

Priority setting for service design in age-friendly cities: The city of Ankara

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Abstract

The aim of the study is to develop a public service design framework as an innovative management tool to be used in decision-making in the urban areas for age-friendly cities. Based on the previous research on age-friendly cities, the relevant initiative priorities that are mainly shaped by the population of the city of Ankara are determined. A collaborative approach among the citizens and service providers is used as a basis for developing a framework for public service design. The self-assessment tool that is composed of 82 items categorized under eight themes of an age-friendly city was completed by 251 citizens. Results of the Principal Component Analysis method indicated that the primary factor was composed of the community support and health services features. The second factor was related to transportation; and, the third was the combination of civic participation and employment features with respect and social inclusion features.

KEYWORDS: age-friendly cities, collaborative approach, service design

Introduction

The increase in the aging population, who prefer to age in familiar environments, enhanced the importance of providing ‘age-friendly’ services to the senior citizens. As Morelli (2003) stated, the traditional focus of design disciplines were on the products, but lately the focus has been shifted to product-service systems. The potential shifts from product to public services forced the models to be designed for the delivery of services for the well-being of people.

Also, Bason (2012) recently stated that service design explores the public sector by focusing mainly on delivery of services to people rather than business models. Moreover, there is a change in the role of citizens in society from only describing the needs, desires and expectations in service design to acting as collaborative members in the design, production and provision of public services (Botero et al., 2012). This approach provides deeper levels of satisfaction and well-being among citizens who benefit from public services. Sangiorgi (2011) named this evolution as ‘design for services’ and described the transformative role of citizens from being a passive user to an active collaborator in the public.

In service design literature, the well-being of people is mainly considered in healthcare and educational settings (Bibby et al., 2009; Harari et al., 2007; Lin et al., 2011; Kimbell, 2009; Ostrom et al., 2010). This study focuses on the well-being of all citizens in ‘age-friendly’

cities. It aims to improve citizens' welfare while enhancing access, quality and delivery of sustainable services in urban areas. As Parker and Heapy (2006) stated, "the common challenge of service [is] in thinking about how to transform public services" (p. 8). Determining the appropriate tools, techniques and methods in identifying the characteristics of the citizens, urban environments and touch points are crucial for the satisfaction and well-being of citizens. Since the citizens have diverse physical characteristics and needs, expectations and desires as well as social status, a priority setting should be provided for the diverse population.

Innovation in the service sector firstly emerged in the product sector and the researchers mostly focused on the involvement of the customers in the design of technology-based products (Alam & Perry, 2002; Edvardsson et al., 2006; Kristensson et al., 2008; Kuusisto & Kuusisto, 2010). Innovation in the public sector also attracted the attention of the researchers who concentrated in various activities ranging from healthcare to software services (Kuusisto et al., 2013). The focal point in urban service design is the satisfaction and well being of the citizens. Therefore, collaborative approach is appropriate for designing age-friendly cities.

Age-friendly cities

One of the fast growing population groups living in the urban setting is the aging people. In the United Nations' *Report of the Second World Assembly of Aging* (2002), the aging populations in developed countries living in urban areas were projected as 82% of the total population whereas in developing countries less than half of the population will be living in rural areas by 2025. Based on these data, the governments' representatives decided to adopt *the 2002 Madrid International Plan of Action on Ageing* (MIPAA) during the assembly to promote the development of societies for all ages. The MIPAA required the societies to determine the needs of the aging population as: "older persons and development; advancing health and well-being into old age; and ensuring, enabling and supportive environments" (United Nations, 2002, p. 1).

As an execution of the MIPAA, the World Health Organization (WHO) conducted a research for developing the guidelines of age-friendly cities in 2005 at *XVIII IAGG World Congress of Gerontology and Geriatrics* in Brazil. After a series of meetings in different parts of the world, research was conducted by WHO in 33 cities with the support of both governmental and non-governmental organizations and academics (WHO, 2007). The research showed that there were 82 guidelines under eight main topics, including: outdoor spaces and buildings, transportation, housing, social participation, respect and social inclusion, civic participation and employment, communication and information, and community and health services. In conjunction with these findings, Plouffe & Kalache (2011) from WHO Headquarters developed the *Global Age-Friendly Cities Project*.

In 2010, *The WHO Global Network of Age-friendly Cities and Communities* was established to provide a medium where cities and communities could exchange their experience and learn from each other worldwide. Membership of this network requires a lifetime progress of the member cities in five-year cycles, since the needs and wishes of the citizens might change continuously with the innovations and applications in different aspects of life. Self-motivation and self-assessment are the main objectives of the local authorities to provide the needs of the population.

Recently, age-friendly community initiatives were developed in Canada, Spain, Brazil and Australia while deeply focusing on the successful implementations of the age-friendly city guidelines. As Plouffe & Kalache (2011) highlighted, the themes that were developed by WHO in the *global age-friendly cities guide* (WHO, 2007) should be the common denominator in all cities while the implementations of the policy tools should be determined by the local governments. As an example, Sao Paulo in Brazil, with a population over 9 million, has conducted a pilot study in a municipality for strategy development that served as a model for the other municipalities. However, two municipalities, as the basis for all, produced the strategy for development of Andalusia in Spain. Consequently, population of the cities is a major factor in policy development in determining the relevant factors.

Also, an age-friendly New York project where the academic coordination was conducted by the New York Academy of Medicine in close consultation with the Mayor's Office included an outstanding group of professionals from the fields of government, business, architecture, law, housing, technology, academia, and others (Age-Friendly NYC: A Progress Report, 2011). In order to make New York City an outstanding place in which to grow old, they have created examples of innovation that served as models for cities around the world. Findings of the collaborative groups indicated 59 initiatives to make New York more age-friendly in four key areas: community and civic participation; housing; public spaces and transportation; and health and social services.

In South Australia's age-friendly guidelines and practice measures document, there are links to the WHO Age-friendly Cities Checklist (Government of South Australia, 2011). Furthermore, this toolkit also identifies information sources and technical specifications. All these efforts have been directing the cities and communities to determine their developmental progress through service design not only with the physical environment but also the social environment of people of all ages.

Research approach

The focus of this study is to build a public service design framework as an innovative management tool to be used in decision-making in the urban areas for age-friendly cities. A collaborative approach is used as a basis for developing a framework for public service design that focuses on identifying, describing and prioritizing citizens' activities in the urban areas. This framework is built through the reflexive combination of the researcher's understanding and the perspectives given by all citizens in the urban areas. Firstly, the citizens of all ages completed the self-assessment tool that is based on the *global age-friendly cities guide* developed from the studies conducted in 33 cities by WHO (2007).

In this research, the aim is to develop a design framework while integrating human actors and their experiences for the satisfaction and well-being of the citizens in age-friendly cities. The users of the urban area are people at all ages and with different abilities. To ensure this variability is built into the model, user groups were formed from caregivers and service providers in the public sectors as well as academics (who develop the theories and enable knowledge transfer for implementation of services) and municipality employees who acquire the knowledge and implement the plan for the citizens. It is important to remember that the caregivers and the service providers are also the citizens, as long as they reside within the borders of the Greater Ankara Municipality.

The urban area is the built or designed environment where the public services are provided. A built environment can be a building or an open space. A transportation unit, furniture, fixture, fitting or a sign can be the designed space or the product. It is important to focus on the designed and built environments in terms of the services made available within them as well as how they interact with the citizens.

The touch points are the places and spaces where citizens experience the public services. Based on the WHO-conducted research (2007), the touch points are the eight areas of urban living: namely as outdoor spaces and buildings; transportation; housing; social participation; respect and social inclusion; civic participation and employment; communication and information; and community support and health services (see Figure 1). The research presented in this paper is based on these eight categories under two environments surrounding people: physical and social. Many of the guidelines defined under these touch points include both the physical and social environments.

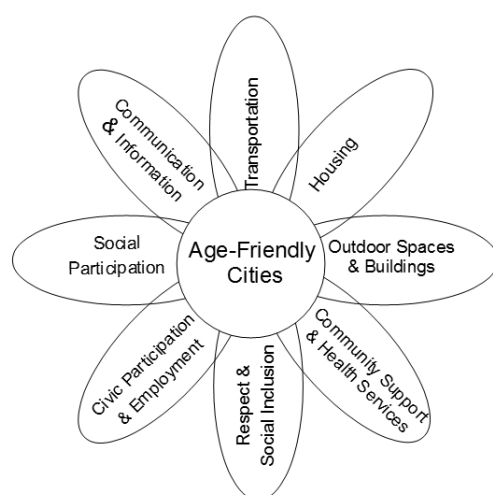


Figure 1 Age-friendly city touch points (Adapted from WHO (2007) Global Age-Friendly-Cities: A Guide, p. 1.)

Methods

Ankara is the capital of the Turkish Republic, accommodating approximately 4.8 million citizens according to the latest population research carried out by the Turkish Statistical Institution (2012). The ratio of 65+ age group living in different districts of Ankara to the total population of the city is 6.89 % (336 944 citizens). The Greater Ankara Municipality includes 25 municipality districts. The city center includes four districts and 61.3 % (206 542 citizens) of the total 65+ population of Ankara resides in those four districts. Each district municipality is directed by its own elected mayor and district parliaments, which are responsible for the services to the population residing within the district boundaries. The Greater Ankara Municipality, on the other hand, provides services where the budgets of the district municipalities are insufficient and/or where coordination among the districts is required. Most of the utility services as well as the main streets are under the responsibility of the Greater Ankara Municipality.

Ankara City Council is a civil organization consisting of all the *mubtars* (local authority for neighborhoods), the members of non-governmental organizations, non-profit organizations

and academia coming from all the districts of the Capital. The purpose of the Council is to make recommendations to the Greater Ankara Municipality about the needs and wishes of the citizens. One of the sub-groups working under Ankara City Council is the Elderly Parliament. Any member of Ankara City Council who is interested and/or related to older adults can become a member to Elderly Parliament. Finally, Ankara City Council has a Scientific Advisory Board consisting of college professors recommended to the Council from the different universities of Ankara.

The Greater Ankara Municipality also provides social services to the citizens. The Municipality has established cultural centers and Older Adult Care Centers all around the city. The citizens can become members of these centers without any fees or premiums and may attend many cultural and entertainment activities organized by the social workers of the Municipality.

The samples of this research were randomly selected among the members of the Elderly Parliament (26), the members of the Older Adult Care Centers and their relatives (113+51), the members of the Scientific Advisory Board (8) and the employees of the Greater Municipality of Ankara (53). The sample comprised 251 citizens of all ages. However, 87 (34.7.3%) of this sample group were also service providers of some kind to the citizens and 165 (65.3%) were non-service providers (see Figure 2.). Among the participants, 83 (50.6%) of the non-service providers and 51 (58.6%) of the service providers were female.

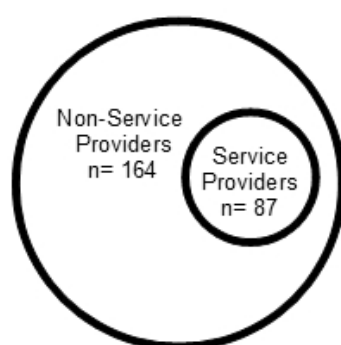


Figure 2 Samples (n=251) of this study. They were all citizens of Ankara and some of them were service providers.

Firstly, the subjects were asked to complete the self-assessment tool that is based on a checklist from the studies conducted in 33 cities by WHO (2007). The checklist entitled Global age-friendly cities: a guide was based on studies that were conducted worldwide with senior citizens, service-providers and academics in relevant fields determined in the 2005-2006 study (WHO, 2007).

The checklist is composed of 82 items under eight themes as the core features of an age-friendly city. The main idea behind these guidelines was to determine the overlapping features in different urban environments and WHO mentioned that these core values came up repeatedly. However their importance could change from community to community. Moreover, 82 items are too many for the local authorities to provide as a service to the citizens, all at once. Each local authority is expected to determine its most important core features among these 82 items and work on them with a five year strategic plan. Therefore, the objective of this study was to find out which core features were more important to

specifically Greater Ankara Municipality, as a case. The importance of each core feature was ranked on a four-point scale from no contribution to significant contribution (0 points = no/not at all; 1 point = limited/some contribution; 2 points = adequate contribution/satisfactory; 3 points = significant contribution). The scale was not as five, seven or eleven points because the guidelines determined by WHO in the 2005-2006 studies were common points for all cities and expected to be useful for developing an age-friendly city (WHO, 2007).

The initial challenge was to determine the features that can be evaluated as the components of an age-friendly city. The first step in simplifying the checklist was to find and exclude the features that were not depicting the core features of an age-friendly city for Ankara citizens. As Tabachnick & Fidell (1996) claimed when features are at the extreme ends of a scale, the actual variability in features may not be captured and their correlations are very low with the other features. Correlation matrix was used to determine if the strength of the correlations among the features were reliable for factor analysis. No feature was found to have correlation below 0.30 with all the other features. Therefore, all items were included in the analysis.

The second step was to conduct the Principal Component Analysis method for determining the number of factors that are important for an age-friendly Ankara city. Extraction of the principal component resulted in a variance maximizing (varimax) rotation of the original feature space because the criterion for the rotation is to maximize the variance of the new variable called the factor. The variances extracted by the factors are called eigenvalues. Features that had relationships 50% and above with the factor component were thought to best describe the factor and its related scale. The features that were loaded 0.50 or more were included in the final list.

Results

Principal Component Analysis on the 82 features showed that 12 factors had eigenvalues greater than 1.00. This analysis followed by varimax rotation resulted in 12 factors with eigenvalues greater than 1. Including factor loadings ± 0.50 , there were 7 factors after rotation with varimax with Kaiser normalization (see Table 1). The priority list involves independently the six touch points depicted in Figure 1. Only in the third factor, civic participation and employment is integrated with respect and social inclusion touch point. The key findings are detailed below:

Priority list (ranking from high to low)	No of features
1. Adequate community support and health services	12
2. Adequate transportation services	14
3. Civic participation and employment; and, respect and social inclusion opportunities	8 and 4
4. Adequate communication and information facilities	9
5. Available outdoor spaces and building facilities	7

6. Social participation opportunities	8
7. Sufficient and affordable housing services	7

Table 1 The priority list for the age-friendly city of Ankara

The primary factor (eigenvalue=39.29, 12.21% of total variance) is composed of twelve positively loaded community support and health services features.

- » The primary criterion for citizens is the accessibility to clear information about the health and social services for older people (0.816).
- » The next three criteria are about service accessibility as:
 - minimized economic barriers (0.802);
 - respectful and sensitive administrative and service personnel (0.792);
 - coordinated and simple service delivery (0.776).
- » The fifth criterion is related to emergency planning and care that includes older people while taking into account their needs and capacities in preparing for and responding to emergencies (0.772).
- » The following three criteria are also related to service accessibility as:
 - to all well-distributed health and social services in the city (0.747);
 - residential care facilities integrated to the services and larger community (0.728);
 - adequate access to the burial spaces (0.717).
- » The final criteria are related to the offer of services as:
 - the services are conveniently located and accessible by all means of transportation (0.717);
 - support and encouragement of services by voluntary citizens of all age (0.693);
 - provision of home care services including personal care and housekeeping (0.690);
 - provision of an adequate range of health and community support services (0.680).

The second factor (eigenvalue=4.98, 11.82% of total variance) is composed of 14 positively loaded transportation features.

- » The first four criteria are related to roads as:
 - well-maintained roads with covered drains and good lighting (0.766);
 - well-regulated traffic flows (0.763);
 - well educated drivers on roads; and, roads that are free of obstructions (0.743).
- » The fifth criterion is related to taxis that are accessible and affordable with courteous and helpful drivers (0.719).
- » The sixth criterion is related to driving competence that is provided to all drivers through education and refresher courses (0.708).
- » The following two criteria are related to parking and drop-off areas that are safe, sufficient in number and conveniently located (0.685); and, availability of areas for people with special needs is respected (0.682).
- » The ninth criterion is related to the availability of voluntary transport services where public transportation is limited (0.658).
- » The following criteria are related to design and organization of transportation facilities as provision of complete and accessible information to users about routes, schedules and special facilities (0.641):
 - stopping of drivers at designated transport stops and beside the curb to facilitate boarding and to wait for passengers to be seated before driving off (0.565);

- conveniently located, accessible, safe, clean transport stops and stations that are well-lit and well-marked with adequate seating and shelter (0.545);
- availability of specialized transportation for disabled people (0.532);
- accessibility to all city areas and services by public transport, with good connections and well-marked routes and vehicles (0.517).

The third factor (eigenvalue=4.05, 11.41% of total variance) is composed of 8 positively loaded civic participation and employment, and 4 positively loaded respect and social inclusion features.

- » The first criterion is related to the civic participation theme as the encouragement and facilitation in membership of older people in decision-making bodies in public, private and voluntary sectors (0.773).
- » The following seven criteria are related to the employment theme as:
 - providing training in post-retirement opportunities for older workers (0.769);
 - promotion and support for self-employment options for older people (0.768);
 - promotion of a range of flexible and appropriately paid opportunities for older people to work (0.732);
 - well-promotion of the qualities of older employees (0.710);
 - no discrimination on the basis of age in the hiring, retention, promotion and training of employees (0.706);
 - availability of a range of flexible options for older volunteers with training, recognition, guidance and compensation for personal costs (0.658);
 - adaptation of workplaces are to meet the needs of disabled people (0.644).

The following four criteria are related to the respect and social inclusion theme.

- » The ninth criterion is related to economic inclusion as older people who are less well-off should have good access to public, voluntary and private services (0.620).
- » The following criterion involves community inclusion as the recognition of older people by the community for their past as well as their present contributions (0.605).
- » The eleventh criterion involves public education with schools providing opportunities to learn about ageing and older people, and involve older people in school activities (0.565).
- » The last criterion involves inter-generational interaction in community-wide settings, activities and events that attract all generations by accommodating age-specific needs and preferences (0.502).

The fourth factor (eigenvalue=3.14, 8.63% of total variance) is composed of 9 positively loaded communication and information features.

- » The primary criterion involves printed information (including official forms, television captions and text on visual displays) that has large lettering and the main ideas are shown by clear headings and bold face type (0.795).
- » The second criterion involves wide public access to computers and the Internet, at no or minimal charge, in public places such as government offices, community centers and libraries (0.794).
- » The third criterion involves oral communication in public and commercial services providing friendly, person-to-person service on request (0.787).
- » It is followed by automated communication and equipment (such as mobile telephones, radios, televisions, and bank and ticket machines) that have large buttons and big lettering (0.754).
- » The fifth criterion involves people who are at risk of social isolation and their need to receive one-to-one information from trusted individuals (0.728).

- » The following four criteria are related to properties of information offer as:
- » regular and widespread distribution of information is assured and coordinated, centralized access is provided (0.690);
 - oral communication accessible to older people is promoted (0.687);
 - regular information and broadcasts of interest to older people are offered (0.649);
 - a basic, effective communication system reaches community residents of all ages (0.629).

Fifth factor (eigenvalue=2.74, 7.60% of total variance) is composed of seven positively loaded outdoor spaces and buildings features.

- » The primary criterion points the public toilets (outdoors and indoors) in being sufficient in number, clean, well maintained and accessible (0.846).
- » The second criterion is related to building features that are well-signed outside and inside, with sufficient seating and toilets, accessible elevators, ramps, railings and stairs, and non-slip floors (0.740).
- » The third criterion is related to service as the provision of special customer service arrangements, such as separate queues or service counters for older people (0.723).
- » The fourth criterion is related to roads where drivers should give way to pedestrians at intersections and pedestrian crossings (0.722).
- » The fifth criterion is about the situated together location and accessibility of service areas (0.681).
- » The last two criteria are related to safety of outdoor spaces by providing good street lighting, police patrols and community education (0.657); and non-slip pavements that are wide enough for wheelchairs and have dropped curbs to road level (0.558).

The sixth factor (eigenvalue=2.25, 7.09% of total variance) is composed of eight positively loaded social participation features.

- » The primary criterion is the ability to attend activities and events alone or with a companion (0.721).
- » The second criterion involves the wide range of events and activities that appeal to a diverse population of older people (0.674).
- » The third criterion is about providing good information about activities and events, including details about accessibility of facilities and transportation options for older people (0.668).
- » The fourth criterion is about affordability of activities and attractions, with no hidden or additional participation costs (0.663).
- » Also, events should be held at convenient times for older people (0.642).
- » The sixth criterion addresses isolation and points that there should be consistent outreach to include people at risk of social isolation (0.635).
- » Also, gatherings should foster community integration by including older people with events that are held in various local community spots, such as recreation centers, schools, libraries, community centers and parks (0.612).
- » The last criterion describes the facilities and settings for events and activities as venues that are conveniently located, accessible, well lit and easily reached by public transport (0.578).

The seventh factor (eigenvalue=1.94, 5.86% of total variance) is composed of seven positively loaded housing features.

- » The first three criteria describe housing as:

- being well-constructed and providing safe and comfortable shelter under all weather conditions (0.720);
- clean, well-maintained and safe public and commercial rental housing (0.708);
- with interior spaces and level surfaces that allow freedom of movement in all rooms and passageways (0.684).
- The following criteria of the seventh factor are about providing affordability and sufficiency in housing for frail and disabled older people, with appropriate local services (0.628); availability of home maintenance and support services (0.627); availability of affordable home modification options and supplies with providers that understand the needs of older people (0.594); and housing that is available in areas that are safe and close to services and the rest of the community (0.545).

Service design model for age-friendly cities

Considering the priority list as a basis, a large number and wide variety of decisions are required in designing and delivering service for age-friendly cities. First step for building a service design strategy, each item on the priority list has to be defined and how it drives design decisions for new and redesigned services should be collaboratively described. The definition of each item has to be clarified both for service providers and citizens of the city at the strategic level. This definition should not only involve the how and what of public service design for age-friendly cities, but also should ensure the integration between how and what (see Figure 3). Developing a service design strategy involves both process driven public services and product services.

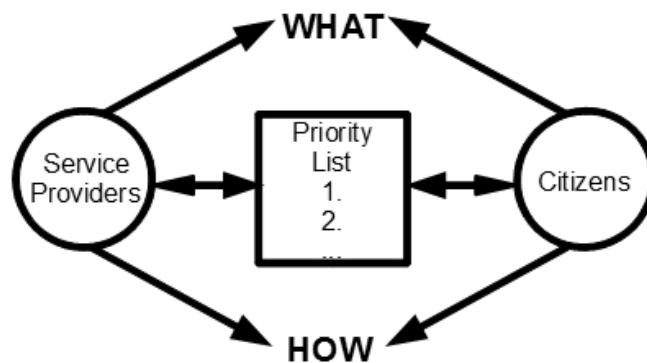


Figure 3 Building the strategy level in service design for age-friendly cities

Identifying the participants is an important issue both for service provider and citizen groups at the strategic level. Each group should be the representative of the general population. The semi-structured interviews should be conducted for each priority in the list. The primary questions should be addressed to the participants as an example “How do you access to information about health and social services within this neighborhood?” (priority 1, item1). Then follow-up questions as “Is information accessible, useful, easy to understand, difficult with automated systems, in print format and size?” should be asked. After the clarification of each item on the list, the delivery of services for age-friendly cities should be encountered. The priority list serves as the foundation upon which the components of the service delivery system are built. It also provides a framework for evaluating services on an ongoing basis as the list of services change (see Figure 4).

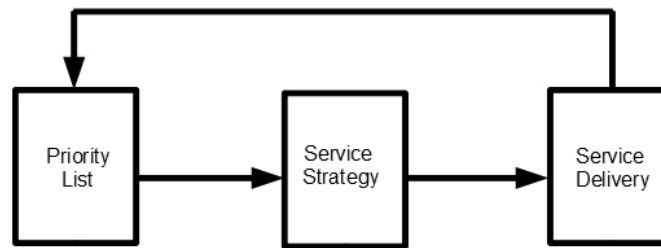


Figure 4 Proposed service design planning model.

Conclusions

Many age-friendly community models were developed on extensive research on older adults and their experience, as Lui et al (2009) concluded in their review of international literature on age-friendly communities. Many of them, such as the WHO global age-friendly cities project, used focus groups, interviews and surveys in identifying the essential features of an age-friendly city. Some others, like the age-friendly New York project, involved older adults as active participants in developing the initiatives for and age-friendly community and environments. All of these studies pointed out that involving older adults is a key issue for desirable community services and support. Furthermore, wide collaboration groups including service providers, voluntary organizations, and citizens of all ages are essential. Although there is a substantial variation across cities, local authorities (municipalities) have a major role in creating age-friendly cities. This study lies parallel to the extensive research that supports the role of local authorities in building an age-friendly city.

The literature supports the variations in the priorities of the initiatives, as the results of the characteristics of the cities are mainly shaped by the population of the city. While all of these models are useful benchmarks, we believe that each city needs to prioritize its development initiatives according to its specific needs. For the Greater Ankara Municipality, the primary factor was composed of the community support and health services features.

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