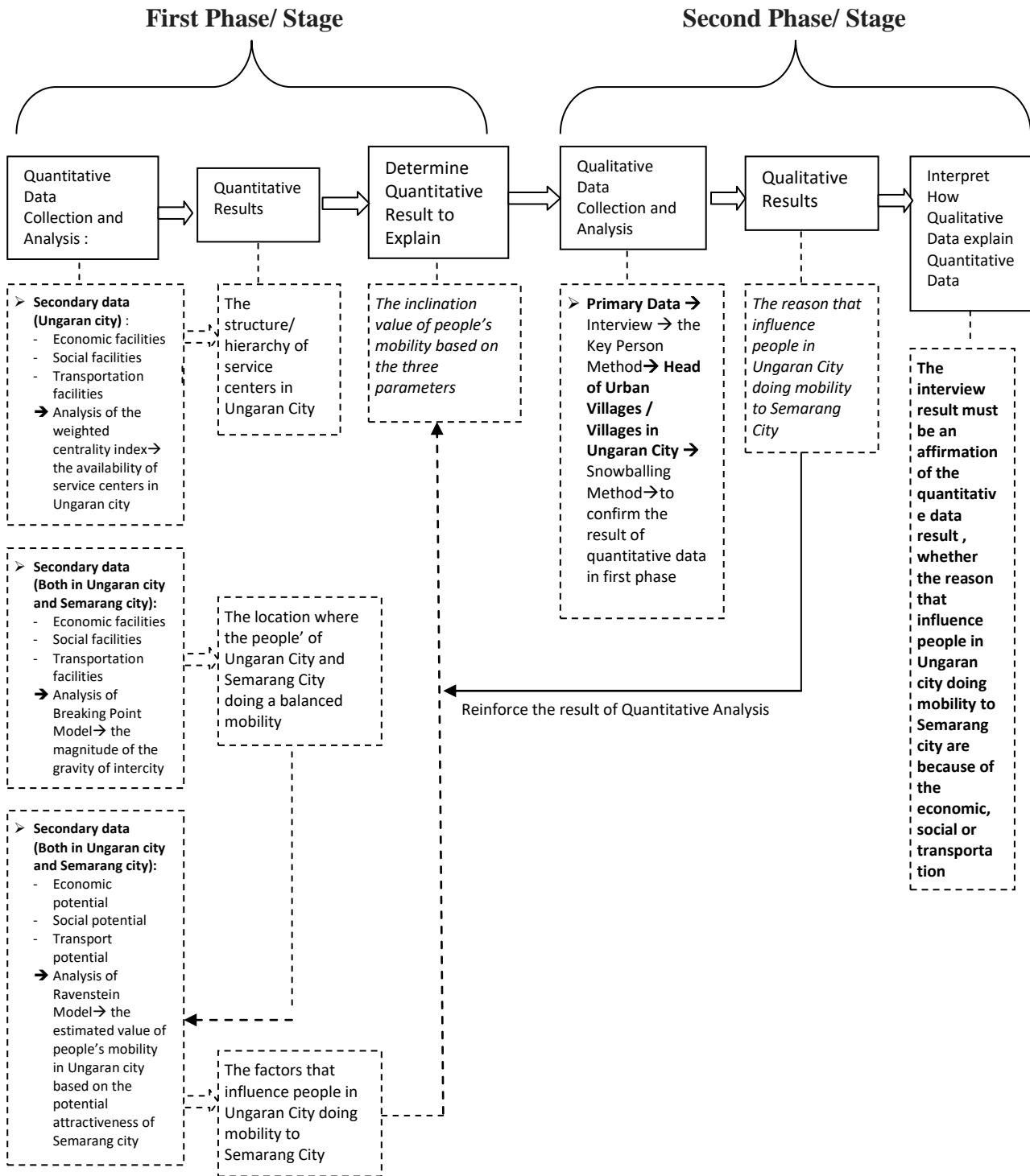
In this research, the researcher uses the sequential explanatory models. This model is a mixed method which is characterized by the data collection and the analysis of quantitative data which is done in the first phase and analysis of qualitative data in the second phase, in order to reinforce the results of quantitative research in the first phase. The sequential explanatory models as shown in the figure 1.3.



Source: Adopted from Creswell et al. (2003)

FIGURE 1.3.
THE SEQUENTIAL EXPLANATORY DESIGN

The sequential explanatory design in this research as shown in the figure 1.4.



Source: Analysis, 2017

FIGURE 1.4.
THE SEQUENTIAL EXPLANATORY DESIGN IN THE RESEARCH

1.7.1. Data and The Techniques of Data Collection

The data needed in this research are the primary data and secondary data. Macdonald (2008) said that the interview is one of the most popular and frequently used methods of gathering the information about anything from people. In this research, the primary data is obtained by interviews with informants. Primary data is used to confirm and affirm the reason of people's mobility in the Ungaran City and Semarang City.

The researcher uses snowballing method because there is no acknowledge on who is the prime source that understand the existing situation in the research area. The prime informants are those who understand well about the reason of people in their neighborhood doing mobility to Semarang City. It is started by looking at the first informant that is recommended by the head of the urban villages or villages as key person , that understand the situation in the research area. Then the recommended informant will recommend another informant to be interviewed and so on. This method will be done until the data which is obtained is enough or saturated.

The secondary data is written data that originates on the document and often called as the documentary data. The secondary data in this research was in the form of numerical data such as the number of economic facilities (markets, banks, cooperatives), social services (schools, hospitals, bus stations), and the transportation accessibility (motorcycle, car, public transport, and buses) were obtained from the government agencies. The data of facilities are used as a potential attraction of $f(Z)$ which is used in the formula of Ravenstein.

In the techniques of data collection, according to Sugiyono (2005) there is a triangulation, a technique that combines all of the collecting data techniques existed. If a researcher does the triangulation, it means that researcher while collecting data also doing a test of credibility of the data with the various techniques of the data collection and various sources of data. The aim of triangulation is not to determine the truth about some social phenomenon, conversely the purpose of triangulation is to increase one's understanding of whatever is being investigated (Stainback, 1988).

The need for data in this research is presented in Table I.1.

**TABLE I.1.
DATA REQUIREMENTS**

Objectives	Variables	Data	Data Collecting Technique	Source	Year
To analyze the availability of service facilities that support the functions of Ungaran City in order to determine the ability of Ungaran City in fulfill the needs of city dwellers	<ul style="list-style-type: none"> - Availability of Services: <ul style="list-style-type: none"> ➤ Administration: Public Services i.e Licenses ➤ Economy: Markets, banks, trade centers ➤ Education: Basic Schools, Universities ➤ Health: Community Health Centers, Hospitals, Pharmacies ➤ Transportation: Bus Stations, Train Stations, Airports ➤ Religion: Worship Places ➤ Recreation and Sport: Town Square, Children's Playground, Restaurants, Sport Centers, Swimming Pools 	- The type and amount of service facilities in the Ungaran City	Documentation Study	Central Bureau of Statistics	2016
To analyze the characteristics of people's mobility in order to understand their reason of movement	<ul style="list-style-type: none"> ➤ Economic facilities: Markets, banks, cooperatives ➤ Social facilities: Education, Health, Sport Centers ➤ Transportation accessibility: roads, motorcycle, car, public transportations 	- The people's activities map	Documentation Study Interview	Central Bureau of Statistics, Department of Transportation, Bureau of Vehicle Licence Key persons	2016
To analyze the type of growth processes of Ungaran City towards Semarang City in order to determine the independence of Ungaran City	<ul style="list-style-type: none"> ➤ The data of availability of services ➤ The map of people's mobility 	- The people's mobility inclination and the type of growth processes	Documentation Study		2016

Source: Analysis, 2017

1.7.2. Data Processing and Technique of Data Analysis

The raw data that has been collected will be processed by data processing techniques. The data that has been analyzed will be presented in the form of descriptions, tables, and images and maps which are used to show the visual results of the analysis.

The analysis will be carried out in this research are as follows:

1.7.2.1. The Analysis of The Availability of Service Centers In Ungaran City

The analysis of the availability of service centers of Ungaran City is done by using a function analysis of the weighted centrality index. This analysis is intended to determine the structure/ hierarchy of service centers in Ungaran City, the number of the existing functions, the number of function types, and the number of people who were served (Riyadi, 2004).

The facilities used are major facilities such as education and health facilities which become indicators of quality of life of society. The educational facilities used in the analysis is kindergarten, elementary school, junior high school, senior high school, university, school for disable, Islamic boarding school, and madrasah diniyah. As for health facilities that are used namely the hospitals, community health centers, polyclinics, clinics, midwife clinics, village health posts, polindes, posyandu, pharmacies and drug stores.

1.7.2.2. The Analysis of The Characteristics of People's Mobility

a. The Breaking Point Model

The Breaking Point Theory is a modified version of the Gravity Model Reilly. The breaking point theory is a type of analysis that measures the magnitude of the gravity of the intercity, hereinafter defined the breaking point of the intercity gravity in the region, to find out the area of the influence of a city in the surrounding area.

The background of this theory is that every city had more than one area of influence. The causes are due to the type of service level of the city. Each city has a type of services from low level up to the high level. The higher the level of service, the coverage of services will be more extensive. The total influence of the city on the surrounding area was reduced following the distance from the city. The breaking point formula is as follows (Bintarto, 1987:89-94):

$$Th = \frac{j}{1 + \sqrt{(px/ py)}} \quad (1)$$

Wherein:

- Th : The breaking point
- j : The distance between the city of x to the city of y
- px : The population number of the city of x
- py : The population number of the city of y

In this research, the breaking point analysis is used to determine the limits of the service of Semarang City as the service center. The results obtained will give a description about the location where the people's of Ungaran City and Semarang City do a balanced mobility to fulfill their needs. Based on the data related to this location, the researcher will make the calculation using the Ravenstein Formula to analyze the people's mobility.

b. The Ravenstein Model

The Ravenstein Model is the method used to calculate the estimated value of people's mobility based on the potential attractiveness of the destination region. The using of the Ravenstein Model considered appropriate to determine the factors that influence the people's mobility in Ungaran City. The Ravenstein Model formula used is as follows:

$$M_{ij} = \frac{P_i}{d_{ij}} \cdot f(Z_j) \quad (2)$$

Wherein:

- M_{ij} : The mobility of the region of i (origin) to the region of j (destination)
- P_i : The population of the region of i
- d_{ij} : The distance from the region of i to the region of j
- $f(Z_j)$: The size of the traction of the region of j

According to Warpani (1984), the people's mobility is not only due to the traction of other areas, but may also be due to the thrust of origin area, then the correlation coefficient can be investigated with a push factor of this area. Based on this statement, the formula used is:

$$M_{ij} = \frac{P_i}{d_{ij}} \cdot f(Z_j - Z_i) \quad (3)$$

Population is a very important factor in calculating the people's mobility. The greater the population of the region, the greater the people's mobility. In this research, the number of the population of the origin region is the factor that influences the level of the population movement. It is also influenced by the

potential factor in the destination region and the origin region. The greater the difference of the potential factor between the destination region and the origin region, the greater the chance of going on the people's mobility.

The potential factors that influence the people's mobility is divided into three, namely the economic potential, the social potential and transport potential. The economic potential is a number of economic facilities data, namely banks, markets, industries and cooperatives. The social potential is a number of social facilities data include: education, health, and sports. Transport potential in the form of roads will be classified again based on the class of roads and also the means of transport such as private cars, buses, and others. All types of the existing facilities on the three potential was given a scoring based on the size of their potential as a traction factor of mobility.

The value of mobility obtained for Ungaran City and Semarang City was compared so that it can be seen where the dominant direction of the people's mobility. The results of the calculation of the value of mobility will be re-analyzed using primary data that have been obtained so that we will get a more accurate result.

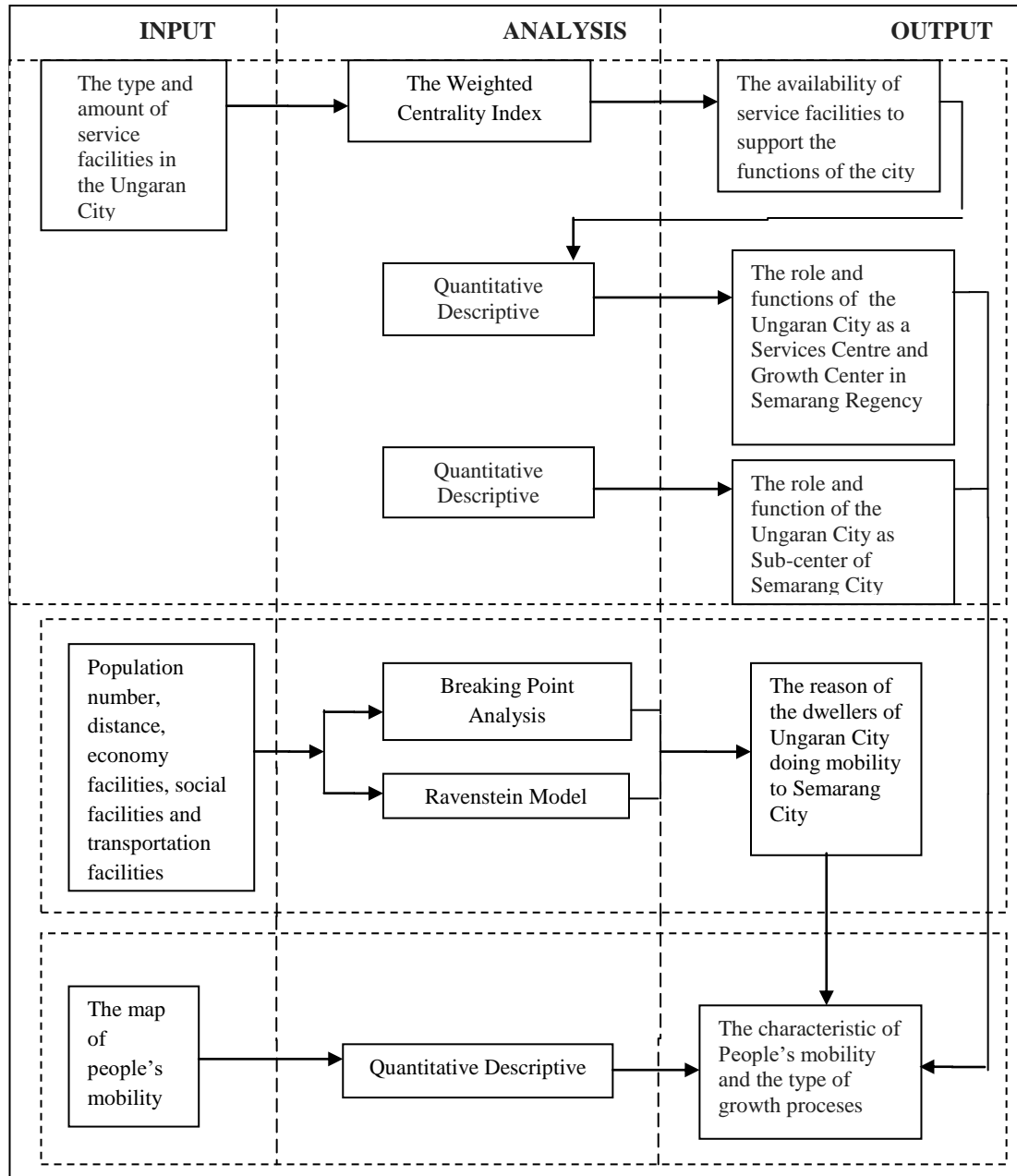
1.7.2.3. The Analysis of The Type of Growth Processes In Ungaran City

The analysis, which is used to determine the type of growth process of Ungaran City based on Fisher's perspective is the analysis of descriptive statistic. According to Sugiyono (2004), the analysis of descriptive statistic is a statistic that uses the data in a group of data to explain or draw conclusions about the group. The data about the people's activities based on their mobility to Semarang city obtained from the secondary data processing. The data have been obtained will be illustrated in the diagram and described in the descriptive form.

By doing this analysis, it is expected that the researcher can determine the type of dependency of Ungaran City and also the type of growth processes of research area refers to the Fisher's perspectives (2003), whether Ungaran City will evolve as Suburbanisation, Counterurbanisation, Population Retention or Centripetal Migration.

1.8. Organization of The Thesis

The thesis is organized according to the following framework: **Chapter one Introduction** is about the background of the research, problem statement, goal and objectives, scope of the study, the significance of the thesis, research framework, methods and organization of the thesis. **Chapter two Literature Review Towards An Independent City: The Role Of Ungaran City As The Sub-Center Of Semarang City** consists of the arguments of experts and theory that relevant and fundamental and to support the research. In **Chapter three General Overview of Ungaran City** explains the location of where the research takes place, such as geographic condition, demographic condition, economic condition, physical characteristic of the research area. **Chapter four Analysis of People's Mobility Characteristic** consists of the analysis done and at the end of the analysis there is a synthesis to summarize the analysis. **Chapter five Conclusion and Recommendation** consist of conclusion of the research and will explain about the recommendation for the local government and further research.



Source: Analysis, 2017

FIGURE 1.5.
THE FLOW OF ANALYSIS PROCESS