AN ASSESSMENT OF LOCAL E-GOVERNANCE SYSTEM: A CASE STUDY OF GUJARAT

Thesis Submitted in
Partial Fulfilment for the
Award of the Degree of

Master of Urban and Regional Planning

by

AASHKA GAUTAMKUMAR PATEL

Second Semester, MURP – II (2020-21)

Primary Guide: Dr. Bhawana Vasudeva
Secondary Guide: Ms. Fiona Dias

Master of Urban and Regional Planning (MURP) Program

Department Of Architecture

Faculty Of Technology and Engineering

The Maharaja Sayajirao University of Baroda

D.N Hall, Pratap Gunj, Vadodara, Gujarat, India

JULY 2021

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CERTIFICATE

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The Contents presented in this Thesis represent my original work and it has not been submitted for the award of any Degree or Diploma anywhere else.

AASHKA GAUTAMKUMAR PATEL

This Thesis is submitted in partial fulfilment of the requirements for the

Degree of Master of Urban and Regional Planning

at the Department of Architecture

Faculty of Technology and Engineering

The Maharaja Sayajirao University, Vadodara, Gujarat, India.

The present work has been carried out under our supervision and guidance and it meets the standard for awarding the above stated degree.

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ABSTRACT

Local e-Governance has become an important aspect for transparent and effective service delivery in a convenient and cost-effective manner, particularly in the current state of affairs where administrative costs are high. The use of information technology by the government as a means of communicating with its citizens has been a key component. Information Technology (IT) makes it easier to carry out procedures.

E-services delivery is present in developing countries, but knowledge is still in its infancy. Significantly increase government-citizen interaction, as well as citizen participation desire to carry out their responsibilities 24 hours a day, seven days a week without having to physically visit government offices. The majority of municipal governments only provide published information and downloadable forms. Most local government websites only allow for one-way communication. All of them are still in the early stages of publishing information online. Before implementing and developing any e-services, the authorities should understand the users' expectations of the service, as well as the usability of the e-service in order to develop it with more usability functions so that the users are satisfied by using the service.

This research discusses the findings of an evaluation of e-governance websites of Urban Local Bodies (ULBs) in the Indian state of Gujarat benchmarking ULB's websites to ensure service quality. The purpose of this study is to determine whether e-services provided by the Municipal corporation and Municipality of Gujarat are perceived as usable by citizens. The studies focused on the e-services' current usability level as well as the citizens' expectations from those services.

Using an index proposed by Esteves, this study present an ex-post predictive evaluation for the evaluation of a local e-governance project. The overall conclusion is about the usability level of e-services, citizen expectations, and recommending usability criteria to make the e-service more usable. According to the findings of the study, the Gandhinagar municipal corporation website can be used as a model for municipal e-governance initiatives in the state of Gujarat.

The purpose of this research is to better understand and evaluate Gujarat's e-Government services from the standpoint of citizen satisfaction.

As a result, it is believed that the conceptual model developed based on the Esteves can serve as a foundation for future research on e-Government service evaluation in order to improve citizen satisfaction and increase e-Government service usage in Municipal corporation and Municipalities of Gujarat. The findings of this study may be used by local and state governments to identify best practices and apply them to further improve service quality by attempting to improve the poorly designed components of their websites.

DEDICATION

TO MY FAMILY,

For raising me to believe that

Anything was possible and making everything possible

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Special thanks go to my friend, classmate and husband, Mr. Pushpak Patel, for his ongoing support and understanding, as well as for more concrete things like commenting on earlier versions of the thesis, assisting with the figures, and final manuscript preparation. He provided stimulating discussions as well as enjoyable distractions from my research. I could not have finished this dissertation without the help of him.

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AASHKA G. PATEL

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1. INTRODUCTION

1.1 GENERAL

Consider a scenario in which all interactions with the government can be handled through a single counter 24 hours a day, seven days a week, with no need to wait in lines at government offices. Today, if governments are willing to decentralise responsibilities and processes and begin to use electronic means such as the Internet, this is possible. Each citizen can then contact the government via a website where all forms, legislation, news, and other information will be available 24 hours a day, seven days a week.

E-governance is much more than a government website on the Internet. But what exactly is it? What are the advantages of e-government? What can governments do to help it succeed?

In general, e-governance or e-governance in urban development is the use of information and communication technologies (ICT) in the operation and maintenance of urban services. ICT are helping to introduce a wide range of ways that government should use the internet and computer networks to improve collaboration and collaboration between ministries. Make public services more transparent, efficient and effective to the public by sharing accurate and timely information and improving people's access to government services; Promote accountability, transparency, efficiency and effectiveness of the public sector and paperwork and help city governments make more informed development decisions.

Today's world is change and revolution. Things that are not dynamic are fatal. The rise of e-government was one of the most surprising developments on the internet. In the 1990s, there was a global shift towards increased IT provision by governments with the advent of the world wide web. Technology and e-governance initiatives have come a long way since then. Many countries around the world have reformed their

governments and provided public services. They use ICT as a key to achieving urban development.

In the promotion of good governance, e-governance and the contribution of rapidly advancing technologies have increasingly taken centre stage. e-governance and the combination of data collection and citizen feedback channels has the ability to change the very nature of the relationship between people and their governments, unlike other public reforms that aim to improve internal efficiency and, as a result, concentrate almost exclusively on improving government's capacity to deliver services (Saxena, 2005). This transition is taking place at a time when the world is becoming more urbanised, putting pressure on local governments to manage urban growth and provide adequate and equal access to services for disadvantaged communities both in the formal and informal city, as well as access to public life and decision-making opportunities. These difficulties can negatively impact a municipality's ability to govern in an efficient and transparent manner.

People expect more from government agencies in today's era of technology-driven globalisation in terms of openness, accountability, and direct feedback on public issues that affect them. According to Borras (2004) "many governments in developed and developing countries are developing, implementing and improving their strategies for transforming government services with the help of information and communication technologies (ICT)". This shift in services is reflected in a significant change in the way the government communicates with its stakeholders, which is referred to as e-government, online government, digital government, or e-governance.

In India, districts, state governments and central ministries were networked and computerization began in 1985-86 as part of the NICNET program of the planning commission. 1998 with the establishment of a national working group for IT (http://it-taskforce.nic.in/bgr11.htm). Based on one of the recommendations, all government departments were

instructed to spend 2-3% of their allocated budget on IT implementation. These departments work under certain mandates (http://cabsec.nic.in/abr/abr_scnd.htm), then took on a number of e-governance projects independently of one another as part of their planned/unplanned programs, assessing some isolated innovation efforts and the overall slow implementation of e-governance. The government recognized the need of missionary efforts in this direction (Planning Commission, 2002a), from which the National Electronic Governance Plan (NeGP) (www.mit.gov.in) emerged. The Information Technology Department is referred to as the NeGP Node Coordination Organization.

Zhiyuan (2002) postulates that the concept of electronic administration, similar to the concept of electronic commerce, which enables better and more efficient communication between business partners electronically (B2B) and between companies and their consumers (B2C), has a more convenient and transparent interaction enabled and economical between government and government. Citizens (G2C), Government and Business (G2B) and internally between different government departments (G2G).

Marche and McNiven (2003) state that "electronic government is the provision of routine government information and transactions using ICT media, and electronic government is the ICT-mediated relationship between citizens and government for communication, policy evaluation and expression Is the will of the citizens.

There are many symbolic words in the term E-Governance:

E-Administration: the use of information and communication technology (ICT) to modernise government; the creation of data repositories for MIS, and the computerization of records.

E-Services: the goal here is to bring the government closer to the people. Provision of online services is one example. E government is the term used to describe the combination of e-administration and eservices.

E-Governance is the use of information technology to improve government's ability to address societal needs. It includes the dissemination of policy and program-related information in order to conduct business with citizens. It goes beyond the provision of online services to include the use of IT for strategic planning and the achievement of government development goals.

E-Democracy: the use of information technology to enable all segments of society to participate in state governance. The mandate is much broader in this case, with an emphasis on transparency, accountability, and participation. Online disclosure policies, online grievance redress forums, and e-referendums are some examples.

1.2 NEED OF THE STUDY

The main demand on government is that it be more receptive to citizens' needs and fulfil them quickly and without wasting time. Citizens expect 365-day-a-year access to many government services. This can only be accomplished through E-Government.

Although the terms "E-Governance" and "E Government" are sometimes used interchangeably, E Government is a subset of E-Governance. E-Government can be defined as an application of E-Governance. This makes use of cutting-edge information and communication technology (ICT) to make government more efficient, effective, and transparent.

To achieve this goal, the government is focusing more on providing citizens with government services via the Internet. So, E-Governance is a broader concept that encompasses the entire range of relationships and networks within governments relating to the use and application of ICT. E-Government is a small discipline concerned with the development of online government services for citizens and businesses, such as e-taxation, e-transportation, e-procurement, e-participation, and so on. The "E" in e-government and e-governance refers to the electronic platform or infrastructure that enables and supports the networking of public policy development and implementation.

The aim of the study is to assess the development of municipal e-Government services that are offered in cities which are located in Gujarat State.

The main objective of the study is:

- To study the current available e-services in the Municipal Corporation
- To analyse the availability of municipal e-services quality using the Esteves index

1.3 DISSERTATION OUTLINE

The thesis is presented in six chapters. The first four chapters give an overview of the identification of the problem, the need for the study, the studies carried out in the past, the definition of the study area and the discussion of field studies, etc. the fifth chapter describes all about the data collection and analysis. The sixth chapter contains the conclusion and recommendation part. The chapter describes the summary and the conclusion of the present work. The structure of each chapter is as follows:

The first chapter provides a general introduction to the subject, the necessity of the study, the objectives and the scope of the study. The conventional e-governance approach is explained together with the studies carried out previously.

The second chapter introduced literature review part. It consists the general definitions and terminologies related to e-governance, advantages of e-governance system in Urban Development, SWOT analysis and challenges faced by system in Indian context. The findings of research paper are also presented here.

The third chapter is Research methodology. It is detailed explain with the help of the conceptual framework and research methodology step wise in detail with detailed aim and objectives.

The fourth chapter discusses the selection of the study area, the demographic profile and administrative structure and details of authority, proposed surveys, and questionnaire design are discussed in chapter 3.

The analysis of the primary survey is explained in chapter 5. Chapter 5 discusses the E-Nagar Services Provided in Municipal Corporation, Evolutionary Stages of Municipal Corporation and the phase wise scores of municipal websites of the selected cities.

The sixth chapter describes the summary and the conclusion of the present work with the recommendations. It summarizes the work along with the limitations and scope for future work. References, appendices etc. are given at the end of the report.

This chapter summarizes the background of the selection of the research topic, the research topic and its meaning, etc. The delimitation of the study area, the research goal and the scope are presented here. The different steps of research are represented by the research flow diagram. In the background, the necessary theoretical fundamentals and the review of the research work are dealt with in the next chapter.

2. LITERATURE REVIEW

2.1 DEFINITION OF E-GOVERNANCE

Different governments and organisations define "E-Governance" in accordance with their goals and objectives.

Word Bank defines e-government as "the use of information technologies (such as Wide Area Networks, the Internet, and mobile computing) by government agencies to transform relations with citizens, businesses, and other arms of government." These technologies can be used to achieve a variety of goals, including improved citizen service delivery, improved interactions with business and industry, citizen empowerment through information access, and more efficient government management. Less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions may result as a side benefit.

E-Governance, according to UNESCO, is "the exercise of political, economic, and administrative authority in the management of a country's affairs, including citizens' articulation of their interests and exercise of their legal rights and obligations." E-Governance is defined as "the performance of this governance through the electronic medium in order to facilitate an efficient, quick, and transparent process of disseminating information to the public and other agencies, as well as performing government administration activities."

2.1.1 FOUR PILLARS OF E-GOVERNANCE

1) **CONNECTIVITY:** Connectivity is required to connect people to government services. For effective e-governance, there should be strong connectivity.
2) **KNOWLEDGE:** IT knowledge is referred to in this context. The government should hire skilled engineers who can handle e-governance efficiently. These engineers also handle any problems that may arise during the operation of e-governance.

3) **DATA CONTENT:** A database is required to share any type of knowledge or information over the internet. This database should contain data content related to government services.
4) **CAPITAL:** Capital can be raised through public or private partnerships. It refers to funds used by the government to provide services or to a specific sector of the economy based on its operations.

2.1.2 E-GOVERNANCE MODEL

E-GOVERNANCE services can be shared by citizens, business owners, government officials, and employees. These four e-governance models are as follows:

1. Government to citizens (G2C)
2. Government to government (G2G)
3. Government to employees (G2E)
4. Government to businessman (G2B)

GOVERNMENT TO CITIZENS (G2C): This e-governance model refers to government services that citizens use. Citizens go here to find the link to the service that they want to use. This exemplifies the strong bond that exists between the government and its citizens. This model provides the following types of services:

- Payment of online bills such as electricity, water, telephone bills etc.
- Online registration of applications.
- Copies of land-record.
- Online filling of complaints.
- Availability of any kind of online information.

GOVERNMENT TO GOVERNMENT (G2G): This model refers to the services which are shared between the governments. There is lots of information that need to be shared between various government agencies, department and organisations. These are some examples of services or information:

- Sharing of information between police department of various state.
- Government document exchange which includes preparation, approval, distribution, and storage of all governmental documents is also done through e-governance.
- Most of the finance and budget work are also done through e-governance.

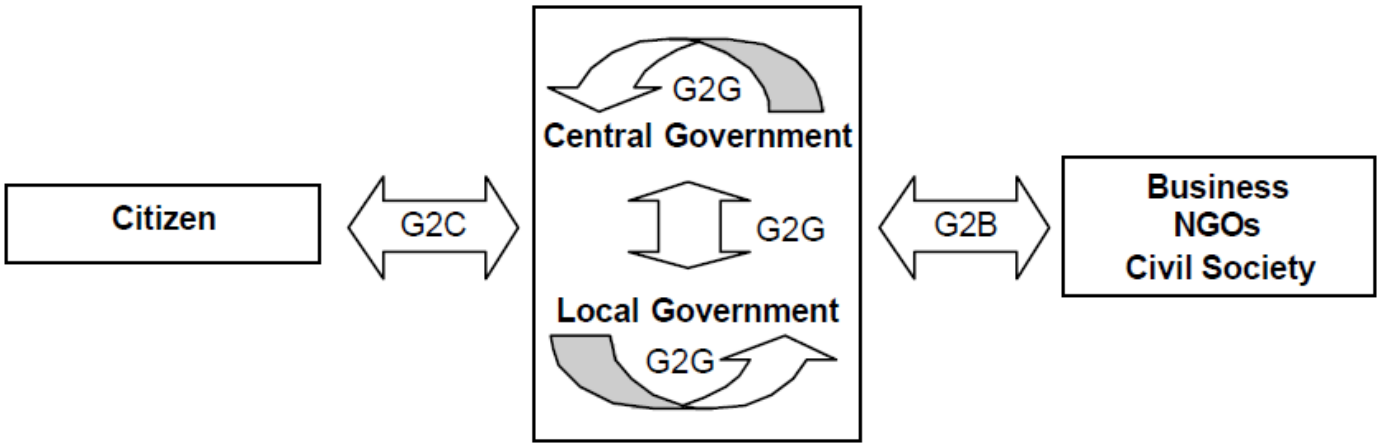

Figure 2:1 Interactions between main groups in e-governance

GOVERNMENT TO BUSINESSMEN (G2B): This model strengthens the relationship between the private sector and the government, and businesspeople use it to communicate. This model is used to share information such as:

- Collection of taxes.
- Rejection and approval of patent is also done by this model.
- Payment of all kind of bills and penalty.
- Sharing of all kind of information, rules and data.
- Complaints or any kind of dissatisfaction can be shown by this.

GOVERNMENT TO EMPLOYEES (G2E): This model improves communication between the government and its employees. Employees can keep an eye on how the government is operating, and the government can keep an eye on its employees. This model can share the following information:

- All kind of data submission (attendance record, employee record etc) from various government offices is done by this model
- Employee can file all kinds of complaints and dissatisfaction by this model.
- All kind of rule-regulation and information for employees can be shared by this.
- Employees can check their payment and working record.
- Employees can register all kind of working forms online.

2.2 EVOLUTION OF E-GOVERNANCE IN INDIA

The evolution of e-government in India can be divided into three stages.

PHASE 1 1947-1984	• INFORMATION BASED E-GOVERNANCE
PHASE 2 1984-1995	• PERSONAL COMPUTER BASED E-GOVERNANCE
PHASE 3 1995 ONWARDS	• INTERNET BASED E-GOVERNANCE

This list shows major milestones in the evolution process.

- In the 1950s, computers were required for National Level Planning.
- The year was 1966. The Bhabha Committee recommends that a Department of Electronics (DoE) be established to support the electronics and computer industries.
- The establishment of the National Informatics Centre (NIC) under the Department of Electronics in 1977 was a significant milestone.
- The establishment of the Computer Maintenance Corporation (CMC) in 1975 was another watershed moment in India's E-Governance history.

- In 1984, India implemented a new IT policy that resulted in a 100 percent increase in the number of computers in the country at a 50 percent lower cost.
- The National Informatics Center Network (NICNET) was established in 1987. Following NICNET, the National Informatics Centre's District Information System (DISNIC) was introduced, with the goal of computerising all district offices with free hardware and software so that everyone can participate in the E-Governance initiative.
- In May 1998, a National Task Force on Information Technology and Software Development was formed.
- By the year 2000, the Indian government had identified a 12-point minimum agenda for implementing E-Government in all union Ministries and Departments.
- The Department of Electronics and Information Technology (DEITY) and the Department of Administrative Reforms and Public Grievances (DARPG) developed the National E-Governance Plan (NeGP) (DAR&PG).
- On May 18, 2006, the Union Government approved the National E-Governance Plan (NeGP), which included 27 Mission Mode Projects (MMPs) and ten components.

The use of information technology (IT) in urban management initiative began in the late 1990s, particularly after the passage of the 74th Constitutional Amendment Act (CAA) in 1994, when urban local bodies (ULBs) were recognised as constitutional entities of local governance. Prior to this, local governance was the responsibility of state governments, and ULBs were expected to carry out certain functions assigned to them by the state governments. The passage of the 74th CAA increased the role of ULBs in local governance. Furthermore, in 2005, the central government launched the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), which made e-governance reform mandatory for all 65 Mission cities (all State capitals, all million plus (population) cities, and cities of historical

interest). The use of ICT is expected to assist ULBs and state governments in combating corruption, shortening the time required to provide civic services, and increasing transparency in urban management. The 65 ULBs are in various stages of reform implementation and have committed to implementing a fully computerised service delivery system by the end of the mission period.

2.3 CHALLENGES IN E-GOVERANCE IN INDIA

India has an inspiring vision of where e-governance is headed; however, there is a disconnect between service delivery and reality in that country. In India, the challenge of e-governance is to provide the service to approximately a billion people. India is actually ranked 87th in the world in terms of e-government readiness, 2005 (CIOL, 2006) indicating that there is significant room for improvement. According to research, the Andhra Pradesh, Karnataka, and Tamil Nadu are the three Indian states that are at the forefront of e-governance provision. while Kerala, Gujarat, Maharashtra, Madhya Pradesh, West Bengal, and Rajasthan are not included a long way behind (NASSCOM, 2003). These ten Indian states, out of a total of 28, account for more than half of the total Indian population.

There are numerous factors in India that limit or make it difficult to develop and implement e-governance. These are as follows:

2.3.1 HUMAN RELATED FACTORS:

Human-related factors are those related to human knowledge, qualitative human resources, and political party-related aspects that limit and create challenges in implementing e-governance.

Computer Literacy Level: Literacy levels in India are still very low, and computer literacy levels are not very high as a percentage of the overall population. Literacy levels, language barriers, and the government's limited infrastructure resources are all factors contributing to these conditions.

Qualitative Human Resources: When discussing the scope of e-governance in India, this comes up. covers all public and private

organisations bound to provide all information in their website, but organisations have a scarcity of knowledgeable human resources who will properly manage and update their online website on a regular basis.

Language is one of the most significant constraints. In India, 70% of the population still lives in rural areas. The national language of India is Hindi, and there are more than 26 languages and dialects. To communicate, 100 different local languages are used. Farmers benefit the most, but they find it difficult to learn how to use online portals because they only provide information in English and Hindi.

Political Issues: E-governance covers one piece of legislation that is entitled to information following the legislative process. Every government employee is required by law to disclose their earnings as well as any properties they own. possessive Politicians and political parties are unwilling to accept or even follow these rules. E-government is a tool for reducing corruption. If we look at the level of corruption in India, the most corrupted country in the world, and corruption that is largely supported by political parties.

2.3.2 TECHNOLOGICAL FACTORS

Despite significant progress, the fact remains that most developing countries fall far short of the computing and telecommunications infrastructure. In comparison to India's population, there is a scarcity of technological resources to support adequate e-governance put into action.

2.3.3 OTHER FACTORS

Certain factors, which are also exciting and create a challenging environment for e-governance, are:

Cost Factors: E-governance projects are expensive affairs that necessitate large sums of money carry out. The overall economic condition of India is not so good, but if we look at the states individually, then a different economic situation will emerge. Many e-governance projects are still in the works. waiting lists because of the limitation in financial resources.

Data Systems Infrastructure: To move e-governance quantitative and qualitative data support system is required, which facilitates appropriate information for timely updating the portals. Data quality and data security are unquestionably weak in India.

Legal Infrastructure: For the proper implementation of laws and regulations required to stop illegal activities via e-governance. In comparison to developed countries, digital signatures, for example, are not accepted in India.

Institutional Infrastructure: E-Governance can only be advanced if organisations exist to serve as a focal point for awareness and as a means of facilitating e-governance. Many institutions in India do not maintain their websites, or if they do, they do not provide the essential information that the law requires.

2.4 NEED AND IMPORTANCE OF E-GOVERNANCE IN URBAN DEVELOPMENT

Governance in urban planning should be viewed as a means of assisting decision-making and policy implementation in the pursuit of better city development. It necessitates collaboration between administration authorities at all levels, from national to regional, interregional, and local, as well as citizens and socioeconomic agents. In this scenario, information and communication technologies (ICT) play an important role by serving as a tool to facilitate the necessary exchange of information and knowledge sharing, eliminating associated inefficiencies, and promoting network development while promoting social and territorial cohesion.

A good governance performance by local authorities in terms of city management necessitates providing citizens with a quick and flexible response, allowing them to be aware of and understand urban challenges while meeting their daily needs. In urban planning, good governance entails governing with citizens' knowledge and understanding of the rules.

As a result, many local governments are experimenting with novel ideas such as participatory budgets, neighbourhood committees, and youth councils or e-governance solutions to increase their efficiency. This mode of operation necessitates a sophisticated relationship between the public and private sectors, as well as a clear commitment to sharing responsibilities and stronger collaboration among the various levels of government, i.e. multilevel governance. Another aspect of governance is to engage in more frequent and creative interactions with civil society, encouraging cultural cooperation between citizens and local governments, which would help to reduce the impact of negative externalities while promoting greater inclusiveness, efficiency, and competitiveness.

E-Governance has become an essential tool for urban development by incorporating the use of information technology in:

- Improving transparency
- Providing citizens with timely information
- Improving administrative efficiency
- Increase citizen involvement in government processes
- The interaction between industry and government can be enhanced
- Better delivery of government services
- Cost savings in obtaining/providing government services for both the government and the citizen
- Citizen empowerment through open access to all information
- Citizens can access all government information through a single window at any time and from any location using a device with an Internet connection
- Reduce corruption
- Using government services in a more efficient and convenient manner
- Remove human errors from the manual process
- Easily and quickly sharing information and locating other government agencies

2.5 SWOT ANALYSIS OF E-GOVERNANCE

The SWOT analysis is kept at a high level. Going into detail would be difficult because situations differ from country to country, from moment to moment, and from e-governance solution to e-governance solution.

Table 2:1 E-Governance: SWOT Analysis

POLITICAL ASPECTS Implementation and maintaining of e-governance solutions			
STRENGTH	**WEAKNESS**	**OPPORUNITY**	**THREATS**
Combination with democratisation reforms, Internet as pull factor Modern image	Budget, Cyber laws not available, No problem owner within Government, No expertise about Technology, Slow decision making Process, Hierarchy in Organisations, Short term approach due to elections, Integration and reform	Raise external funding Show competitive edge, Transparency causes, natural change of Processes, Reinvent government	Bureaucracy Piracy, misuse Corruption, Maintaining disorder, no transparency, Political instability Resistance
SOCIAL ASPECTS Implementation and maintaining e-governance solutions			
People eager to learn IT skills, Skilled people possible export product	Basic education poor: trainers needed, No IT literacy, Low literacy Different languages public acceptance of self-service models Skill shortage, competition with private sector	Employment increases, Education system improve, People learn structural Job, Cheap manpower widely available, Promotion of internet, better healthcare	Brain drain IT skilled people after training, Resistance of people Digital divide, Privacy

ECONOMIC ASPECTS Implementation and maintaining e-governance solutions			
E-Governance good argument for external funding, Transparency for businesses (procurement)	Investors Budget control	Cost efficiency through e-governance New business, More efficiency taxes revenues	Corruption

TECHNOLOGICAL ASPECTS Implementation and maintaining e-governance solutions			
Everything is new: no negative legacy, Leapfrogging possible, Internet as driving (pull) factor, Lack of IT standards	Shortage IT skilled People, High cost of internet, Heterogeneous data, Lack of IT standards, Costs of software licenses	2nd hand hardware Available, Use one standard	Dependency of technology

2.6 RESEARCH PAPERS

Sanjay Kumar Dwivedi & Ajay Kumar Bharti (2010), In this paper authors have discussed about the problems faced by the government and public sector organisations in all over the world to perform their administration and to making it efficient and cost effective. They are also considering the effective use of information and communication technology (ICT) for e-governance for to provide proper services to citizen. According to the findings of their research, e-Governance is a high priority agenda in India, and e-governance is the best way to make the business of governance inexpensive, qualitatively responsive, and truly encompassing.

Sameer Sachdeva (2002), In this paper, the author discusses the knowledge of the user of the government's e-governance website, as well as some of the people for whom this e-governance is established. According to the findings of this paper, the government should develop both short-term and long-term strategies for implementing e-governance. They must prioritise the development of proper formats for Standards, Infrastructure, Legislation, and Strategies in order to facilitate proper implementation. This also necessitates the establishment of various institutions under the Ministry of Information Technology. Make e-governance acceptable to citizens and employees.

Shalini Singh (2010), The author has focused on the system related to right to information in this article. The Right to Information (RTI), which gave citizens of India access to records of the central government and state governments, was thought to be one of the most revolutionary pieces of legislation in recent India, capable of transforming India into one of the most developed democracies. He has also discussed some flourishing initiatives that can serve as a guide. The conclusion of this article is that there are several challenges arising for e-governance that are restrained and not exciting. Since more than a decade, the government has been unable to provide better e-governance.

N. S. Kalsi, Ravi Kiran, and S. C. Vaidya (2009), The paper discusses the need for a paradigm shift from traditional governance to e-governance. Furthermore, it seeks to identify good governance practises. They have also concentrated on the use of e-governance for citizens and how much they have benefited from it. As a result of the findings, the developing country and governance necessitate the collaboration of various major players in society. The government should limit its mutual approach and strategy to the process rather than the results. The government must focus on meeting increasing expectations and demand, as well as identifying ways to satisfy and fill the gaps between actual and expected levels.

Sunil K. Nikam (2011), This study was carried out to determine the usefulness of e-Governance projects in India's agriculture sector. He believes that agriculture is the most important area in India that requires development because more than 70% of the population is dependent on agriculture and lives in rural areas. E-governance establishes clear guidelines and boosts productivity and quality of the agriculture products. He has examined a number of government projects. As a result, it is critical to develop this sector of the economy. The proper application of ICT can boost agricultural productivity and quality. It has various integrations with various agricultural departments and provides support to these departments.

Anand Agrawal, Pragya Shah and Varun Wadhwa (2008), They investigated the quality of governance online services. In the discovery section, they propose a comprehensive model for quality measurement for measuring the quality of electronic governance. To develop the measurement model, they recommend a two-stage design that combines qualitative and quantitative research methods.

Andrew Gilmore and Clare D'Souza (2006), The paper presents an exploratory study of online service categorization in the public sector. As a result, e-governance continues to face challenges because it serves billions of people and it is impossible to satisfy them all. However, with proper planning and planned steps, the government can reduce complaints. According to the findings, the challenge of e-governance to serve a billion people should not be overlooked by the government, and every possible step should be taken to harness its delivery, whether in the service or technological area.

Vineet Agrawal, Manish Mittal and Lavanya Rastogi (2003), In this paper, good practises for implementing e-governance are discussed. How it was put in place and used. They have directed their investigation to the specialists in charge of its design and operation. They have recommended

guidelines for an effective e- governance strategy, as well as the critical benefits of putting such strategies in place.

Debjani Bhattacharya, Umesh Gulla and M. P. Gupta (2008), This paper investigated the effectiveness of various Indian state governments' online portals. They thoroughly examined the web portal from the primary window to the end guideline for accessing required information. They discovered that they are a requirement for proper utilisation of technological advancements all over the world. Also, there is a lack of appropriate portals and a scarcity of appropriate portal uses.

The majority of interactions between government and civil society take place at the local level **(Flak et al., 2005).**

According to **Nabafu and Maiga (2012)**, each country has a type of local government that differs from those of other countries; while local e-Governments share some requirements, such as interoperability and security, with e-Governments at higher and national levels, they have specific characteristic requirements that are unique to their context.

Because most current e-government published research and designed models have focused on national and state-level e-government practises, there is a gap in the information regarding e-government implementation at the local level **(Tassabehji et al., 2007)**. According to recent European surveys, 50 to 80 percent of interactions between citizens and government take place at the local level **(Moraru, 2010)**.

Citizens are more likely to visit a website if they have a positive online experience and believe that their perceived benefits are met in terms of basic and value-added services. However, if a citizen is dissatisfied with his or her online experience, he or she may prefer to visit the government authorities/offices/agencies in person **(Cunliffe, 2000)**. **Klievink and Janssen (2009)** identify the critical issue of website and service integration. There is a distinction between (i) the website providing a single

access point to citizens as an interface gateway and (ii) the integration of services from various public agencies.

A variety of performance assessment indices have been proposed at the international, regional, and national levels to determine the level of development, for example. The E-Government Development Index (EGDI) of the United Nations and the EU e-Government Benchmark (EUeGovBe) for countries **(UNDPEPA, 2002)**, the Rutgers-SKKU E-Governance Performance Index for municipalities/cities **(Holzer and Kim, 2007)**, and Municipality e-Government Assessment Project (MeGAP), (www.portal.unesco.org) and Esteves Municipal e-Government services model (2005).

Various issues related to municipal e-Government have also been researched. **Wirtz and Nitzsche (2013)** conduct a comparative study of the breadth and depth of local e-Government services of New York, Singapore, and Hong Kong are the world's leading cities.

Sandoval-Almazán and Colin (2011) analysed 518 municipal e-Government websites in Mexico were examined, and it was discovered that (a) 89.27 percent of the websites did not provide any security mechanism, as they do not accept online payments; and (b) 78.81 percent of the websites exhibit poor web design, IT government openness, and are thus below average in terms of technology. Furthermore, at least 57.33 percent of municipalities have the ability to provide services that citizens truly require.

Delitheou and Maraki (2010) investigated citizens' attitudes toward municipal e-services in Greece and concluded that "actions should be taken to encourage citizens to use electronic services in municipalities communities."

According to **Moon and Norris (2005)**, large city authorities are more likely to engage in e-government activities than smaller city authorities because, due to public demand, authorities explore new ways of providing

services and disclosing information to common men. **Devuyst and Hens (2000)** investigate how municipalities in Belgium and Canada measure and manage sustainable development initiatives.

In India, very few studies of municipal websites have been published. **Tiwari and Khare (2014)** discuss the Mission Mode Project (MMP) e-Governance initiative for Uttar Pradesh's Urban Local Bodies. **Krishnan (2013)** discusses some of the outcomes of ICT-based services delivered through Panchayati Raj Institutions in Kerala.

According to **Katare et al. (2016)**, "in order to stimulate more citizen participation in e-governance, and there is a need to provide more online transactions, collect information with improved levels of security/privacy, provide online availability of documents on request, and include interactive complaint management mechanism, FAQs, and 24-hour support."

Topics which are covered in Research Paper	Topics are not Addressed in the Research Paper
Problems Facing by The Government and Public Sector Organisations in All Over the World	The Quality of Governance Online Services
Interactions Between Government and Civil Society	Citizens' Attitudes Toward Municipal E-Services
National And State-Level E-Government Practises	Gap In the Information Regarding E-Government Implementation at The Local Level
Critical Issue of Website and Service Integration	Citizen's Online Experience
E-Governance Performance Index for Municipalities/Cities	Very Few Studies of Municipal Websites

Measure And Manage Sustainable Development Initiatives in This Field	More Citizen Participation In E-Governance
Paradigm Shift from Traditional Governance To E-Governance	Provide Online Availability of Documents on Request
Use Of E-Governance for Citizens and How Much They Have Benefited from It	

2.7 PUBLIC SERVICE DELIVERY ACT

Gujarat adopted Citizen's Charters in 1998, which were purely voluntary. The primary aspects of the Citizens Charter were to be publicised, including the description of services and the timeframe for their delivery. The Jan Seva Kendra was established in 2004 as an integrated approach to citizen-centric government that focuses on e-governance infrastructure and ICT access to critical services. This allows citizens to access government services and acquire information in a uniform and simpler manner, allowing the government to offer the necessary services without interruption. These initiatives were thought to be notable, but their impact was scattered and restricted in the absence of a legally enforceable structure. In this context, it was felt that a rights-based approach should be taken, with the public being granted the right to receive services within certain time frames.

The Gujarat government enacted the Gujarat (Right of Citizens to Public Services) Act, 2013 in response to the aforementioned. The following are the key provisions of the act: The Act

- confers a right to timely delivery of services and redress of grievances on every individual citizen;
- requires the state government to publish the services to which the Act would apply and the time restrictions within which the notified services must be performed;

- compels every public authority to publish the names and addresses of personnel responsible for rendering the notified services within two months of receiving a notification identifying the services to which the Act applies.
- Requires that each authority, within two months from the date of a notice specifying the services to which the Act is to apply, appoint as many officials as necessary to act as complaint repair agents in any administrative unit or agency on state, District and Taluka level designates local bodies, parishes, notified areas, panchayats and other offices where services are provided to receive, investigate and resolve citizen complaints in the prescribed manner
- requires the appropriate Grievance Redressal Officer to ensure that the grievance is resolved within the stipulated timeframe after receiving a complaint;
- provides that any individual who is aggrieved by a decision of the concerned grievance redressal Officer or who has not been informed in writing of the manner in which his grievance is redressed may file an appeal with the Designated Authority within thirty days of the expiration of such period or the receipt of such decision;
- provides for the establishment of a State Appellate Authority with members;
- provides that any person who is aggrieved by a decision of the Designated Authority may appeal to the State Appellate Authority; and provides that any person who is aggrieved by a decision of the Designated Authority may appeal to the State Appellate Authority.
- Authorizes the designated authority and the state appeals authority to impose a flat-rate fine, including compensation to the claimant for failure to provide the services to which the claimant is entitled, of up to ten thousand on the officer responsible for the provision of services or the complaints officer Rupees may be extended to be deducted from the salary of the sanctioned officer;

- stipulates that, upon imposition of the penalty, the appellate authority may, by order, require that the appellant be granted such percentage of the penalty imposed under the proposed legislation as compensation, not to exceed the amount of the penalty imposed;
- provides that if a public servant is found guilty of an offence, the disciplinary authority shall initiate disciplinary proceedings against that officer of the public authority, who, if found guilty of a mala fide action in violation of any provision of this Act, shall be subject to such punishment, including a penalty, as the disciplinary authority may determine;
- stipulates that the burden of proof to demonstrate a non-redressal of complaint by the Grievance Redressal Officer shall be on the Grievance Redressal Officer who denied the request in any appeal proceeding must be on the Grievance Redressal Officer who denied the request;
- notes that if it appears to the designated authority or the state appeals authority that the alleged complaint at first glance indicates a corrupt act or practice within the meaning of the Corruption Prevention Act 1988, by the official responsible for the authority against whom the Complaint is filed, then it will record the evidence supporting this conclusion and forward it to the appropriate competent authorities to learn of this corrupt practice.

The Act aims to accomplish the aforementioned goals.

3. CONCEPTUAL FRAMEWORK & METHODOLOGY

In India, very few studies of municipal websites have been published. The majority of interactions between government and civil society take place at the local level. Citizens are more likely to visit a website if they have a positive online experience and believe that their perceived benefits are met in terms of basic and value-added services. However, if a citizen is dissatisfied with his or her online experience, he or she may prefer to visit the government authorities/offices/agencies in person.

Development models of e-government for the municipalities have been implemented to simplify and improve coexistence between government and citizens. Successful models around the world show significant progress in terms of citizen satisfaction reduced bureaucratic attitudes in public institutions and a significant saving of resources.

To make e-Governance online services useful and practical, the Service Quality Gaps need to be bridged as soon as possible.

3.1 ESTEVES FRAMEWORK

Actually, the existing life cycle models in e-Government (Accenture 2003, European Commission 2003) only take into account a national environment. As a result, I employ Esteves's (2005) municipal e-Government Services Model. Esteves modifies Gomez's scheme in order to adjust the author's classification in the case of evaluating municipal governments. Municipal e-Government stages begin with the face stage and end with the transformation or electronic democracy stage.

In this study apply the municipal e-Government Services Model formulated by way of Esteves (2005). This model is based totally on five phases - viz. presence, urban information, interaction, transaction and e-democracy. Transition from one section to different represents an extend in the capability to

provide data and offerings on one hand and improvement in the communication between municipalities and citizen on other.

This model elaborates on 16 e-Applications are services (document downloads), a council/municipal newsletter, a browser/search engine, and the internet a map, a street map, public transportation, an email address, and a phone number listing services, mobile services, online transactions, and follow-up monitoring services, digital certificate, citizen folder online payments, site personalization, and citizen participation is required.

Each successive phase represents an improvement in the ability to provide information and services, as well as to improve communication between cities and municipalities. We created an indicator to measure the state of municipal e- Government development in each city after defining the e-Services in each phase. We've given it the name e-Value.

Two independent evaluators were chosen and given the following information and documents: i) the names and addresses of the municipal websites under consideration, ii) a detailed Esteves model, and iii) the researchers' suggested scoring criteria. They were asked to use the evaluation criteria to determine their personal score for each website.

Table 3:1 Scoring systems of e-services

Criterion	SCORES				
	(2.0)	**(1.0)**	**(-1.0)**	**(-2.0)**	**0**
Presence	Very easy, right away, no help needed, very useful	Easy/normal, no help needed, useful	Difficult, can use, but need help, not useful	Very Difficult, need much help, not at all useful	Cannot find/not applicable/ do not know how to use or does not work
Urban Information					
Interaction					
Transaction					
e-Democracy					

Table 3:2 E-Governance Service Quality Model

PHASE	DESCRIPTION	E-SERVICE	DEFINITION AND REQUIRIMENTS
Presence	e-Services publish information to the citizens. there is online information and it may include basic search tools and to do things such as downloading documents.	Applications (Document Downloads)	Proceeding documents (general information, planes and so on)
		Council/Municipal Newsletter	Acts or change description of laws in the council (decrees mainly)
		Browser/Search Engine	To find information inside city web pages
		Web Map	Map of the website
Urban Information	It provides information on street maps and urban transportation. This information sometimes demands advanced technological tools such as GIS or the opportunity of fast search.	Street Map	City map with all streets (can be static or dynamic, like someone specialized search engines)
		Transportation	Transports in the city: buses, meter or something like that (can include how arrive to the city)
Interaction	It considers simple communication between the citizens and the council members/staff.	Email	There is an email to send or request information with the council
		Telephone Listings	There is a phone number to call to the council

Transaction	It includes a set of services that allow a bidirectional electronic interaction between citizens and the council. These services include authentication, application processing and so on.	Mobile Phone	Is possible to access to the content to website from a mobile phone (i.e. WAP) and receive information by council through mobile phones (i.e. SMS or similar)
		Online Proceeding	Is possible to do a proceeding in the city website, i.e. change address, request of circulation permission, request commercial license and so on
		Follow Up (Monitoring)	Citizen can follow the state of their proceeding (even if it were not initiated online)
		Digital Certificate	Is possible obtain certificates (i.e. domiciliary certificate), in a direct way or through the website
		Citizen Portfolio	Citizens can access to their information and they can update it
		Online Payments	The neighbour can pay some proceeding (i.e. a permission, a commercial license and so on) through website, generally using debit or credit card

		Customization	Is possible personalize the website according to the user
e-Democracy	It Includes citizen participation services such as online forums, blogs, chats, online communities and online surveys on municipal topics.	Citizen Participation	Exists discussion forums related to solve city problems

3.2 CONCEPTUAL FRAMEWORK OF THE STUDY

Governments all over the world are implementing e-governance programmes that include providing residents with online services via web portals. The goal of this study is to discover how consumers perceive the factors that define the quality of e-governance online services. The research presents a thorough approach for assessing quality. The measuring model is developed using a two-stage design that combines qualitative and quantitative research methodologies.

The survey was carried out both online and offline. Because random sampling was impossible to execute without access to the database of vmc.gov.in subscribers, convenience and snowballing sampling were used. Average One Hundred ten legitimate responses were gathered after a month of surveying. Because the study takes into account both approaches to quality measurement (perception and discrepancy/gap-perceptions minus expectations), data analysis was done individually for both sets of data. Scale reliability analysis was performed for both sets of data after data collection for each of the proposed dimensions, which generated ambiguous results. This necessitated a fresh examination of the

dimensional structure. As a result, an exploratory factor analysis was conducted.

Citizen satisfaction refers to a person's psychological or affective state as a result of a cognitive evaluation of their interactions with e-government portals. Luarn and Lin (2003) and Teo et al. (2008/9) tested three questions adapted from Seddon and Kiew (1996). "Overall, I am satisfied with municipality's e-government portals," is an example item.

Perceived ease of use, citizen trust, content quality, and service quality are the four independent variables employed in this study, as shown in Figure. The following are the definitions of the terms:

Perceived Ease of Use: The degree to which a citizen believes that utilising an e-government site would be painless is referred to as perceived ease of use (Davis, 1989). Six items from Chen (2010) and Osman et al. were used to create the perceived ease of use metrics (2014). "The e-government portal is user friendly," says the sample item.

Citizen Trust: A citizen's faith in the government and Internet technology is referred to as citizen trust. Carter and Belanger used five items from McKnight et al. (2002) and Wakefield et al. (2004) to measure it (2005). "The e-government portal can be trusted to carry out online transactions faithfully," says the sample item.

Content Quality: The quality of information offered by e-government portals is referred to as content quality. The quality characteristics of information given through e-government portals are the focus of the content quality metrics in this study. Teo et al. (2008/9) and Chen (2008/9) employed six items from Seddon and Kiew (1996). (2010). "Information provided by the e-government portal is accurate," for example.

Service Quality: The quality of products and services given by e-government portals is referred to as service quality. Teo et al. (2008/9) and Osman et al. (2008/9) used nine items from Pitt et al. (1995). (2014).

"The e-government platform provides citizens with prompt services," for example.

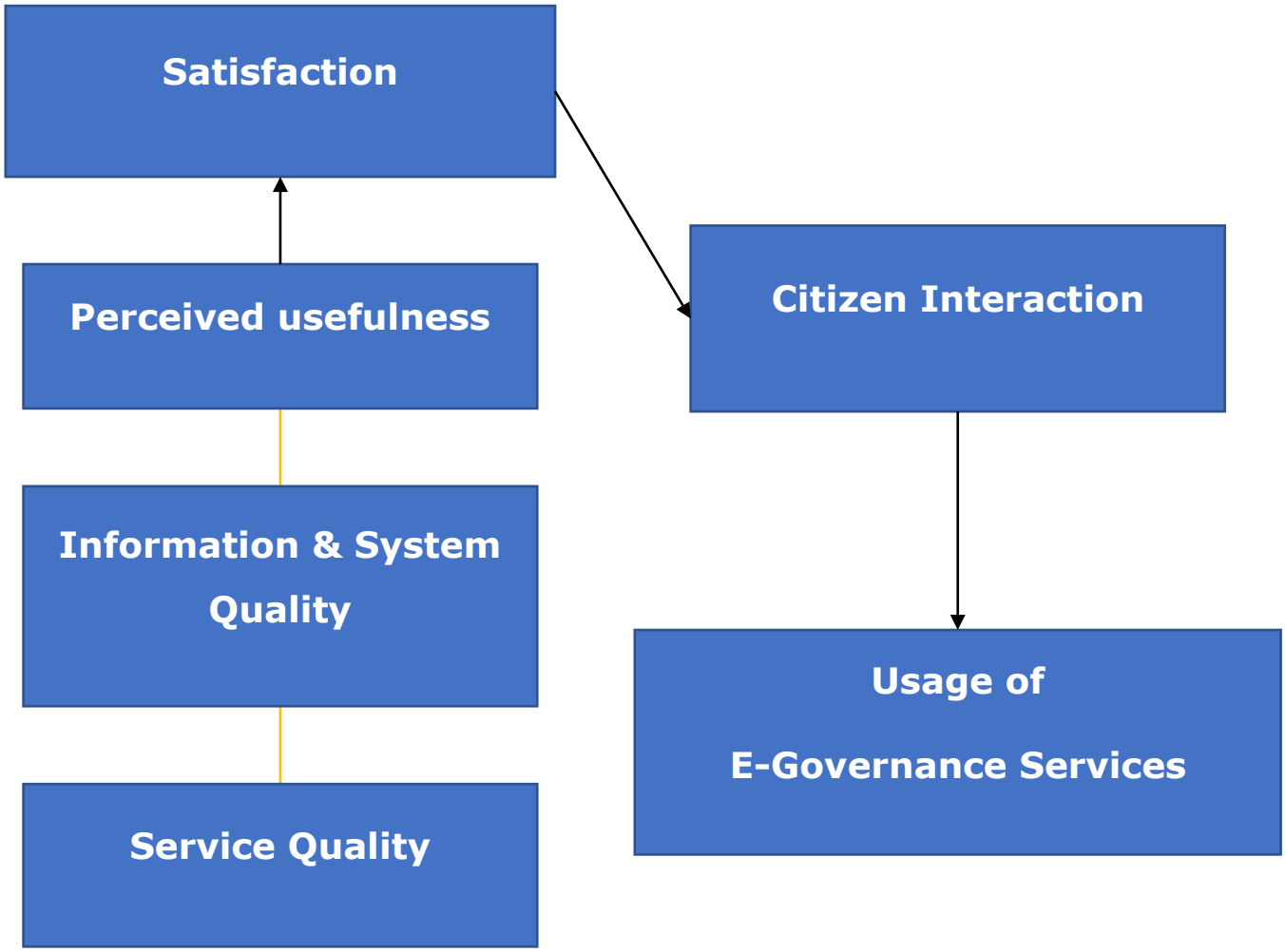

Figure 3:1 Relationship Between Citizen Satisfaction and E-governance Services

3.3 AIM AND OBJECTIVES OF THE STUDY

In this study, I discuss the findings of an evaluation of e-governance websites of Urban Local Bodies (ULBs) in the Indian state of Gujarat (GJ), with the goal of benchmarking ULB websites to ensure service quality. The purpose of this study is to examine the impact of e-government service quality dimensions such as website design, dependability, responsiveness, security and privacy, as well as the availability of information and ease of use provided by the government.

The aim of the study is to assess the development of municipal e-Government services that are offered in cities which are located in Gujarat State.

The main objective of the study is:

- To study the current available e-services in the Municipal Corporation
- To analyse the availability of municipal e-services quality using the Esteves index

The study was geographically limited and had a small sample size due to COVID-19 situation.

3.4 RESEARCH METHODOLOGY

Websites are the primary connecting channels in today's world. But simply by the citizens and the government establishing a website as a new channel of service delivery. The fundamentals of government service delivery are not being followed or modified (Pardo, 2000). According to Howard (2001), "e government initiatives clearly extend beyond the textual listing of information to a more "intentions-based" design so that citizens can more effectively use web portals."

Every website can benefit from modification enhancement. This post-presence necessitates objective evaluations of websites. To that end, I will attempt to evaluate the current state of municipal e-governance services that are available in cities of Gujarat State. This self-funded research was conducted in India between March and June of 2021. In Gujarat, there are 08 cities with Municipal Corporations, but all of them, or 08 cities, have their own websites. The all-cities were included from our research sample to the fact that the whole websites are currently active, none of them are not under construction or maintenance.

Finally, this study included the websites of eight cities that have active websites. The municipal e-government services model developed by Esteves (2005) was used to evaluate these eight websites. The research is qualitative and descriptive in nature, with the majority of the data derived from secondary sources of survey data.

The following methods were selected for this study.

3.4.1 STUDY ABOUT E-GOVERNANCE SYSTEM

The aim of the study is to assess the development of municipal e-Government services that are offered in cities which are located in Gujarat State. Study about the introduction about e-governance system and what are the need for it and why it is studied for research.

3.4.2 LITERATURE REVIEW

After the problem is identified, the researcher needs to learn more about the topic under study. To do this, the researcher must review the literature on the research problem. This step provides a basic understanding of the problem area in order to understand the definition of e-governance, four pillars of it and government model with evolution in India. The SWOT analysis of it also included. Need and Importance of E-Governance in Urban Development and what are challenges are faced are studied in detail.

3.4.3 AIM AND OBJECTIVES

One of the most important aspects of your thesis is developing appropriate research goals and objectives. This is because the scope, depth, and overall direction of the research are determined by the research aim and objectives. I frame main aim and for fulfilment of the aim, frame other two objectives which is directly help to research. In this study, I discuss the findings of an evaluation of e-governance websites of Urban Local Bodies (ULBs) in the Indian state of Gujarat (GJ), with the goal of benchmarking ULB websites to ensure service quality.

3.4.4 IDENTIFICATION OF STUDY AREA

For the Assessment of E-governance municipality service quality, is identified the main 8 cities of the Gujarat. Ahmedabad, Surat, Vadodara, and Gandhinagar main four cities taken for the case study. With municipal corporation, there are two municipalities and village also be taken for the survey to understand about e-services level in hierarchical process

3.4.5 IDENTIFYING THE PARAMETERS, DATA COLLECTION AND DATA PROCESSING

The measuring model is developed using a two-stage design that combines qualitative and quantitative research methodologies. It is the comparative study according to data collection and analysis between the municipal corporation. The survey was carried out both online and offline. Because random sampling was impossible to execute without access to the database of authority's subscribers, convenience and snowballing sampling were used. The average respondents from each city are 100.

3.4.6 DATA ANALYSIS

Data analysis is critical for any research because it explains the various concepts, theories, frameworks, and methods used. It ultimately aids in reaching conclusions and proving the hypothesis.

In this study, apply the municipal e-Government Services Model formulated by way of Esteves (2005). The measuring model is developed using a two-stage design that combines qualitative and quantitative research methodologies. The use of an e-government portal is measured in this study. In order to test the relationship between various phases, correlation analysis was undertaken.

3.3.7 CONCLUSION

A conclusion is an important part of the research because it provides closure for the reader while also reminding the reader of the thesis's contents and importance. It accomplishes this by taking a step back from the specifics to look at the big picture of the document.

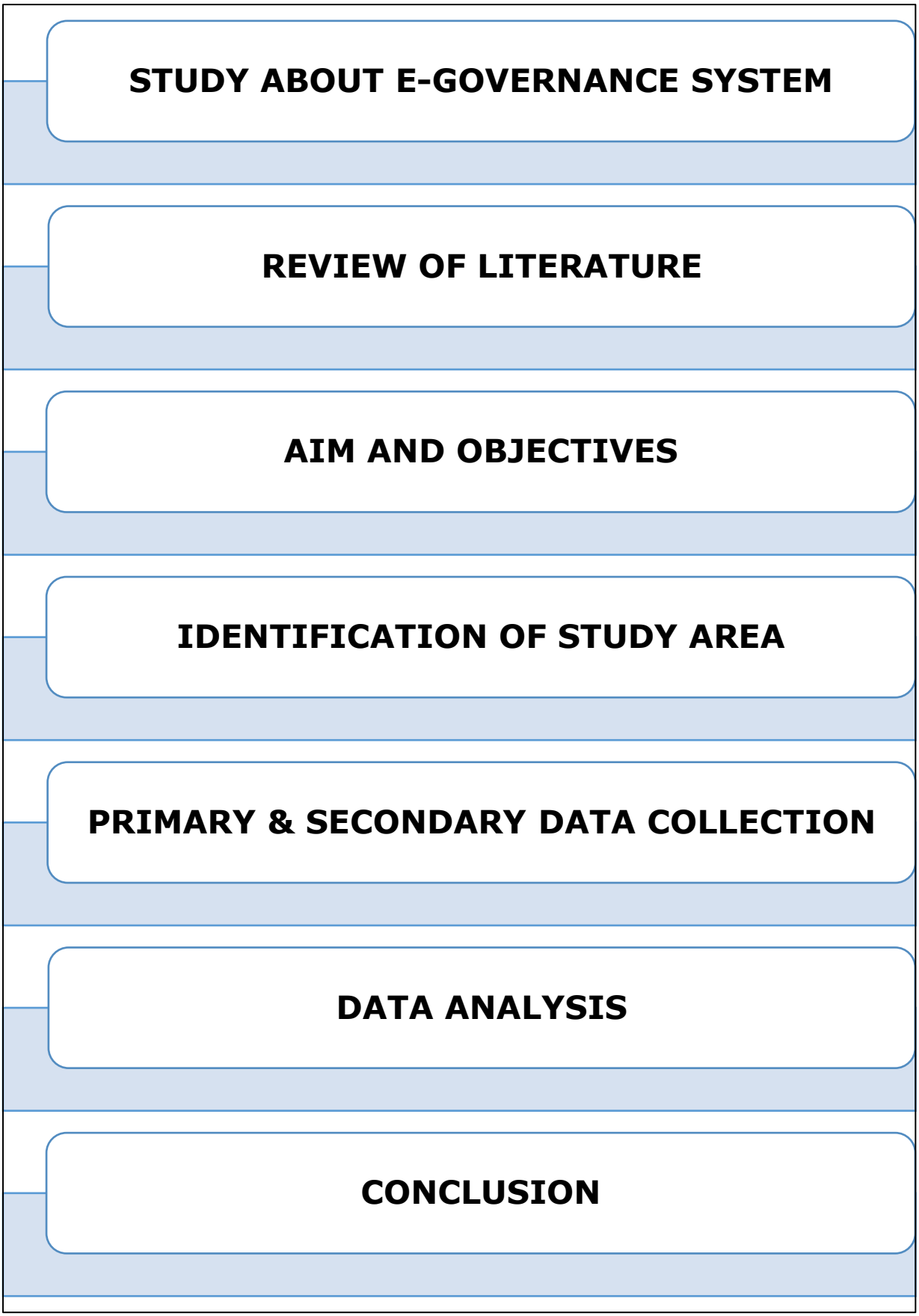

Figure 3:2 Research Methodology Steps

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4. STUDY AREA PROFILE

In this present assessment of municipal e-governance websites of Gujarat. In this study present an ex-post predictive evaluation for the assessment of local e-Governance project to ensure the service quality using Esteves model for the municipal websites. For the Assessment of E-governance municipality service quality, is identified the main 8 cities of the Gujarat. the main cities of Gujarat are the 08-municipal corporation of the State which are Ahmedabad, Surat, Vadodara, Rajkot, Bhavnagar, Jamnagar, Junagadh and Gandhinagar, among them main four cities taken for the case study. With municipal corporation, there are two municipalities and village also be taken for the survey to understand about e-services level in hierarchical process. It is the comparative study according to data collection and analysis between the municipal corporation. Here some statistics related to Demographic data are shown of Municipal corporations.

Table 4:1 Demographic Details of Municipal Corporations & Municipalities

RANK	CITY	AREA (KM2)	POPULATION 2011	DENSITY (PERONS/KM2)
1	**AHMEDABAD** (M. CORPORATION)	464	55,77,940	12021
2	**SURAT** (M. CORPORATION)	326.51	44,66,826	13680
3	**GANDHINAGAR** (M. CORPORATION)	205	2,08,299	1016
4	**VADODARA** (M. CORPORATION)	220.33	17,41,791	7905
5	**KADI** (MUNICIPALITY)	19	81,404	4284
6	**MAHESANA** (MUNICIPALITY)	31.8	1,85,000	5817

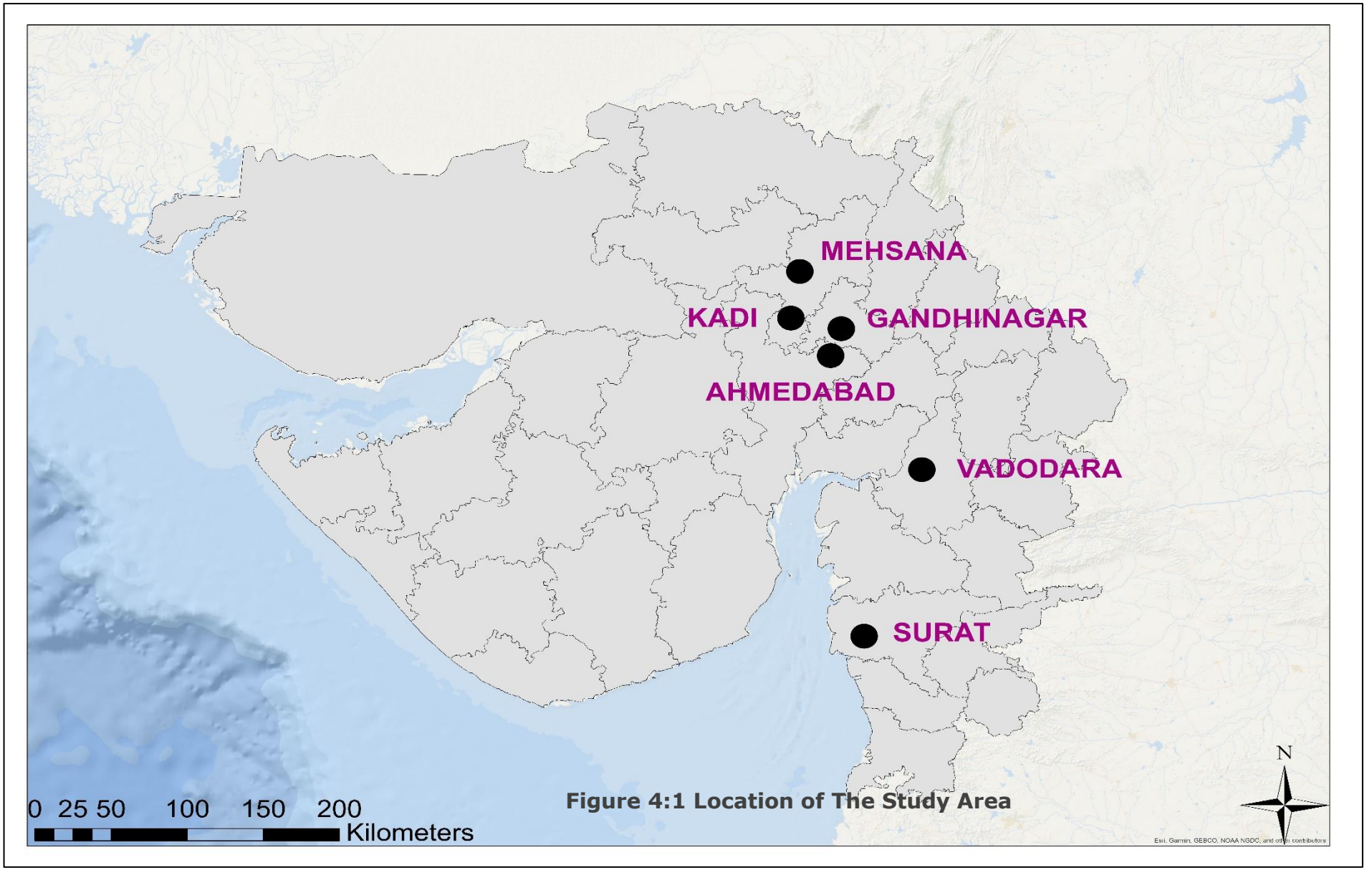

Figure 4:1 Location of The Study Area

4.1 INTRODUCTION OF AHMEDABAD CITY

Ahmedabad, now the seventh largest metropolis in India and the largest in Gujarat, was founded as a walled city on the eastern bank of the river Sabarmati in 1411 AD. Ahmedabad has historically been one of the most important trade and commerce centres in western India. It is also a major industrial and financial city, accounting for approximately 14 percent of total investments in all Indian stock exchanges and 60 percent of the state's total productivity. It is home to a number of national, regional, and global scientific and educational institutions. The city has a rich architectural heritage, which is reflected in many magnificent monuments, temples, and modern structures.

AHMEDABAD'S STRENGTHS:

- In 2012, Ahmedabad's GDP was estimated to be 64 billion USD.
- According to Forbes magazine, the city is the third fastest growing in the world.
- According to a Times of India poll, Ahmedabad City is India's best city to live in terms of infrastructure.
- The state's major trade, commerce, and industry base, as well as the engine of its industrial and financial growth.
- Ahmedabad will be the first Indian city to be granted UNESCO World Heritage City status after a tentative application was accepted by the organisation.
- Water, Sanitation, and Sewerage Services of High Quality
- A Reliable Public Transportation System
- City government that is fiscally responsible
- Inclusionary city that is sensitive to the needs of the urban poor
- Environmentally friendly and energy efficient
- The city is compact, with short travel distances.
- Taking advantage of strong economic drivers to spur growth and job creation.

4 .2 INTRODUCTION OF SURAT CITY

Surat is a city in the Indian state of Gujarat, located in the western part of the country. It is one of India's most dynamic cities, with one of the fastest growth rates due to immigration from various parts of Gujarat and other Indian states.

Surat is one of India's cleanest cities, and it is also known as "THE SILK CITY," "THE DIAMOND CITY," "THE GREEN CITY," and other nicknames. It has the most vibrant present and an equally diverse historical heritage. It is the location of the British first landing in India. The Dutch and Portuguese also established business centres in Surat, the ruins of which can still be seen today. This was once a magnificent port, with ships from over 84 countries anchored in its harbour at any given time.

Surat maintains the same tradition today, with people coming from all over the country for business and jobs. Surat has a nearly zero percent unemployment rate, and jobs are easier to come by as a result of the rapid development of various industries in and around the city.

Surat is one of the most important cities on the country's industrial map, with many large industries developed here. Surat's economic base consists of textile manufacturing, trade, diamond cutting and polishing industries, intricate Zari works, chemical industries, and the petrochemical and natural gas-based industries at Hazira established by leading industry houses such as ONGC, Reliance, ESSAR, and Shell.

The city accounts for: 42 percent of the world's total rough diamond cutting and polishing, 70 percent of the nation's total rough diamond cutting and polishing, 40 percent of the nation's total diamond exports, 40 percent of the nation's total man-made fabric production, 28 percent of the nation's total man-made fibre production, 18 percent of the nation's total man-made fibre export, and 12 percent of the nation's total man-made fibre export.

4.3 INTRODUCTION OF GANDHINAGAR CITY

Gandhinagar, Gujarat's new capital city and one of the most beautiful and green cities in India, is located on the west bank of the Sabarmati River, approximately 464 kilometres from Mumbai, India's financial capital. Gandhinagar has the spacious, well-organized appearance of a city that has been architecturally integrated.

The city has been divided into thirty sectors, which circle the central Government complex. Each sector has its own shopping and community centre, elementary school, health centre, and public and private housing. Aside from that, there is a generous provision for wide open green parks, extensive planting, and a large recreational area along the river, giving the city the appearance of a lush green garden city.

According to the 2011 Indian census, Gandhinagar has a population of 2,02,776, of which 1,05,779 are male and 96,997 are female. The male literacy rate is 85.5 percent (90418 Males), while the female literacy rate is 79%. (76625). 82.4 percent of the population is literate (1,67,043 persons). There are a total of 19,597 children under the age of six. There are 10,806 boys and 8791 girls.

There are numerous places that contribute to Gandhinagar's beauty. Gandhinagar has never been a tourist destination. However, Gandhinagar is full of interesting places to visit in their own right. Although Gandhinagar is worth seeing because it is a well-planned city that will leave you speechless with its smoothing greenery, well-planned architecture, beautiful clean roads, and trees on the roadside.

On the educational front, PDPU, NID, NIFT, DA-IICT, GNLU (Gujarat National Law University), and BISAG in Gandhinagar are among the most domain-specific and rare institutes in the country. Furthermore, the nationally renowned engineering institute IIT has had a campus in Gandhinagar since 2008, and it recently provided its first, fresh batch of graduates.

4.4 INTRODUCTION OF VADODARA CITY

Vadodara, one of the India's most cosmopolitan cities and Gujarat's 3rd most populated city with a population of over 1 million as per census, located south-east of Ahmedabad, on the bank of river Vishwamitri.

The city is located on the fertile plain between the Mahi and Narmada River. According to the Bureau of Indian Standards, the cosmopolis falls under seismic zone- III, in a scale of I to V. Vadodara if famous for its palaces, parks, temples and museums.

Known as the "Gateway to the Golden Corridor", as all the rail and road arteries that link Delhi, Mumbai and Ahmedabad also connect Vadodara, including the Delhi Mumbai Industrial Corridor (DMIC). City has major Industrial sectors like Chemicals and Petrochemicals Pharmaceuticals Biotechnology.

Baroda is synonymous with education. The patronage of education started with Maharaja Sayajirao and the city has built further on the academic infrastructure established by him. The present educational foundation rests on over 20 public schools and over 100 private schools.

Vadodara, the magnificent city of Vadodara in Gujarat, is located on the Vishvamitri River. It is a densely populated city in the state and has some of the best universities in India. Vadodara is a famous tourist destination. It invited many people to visit this magnificent city. It has a rich cultural and historical heritage. The city is known as Sanskari Nagari because of its rich cultural traditions. Some tourists come here from the city's art galleries and museums. Vadodara is the third largest city in Gujarat with a population of over one million.

Vadodara has witnessed the birth of large and medium-sized companies. With the rapid economic development, the city has huge industrial parks and state-owned enterprises, such as Gujarat Oil Refinery, India Petrochemical, Gujarat Fertilizer, Heavy Water Project, Oil and Gas Commission, etc.

4.5 INTRODUCTION OF KADI TOWN

Kadi, the state cotton capital, is tucked away in a corner of Gujarat. Unlike the popular Gujarati dish, Kadi is home to over 100 cotton mills, all of which contribute significantly to the state's economy. Kadi is a small and unassuming town that is self-sufficient and proud of its heritage.

The town is dotted with universities and educational institutions, making it a significant learning centre for the state as well. The local culture is also vibrant, with festivals celebrated with zeal and pomp. Kadi is infused with a sense of divinity and old-world charm thanks to the numerous temples along the way.

Malhar Rao Palace, also known as the Qilla or Supra Mahal, is a significant historical landmark in Kadi. This old, crumbling structure is a must-see for anyone interested in the region's history.

Unsurprisingly, Kadi is also home to a number of temples and mosques that draw a large number of devotees from all over the world each year. The Yavteshwar Mahadev Mandir, the Malguru Maharaj Temple, the Someshwar Temple, the Balapir Shrine, the Hanuman Mandir, and the Madrasa Dawat Ul-Huq mosque are among the places of worship worth visiting.

A visit to the Kadi Sarva University, which is located in an educationally significant region, should also be included on your itinerary.

With the merger of Baroda State with Mumbai State in the year 19, Bombay Mu. Before the enactment of Act 1901, the Kadi municipality came into existence. According to the then amended essay of its chairman, it was considered as an administrator and after the election of the deputy chairman from the elected representatives, its first Nagar Panchayat came into force after the enactment of G.M.U. At present the link has special identity from educational, religious, cotton, health, glass, ceramics, engineering and Narmada Y junction.

4.6 INTRODUCTION OF MAHESANA TOWN

Mehsana, also spelled Mahesana, is one of Gujarat's largest cities. It is the district headquarters of Mehsana, which includes 9 talukas and approximately 600 villages. Mehsana is located in northern Gujarat and is well-known for the oil and gas industries that have been established in the city. Mahesana is centrally located on Ahmedabad Palanpur Highway SH 41. Mahesana city is gate for the North Gujarat.

Mehsana's Dudhsagar Co-operative Milk Dairy has one of the highest milk collections.

It is also well known for breeding buffalos known as Mehsani breeds throughout Gujarat. Mehsana district as a whole has some of the most historical attractions and thriving industries in north Gujarat. Aside from its industrial development, it provides a variety of interesting activities for tourists visiting the region. Mehsana has its own distinct culture, which is reflected in its art and traditions.

Mehsana Municipality, with a population of approximately 1.8 lakh, is the only municipality in Mehsana sub district of Mehsana district in the Indian state of Gujarat. Mehsana municipality has a total land area of 32 km2. The city has a population density of 5825 people per square kilometre. The city is divided into 15 wards.

There were 894 females for every 1,000 males. Mehsana had a higher literacy rate than the national average of 84.26 percent. Mahesana's population is 33 percent employed in either main or marginal work.

Mahesana's strategic location and infrastructure profile have resulted in unprecedented industrial growth in recent years. The city has fertile land, and a small portion of it is under cultivation. This has boosted agriculture, agro-based industries, and commercial activities in Mahesana. In the city, there are two industrial estates that include agro-based, wooden, dairy, refined edible oil, food product, engineering sector, and other types of industries.

4.7 INTRODUCTION OF ELECTED AND ADMINISTRATIVE WING

The powers have been conferred in three distinct statutory authorities under the provisions of the Bombay Provincial Municipal Corporations Act, 1949, Section - 4:

1. **THE GENERAL BOARD OF DIRECTORS**
2. **THE STANDING COMMITTEE OF THE GENERAL BOARD OF DIRECTORS**
3. **LOCAL GOVERNMENT COMMISSIONER**

THE GENERAL BOARD: The General Board is the Corporation's top body, made up of elected representatives from each ward. Each ward elects three members, resulting in a total of councillors per each ward. Ladies have one-third of the seats reserved. It is elected for a five-year term, after which elections are held again.

STANDING COMMITTEE: One of the twelve statutory committees, the Standing Committee is one of the most powerful. It has the authority to sanction and reward large works worth more than Rs. 5 lakhs. It has financial authority as well.

OTHER COMMITTEES: There are twelve other committees that oversee for authority's specific functions.

4.7.1 THE CORPORATION'S CONSTITUTION/GENERAL BOARD

The Municipal Corporation's Supreme Body, made up of elected representatives from each ward, is known as the General Board. The General Board has broad authority over the Corporation's other authorities, such as the Standing Committee and Municipal Commissioner. There are currently 38 wards in the Vadodara Municipal Corporation, each with three councillor seats, with 33 percent of seats reserved for women. Each councillor is chosen for a five-year term. All of the Councillors were chosen in a general election, and each one of them is deserving of being nominated

to several committees for the next year. After then, they are no longer members of that committee.

After the general election, the first meeting of the Corporation and Standing Committee shall be conducted as soon as possible on a day, at a time, and at a location determined by the Municipal Commissioner. Following that, the Mayor and the Standing Committee will schedule each meeting.

The Corporation shall elect one of its members to be the mayor (the term of the mayor is two and a half years) and the Dy. Mayor at its first meeting (the term of Dy. Mayor is one succeeding year). The General Board includes all of the councillors.

Every Committee has the authority to appoint two members as Chairman and Vice Chairman. Every member of each committee may serve for a period of one year from the date of their election. They are all eligible for reappointment.

At least one ordinary meeting of the Corporation shall be held each month. Each ordinary meeting's notice must include the date, time, and location of the meeting.

All Councillors are members of the General Board and have the authority to vote and express their opinions on matters on the General Board's agenda.

The Commissioner may attend a meeting of the Corporation and participate in discussions with the consent of the presiding authority, and may give a declaration or explanation of facts at any time, but he is not permitted to vote on or make any proposition at such meeting.

4.7.2 THE STANDING COMMITTEE'S STRUCTURE

- A total of 12 Councillors makes up the Standing Committee.
- The Standing Committee is a statutory committee with broad authority to authorise the Municipal Commissioner to enter into contracts for works costing more than Rs. 5 lakhs.
- The required condition of the BPMC Act 1949 requires that the standing committee convene once a week.
- At least one ordinary meeting of the Corporation shall be held each month. Each ordinary meeting's notice must include the date, time, and location of the meeting.
- Every successive year, one-half of the members of the standing committee must retire at noon on the first day of the month in which the Corporation's inaugural meeting was held.
- The Standing Committee also has the authority to create subcommittees under its supervision to handle certain matters.

4.7.3 SPECIAL COMMITTEES

- Municipal Corporation has 11 special committees and three subcommittees and more on.
- There are nine councillors on each special committee. The Corporation, standing Committees, special committees, sub committees, and Special committees shall convene, and the work before them shall be handled in accordance with the General Board's rules and regulations.

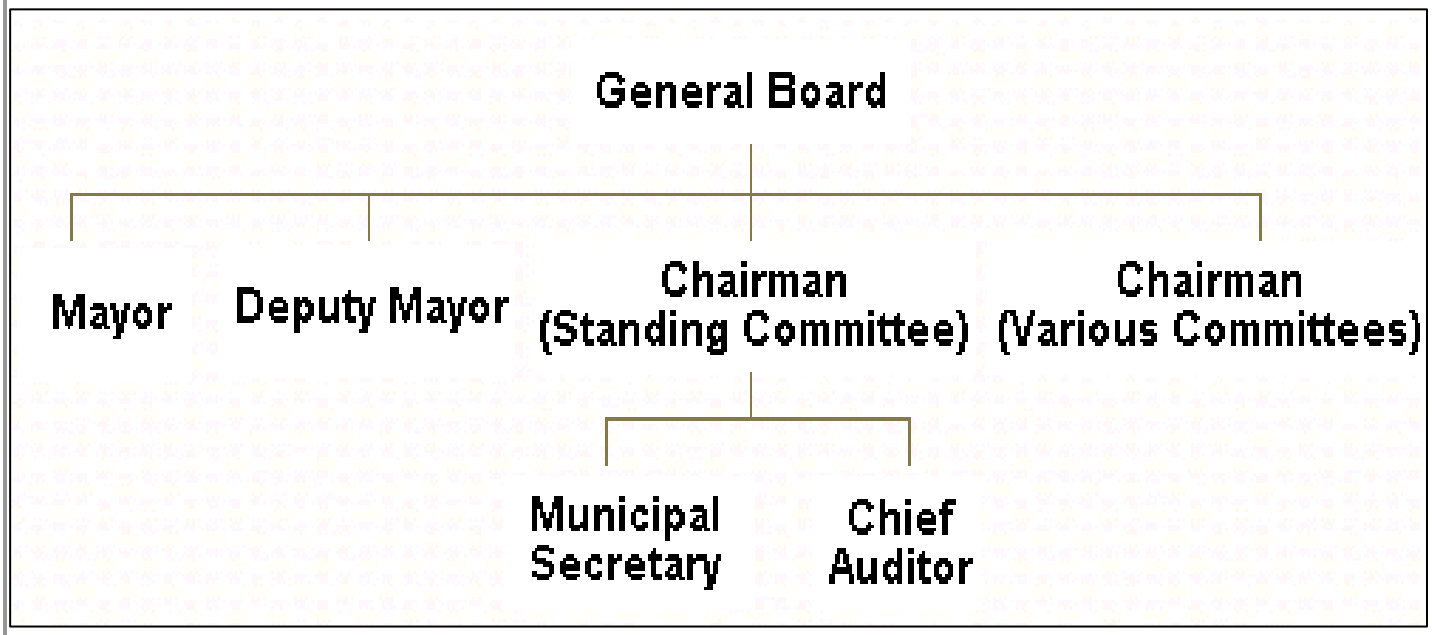

Figure 4:2 Political Structure of Elected Wing

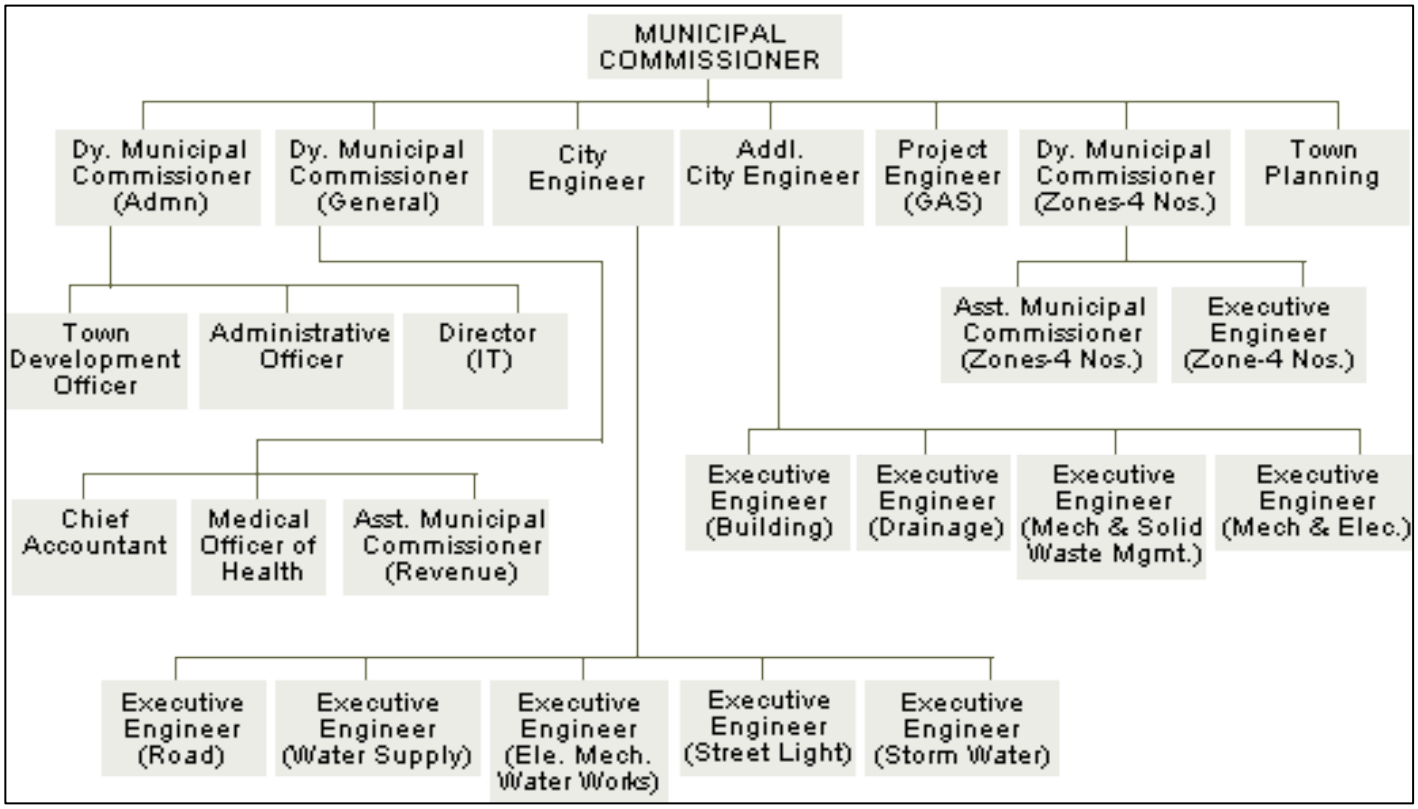

Figure 4:3 Political Structure of Administrative Wing

5. DATA COLLECTION AND ANALYSIS

5.1 E-GOVERNMENT DELIVERY IN THE INDIAN CONTEXT

In India's e-government situation, there are three delivery routes for e-government services. The first is citizens' direct access to these websites. The government has put internet kiosks in rural regions (known as Common Service Centres or CSC) to provide individuals with access. Citizens can also use the SMS feature on their phones to access the services, or they can use the website.

E-government service delivery through direct access to website:

Citizens usually employ this strategy in urban regions where awareness and infrastructure are sufficient to allow citizens to access services such as e-tax filing straight from their devices without the need for middlemen. The factors of this access are captured by existing models of e-government service quality outlined in the preceding section, as it is similar to how these services are accessed in developed nations.

Information kiosks, such as Common Service Centres, are used to deliver e-government services (CSCs)

CSCs aim to include government services to citizens on their doorsteps in rural areas of India, including government services (application forms, certificates, etc.) as well as commercial services (bill payments for utility services such as electricity, telephone, and water, and so on) and a variety of other services. The National e-Governance Plan, 2006, envisioned CSCs as the major delivery channel for e-government in India, in order to address the challenges of low internet penetration and poor infrastructure in rural areas. They were supposed to provide a shared ICT facility with computers and internet access for the public to access a variety of information services. The CSC operator is referred to as a "Village Level Entrepreneur" (VLE) and is meant to provide assistance and act as a liaison between citizens and e-government portals.

Users' perceptions of quality will be affected to a large extent by elements such as the behaviour and availability of the VLE, the ambience and position of the CSC, and the quality of the internet connection given by the government to these kiosks. Existing scales for assessing the quality of e-government services ignore these aspects, which are specific to emerging countries like India.

Delivery of e-government services via SMS via mobile phones

Mobile phones have a considerably higher penetration and cost in rural regions than PCs and the internet, thus governments in growing economies like India are aiming to leverage them to deliver e-government services. In India, various modes of service delivery via mobile phones include pull SMS (citizens requesting a specific service via SMS), push SMS (government informing citizens of the progress of service requests via SMS), mobile apps (application software developed to run on mobile devices), and Unstructured Supplementary Services Data (a session-based service to send a communication via SMS). The ubiquity of services, the timeliness of information received via SMS, and the information quality of the SMS are all likely to play a role in shaping perceptions of service quality for this mode of service delivery.

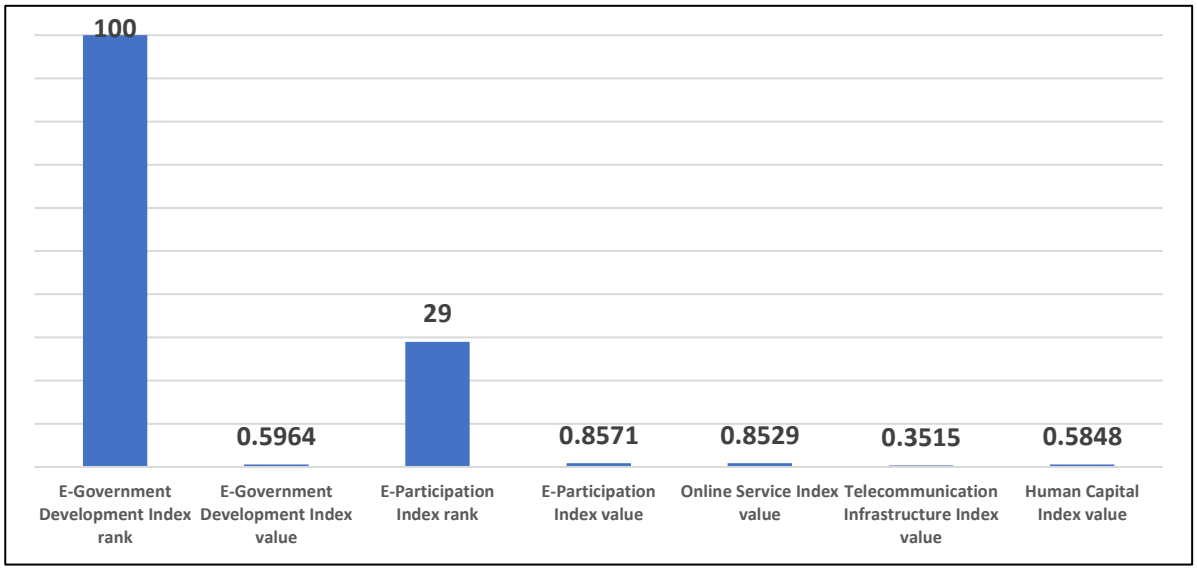

Figure 5:1 E-Government Survey of India 2020

In terms of digital government, the survey collects information on the scope and quality of online services, the state of telecommunication infrastructure, and existing human capacity. Denmark, the Republic of Korea, and Estonia top the 2020 ranking of the 193 United Nations Member States. Bhutan, Bangladesh, and Cambodia have emerged as leaders in digital government development among all the world's least developed countries, moving from the middle to the high E-Government Development Index (EGDI) group by 2020.

India has dropped four places to 100th in the United Nations' E-Government Survey 2020. In the most recent survey, India jumped 22 places to rank 96. According to the most recent survey, India is ranked third, trailing Bolivia (97) and Iran (89).

Although e-government rankings tend to correlate with a country's income level, financial resources are not the only important factor in advancing digital government. "A country's political will, strategic leadership, and commitment to advancing digital services can improve its comparative ranking," says the report.

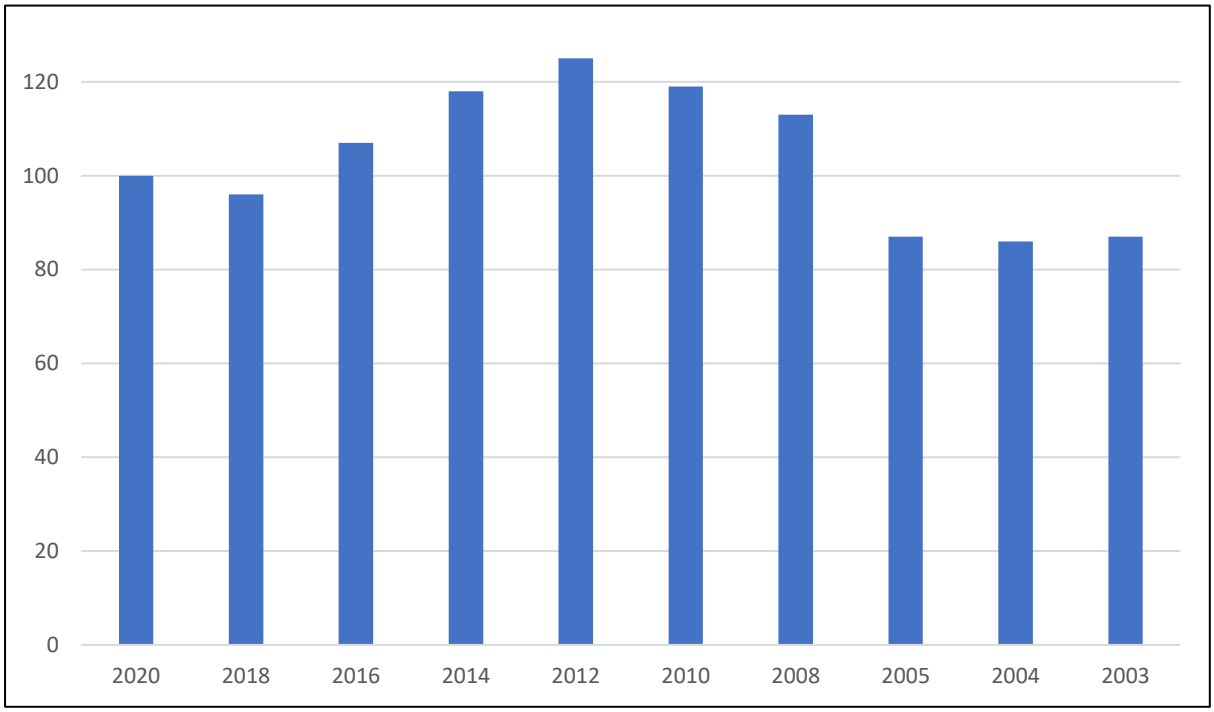

Figure 5:2 E-Government Development Index Rank Year Wise

According to the United Nations E-Government Development Index, India has risen 11 ranks in four years to rank among the top 100 nations (EGDI). The latest 2018 version of the e-governance index, released on July 19, places India at 96th with a score of 0.5669, a significant improvement from 107th in 2016.

The diversity of India, combined with limitations in ICT infrastructure and human capacity, pushed the EGD indices down. In UN surveys, EGDI was constructed on a comparative basis using the components OSI, TII, and HCI to rate each country in relation to all other member countries. India's highly literate states quickly embrace ICT revolutions, boosting the indices of TII subcomponents. However, state disparities averaged to the country's indices, which naturally resulted in low indices rates. India consistently has low TII and HCI values. Its subcomponent is depicted in the figure below.

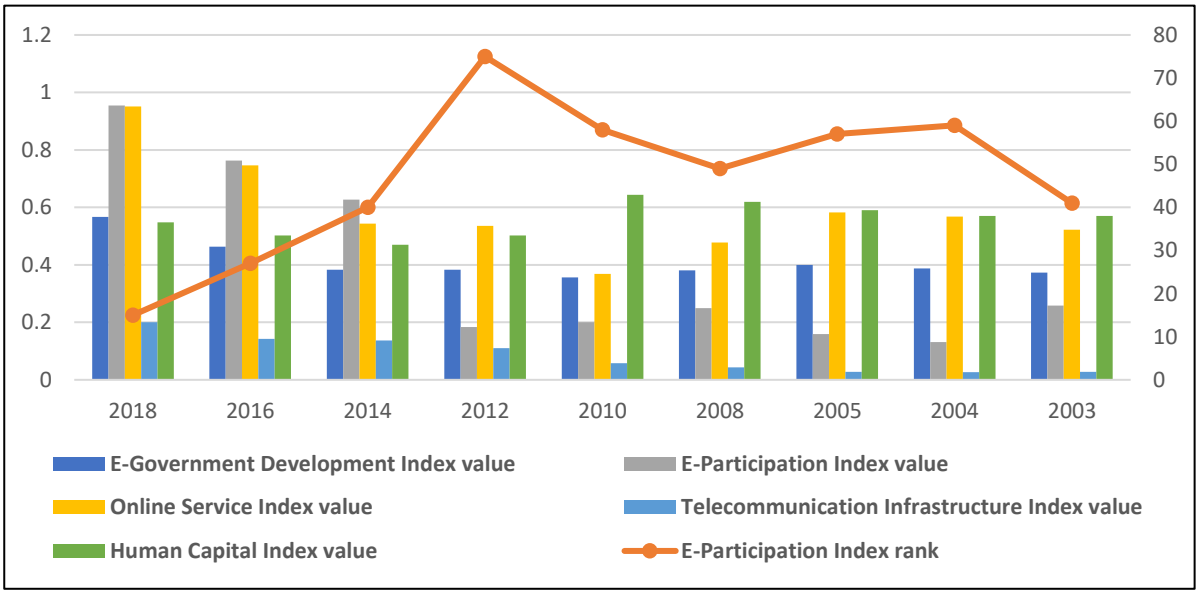

Figure 5:3 Subcomponent Of E-Governance Survey Index of India Year Wise

To put it another way, the E-Government Development Index is calculated by taking the weighted average of three indices that cover the primary dimensions of e-governance, namely: **The Online Service Index (OSI)** ranks various government websites based on their accessibility and quality of online services. India has a favourable OSI score of 0.9514.

Telecommunications Infrastructure Index (TII): The TII is calculated per 100 people in the country and includes indicators such as the number of internet users, personal computers, mobile subscribers, and so on. India has a dismal performance in TII, with a score of 0.20091. UNESCO develops the **Human Capital Index (HCI)** by taking into account adult literacy rates and school enrolment ratios. Surprisingly, India ranked 103rd out of 122 economies in the 2017 HCI report.

5.1.1 QUALITY OF SERVICE IN ULB E-GOVERNANCE

The service level benchmarks for e-Governance were established under the Jawaharlal Nehru National Urban Renewal Mission (JnNURM) and NeGP by prioritising customer or citizen service delivery and dealing with interactions between government, business, citizens, and employees. However, after the project's completion, only 27 of the 65 mission cities had completed full implementation of the project (Guha, 2016). However, a closer examination revealed that multiple vendors were involved in the development of e-governance modules, which do not form part of a single integrated system with a single point of data entry (Guha, 2016). The business processes for service delivery vary greatly because most cities implemented their own functional requirements separately at the module level. The United Nations classified e-government implementation into five stages: emerging, enhanced, interactive, transactional, and seamless. An existing study (Tripathy et al., 2016) compared the status of all five stages of e-government services in 100 Indian cities (also short-listed in the Smart Cities Mission 2020) in order to improve e-government.

The Service Quality Gap of online public services provided by the ULBs' e-Governance Department (MCD as used as a proxy to Small Smart City). The service quality gap indicates that citizens in general believe that MCD (ULB in Delhi) online public services have failed to meet their expectations. It was concluded that governance and quality attributes needed to be improved across the board.

Table 5:1 Comparison Of E-Government Services Status in India

Phase	Parameter Available	Cities Qualified	Cities Lacking
Emerging	Website Presence	91	7
	Statistics	51	47
Enhanced	CDP	66	32
	Master Plan	50	48
	E-Tendering	84	14
	E-Budget	74	24
	E-Balance Sheet	36	62
Interactive	E-Complaint	74	24
	E-Birth/Death: Record & Application	59	39
	Building Plan Approval	27	71
	Mobile Application	49	49
	E-document Search	24	74
Transactional	Property Tax	53	45
	Water Supply Tax	20	78
	Building Permission Charges	11	87
Seamless	Integration of e-Services across administrative boundary	Challenging task: Not yet achieved	

According to the study, there is a lack of an integrated and systematic approach to e-Governance, and implementation is not citizen-centric. E-governance as a participatory process, structure, and organisation has not been identified as an explicit priority. At the same time, the level of citizen inclusion in e-Governance from the standpoint of e-participation is most likely very low (tripathyet. Al, 2016). Taking cues from the aforementioned study, the author focuses on the current state of Service Quality of e-Governance in a ULB that is also part of India's future smart cities mission. Customers/citizens can choose an alternate service provider (if one is available), go to a consumer forum for grievance redressal, complain in legislative assembly, or even vote against an administration in local elections.

5.2 QUESSIONAIRE DESIGN:

Two well-structured questionnaires were used to collect primary data. Questionnaire I was created for ordinary citizens. It is made up of sixteen questions.

sixteen questions were asked about service quality parameters such as timeliness, cost, transparency, ease of service delivery, privacy, downable documents, contacting information, data availability, employee cooperation, number of visits to the website, number of days required to obtain the certificate, and so on. Eight of the thirteen questions used a 5-point Likert scale, with 1 indicating "highly dissatisfied," 2 indicating "dissatisfied," and 3 indicating "neither satisfied nor dissatisfied", 4 as as "satisfied," and 5 as "extremely satisfied."

Five questions were used to collect basic information from citizens such as name, education, age, occupation, usage of internet and hours be spent on internet and so on.

The remaining questions were used to gather information about the overall service delivery mechanism, any complaints, and so on.

Questionnaire II was created for service providers and information technology infrastructure. It is interview type surveying method. Questions were used to gather information about the IT infrastructure deployed in the centre. The remaining questions concerned service delivery, employee training, e-enablement of services, audits, technology used, business continuity planning, and so on.

Secondary data was gathered by visiting the websites of various national, state, and district level governments, as well as books, research papers on e-governance, e-governance policy, internal documentation of websites, case studies, and PhD theses.

On the data, Microsoft Excel was used to perform descriptive analysis, Esteves index analysis, and relationship analysis.

5.3 E-GOVERNANCE SERVICES IN STUDY AREA

The information on this Web Site has been prepared solely for the purpose of informing people about the citizens who live in the Municipal corporation. Authority uses this data to develop the site's performance requirements, to makes it appropriate with the technology used by website visitors, and to add and improve the service available on this website. Authority may conduct statistical analysis of the data it collects from time to time in order to achieve those goals.

The use of an e-government portal is measured in this study. Here, first I identified what are the services online provided by the Ahmedabad, Surat, Gandhinagar and Vadodara Municipal Corporation on the its official website.

Table 5:2 List Of E-Nagar Services Provided in Municipal Corporation

Sr. No.	Services List
1	Main portal (EMS / Dashboard)
2	New assessment of property tax
3	Name Change in property
4	Grievances & redressal in new assessment of property tax
5	Tenant Name Change/cancellation
6	New water connection
7	New drainage connection
8	Residential (Personal/ Society/Complex) Building permission
9	Industrial /Commercial/Others Building permission
10	Birth & Death & Marriage Registration with Certificate
11	New license for Shops & Establishment
12	License renewal for Shops & Establishment

13	License for Edible non- edible
14	Registration of engineer/ architect/ structural designer/ plumber/ contractor
15	Hawkers Registration
16	Professional Tax Registration
17	NOC for Fire
18	NOC for the Layout (Non-Agricultural permission)
19	NOC for sub-planning
20	NOC for plan renewal
21	NOC for Building Utilization Permission
22	Copy of Town planning (T.P.) Form - F
23	Part Town planning (T.P.) plan
24	Zoning Certificate
25	Permission for individual toilet
26	Certificate (MA AMRUTAM YOJNA)
27	SUVRNA JAYANTI SAHERI YOJNA (Backable)
28	Complaints to lift animal carcasses
29	Complaints to clear garbage
30	Complaints for water connection leakage
31	Complaints for water chlorination
32	Complains for drainage overflow
33	Cleaning of public toilets
34	Complaints for polluted water

35	Complaints for the maintenance/repairing of road
36	Complaints for repairing of open drainage
37	Complaints to cover man-hole
38	Complaints for water low pressure
39	Complaints for cleaning of Roads/public Area
40	Complaints to lift filled dustbin
41	Complaints for funeral of unclaimed dead body
42	Complaints for touring roaming animals (Dog/Pig/Cow/Buffalo)
43	Complaints for maintenance/repair of street light bulbs/ tube lights
44	Fire extinguisher Services
45	Medical Services
46	Grievance redressal
47	Estate rent
48	Community hall & parks
49	Signage board lease

As previously stated, because no study has been conducted to determine whether the current system has met all of the objectives, a pilot study in the Pune district was carried out as a first step. It exposed the flaws in the current system in terms of service delivery, staff cooperation, transparency, timeliness, and infrastructure issues. As a result, an in-depth study was conducted using a descriptive research method and multistage sampling.

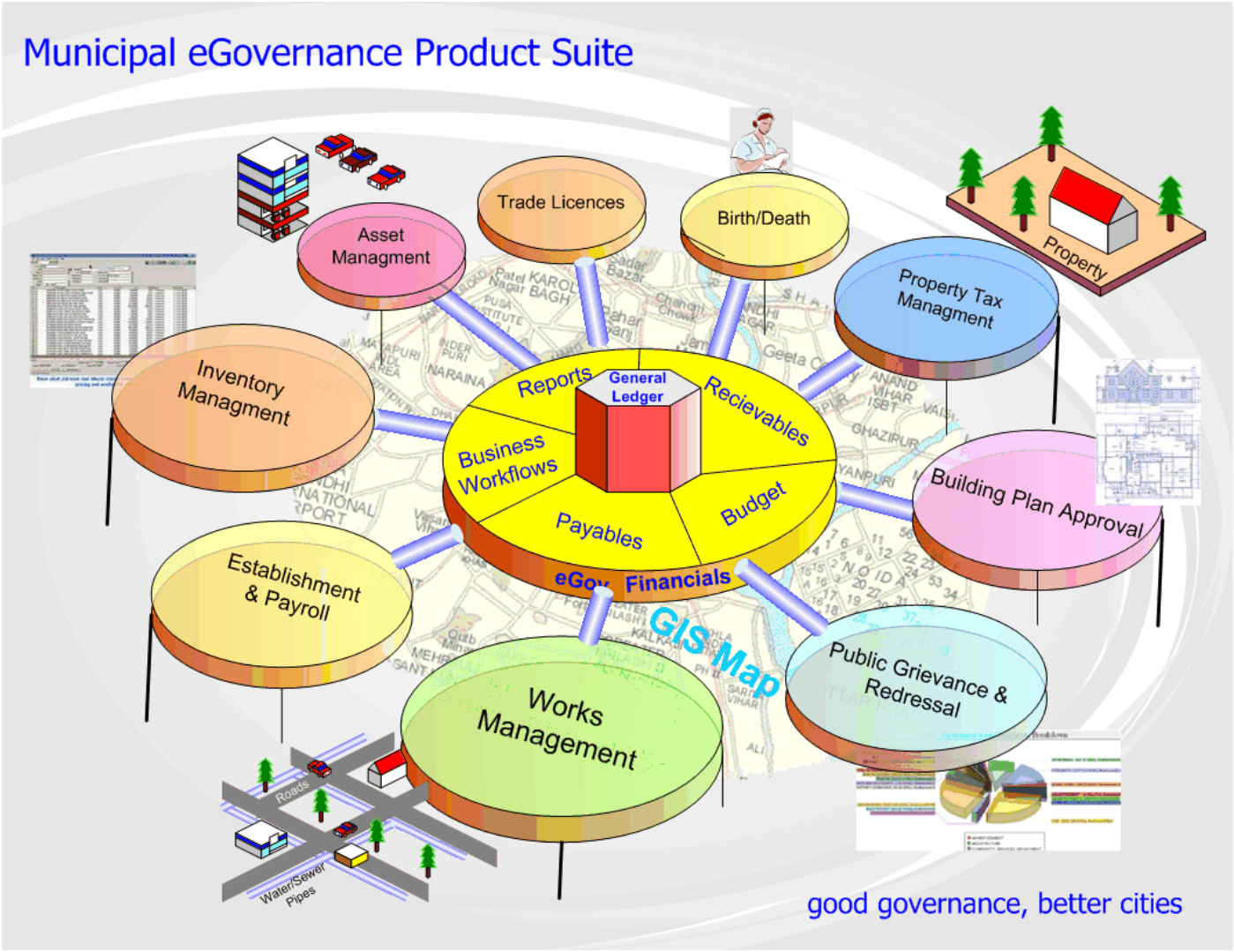

Figure 5:4 Services Provided by the Municipal e-Governance Platform

The issuance of birth and death certificates is one of the most common (and often inefficient) interfaces for citizens with the ULB administration. An e-governance initiative in this area can make a significant difference in the quality of the citizen experience. The Public Grievance and Redressal System allows citizens to participate in governance by allowing them to submit grievances/suggestions. The PGR System accepts structured complaints via a variety of access channels, including the Internet, phone, and paper forms. Estate Management is a system that manages all of the ULB's rental properties. It aims to create a master database of all rental properties in the ULB in order to improve asset visibility through integration with the Asset Management System and collection efficiency.

5.3.1 E-GOVERNANCE EVOLUTIONARY STAGES IN MUNICIPAL CORPORATION

Out of the five phases of E-Governance mentioned in the chapter "E-Governance for Smart Cities" in Sect. 1.5, all municipal corporations were the first to begin with the first phase by making information about various municipal services available on their websites. In the second phase, an interactive framework for comprehensive complaint redressal is available via three channels: online, e-mail, and phone/SMS, where the problem, affected areas, ward, and complainant information are entered. There is also the option to reopen complaints, as well as view the status of complaints and customer feedback.

In the third phase, online services are available for issuing birth and death certificates, marriage certificates, vehicle tax registration, registration of new plans or changes to existing building plans, property tax registration, registration and renewal of licences for shops and establishments, and registration of vehicles, Employee and business/establishment registration under professional tax, filing a complaint, a request for information under RTI, and booking a hall/party. The transaction process for property tax and professional tax, on the other hand, is done online via credit card or online account by entering the tenement number. In the fourth phase, relationships between the government, its employees, the community, and its citizens are established at the authority level through the registration of complaints, the resolution of complaints, the issuance of various certificates, and the fulfilment of contractual obligations.

In the fifth phase, horizontal connections between government agencies and vertical connections between central and local government agencies do not exist, whereas connections between government and citizens through the issuance of various types of certificates (birth, death, marriage, property tax, professional tax), grievance redressal mechanisms do exist.

The online mechanism for interacting with stakeholders has not yet been established. Conversion of a city to a smart city thus necessitates an effort to integrate horizontal, vertical, and other connections in order to reduce digital divide and include E-Democracy.

Out of the four models mentioned in Section 3 of the chapter "E-Governance for Smart Cities." Model 1 has been implemented in Municipal Corporations, where transparency, efficiency, and effectiveness have been improved through smart governance. Tender information has been provided through the website for this purpose, and the efficiency level has been increased by the online receipt of applications for issuing various types of certificates, as well as the ability to check the status of an application. Due to the various programming-related capabilities of the online data set, spatial decision support system (information consolidation and review) for improved governance is made possible in Model two. For Model 3, specialised staff has been hired in positions of authority, and a technical person has been tasked with overseeing the operations of citizen service centres. The use of technology must have reduced the number of people employed in service delivery.

Within model 4, only one level of transformation has been achieved, namely internal transformation, and for external transformation, information has been made available to various types of stakeholders for use, but no external interactions with cities have been established. Municipal corporations must move up the ladder and meet the requirements of models 3 and 4.

M-Governance is also being promoted in Ahmedabad to supplement E-Governance. All of the important official phone numbers are listed on the Municipal Corporation's website, and a toll-free number is provided for contacting officials from various departments. Bookings and their status can be checked online, and payments can be made using a mobile phone with an internet connection. At the Municipality level the facility related to M-Governance is not available.

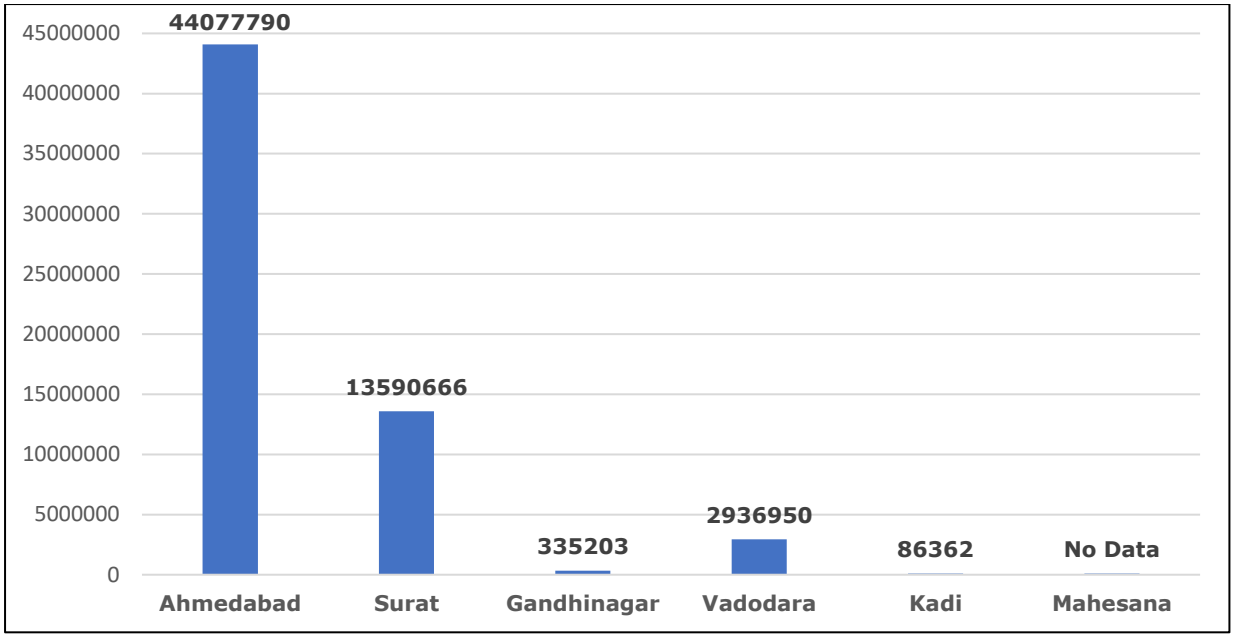

Figure 5:5 No. Of Visitors Who Visit the Authority's Websites

The above chart shows that the persons who are visited the Municipal corporation and municipalities' official website for getting e-services which is provided by the authority. The website of Ahmedabad municipal corporation is most often visited by the people. The total 4 crore 40 lakhs peoples are visited the AMC website and it is updated. Following the Ahmedabad, the Surat get highest rank to visit the website with 1 crore 35 lakhs people. Where after the Vadodara get only 29 lakhs people who visited the website. Gandhinagar rank at 4th with 3 lakh population. At the Municipality level the Kadi has 86 thousand people who visited the website but it is still not updated from since 2018. And Mahesana municipality have no data about the visitors.

5.4 PRIMARY DATA ANALYSIS

The Primary survey done in all cities. The average respondents from each city are around 100. Some demographics of respondents. Total 61% male and 39% female are engaged. The age group classified in 4 parts. The most of response given by 15-30year age. Only 5% people have above 60-year age joined in. the occupation structure, 46% student are joined in and after 22% private employee take interest in the survey.

Table 5:3 Demographic Details Of Respondents Of Municipal Corporation

		AMC	SMC	GMC	VMC
GENDER	MALE	74%	72%	50%	41%
	FEMALE	26%	28%	50%	59%
OCCUPATION	GOVERNMENT JOB	3%	0%	50%	6%
	OWN BUSINESS	23%	11%	0%	3%
	PRIVATE JOB	23%	17%	17%	14%
	STUDENT	48%	61%	17%	69%
	UNEMPLYED	3%	11%	16%	8%
AGE	15 – 30 YEARS	87%	83%	16%	83%
	31 – 45 YEARS	10%	17%	17%	13%
	46 – 60 YEARS	0%	0%	50%	4%
	ABOVE 60 YEARS	3%	0%	17%	0%
USE OF INTERNET	DAILY	100%	94%	83%	98%
	WEEKLY	0%	6%	17%	1%
	MONTHLY	0%	0%	0%	1%
INTERNET USAGE HOURS PER DAY	LESS THAN 1 HOUR	3%	11%	50%	6%
	1 – 3 HOURS	29%	16%	17%	21%
	3 – 5 HOURS	29%	33%	33%	24%
	MORE THAN 5 HOURS	39%	40%	0%	49%

95% people used daily internet facility. Among them 32% people use 3 to 5 hours. And 30% people use internet more than 5 hours. 95% Of Daily Usages of Internet in The Municipal Corporation. Above the 30% people using the internet usage 3 to 5 hours daily. Only few people are using internet less than 1 hour in municipal corporation boundary.

		MAHESANA	KADI
GENDER	MALE	73%	68%
	FEMALE	27%	32%
OCCUPATION	GOVERNMENT JOB	14%	12%
	OWN BUSINESS	32%	16%
	PRIVATE JOB	12%	38%
	STUDENT	16%	34%
	UNEMPLYED	26%	0%
AGE	15 – 30 YEARS	40%	48%
	31 – 45 YEARS	36%	35%
	46 – 60 YEARS	16%	13%
	ABOVE 60 YEARS	8%	4%
USE OF INTERNET	DAILY	86%	100%
	WEEKLY	12%	0%
	MONTHLY	2%	0%
INTERNET USAGE HOURS PER DAY	LESS THAN 1 HOUR	13%	22%
	1 – 3 HOURS	54%	15%
	3 – 5 HOURS	26%	42%
	MORE THAN 5 HOURS	7%	21%

Total 65% male and 35% female are engaged from the Municipality level. The age group classified in 4 parts. The most of response given by 15–30-year age followed by 31 to 45 age group. Only 04% people have above 60-year age joined in. the occupation structure, 40% student are joined in and after 35% private employee take interest in the survey. 99% people used daily internet facility. Among them 40% people use 3 to 5 hours. 20% people are using the internet less than 1 hour per day.

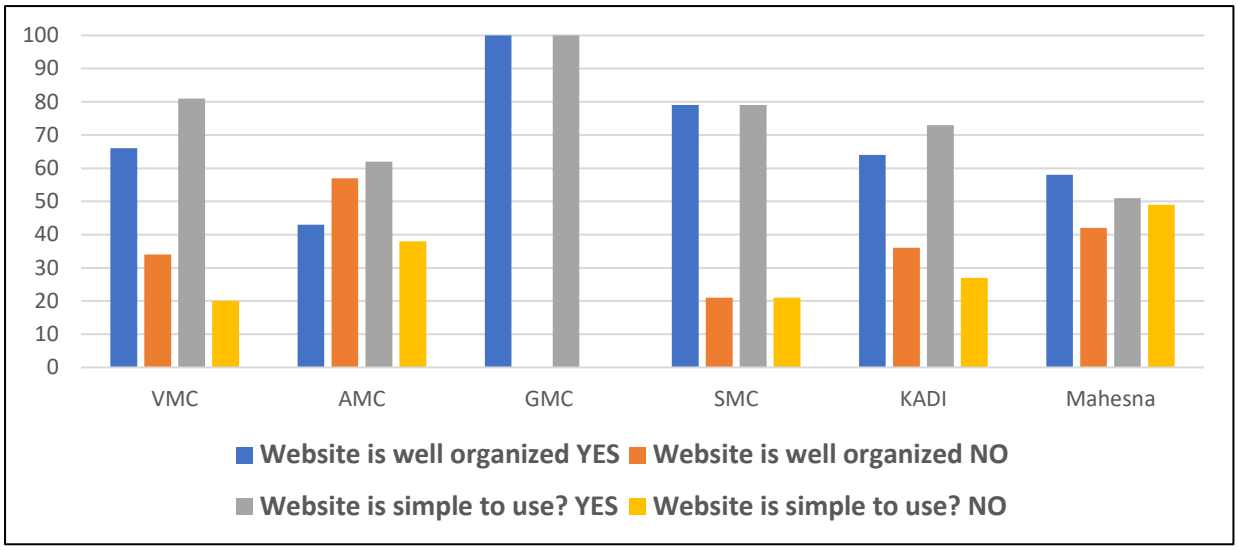

Figure 5:6 Website Is Well Organized and Simple to Use in Different Cities

In the case of Gandhinagar, 100% people are agreeing with the well-organized of website and it is simple to use. The Surat got good ranking at this point. But at the case of Ahmedabad, people disagree with the well-organized to website. At the municipality level, people are disappointed with these two factors.

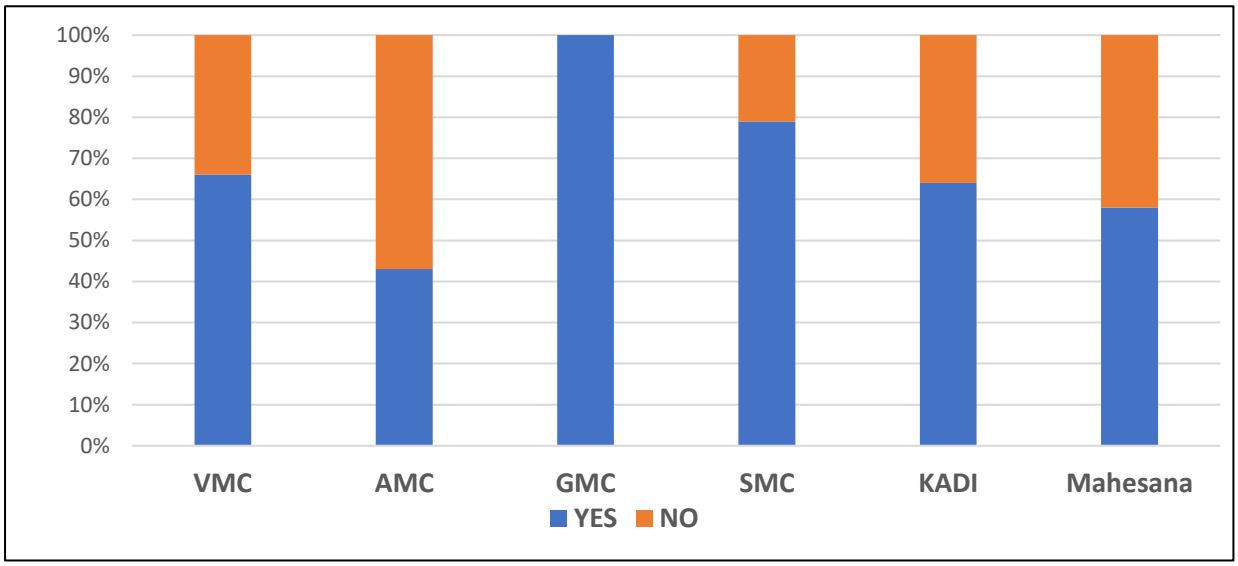

Figure 5:7 Municipality Respond to Complaint

The Gandhinagar Municipal corporation achieve 100% to resolve complaints. The poor in this field was Ahmedabad and Mahesana. 30% people are saying that the authorities cannot resolve their complaints in a given period and in a satisfied manner.

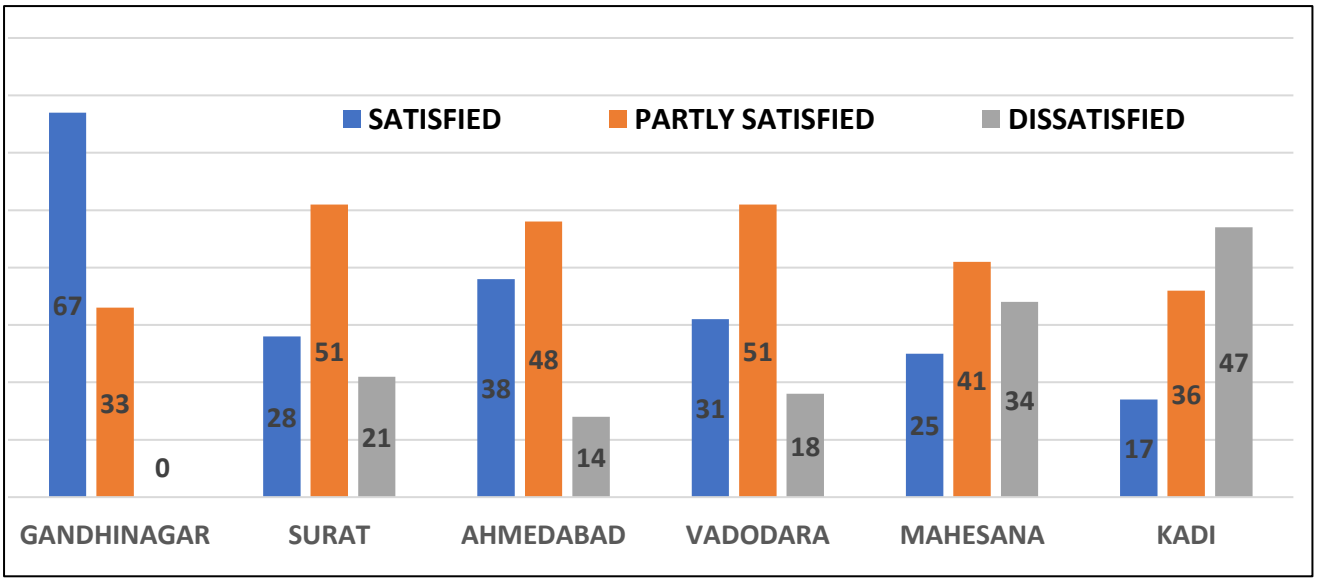

Figure 5:8 Satisfaction Level of The People

At the using of e-services which provided by authority, the people's satisfaction level measured. The overall satisfied level is 30% which is high in Ahmedabad and Gandhinagar. The Gandhinagar get 1st rank in the Satisfaction level with 67% and followed by Ahmedabad with 38%. And more dissatisfied level shown at the municipality level in Kadi & Mahesana municipalities. The 50% overall population partly-satisfied with e-services. Near to 20 to 25% population of the cities are dissatisfied with the online services which is given by the authority.

5.4.1 ESTEVES INDEX FOR STUDY AREA

The indicator e-value obtained from sum of scores of individual e-services of a particular phase was multiplied by its assigned weight. The Table presents the phase wise scores of municipal websites of the selected cities in decreasing order of their e-value and rank based on the e-values. It is observed that 81% websites are below average on the urban information category, as they are lacking in proper information on both e-services viz. street map and transportation, 39% websites are below average both in transaction and e-democracy categories, as they did not offer on-line transactions, portfolio creation and interactive processes.

Table 5:4 Esteves Index for Municipal Corporation and Municipalities

CITIES	PRE SENSE	URBAN INFOR MATION	INTER ACTION	TRANS ACTION	E-DEMO CRACY	E-VALUE	RANK
GANDHINAGAR	1.5	2	2.25	9	2.5	**17.25**	1
SURAT	1.75	1.5	3	8	2.5	**16.75**	2
AHMEDABAD	0.25	0.5	0.75	7	2.5	**10.5**	3
VADODARA	1.5	0.5	3	2	2.5	**9.5**	4
MAHESANA	0.25	0	2.25	3	1.25	**6.75**	5
KADI	0.5	0	0	1	1.25	**2.75**	6

Table presents the phase wise scores of municipal websites of the selected cities in decreasing order of their e-value and rank based on the e-values. Further, 29% websites are below average on the presence and interaction categories as they are not lacking in proper information - either content wise or quality wise, as well as in communicational content. It is observed that Gandhinagar ranks highest as per e value. Mehsana and Kadi need radical improvement for most of the categories as their scores are either negative or very low.

In order to test the relationship between various phases, correlation analysis was undertaken, results of which are displayed in table below: It is evident from the table that Presence showed a high degree of positive correlation with urban information and interaction.

Table 5:5 Relation Between Various Phases

	PRESENSE	URBAN INFORMATION	INTER ACTION	TRANS ACTION	E-DEMOCRACY
PRESENSE	1				
URBAN INFORMATION	0.764	1			
INTERACTION	0.720	0.481	1		
TRANSACTION	0.400	0.857	0.285	1	
E-DEMOCRACY	0.648	0.707	0.471	0.682	1

It is true in general, that website observed more actual user traffic not occasional visitors if the website provides (i) quality information i.e., timely and reliable information, (ii) with facility of online interaction of users with authorities through discussion forum, blogs, chat and opinion polls or even by mail/telephone etc. and (iii) secure and safe transaction via various channels viz. internet banking, debit card and credit card. It is quite obvious that if presence over web is poor, then the citizen is definitely deprived of the direct interaction and transaction with the government agencies. However, strangely it is observed from the table that Interaction showed either low correlation with Transaction phases. This can surely be an area of concern for the authorities and they must concentrate on these to introduce radical improvement.

We can also conclude from a detailed examination of e-value and relation between different phases rankings that:

Gandhinagar is the best of the seven municipal corporations in terms of overall website quality. It can be used as a model for "urban information," "transaction," and "interaction." Surat Municipal Corporation's website can be used as a model for "presence" and "e-democracy" characteristics.

Surat and Gandhinagar rank high in terms of "presence" and "transaction," while Surat and Vadodara rank high in terms of "presence," "interaction," and "e-democracy." The important Mahesana and Kadi Municipalities' e-governance website needs to be improved in terms of "urban information" and "interaction." Municipalities of Gujarat receive either very low or negative scores in the majority of the categories and require significant improvement in all of them.

When the e-value score matrix and correspondence analysis bi-plots are analysed together, it is worth noting that major improvements are needed on most of the sites in the "urban information," "interaction," "e-democracy," and "transaction" categories.

6. CONCLUSION & RECOMMENDATIONS

The purpose of this research is to understand and evaluate Gujarat's e-Government services from the perspective of citizen satisfaction. A conceptual model is developed to assess the impact of citizen satisfaction on their interaction and use of e-Government services. Citizens' satisfaction, which is supported by perceived usefulness and service quality, is included in the conceptual model of e-government service evaluation. Citizens' interaction acts as a bridge between citizens' satisfaction and their use of e-Government services. To collect data for this purpose, a quantitative approach using a questionnaire survey was used. The pilot study's findings revealed that it has good reliability and validity for measuring the relationships between variables. As a result, it is believed that the conceptual model developed based on the Esteves can serve as a foundation for future research on e-Government service evaluation in order to improve citizen satisfaction and increase e-Government service usage in Municipal corporation and Municipalities of Gujarat.

In the study the Municipal e-government services model developed and used by Esteves to assess the user's perceived e-service quality of ULB's viz. municipal websites (2005). It was used to evaluate the six municipal websites of India's state of Gujarat.

Ranking alone would not serve the ultimate goal of assessing users' perceptions of a website's service quality. The analysis should be aimed at identifying areas of poor performance in order to identify and achieve the possible levels of improvement in overall website quality. This, in particular, necessitates gathering users' understanding of a specific website using an appropriate model or framing.

According to the study, the website of Gandhinagar municipal corporations is the highest ranked among all websites in the state of Gujarat, followed by the website of Surat municipal corporations. The website of the Kadi

municipality has a low website ranking despite the fact that it is a densely populated city that is a major hub of commercial and educational activities and is more advanced than other cities.

The Gandhinagar municipal website has notable features such as citizen and content categorization, which includes city tourist information, transportation links, grievance redressal, online services, notice board, officers' directory, informative map, detailed service categorization, and so on. Surat's municipal website also offers some commendable online services, including a proper security channel, a search option, and a public opinion poll. The Ahmedabad and Vadodara sites were developed and maintained by the same service provider, and thus took a similar approach to service delivery.

The findings of this study may be used by local and state governments to identify best practises and apply them to further improve service quality by attempting to improve the poorly designed components of their websites.

E-Government encompasses a wide range of services, including the payment of property tax, vehicle tax, professional tax, and other fees. E-Government has made it easy to register weddings and provide birth and death certificates. The online issuance of licences for shops, establishments, health, hawkers, and building permission has increased transparency. The development of a grievance handling mechanism has ensured not only the recording of complaints but also their redressal in the shortest timeframe possible.

The implementation of E-Governance in Municipal Corporations and Municipalities benefited both citizens and authorities. For citizens, it resulted in efficient and transparent processes that resulted in the removal of middlemen, easy access to information, time savings, and resolution in the shortest possible timeframe. On the other hand, the Authority's revenue has increased in tandem with the creation of the database. E-Governance allows people to pay from the comfort of their own homes,

resulting in greater compliance and timely payment. On the one hand, the transparent system has increased citizens' trust, while on the other, the need to build E-Government infrastructure has increased.

Table 6:1 Benefit to Citizens From E-Governance at Authority Level

APPLICATION/SERVICE	BEFORE	AFTER
Birth and death certificates	Several days/ multiple visits	Two days in most cases
Property tax payment	Hours, multiple visits	Under 10 min
Vehicle tax	Hours, multiple visits, evasion	Under 10 min
Building plan approval	Average of 6 months	Instantly if application is in order. Further refinements are in progress
Complaints	No way of knowing status, accountable person	Status known immediately, attended within 24 h in majority of the cases
Licenses for shops and establishment	Several days, multiple visits and middle men	Under 10 min

6.1 IMPROVEMENT IN EXISTING SYSTEM

Gujarat's public service delivery system has significantly improved as a result of Gujarat (Rights of Citizens to Pubic Services) Act, 2013 with guaranteed and timely services. Today, the state government is challenged to constantly improve services in order to maintain citizens' current levels of satisfaction. As a result, the government is constantly developing methodologies to improve the efficiency and effectiveness of service

delivery through citizen-centric, higher-quality, lower-cost, and shorter-delivery-time services.

In the future, the state government will adopt best practises from other states in order to respond to citizens' changing needs. The following four key areas must be prioritised:

Delivery time: The shortest amount of time it is possible to deliver a service.

Citizen-centric: A service that is geared toward citizens.

Platform integration: A service delivery system is integrated to provide a one-stop solution.

Multiple delivery channels: Citizens should have the option of using delivery channels that best suit their needs or preferences.

WEBSITE PROMOTION: The Website's content should be user-friendly, appealing, and informative in order to keep stakeholders interested in returning to the site. For better visibility, the organisation should ensure that the Website Developer employs the best Search Engine Optimization techniques and a regular participation mechanism. On the Website, regular updates on all relevant contents of the organisation related to stakeholders such as citizens, vendors, and internal users should be made available.

At least once every 15 days, the website should be updated. If the maintenance agency does not receive notification of the update from the respective organisation, he must proactively request it. The fee for website updates and maintenance is Rs. 5000/- per month per website.

To improve the quality of public service delivery, the government must work on the following initiatives:

Express service delivery: Citizens expect services to be delivered quickly as a result of process reengineering. This provides services where the approval of government officials is not required, such as job registration

and land record copies. Other services being considered for inclusion are those that could be issued based on an affidavit/self-declaration from the citizen.

More services on mobile app: The government intends to provide more services to the digitally literate or mobile-friendly population via a mobile app.

Advanced data analytics for monitoring and operation: Cutting-edge data analysis technologies are being considered in order to better understand the challenges and design new strategies for delivering new schemes and solutions.

Conducting citizen awareness programmes: To raise awareness throughout the state, extensive promotional programmes and campaigns utilising all delivery channels - including traditional and digital - are being planned.

Citizen survey for new service identification: A state or local municipal wide survey may be planned to understand citizens' experiences and expectations from the government. These interactions may provide information that can be used to identify new, more relevant, and important services for citizens.

Social Media: social media has revolutionized the concept of real-time interactive communication between the government and citizens and businesses. Social media services will be appropriately promoted in order to improve citizen reach and feedback mechanisms on government services. It is recommended that all government departments maintain an active presence on social media.

Use of Local Language: To the greatest extent possible, all government websites and applications must be available in local language and be Unicode compliant.

Other following steps to be taken for the improvement at the Local level:

IT Cadre Formation: With a greater emphasis on eGovernance activities, the availability of skilled IT manpower has become critical in order to sustain various eGovernance initiatives. It is proposed to establish an IT Cadre in the state to assist departments in conceptualising, designing, monitoring, and managing IT initiatives throughout the authority.

Innovation and research: Scholarships will be awarded to deserving candidates pursuing R&D and PhD degrees in ICT in order to promote research in the field of ICT. DST will issue additional instructions in this regard separately. The Gujarat State Innovation Council will create an innovation roadmap for the authority.

User-Friendliness for People with Disabilities: To make web content more accessible to people with disabilities (such as blindness and low vision, deafness and hearing impairment, learning disabilities, cognitive limitations, limited movement, speech disabilities, photosensitivity, and so on), all government websites would need to comply with the WCAG 2.0 standard. Other information access and service delivery mechanisms will also be made more accessible to citizens with disabilities.

6.2 E-GOVERNANCE IN RURAL DEVELOPMENT

It is no longer simple to create local content and regional language interfaces for use in villages. Furthermore, while hardware costs are decreasing, the total cost of ownership for rural applications is quite high. These machines become obsolete far too quickly and have high maintenance costs in rural areas. To break even at the current cost levels, kiosk operators will need to find alternative revenue generation activities utilising this equipment.

6.2.1 APPLICATION DESIGN

Rural applications must prioritise their offerings to socially and economically disadvantaged communities. These citizens must find the services useful and relevant. The user interfaces must be in regional language, and the services must be designed to provide good responses to their applications

while minimising the need for citizens to travel to district / taluka offices. The applications must track the progress of user transactions and retrieve them in response to a user query. They must provide user data with privacy and security.

Application design must begin with a thorough understanding and documentation of the existing system's process flows and bottlenecks. Application maintenance necessitates thorough documentation of application and database design at both the system and user levels.

6.2.2 SERVICE DELIVERY

These kiosks must be placed in areas where they are easy to approach and use. The kiosk operators must communicate effectively with the citizens and provide services in a friendly manner.

The atmosphere of service delivery locations is critical. To attract citizens of all communities and genders, they must be clean, with separate drinking water and toilet facilities for ladies and gentlemen. The service delivery operators must be familiar with all user interfaces and must have the authority to handle user services. Poor knowledge of agriculture, forestry, health, and education services packed with the system via GIS interfaces has limited kiosk operators to selling only the government forms with which they are familiar in one of the applications.

As a result, service delivery operators must be adequately trained on the application context as well as all possible services available through the kiosk. There must be a record-keeping system in place to track service utilisation and quality. Periodic reviews are essential for monitoring and improving service quality.

6.2.3 PRIVATE PARTICIPATION

Design and development of application software, populating data and content in the regional language, procurement and installation of networking and computer systems, software deployment, and service delivery are all tasks. Such an arrangement appears to have aided in

reducing the burden on the government, bringing in expertise, speeding up implementation, and providing a better value proposition to citizens.

While there are advantages to private participation, it is critical to protect the social goal behind these applications. Private participation in these applications is likely to put highly sensitive and valuable information in the hands of private agencies. Before the services are launched, proper judicial mechanisms must be developed and implemented to ensure that no injustice is done to citizens as a result of the misuse of such data.

Panchayats control the entire administration in villages, so by establishing e-Panchayats, funds for various schemes in villages can be easily managed, and the state government can also easily obtain updated information regarding the use of these funds, various facilities available in villages, and other needed facilities to improve the standard of living of the people in villages.

6.3 DEVELOPING AN OPEN DATA PLATFORM

Citizens now expect greater trust and accountability from the governance ecosystem, including both the private and public sectors. With the advent of open data platforms, organisations and individuals outside of the government are now able to interact with government systems that were once dubbed "black holes."

The concept of data-driven or evidence-based decision making in governance is based on the fact that data, when translated into information or insights via appropriate modes of analysis, leads to micro-targeting of development needs and gaps in ongoing interventions. This, in turn, leads to more effective budgeting, better service delivery, higher levels of accountability, and a higher quality of life for citizens.

An open data platform, like any other technology, is merely a means of facilitating data collection and dissemination.

A well-thought-out open data policy at the national and local levels enables municipal departments and parastatal agencies to collect, aggregate, and disseminate their data in a way that facilitates inter and intra-departmental data sharing, improves collaboration between government and external stakeholders, and aids in facilitating improved service delivery and increased socioeconomic development in the city.

Other features of the open data platform include single point access to open datasets, an improved visualisation platform, catalogue subscription, and community participation via forums, blogs, infographics, and visualisations.

Authority also has a dashboard where they can see the current status of their datasets, usage analytics, and feedback and queries from citizens all at once.

Defined standardised data catalogues for the major departments – education, solid waste management, health, and so on. Use of open data to drive innovation in citizen-centric service delivery optimization.

This was suggested to be accomplished by taking the following steps:

- Identification of internal and external datasets that can be made available in accordance with the Government of India's existing privacy norms.
- Making government data understandable to the general public by adhering to appropriate metadata standards and benchmarks.
- Data standardisation and dynamic data integration to improve access, analysis, and research
- Adding value by catalysing application development for citizen-centric problem solving
- Fostering innovation through collaborative events for ideation and problem solving.

6.3.1 ADVANTAGES

- Enhanced transparency and accountability
- Increased faith in government systems
- Improved government-to-government, government-to-business, and government-to-university collaboration
- Social auditing, transparency in government, and increased public participation
- Increased visibility of resources or assets
- Improved decision-making, resulting in more efficient and cost-effective solutions
- Co-creation and open innovation

6.3.2 GOVERNANCE STRUCTURE

To engage participation and secure buy-in from both internal and external stakeholders on key decisions, a governing body at the ULB level structured as an Open Data Committee is required. Furthermore, adequately empowering this committee can assist in navigating complicated hurdles (e.g., bureaucratic, political, etc.) and making timely decisions and actions pertaining to collection, segregation, and Release of data.

Departmental data officers have been appointed to take responsibility for data aggregation and segregation within specific departments.

6.4 FUTURE RESEARCH

This research findings show that citizens are dissatisfied with the services provided by the authority, indicating that these services need to be improved constantly. And, as time passes, citizens' expectations and need will change, and by revising this study, it is important to propose new ideas for e-governance management. UNDP runs a programme called "Access 2 information" that teaches people in rural areas how to use the internet and e-governance. As a result, I believe it is a good study for further research. Additional research is required to identify other related factors that were not taken in this study due to time limit, so further research going for.

Table 6:2 50 Open Urban Datasets Published by Ministry of Housing and Urban Affairs

Demographic Profile	Unemployment Rate
Household Profile	Air Quality
Public Amenities	Community Facilities
Citizen Facilitation Center	Health Infrastructure
Mortality Rate	Water Revenue
Public Toilets	D2D Collection Coverage
Solid Waste Generated, Collected, Processed	Solid Waste
Solid Waste Collection Revenue	Bins and Community Bins
Waste Collection Vehicle	Solid Waste Processing
Solid Waste Disposal	Waste Management Revenue Expenditure
Property Tax	Education
Condition of Roads	Street Lights
Slum Housing and Population	Housing & Basic Infrastructure
Circle Rate	Infrastructure Distribution
Open Spaces	Natural Landscape
Cultural Heritage	Children Facilities Provision
Area Bifurcation	Budget for Open spaces development
Signalized Intersections	Buses
Earnings from Bus trips	Public Transport Access
Public Transport Mode Share	Vehicle Registrations
Injuries & Fatalities	Water Consumption
Electricity Consumption	Registered Voters
Digital Access	Diseases
Crimes	VAT & GST Collection
Financial Health	Digital Payments

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