

# Chapter 10

## Digi-Tel—Bespoke Technology for Connected City of Tel-Aviv

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**Abstract** The chapter describes bespoke technology developed by the Tel Aviv Municipality, Israel called Digi-Tel. It aims to engage, involve and connect city residents directly to municipal departments, and enable them to benefit from the efficient two-way use of Information Communication Technologies. As such Digi-Tel delivers updated information in a variety of domains, providing municipal services, encouraging residents' engagement, transparency and mobility, with the aim to improve their quality of life. Digi-Tel composes three elements—the people (citizens, residents and visitors), the second a friendly city (quality of life) and the third is data (technology). These essential elements are integrated into the city's vision to create a city for all residents. The local municipality promotes a policy of transparency of the information provided to the general public, enabling residents to access the municipal database on one hand. This encourages residents to proactively engage the municipality, while additionally reporting on events, activities and concerns on the other hand. It manages a variety of components divided into three main classifications—applications, logistical infrastructure and physical infrastructure. As a neo-liberal solution, Digi-Tel raises two questions: (1) what is new and original with this endeavour in comparison to past and present endeavours and (2) what are the actual impacts in terms of effective involvement of ordinary citizens in knowledge production and creation processes.

### 10.1 Introduction

The Digi-Tel was conceived in 2012 as a result of the local municipality's recognition that there was a need to establish personal contact with the residents of the city, and to inform them on the activities that take place in the city by means

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of information communication technologies (ICT). Similar to most cities around the globe, residents criticize their city hall for not paying enough attention to their daily needs and problems. In most cases, the relationships between the two entities—city and residents—are maintained through tax collection or parking tickets, legislation and de-legislation, or top-down influence of policy decision. In other words, a kind of disconnect exists between what the citizens think about the city and what they really think about the local municipality's managerial level. This internal insight encouraged the municipality of Tel Aviv to change its attitude toward resident-led participatory policy, and to re-structuring the approach of building sustainable processes of decision-making where residents become important partners in these processes.

The question raised was: How will the local municipality be able to activate a change that was never before implemented? To reach this unprecedented and fundamental point, the local municipality began to invite citizens from mixed neighbourhoods and regions, different peer-groups and stakeholders, to participate in focus groups discussions. These groups discussed different issues that concern them in their daily lives, and their relationships with the city. The main purpose of that activity was to discuss and understand the sources of conflicts existing in the relationships between various city hall departments and the residents, and how to improve these relationships. This process lasted about a year, and at the end of the day, a new idea that seemed like an imaginary and unfeasible start-up concept began to develop through business-like thinking.

There is no similar duplicate city start-up project in existence elsewhere in the world like this one. Thus, this innovation is considered original in its aspirations and conceptualization to change old policy and perceptions of the relationships between the city and its residents with the aim to bring about a significant change.

The solution was shaped from a concept derived from the business sector. It is as follows: as a neo-liberal approach towards introducing e-democracy, the residents became clients of the city with open and free access to its multiple services. Residents will become members of a unique and inclusive club, which provides personal information, benefits, and offers advance and innovative e-services. Close relationships on a personal basis will be established between the city's residents and the municipality. A municipality that actually has a monopoly on providing services to its residents does not maintain a conservative approach. It adopts tools from the commercial and business world to establish a cohesive city that enables its subjects to enjoy and benefit from the large variety of the municipality's personalized services and products.

To launch the project, the municipality initiated a marketing campaign in the city. The fact that more than 50 per cent of Tel Aviv's eligible population registered (as of January 2016) to join the club, demonstrates the effectiveness of the campaign and proved that Digi-Tel was seen as a useful tool—for the municipality and the residents—to share a mutual goal and to bring about a real, positive change in their relationships.

## 10.2 Operation

The first step to joining the Digi-Tel Club is to fill a registration form with personal details such as ID, postal and e-mail addresses necessary to identify that he/she is a resident of Tel Aviv. All Tel Aviv residents, eligible from age 13 and up, can come to one of the many registration locations centres in the city such as: community centres, day-care centres, social services and education departments, city libraries, or sport centres. All are located in the neighbourhoods and can be easily accessed. Each applicant is asked about his/her priorities and domain of interests according to the list of services and benefits the municipality offers him/her. Once they are registered, residents receive personal notifications on items of interest to them. They also receive access to a private area in the municipal website where they can receive personalized information on many different topics. The resident receives the Digi-Tel City Card and can use it to enjoy benefits at places outside of the city's services domain, including cafes, shops, museums, restaurants and more.

The personalized information for every citizen is available in a “personalized area” on the city's official website. The municipality can use this personalization data for its app to actively notify the resident cardholder of events and promotions through posts, e-mails and text messages. For example, Digi-Tel professionals and technical staff will inform resident that the bridge he normally crosses is closed, suggesting that he take an alternative route to reach his destination on time; Digi-Tel will inform another resident that the deadline for registering his/her child for kindergarten is approaching and can easily register online; Digi-Tel will keep yet another resident, who loves music, posted about discounted tickets for tonight's performance. The above examples are a few among many of how the network operates, based on the unique profile of each Digi-Tel Club member.

There are several principles and features that are keys to the operation of the Digi-Tel program:

1. Digi-Tel delivers information and services are specific to the requests and demands of each resident;
2. Digi-Tel provides direct and active notifications to the resident according to his/her personalize profile;
3. Digi-Tel takes an active and proactive attitude towards Tel Aviv residents;
4. Digi-Tel promotes openness, transparency and information-participatory.

Digi-Tel is using the platform of cultural organization change, the central and most important result of the focus groups discussions. One of the most significant outcomes is the service revolution among all municipal departments that deliver information to the residents. This crucial change is executed through improving service centres, where residents come for assistance on anything from consultancy on issues like child enrolment to educational institutions, improving physical infrastructure in their neighbourhood, or for updates on community events and public works in their street (Fig. 10.1).



Fig. 10.1 The Digi-Tel Card

The second one is an improvement in the efficiency of working processes that emphasize the motto “with the face to the community and the residents” by means of the ICT tools. This change is expressed in making service appointment more time efficiency, and answering calls and handling application processes better. A collective organizational language that works toward improving services began to take hold in the municipality’s personnel on all infrastructural levels, something that is a vital first step in overall improvement. Interestingly it was driven by the adoption of shared set of values as expressed in Fig. 10.2 that in turn drove technological and managerial changes.

All municipality employees participated in special training workshops to raise awareness in order to achieve the optimal levels of services (and changes in attitude) when dealing with the residents. The Venn diagram of service values presented in Fig. 10.2 became ingrained into each employee on all levels of the city’s administration and bureaucracy. Adopting these services values is the new approach, inevitably leading toward more citizen engagement and closer participation in a more bottom-up process.

The other factor that led to the implementation of Digi-Tel Club was data and information management among the managerial ranks and employees in other municipal departments. In this process, they learned how to document information and deliver it to others by means of internal information management and communication tools.

The result of these processes was a paradigm transformation from “knowledge is power” to “participation is the power”. City Hall supported it and guided the organizational culture change from reactive to proactive, by providing the resident with information, services and benefits suited to the individual’s lifestyle.

### Managing Direct Contact with the Citizen (Client)



Fig. 10.2 Service values

### 10.3 The Digi-Tel Vision

The Digi-Tel vision complements the designation of Tel Aviv as the Smart City. Tel Aviv, the “Nonstop City”, considers engagement a key value in implementing Smart City principles. It actively involves residents in the urban experience and urban development, while at the same time emphasizes engagement in decision-making processes in the modern era (Fig. 10.3).

Digi-Tel, the technological and social tool available to the city’s residents, offers better use of communication and ICT to streamline the management of existing resources and assets in the city. This is expected to enhance the quality of life. The target criteria for making Tel Aviv-Yafo to be a city for all demographics of residents through the Digi-Tel program are as follows: an appealing city to live in; a city for lifetime; quality and egalitarian education; equal opportunity and bridging social gaps between the north and south parts of the city; strengthening the sense of community; and fostering pluralism.

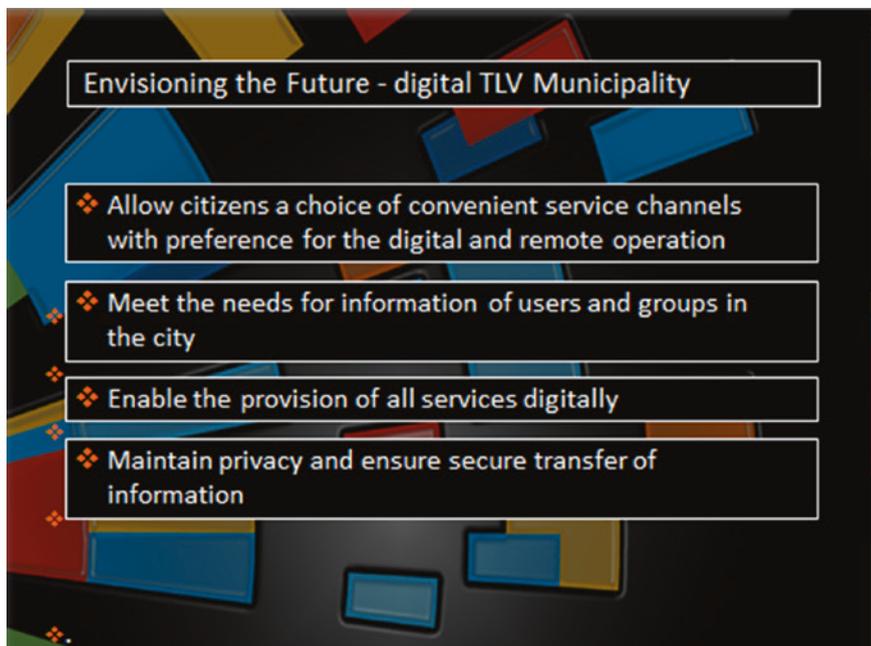


Fig. 10.3 Digi-Tel vision

The strategy supports the three main objectives outline in the city vision: implement citizen-oriented government, create a city for all residents, and maintain an appealing urban environment.

Hollands (2008) and Angelidou (2015) define the smart city as a process of embedding technology into the fabric of the city. Therefore, the smart city is described as an ongoing project, rather than a finalized reality.

Tel-Aviv's main motivation, as can be seen by the city's own definition of smart city and consistent with the challenges the city faces, was to improve resident engagement and strengthen trust between residents and the municipal government. Tel-Aviv's municipality defines this process as "citymaking", that is, transforming a space and place, where a space is a physical entity, while a real place draws people, has a clear narrative, and is embedded with meaning (Toch & Feder 2016)

### 10.3.1 *The Digi-Tel Concept*

The Tel Aviv Municipality has set in motion a unique and innovative digital transformation. The Municipality's aim was to strengthen the contacts, sense of participation and satisfaction of the city's residents and the success of Digi-Tel is reflected in the growing numbers registering for its services.

For example, many projects that combine the Digi-Tel approach divided into three sections of applications, logical infrastructure and physical infrastructure are presented in Fig. 10.4.

The network, or **physical layer**, aims just to connect people to the Internet, like the free WI-FI project, which aims to cover all the main public areas in the city; all the beaches, the boulevards, and the public squares. Currently, the WI-FI network covers all main pedestrian streets of the city center and part of it's outer neighborhoods.

Eighty zones of WI-FI were established around the city. Reports already have shown that there are approximately 50,000 unique users per month on average. It supports for broadband connectivity infrastructure development (Ziv and Ramati 2013).

There is no need to register for the service. Each user is redirected to a landing page, which displays the main current events that are taking place in the city.

**The logical layer** contains infrastructure app's like the City App, which offers location-based information about the city; leisure, culture and art (outdoor community events, arts); traffic and parking (bicycle stations and availability, closed roads, parking lots); and so on.

Another tool is the geographic information system (GIS), the Iview, which makes spatial information available to the public in a variety of areas: engineering, transportation, community, tourism, education, art, and more.



Fig. 10.4 The Digi-Tel components

As a resident of the city, one can view all the geographic information relevant to his/her neighbourhood: preschools, schools, public parks, pharmacies, community centres, outdoor sculptures, etc.

Engineers can find blocs parcels, electricity and water infrastructures, and view a particular zoning plan and its accompanying documents.

As part of the city's policy to promote the accessibility and transparency of the information provided to the general public, the municipality allows direct access to municipal databases and archives that are not of a confidential nature. For example, the building archive is open online to the public, free of charge. The archive includes planning information about all the housing in the city. The Open Data environment enables the public and application developers to make use of the information in municipal databases that deal with community affairs, culture, public health, budgets, statistical data and security.

**The Application layer** contains applications and systems that aim to address a specific task/need. The latter includes, for instance, management and exportation of the information about community centres. Community centres are an important link in the connection between residents and city management. Tel Aviv residents can view the list of classes offered at the local community centre online and general information about a particular class, such as cost, the instructor, etc.

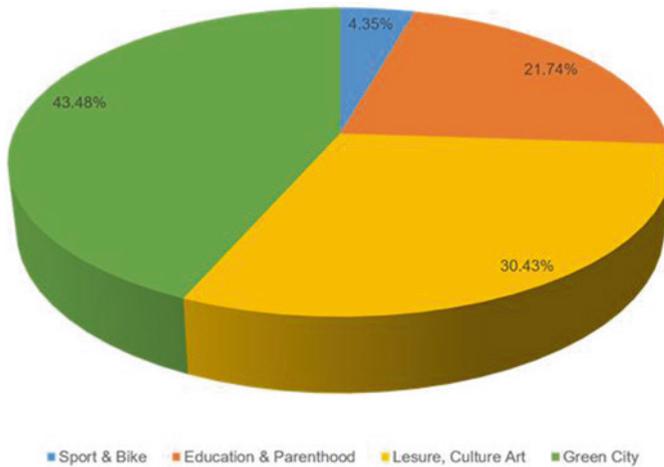
Digital registration and online payment for the classes will be available in the near future, meaning that every resident will be able to perform all the tasks associated with class registration in a simple and effortless manner.

Upcoming projects include computerization of schools, and online requests for construction and building.

The variety of innovative and advanced services offered through Digi-Tel has a direct influence on the relationship between the municipality and its residents.

One of the most important tools of Digi-Tel is the enhancement and empowering of public participation. Public participation has been part of the Tel Aviv municipality's organizational culture for decades since the 1980s. It began with Project Renewal's bottom-up principle to share decision making policies with local residents, creating an even playing field. Over the past three years, this process has also been carried out through the Digi-Tel program. For example:

- Including residents in conducting a dialogue with them about the design of the beach strip;
- Involving the public in a municipal master plan for young adults;
- The municipality allocating funds to improve quality of life in particular neighbourhood (participatory budget). Its residents are engaged in deciding how to allocate the designated funds, whether on renovation of public institutions, development of public spaces, planting trees or sidewalks repairs, or something else;
- Digi-Tel allows residents to participate in open public planning discussions on plans about redevelopments construction regarding their neighbourhood, choosing among alternative plans such as public institutions, open spaces, parking lots as well as city master plans to give their comments.



**Fig. 10.5** Important priorities quality of life for the residents in Digi-Tel. *Source:* Center for Economic and Social Research

After two years of Digi-Tel operation, a report was published in March of 2015 to analyse different aspects of using this network. The following figures demonstrate the success of this modern innovation.

For example, Fig. 10.5 describes the distribution of the main domains chosen by the residents as the most beneficial services for them, using the Digi-Tel technology communication network. The most important priorities for the residents are: environmental efficiency (green-ness); leisure culture, art and education; and parenthood.

Figure 10.6 describes the distribution of Digi-Tel age demographics. The most prominent demographic belongs to the age group of 31–40. They comprise 27 % of the total eligible population and are characterized as the young residents in Tel Aviv, many of whom work in the Hi-Tech industry. They strongly influence the nature of the city’s performance in the leisure, culture, and art domains.

Lastly, Fig. 10.7 shows the dramatic growth of residents registering for the Digi-Tel direct communication between the period 2013 and 2015. The applications from residents are most surprising, considering the relatively short period the program has existed. It is expected that the numbers will climax in less than a two-year period.

The Centre for Economic and Social Research Unit for the local municipality conducted a feedback survey, in January 2015, to analyse the residents’ habits using the Digi-Tel card and their level of satisfaction with the services they received. A questionnaire was digitally sent to 6550 participants, who registered during the period of March 2013 and November 2014. Seventeen per cent of residents replied, which geographically covered the nine boroughs of Tel Aviv.

The statistical analysis team concluded the following:

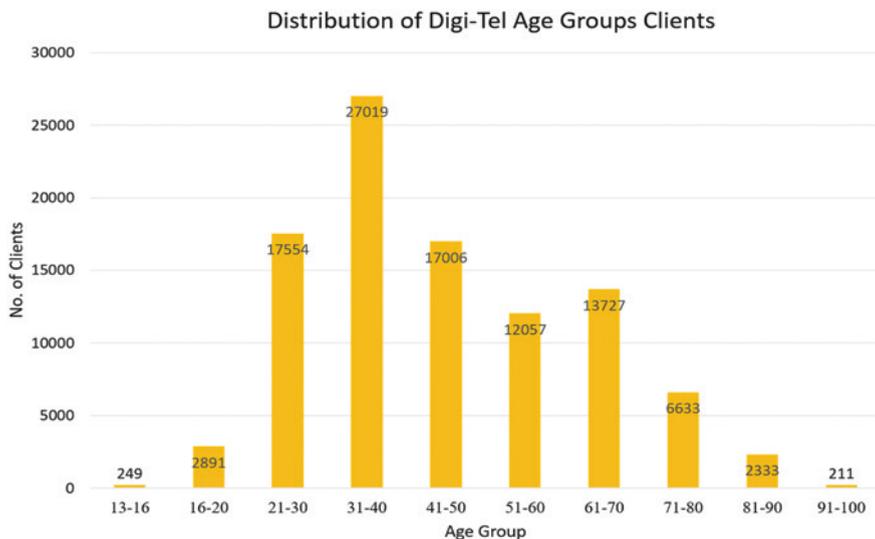


Fig. 10.6 The distribution of Digi-Tel. Source: Center for Economic and Social Research

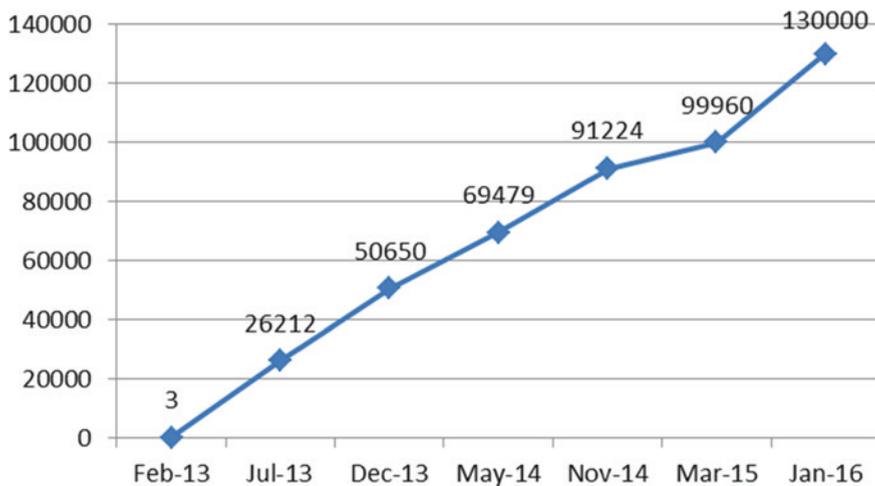


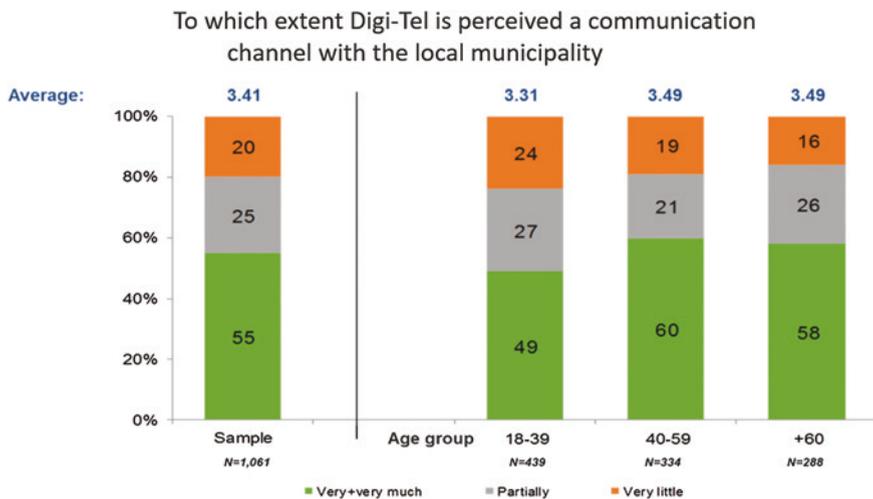
Fig. 10.7 Accumulation of registered citizens

- The profiles of the residents showed that the greater numbers of people aged 40+ used the Digi-Tel Card as a communication tool with the local municipality’s different departments;
- Couples with children, or families in general, were much more satisfied with the services offered with regard to their personalized orientation compared to couples without children. This is understood to be due to the abundance of services, benefits and activities aimed at young children and their convenient use;

- Nearly 80 % perceived Digi-Tel as an effective communication channel between residents and local municipality departments;
- Adults people in the aged group of 40–59 (69 %) and 60+ (74 %) are more satisfied with Digi-Tel services compared to younger people (only 60 %). This is understood to be due the fact that elderly people who have retired have more free time and better reason to benefit from cultural and community events;
- As a whole, young teenage adults are a minority in Digi-Tel platform (2.79 and 3.49 respectively).

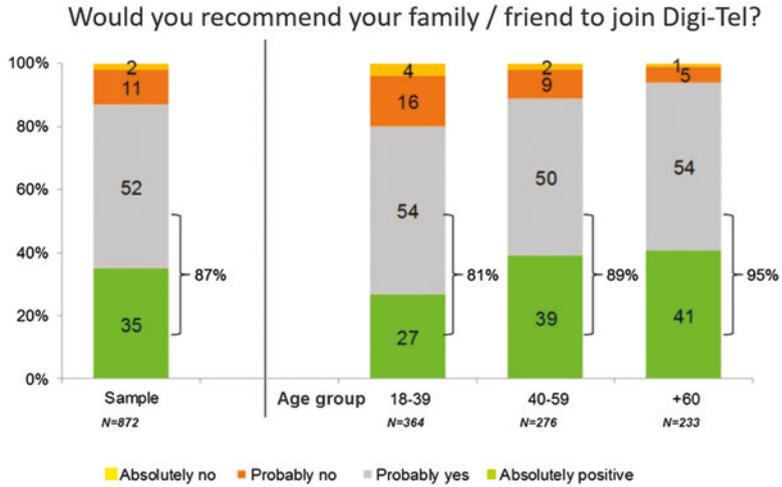
Following the feedback survey, the Centre for Economic and Social Research recommended several improvements to be considered: (1) To use suitable and uniform terminology which will differentiate it from other services and define it whether as a club card, a service or an umbrella of services; (2) To promote the ‘added value’ of Digi-Tel as a resident card, and update its relevancy; (3) To develop new digit services specially for under-served populations; (4) To strengthen the personalized feature online through content development and broaden the consumer awareness on the available options of using it.

The following two figures—Figs. 10.8 and 10.9—are further evidences that the Digi-Tel platform is perceived to be an effective and useful tool by the majority of the cardholders. Furthermore, an overwhelmingly apparent intention to join Digi-Tel platform becomes a reality with over 130,000 residents already being registered as for January 2016. The issue of attracting young people to Digi-Tel is still under investigation since this group age does not use mails as mean of communication. The municipality is studying it to find out how they can be part of the Digi-Tel club.



source: City of Tel Aviv Center for Economic and Social Research

**Fig. 10.8** Digi-Tel platform



source: City of Tel Aviv Center for Economic and Social Research

Fig. 10.9 Digi-Tel platform

The data provides by the Tel-Aviv Center for Economic and Social Research for 2015 emphasizes the importance and relevant of Digi-Tel platform for the citizens of Tel-Aviv: The popular age range to register is 30–39 years old; 190 employees in municipal services, and community centres, feed contents to the Digi-Tel website; The most field of interests are leisure, culture and arts including: theater shows, museums, entrance to beaches, biking; marathon race; There are—84 K activated citizens, 74 K citizens who watch Digi-Tel content; One out of five citizens realize the proposed benefits by Digi-Tel.

### 10.4 Citizen Engagement

The involvement of ordinary citizen in knowledge production and creation places in the city of Tel-Aviv has passed through four distinguished stages in the relationship framework between local government and its citizen. They are as follow: local government to local government; local government to local citizen; local citizen to local government; and local citizen to local citizen. These stages represent the fundamental change in the networks between these two entities from top-down to bottom-up participation approach.

**Stage one: local government to local government:** Stage one deal with Tel-Aviv municipality initiative to establish an effective and efficient new type of organization structure focused on culture as service to its citizens received the political commitment of the city hall. The state of mind of the municipality changed to emphasize the service awareness.

Tel-Aviv municipality began a process of building democratic partnership with its residents by taking inter-organizational steps among all levels of employees aiming to improve services skills, one language communication with the citizens of the city as well as visitors from outside, measuring quality of top-down relationships and fostering accessibility and connectivity. Evolving Digi-Tel could not be achieved without deep process of management culture among the departments of services suppliers such as engineering, town planning, environmental, welfare and social services, municipal call centres, city tax unit just to mention few.

The preparation of the people employed in the city different departments demands lots of resources, knowledge management skills, infrastructure organization of data, documentation knowledge in portals, feeding information from the city units according to multi characters of the clients such as: type of event, targeted population, classification of age, gender, religion, income, personal priorities, citizen consuming habits and location. Following these steps citizen established stronger trust with the municipality.

**Stage two: local government to local citizens:** This stage represents the top-down relationships between the city and its citizens.

In smart Tel Aviv, engagement is a key value in implementing smart city principles, while the goal is to create a city for all its residents, and a resident-oriented government. The city actively involves residents in the urban experience and urban development. It enables them to help determine how the use of funds the local government has allocated will be prioritized on projects improving quality of life in different neighbourhoods.

Investing in citizen empowerment and increasing transparency as well as enhancing participatory democracy are integral part of Tel Aviv municipality official policy. It asks and encourages citizen to send their opinions on every issue whether it is urban policy on the agenda or local one. Widening the connections between local government and its inhabitants causes the shift and encouragement to using ICT tools and apps mediums. The new networks enable changes both in democratic relationships and the notion of participation with more than 50 % eligible citizen registered to Digi-Tel (Centre for Social and Economic Research 2015). The implementation of Digi-Tel enables citizen to access directly and openly to knowledge information and municipal data individually. This transparency aims to strengthen the connectivity between city hall departments and citizen needs in their daily life agenda.

**Stage three: local citizen to local government:** Tel Aviv Digi-Tel became a platform for bottom-up civic engagement in the context of communication, data sharing, application developments, open data and especially personalized-led resulted in collaborative governance. This is the place to point out that the paragraphs of the “Tel Aviv Independence Scroll” dealing with citizen participation were written by the author for the present elected mayor who already serves in his position twelve years.

Digi-Tel enables civic engagement to jump a step ahead in playing an active role in the creation and sharing of information in two-ways directions which we

termed “pull and push”. The “pull” way is deployed by active citizen who report about problems and events to the information centres of the local municipality regarding roads, waste, sewage, street lighting, parking, traffic jam, public gardens and parks, unsocial behaviour, public spaces and institutions. The “push” way is the respond manner delivered by the information centres to the city departments to take the steps necessary to treat the issue given from the citizen as soon as possible. That kind of respond is taken place by the local management zones wardens. The usual quick respond of the city is expressed and translate with more support from the citizen who achieve more confidence and strengthen trust towards the issue of how their city reacts coping with residents reports.

**Stage four: citizen to citizen:** The citizen to citizen idea aims to create and enable better well-being conditions for the benefit of local citizen in their neighbourhoods among themselves and to build a strong community. One example is Digi-Tel demonstration of a democratic tool when discussing participatory budget. Every year the city of Tel-Aviv allocates sum of budget to each neighbourhood allowing it to manage an independent decision making process to prioritize actions and programs concerning investments by the local municipality. The sum of money is usually between 130,000 up to 250,000 Euros. The action and program aim to improve infrastructures and community activities for the well-being and quality of life of the citizens. For example: play grounds, sport facilities, community building renovation, planting trees, bike tracks, benches in public spaces, community activities etc. This process is activated by the municipality. It sends SMS announcements to all neighbourhood inhabitants registered in Digi-Tel platform to participate and prioritize the action or program they would like to be implemented and seen in their neighbourhood. The discussions are executed among the citizen of the neighbourhood themselves in places such as community centre, public institutions, community events and citizen local committees. Their decisions are sent back to the city hall. When the results are gathered, Digi-Tel staff declares the priority of the item elected by the majority of the citizens and begin its execution through its relevant departments.

A second example is the creation of neighbourhood community coin to develop intensive and active actions among the neighbourhood’s inhabitants with the businesses and private services suppliers, to connect between consumers of products, to develop community life in variety of aspects such as local leadership, social mobility and human development. These are part of the notion called “citizens make a city”. In the era of “crowd wisdom” partnership among neighbourhood citizen might be creative and innovative tool in the relationships between citizen to citizen as well as between them to local government.

The Digi-Tel platform was developed by the City’s IT branch. The Municipality of Tel Aviv has invested 60 M NIS (Approx. 15 M Euros) to enable its creation and development. This department developed all the applications that residents currently use. The nature of the system is extremely complex and requires integration of different tools like CRM (Customer Relationship Management), campaign tools, distribution tool, Mobile Platform, GIS Platform, and Information Security tools to create an integrated platform. The in-house development was an important

factor in the design to create a complex platform in a very short time (the base capabilities were developed in only one year). It enabled the city of Tel Aviv to create the technology to make the Digi-Tel a reality, and likely faster than if the process had been outsourced.

In essence, Digi-Tel initiative aims to improve municipal services, enhances resident's quality of life, and forges the condition for sustainable urban development. Above all, it exemplifies the city's active and intelligent role in employing technology to strengthen civic engagement and ensure that the city is accessible and responsive to all concerns.

Digi-Tel platform facilitates a direct and holistic connection between the city and the residents, whether it is alerting residents to neighbourhood construction, informing them of the nearest bicycle-sharing station, sending specific reminders for school registration, or cultural events taking place in the city. Digi-Tel encourages residents to proactively engage with the municipality as well. Residents can find cultural events and activities as well as report communal hazard or concerns, and follow their review.

## 10.5 Metrics and Measurements

Tel Aviv's top-priority project targets a few strategic goals, first and foremost raising the municipality's approval rating by its citizens, creating a better public image and increasing trust between citizens and their local government. For this purpose the municipality does surveys using several indicators and methods regarding Digi-Tel innovation:

1. Measures of usage and utilization: number of registered users (see Fig. 10.7), data collected the number of entrances to Digi-Tel app, number of application downloads and number of application uses (Center for Economic and Social Research, Tel Aviv Municipality, annual surveys);
2. Measuring residents satisfaction: satisfaction with various municipal services, communication with different municipality departments, residency and quality of life;
3. Metric is focused mainly of citizens registration for Digi-Tel residents club (above 130,000 residents as for January, 2016). Other metrics counts number and frequency of visits to the personal area by residents using the Digi-Tel platform.

## 10.6 Discussion

The city of Tel Aviv is named as "The State of Tel Aviv" due to the fact it is the economic, cultural and educational centre for many institutions of government, private and business sectors for the whole state of Israel. It leads the list of

start-ups numbered more than one thousand. As such, there is no surprise Tel Aviv became a living laboratory environment where communication and joint citizen decision-making are embedded within the vision of the city.

In the case of Digi-Tel the overall approach was inspired by the business sector with the creation of a club style organization where residents could join without charge. This club style organization focused initially on improving the delivery of services already provided by the municipality. Only later in the project did the municipality engage with residents in shared decision making by identifying specific projects such as the beach improvement scheme. This was an example of collaborative urbanism but fell short of full empowerment that would allow the residents to identify priorities for future development of the city's hard and soft infrastructure. Instead it is an example of modularized collaboration where the citizens are given directionality as described earlier in the chapter of Certomà and Rizzi.

The other important characteristic of Digi-Tel was the use of shared values to drive innovation. All too often in smart city and community initiatives subjective value systems for individuals and communities is demoted below technological challenges where the development of sensors and neutral networks can be seen of higher priority or challenge. In the case of Digi-Tel shared values as expressed in Fig. 10.2 were given priority early on in the project and guided future actions. This means that the rationale for deploying digital platforms can be checked against the shared values to justify the investment in time and money.

Nevertheless, several questions still exist about the effectiveness of Digi-Tel. The first query is the low uptake by teenage adults as shown in Fig. 10.6. The city's social research unit recognized this but it is still unresolved. Another query is the different importance attached to different services as shown in Fig. 10.5. In this case a "Green City" received highest priority. The meaning of "Green" is related to standards of green building, walkable streets, priority to bike tracks, public gardens and it was the highest priority for all demographic age groups. These might seem minor criticism but success is often dependent on detail especially when attempting to attract engagement from all demographic groups. Nevertheless, Tel Aviv as justification for claiming itself as a leading technology hub, with developed advanced solutions for urban administration and more importantly, civic engagement. Lastly, as part of the effort to increase accessibility and transparency of information along with the civic engagement, municipal databases were opened to the public, followed by a competition in which residents developed mobile apps for public use based on the open databases. The city actively employs social media as a platform for involving the public in municipal decision-making and community improvement initiatives. The IView system renders geo-spatial information readily available and easily useable for all. All these initiatives are facilitated by free citywide Wi-Fi in public places. This is the best system, compared to other cities in Israel which charge for all the Wi-Fi. As is well known, public spheres create a platform for people to communicate, to share common interests, to discuss daily issues aimed at improving all residents' quality of life.

## 10.7 Conclusions

In summary, Digi-Tel became a social media tool engaging major part of Tel Aviv population. The more Digi-Tel apps are provided, improved, delivered and accessed to the citizen they become more empowered, responders and care to receive better services of education, community, transportation, infrastructure, local neighbourhood services and more.

Digi-Tel has been shown to be a workable model to develop institutional framework that support tools and resources stemming from an earlier survey of city hall employee values. Tel Aviv municipality is acting and performing an open government regulations due to its integrated open data policy facilitating direct data collection on issues such as building files, master plans, constructions, policy decisions by the city departments, leisure, community events, infrastructure works and other information sources to keep high level residents quality of life in the city. In other words, we can describe Digi-Tel tool as the e-City portal that enables citizen to access data, to share applications program interfaces in order to create added value expressed in raising their quality of life in a complex city like Tel Aviv. Digi-Tel as a smart technological tool accessible to every citizen plays an important function in limiting inequalities between the south and the north neighbourhood sections of Tel Aviv. It enables different classes to take part in a wide variety of activities in accordance to age, gender, income level and field of interests. In addition, it establishes generativity that leverages technology in ways, which inherently open up policy to widen citizen participation.

More than 25 % of Tel Aviv inhabitants are young people up to the age of 30 years. As such, they represent the technological, sophisticated and connected individuals living in urban environment who use the Information Communication Technologies (ICT) that help them to be updated. These youngsters play an important function in civic engagement as urban citizenry.

We can label Digi-Tel platform as an ambitious program that succeeded to fully realize itself and to fulfil its vision: “Afford citizens the option of convenient service channels; meet the needs of users and different demographics in the city; form provisions of all services digitally and maintain privacy and ensure secure transfer of information”.

The greatest proof of Digi-Tel’s successful government-oriented citizen program is the enrolment numbers of 130,000 inhabitants out of 250,000 eligible, in a matter of three years. It proves that residents recognize the importance and significance of being connected to the local government’s multi-service products available through ICT digital tools.

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## Interviews

Liora Schechter, Chief Information Officer, Tel Aviv Municipality

Zohar Sharon, Chief Knowledge Officer and Digi-Tel Project Manager, Tel-Aviv Municipality

## Link to Movies

Digi-Tel. (2015a). Digi-Tel- Tel Aviv Digi-Tel Revolution Part A: [http://www.youtube.com/watch?v=w9\\_mnLKto](http://www.youtube.com/watch?v=w9_mnLKto).

Digi-Tel. (2015b). Digi-Tel –Tel Aviv Digi-Tel Revolution Part B: <http://www.youtube.com/watch?lyomYj5opak>.