Citizens' adoption of e-governance services:
A comparative study on Attanagalla and Uhana Divisions in Sri Lanka

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MPPG 5th Batch

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Dedicated to

My Loving Daughter

Thamasvini

Declaration

I declare that the dissertation entitled "Citizens' adoption of e-governance services: A comparative study on Attanagalla and Uhana Divisions in Sri Lanka" submitted to the PPG Program of North South University, Bangladesh for the Degree of Master in Public Policy and Governance (MPPG) is an original work of mine. No part of it, in any form, has been copied from other sources without acknowledgement or submitted to any other university or institute for any degree or diploma. Views and expressions of the thesis bear the responsibility of mine with the exclusion of PPG for any errors and omissions to it.

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Abstract

e-governance becomes a fascinating term in public service delivery system in most of the countries in the world. This new paradigm of governance allows to provide public services in an effective, efficient, accountable and transparent way through Information and Communication Technology (ICT). Sri Lanka has a long history in using ICT and initiating e-governance programs, policies, and projects from early the 20th century. Citizens can receive different kind of e-services from different government institutions. Sri Lanka remains at a significant position regarding e-governance in regional and global levels. However, it does not mean that, Sri Lanka has high quality e-governance services. Likewise, it cannot be predicted that, citizens are satisfy with e-governance services.

The general objective of this research was to understand the citizens' (demand sides') perspective on e-governance services in Sri Lanka. Particularly, the research questions were formulated to understand citizens' adoption of e-governance services. The study was carried out in two divisions, namely, Attanagalla (Gampaha District) and Uhana (Ampara District) of Sri Lanka. The primary data were collected through a questionnaire survey and interviews. The key informants were general public and administrative officers who provide e-governance services in the Divisional Secretariats (DSs). The sample of the study consists of 60 people for the questionnaire survey and 20 people for interviews and 10 interviews with administrative officers.

Citizens' adoption of e-governance was measured through awareness, easiness, and demographic factors. Particularly, the study concerned on the major component of the e-Sri Lanka program, called, the Re-engineering program of Sri Lanka. This program has introduced several e-governance services including counter services as well as online services. DSs play a vital role in providing e-governance services under this program and the study examined the citizens' adoption of these services. The study tried to understand, usage of services, tendencies in adopting services, satisfaction on services, and influencing factors for adoption of e-governance services.

The thematic analysis was used to analyze the qualitative data and the Statistical Package for the Social Sciences (SPSS) used to analyze quantitative data. Since, this study was done in two divisions, the data has been presented in a comparative manner. The study found some similarities as well as differences in findings in terms of citizens' adoption of e-governance services among selected divisions.

However, the usage of services remains in a moderate level in both divisions. Citizens are adopting services as their needs. Otherwise, they are not interesting on new ways like online services. But, they are satisfied with services due to the quality of services and information as well as benefits of services. The study found three influencing factors, namely, awareness, easiness, and demographic factors. The awareness is measured by using interpersonal communication, mass media, and social media. The easiness was measured by three indicators such as saving money and time, visibility, and user friendliness. The demographic factors consist gender, age, education level, and income level of citizens. The research findings say that, awareness on e-governance services highly depends on interpersonal communication channel. The mass media channel remains in a doubtful condition. The social media channel has less important in awareness. The easiness of e-governance services can be increased the level of adoption of e-governance services. Saving money and time is a critical factor in easiness. Moreover, visibility of advantages of e-governance services can be increased the level of adoption. Though, the user friendliness is not that much critical in counter services, it is very important in online services. Citizens highly expect that, e-governance services should be in their local languages and understandable. In case of demographic factors, findings unveiled that, some of the demographic factors like gender and age have a positive impact on adoption of e-governance services. But, other two demographic factors - education level and income level of citizens are not critically influential. Citizens with all kind of education levels are receiving services and citizens with varying income levels are receiving services. In sum, citizens' adoption of e-governance services remains in a moderate level in both selected divisions. Neither, it is not in a high position nor in a lower position.

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List of Abbreviations

ASPA	American Society for Public Administration
BMD	Birth Marriage and Death
CINTEC	Computer and Information Technology Council of Sri Lanka
COMPOL	National Computer Policy
DCs	Divisional Councils
DOI	Diffusion of Innovation
DSs	Divisional Secretariats
EGDI	Electronic Governance Development Index
E-NIC	Electronic National Identity Card
G.C.E. A /L	General Certificate of Education Advanced Level
G.C.E. O/L	General Certificate of Education Ordinary Level
G2B	Government to Business
G2C	Government to Citizen
G2E	Government to Employee
G2G	Governments to Government
GIC	Government Information Centre
HIES	Household Income and Expenditure Survey
HIS	Health Information System
IBM	International Business machines
ICT	Information and Communication Technology
ICTA	Information and Communication Technology Agency of Sri Lanka
ITES	Information and Technology Enabled Services
LAs	Local Authorities
LDCs	Least Developed Countries
LLDCs	Land-Locked Developing Countries
NARESA	Natural Resources, Energy and Science Authority of Sri Lanka
NGOs	Non-Governmental organizations
OGD	Open Government Data
SIDA	Swedish International Development Cooperation Agency

SIDS	Small Island Developing States
SLAS	Sri Lanka Administrative Service
SLR	Sri Lankan Rupees
SPSS	Statistical Package for the Social Sciences
TAM	Technology Acceptance Model
UN	United Nations
USAID	United States Agency for International Development
UTAUT	Unified Theory of Acceptance and Use of Technology
WPDMT	Western Provincial Department of Motor Traffic

Chapter 1
Introduction

1.1. Introduction

The aim of this study is to discuss about citizens' adoption of e-governance services in Sri Lanka. During the past few years of this decade researchers tend to carry out studies on e-governance by drawing interests into different aspects. As a modern and innovative aspect of governance, e-governance is widely used to increase efficiency, effectiveness, transparency, and accountability in government functions and public service delivery. Some of the governments in many countries have been remarkable in using e-governance approaches to transform their public service provisions which were depended upon the manual system into e-public services. Specially, in the developing countries and Least Developed Countries (LDCs) introduced e-governance services and they are maintaining those in a stable way. Meanwhile, it is also noticeable that a number of issues and problems are encountered not only by those governments that involved in implementing e-governance reforms but also general public of those countries. Governments in the less developed countries are being experienced several such problems including inadequate infrastructure in Information and Communication Technology (ICT), a low level of political will, inadequate human resources with sufficient skills and competence, and restrictive bureaucratic culture against such initiatives. Similarly, from citizens' perspective which is also called as demand side, there can be seen a number of issues. Basically it seems that, in some countries, citizens do not have sufficient awareness on e-governance services. They may not have a low level of trust in government services and e-service delivery. It has also noticed that, citizens have no enough accesses to e-governance services and may not have ICT literacy for adopt such services.

The focus of this study is on how citizens adopt e-governance services which have been put in place by the government in Sri Lanka. Citizens' adoption of e-governance services is an important factor to measure the citizens' perspective and satisfaction of government services. In the first instance, this study tries to examine and explain the level of citizen's adoption and factors that are influential for such explanation. In the second instance, the study aims to compare two divisional administration units in order to explore any variations of such adoption across geographical divisions. For this purpose, the researcher selects two

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Divisional Secretariats (The divisional level administrative units of the central government) of Sri Lanka and explore the citizens' adoption of e-services that are provided by the Government.

The main task of this chapter, therefore, is to prepare the research protocol pertaining to the current study. The next section of this chapter explains the objectives (specific and general objectives) of the study. In the subsequent section, a research problem and four research questions have been formulated in order to find answer for the entire study. Moreover, this chapter also discusses the rationale and the significances of undertaking this research. As briefly noted above, this study is to a greater extent a comparative one through which the researcher attempts to come up with some regional divergences of adopting e-governance services. Hence, the mixed method approach was selected as the epistemological means to answer to research questions. Followed by the section of research hypotheses, the chapter concludes with outlining the chapter plan of the thesis.

1.2. Background of the Study

This study discusses about one of a recent component of the concept of governance. Therefore, first we should have understand about the concept of governance. Then, it can be discussed the main theme of this study, called, e-governance. In this regard, it can look the situation of e-governance systems in the world and e-governance initiatives in Sri Lanka in a short way. Next, it will be easier to understand on citizens' adoption of e-governance services in Sri Lanka based on different studies.

1.2.1. Understanding governance

"Governance has been defined in the social science literature as the process through which the government conveys its laws and policy decisions to society" (Navaratna-Bandara, 2009: 5). According to United Nations Economic and Social Commission for Asia and the Pacific, "governance" means: the process of decision-making and the process by which decisions are implemented or not implemented" (UNESCAP, 2009). "However governance was traditionally associated with govern*ment*, with the exercise of power by political leaders" (Kjær, 2004: 1). Sometimes, 'government' and 'governance' are used in an interchangeable way and these two terms emphasize the exercise of authority in an organization, institution or state. Sammy Finer defines government as:

- 'the activity or process of governing' or 'governance',
- 'a condition of ordered rule',
- 'those people charged with the duty of governing' or 'governors', and
- 'the manner, method or system by which a particular society is governed' (Finer, 1970 3-4 cited in Rhodes, 1996: 652).

Although, these two terms are different. According to Rhodes, "current use does not treat governance as a synonym for government. Rather governance signifies a change in the meaning of government, referring to a new process of governing; or a changed condition of ordered rule; or the new method by which society is governed" (Rhodes, 652-653).

Fukuyama defined governance as "a government's ability to make and enforce rules, and to deliver services, regardless of whatever that government is democratic or not" (Fukuyama, 2013: 4). In terms of modern definitions on the concept of governance, it has been incorporated with different organizations such as state, civil society organizations, and private sector. "Reference to processes and actors outside the narrow realm of government was now included; yet no common definition of governance seemed to emerge" (Kjær, 2004: 1). It is clear that, the concept of governance is a broader than the idea of government. In fact, government is one of the actor in the process of governance.

Jamil, Askvik and Dhakal noted that, "the word governance is now fashionable but has a long history deriving from the Greek word *kubernân* meaning to pilot or steer or how to design rule making. Later it was used in Medieval Latin as *gubernare* with almost identical meaning" (Kjær, 2004: 3; Weiss, 2000: 795 cited in Jamil, Askvik and Dhakal, 2013: 13). By the time, the meaning of term governance has been changed. Specially, in 1990s, the meaning became more innovative and complex. "The new use of governance does not point at *state* actors and institutions as the only relevant institutions and actors in the authoritative allocation of values" (Easton, 1965 cited in Kjær, 2004: 3).

However, the concept of governance has been changed. By the time the meaning of term governance has been changed in order to social, political and economic context over the world. Specially, in 1990s, the meaning of governance became more innovative and complex. "The new use of governance does not point at *state* actors and institutions as the only relevant institutions and actors in the authoritative allocation of values" (Easton, 1965 cited

in Kjær, 2004: 3). "The term became a buzzword and over the years the meaning and understanding of governance has become pervasive, ubiquitous, and polymorphous with different meanings given by different organizations, scholars, and with different connotations in different contexts" (Bevir, 2011: 1; Chhotray and Stoker, 2010: 3; Levi-Faur, 2012: 3–5; Rhodes, 1997: 15 cited in Jamil, Askvik and Dhakal, 2013: 13).

On one hand, some perspectives of governance have been emerged such as Aid-Agencies perspective, academic perspective, and South-Asian perspective of governance. The Aid-Agencies perspective focused on state-market relations and more specially on technical side like better management, state capacity in policy formulation and facilitating implementation, and etc. By contrast, the academic perspective of governance focused to better understanding of different ways in which power and authority relations are structured in different contexts - systems of governance are seen as driven by networks, rather than hierarchies, referred to multi-layered nature of decision making with local, national and supranational institutions. The South-Asian perspective based on the concept of governance from theological aspects and practices.

On the other hand, the concept of governance has been derived into many new dimensions. "Governance can be used in several contexts such as corporate governance, international governance, national governance and local governance" (UNESCAP, 2009: 1). Additionally, formal and informal governance, sound governance, democratic governance, network governance, multi-level governance, e-governance, even bad or ugly governance can be seen. The idea of local governance has a significant history in many countries of the world. The term "good governance" is increasingly used in development literature while the term "bad governance" is being used as one of the root causes of all bad within our societies (UNESCAP, 2009).

1.2.2. Understanding e-governance

This study selected one of an important category of governance, called, electronic governance (e-governance). The term e-governance has been defined in many ways. Navaratna-Bandara notes, "when the Information Technology revolution emerged, these public service reforms were incorporated into a new dimension called E-Governance. This has created proactive governance which attempts to allow citizens access to public service through electronic

means" (Navaratna-Bandara, 2009: 21). The simple definition for e-governance is "use of information and communication technology to eliminate traditional paper work systems". For example, West defines e-government as the delivery of government information and services through the internet or other digital means" (West, 2004 cited in Karunasena, 2012). Broadly, it can be identified as "the use of technology to enhance the access to and delivery of government services to benefit citizens, business partners and employees". "The World Bank (2005) defines e-government as the use by public organizations of ICTs including internet and mobile computing that have the potential to transform the relationship between citizens, businesses and governments" (The World Bank, 2005 cited in Karunasena, 2012: 16).

Many of the countries in the world have been initiated different e-governance programs, projects, and policies. From the beginning, computers and other basic electronic accessories introduced to enhance the efficiency and effectiveness in public service delivery. In terms of public services, now e-governance reached to an advanced stage which citizens can be accessed public services, government information through mobile phones. Although, e-governance is not about changing government processes and inter-agency or inter-personal relationships, it is not limited to computerization of government offices, it is not just about being able to type documents using computers, it does not put government security and confidentially at risk, it is not just a website on the internet. Even though, e-governance is necessary for increase government efficiency, cut down costs to society, better relation with private sector, encourage private sector towards use of information technology, encourage citizens' awareness about information technology, enhance national image, and so on.

In case of the global e-governance scenario, there can be seen many developments in many countries in the world. Despite low income levels, lack of infrastructures, inadequate political commitment, weak policies, and etc. different countries have been achieved significant developments in e-governance. E-Government Survey of United Nations (2014) mentioned that, "The Republic of Korea has retained the top spot in 2014 with its continued leadership and focus on e-government innovation. Australia (2nd) and Singapore (3rd) have both increased considerably over their 2012 global rankings" (United Nations, 2014: 4). According to this survey report, world top ten (10) e-governance leaders included countries, like Republic of Korea, Australia, Singapore, France, Netherlands, Japan, United States of America, United Kingdom, New Zealand, and Finland.

As the survey report, five regions have two e-governance leaders such as Tunisia and Mauritius (Africa), United State of America and Canada (America), Republic of Korea and Singapore (Asia), France and Netherlands (Europe), Australia and New Zealand (Oceania) (United Nations, 2014). In addition, they have concerned on the Least Developed Countries (LDCs), Small Island Developing States (SIDS), and Land-Locked Developing Countries (LLDCs). In spite of the economic and social bottlenecks they have gained outstanding e-governance developments (United Nations, 2014).

Regarding Developing Countries, South Asian countries have many issues in developing e-governance programs, projects, and policies. Sharma, Bao, and Qian mentioned that, "South Asian countries are similar in a variety of ways, such as geography, IT infrastructure, literacy rate, and e-government services development and adoption (2012: 21). "Asian countries have challenges, such as the lack of good IT infrastructure as well as cultural issues. E-government is in its infancy in the developing nations, where countries share common challenges in the implementation of e-government services" (Almakki cited in Sharma, Bao, and Qian, 2012: 21). It is cleared that, these countries have issues from both the supply side and demand side. Overall, the developing have common characteristics such as economic, social, environment challenges. Interestingly, e-governance can be identified as a solution. United Nations noted that, "E-government can help to address many of these challenges, including providing greater access to public services, especially for the most disadvantaged and vulnerable groups, by enhancing disaster risk reduction and enabling greater government efficiency and transparency to ensure more effective use of limited resources" (2014: 36-37). It seems that, e-governance has a crucial role in order to have a better public services delivery as well as to develop the wellbeing of society.

Sri Lanka started its journey of e-governance from the early 1980s. Among South Asian countries, Sri Lanka remains in a significant position regarding e-governance. As noted by Rainford (2003:03) "The e-government strategy in Sri Lanka is arguably one of the most comprehensive in the South Asian region and possibly among Asian countries as a whole". In the discussion of e-governance in Sri Lanka, there can be seen several significant milestones.

Sri Lanka accepted the National Computer Policy (COMPOL) in 1983. After that, the Information and Communication Technology Agency of Sri Lanka (ICTA) was established in

July 2003 and this institution paved the way to enact another important act on ICT which is popularly called, Information and Communication Technology Act No. 27 of 2003. Rainford noted that, "Sri Lanka's e-development strategy, "e-Sri Lanka: an ICT Development Roadmap", (e-Sri Lanka Roadmap) introduced in November 2002, e-government in Sri Lanka recognized as a critical area and spelt out the need of establishing an institutional framework for planning and implementing e-governance" (Rainford, 2003: 3).

It should be noted that, the e-Sri Lanka program have been introduced not only for ICT development of the country, but also for human and social development. That is the essence of this project and from the beginning it can be seen many of the activities which are designed to strengthen the vision. "Following the global trend of developments in e-government worldwide, the government of Sri Lanka in 2002 officially launched the e-Sri Lanka initiative with the assistance of the World Bank to improve the delivery of public services and achieving a wide range of socially desirable outcomes" (ICTA, 2005; Hanna, 2007 cited in Karunasena, 2012: 2). The e- Sri Lanka program has been designed to make easy to provide public services by using ICT means to citizens in an easy and quick way.

There are five distinct components of this program, namely, (1) re-engineering government programs, (2) information infrastructure development program, (3) human resources capacity building program, (4) regulatory environment development program, and (5) e-society development program. This study looked for the first component.

This study selected to discuss about the demand side of e-governance in Sri Lanka. Particularly, the study discussed about citizens' adoption of e-governance services. However, there is a lack of studies on citizens' adoption of e-governance services in developing countries. "There have been a number of studies which try to identify the citizens' adoption of e-government in developed countries but studies that try to identify the adoption factors in developing countries are a few" (AlShihi, 2005 cited in Nawas, n.d.: 6).

Generally, developing countries have low level of adoption. Regarding e-government ethics, Sharma, Bao, and Qian (2012) noted the importance of the citizens' trust on e-governance services. "The e-governance application needs to make the trust of public. It needs to ensure that the data and transactions of the information are safe. The information shared by the public should also remain safe and the privacy of the people needs to be preserved" (Sharma,

Bao, and Qian, 2012: 24). In case of adoption they mentioned that, "there is a low level of adoption of e-government services in developing countries such as in Nepal. One of the major reasons is that the lack of knowledge of citizens about the new e-government services. Awareness is a crucial issue for the use of e-government services" (Sharma, Bao, and Qian, 2012: 24).

Moreover, participation and trust can be identified as crucial factors in terms of adoption of e-governance services. "E-government adoption can only take place, when people have a high level of trust both in government as well as in internet. Citizen's lack of awareness regarding benefits of e-government has caused to the declining the rate of e-government adoption" (Pilling and Boeltzig, 2007; Teo, Srivastava, and Jiang, 2009 cited in Sharma, Bao, and Qian, 2012: 20).

On the other hand, people's participation can be marked as another factor that can be influenced to adoption. Sharma writes, "e-participation plays crucial role in the mutual relationship between the Government and people to enhance government activities and national development" (Sharma, 2014: 23). He further mentioned that the sense of trust is significant factor in adoption. "Perceptions of trustworthiness could impact on public intention to use e-government services and reflects ethics on e-government adoption" (Sharma, 2014: 26). Although, governments have introduced many e-services to public, those will not useful unless they do not have a trust on government as well as internet.

In addition to trust and participation, there are several factors could be influenced to citizens' adoption of e-governance services such as low level of ICT literacy, lack of awareness, inadequate ICT infrastructure, lack of accesses for e-governance services, lack of security, issues in digital divide, citizens' desire on traditional ways of public service delivery. Ahmed (2013) mentioned the necessity of having studies on developing countries. He tried to fill this gap in the literature by developing and validating an empirical-based model for systematically predicting and examining the various critical factors influencing citizen intention to use public e-services in developing countries, and enhancing the probability of their participation, as well as, examining the actual implementation of e-government applications in Egypt as an example" (Ahmed, 2013: 113).

Many of the international, regional, and national level studies have been done about e-governance from the supply side perspective. In case of Sri Lanka, there is a lack of studies about on e-governance from the demand sides' perspectives. "After a good review of published researches on citizens" adoption of e-Government, it is found that there aren't any researches that study the citizens" adoption e-Government in Sri Lankan context available" (Nawas, n.d.: 6).

Even though, there are some studies which have been done from citizens' perspective pertaining to e-governance or e-governance services, these are mainly dealing with some concepts such as citizens' trust (Sharma, Bao, and Qian, 2012), public value (Karunasena, 2009; Karunasena and Deng, 2009; Karunasena, Deng, Singh 2011; 2012), national culture (Ali, et al., 2009), and etc. On the one hand those studies tried to explain citizens' behaviors on e-government services or ICT. On the other hand, some studies attempted to discuss some issues which can be seen in demand side like ICT literacy, accessibility on e-services. In Sri Lanka, many studies have been done pertaining to e-governance. Even though those are directly dealt with the supply side, sufficient attention has not been given to the demand side. Otherwise, only few studies which can be found on citizens' perspective on e-governance.

However, the studies revealed that, there are many factors that affect to citizens' adoption of e-governance services in Sri Lanka. Mainly, citizens are willing to get benefits by receiving e-governance services. If the benefits more, the level of adoption is more. Nawaz and Thelijjagoda said that, there can be identified main four variables for measure the use behavior of e-governance services, namely, performance expectancy, effort expectancy, social influence, and facilitating conditions (2015). They showed that, if the citizens realize the benefits in their performance gained from e-Governance services, more of them will adopt the system. And the effort expectancy factor has a significant positive influence on the behavioral intention to adopt e-Governance (Nawaz and Thelijjagoda, 2015). In case of social influence, study found that, it has a positive influence to citizens' adoption. Specially, the awareness through media (visual, print, and online) on e-Governance services is more significant. Likewise, there should be a strong supply side to increase the level of adoption. If the government commitment is strong, citizens will be adopting more services. If the facilitating conditions are perceived as high, the e-Governance adoption will be high.

Based on these facts, it has been emerged a necessity of a study on demand side of e-governance in Sri Lanka. Since, many of the studies have been covered the supply side (particularly evaluation of the implementation process of e-governance), this study will be more effective in order to understand the real needs of citizens from e-governance services. On one hand, this study can be done the evaluating part of e-governance services from the citizens' perspective. On the other hand, this study will be fulfilled the scarcity of research work on the citizens' perspective on e-governance in Sri Lankan.

1.3. Research Problem

"The uniqueness of the e-government initiative is due to the specific situation that Sri Lanka is in as a developing country with a majority of citizens living in rural divisions, low ICT literacy among citizens, low householder internet users, poor information infrastructure, and low e-readiness in government" (Hanna, 2007, 2008 cited in Karunasena, 2012: 27).

As some e-government surveys done by international organizations like United Nations, it can be identified the progress of the e-governance programs, projects, and policies of Sri Lanka. Their surveys in 2010, 2012, and 2014 have been showed different data and information regarding Sri Lanka. The survey in 2014 mentioned that, Sri Lanka reached to a successful position on e-governance. New policies regarding e-governance helped Sri Lanka improve in e-governance service delivery and to jump from 115th rank in EGDI (E-governance Development Index) in 2012 to 74th in 2012 (United Nations, 2014). Similarly, the country could introduce new programs, projects, government portals, and various innovations. United Nations mentioned that, in spite of ICT literacy levels or accessibility to internet, government policies of Sri Lanka introduced e-governance system in order to include all segments of the population and offer services to everyone (United Nations, 2014).

Although, the utilization of e-governance services have not achieved a better position not only in Sri Lanka, but also in many other developing countries. "Even though the IT literacy rates jumped from 9.7 percent in 2004 to 40 percent in 2012, the numbers are still not high enough to allow maximum utilization of the e-services the government provides" (United Nations, 2014: 29). It can be stated that, there may be an issue from demand side. Though, the government is ready to provide the services through electronic means, citizens might not ready to adopt the services. Nawaz and Thelijjagoda noted that, "available statistics on the

citizens' adoption of e-government services in the country shows that there exists very poor adoption of e-government services in Sri Lanka" (2015: 219).

But, this particular issue has not been much exposed to academia or policy makers in Sri Lanka. Hence, it cannot be seen enough studies investigating causes to this issue. On the other hand, studies that have been done on citizens' adoption only focused on the national level (Nawas, n.d.). Other studies concerned on single units of analysis such as internet users in selected institutions (Nawaz and Thelijjagoda, 2015; Samsudeen and Thelijjagoda, 2015).

Therefore, this study focused on the administrative unites which are located in the grass root level of the country. Likewise, the study has been selected a particular e-governance program, called, the Re-engineering government program. Under this distinctive program, citizens have to go physically to their respective administrative units to get some services while some services can be accessed online. The study tried to understand about citizens' adoption of these e-governance services.

This is a comparative study and this have selected two divisions, namely, Attanagalla (Gampaha District / Western Province) and Uhana (Ampara District / Eastern Province). DSs that exist in these division provide similar kind of services to the public by using electronic means. Even though, these two divisions have different social, political, economic, and cultural factors. According to Computer Literacy Statistics provided by the *Department of Census and Statistics of Sri Lanka* in 2014 and 2015, these two Provinces have showed different percentages. It can be presented as follows:

Table 1.1: Computer literacy statistics of Sri Lanka, 2014 and 2015

	Western Province		Eastern Province	
	2014	2015	2014	2015
Computer owned households	24.5 % (Desktop) 33.0 % (Desktop or Laptop)	23.5 % (Desktop) 38.7 % (Desktop or Laptop)	9.6 % (Desktop) 14.7 % (Desktop or Laptop)	8.1 % (Desktop) 12.8 (Desktop or Laptop)
Computer Literacy	34.3 %	38.3 % 32.8 % (Gampaha)	15.9 %	12.8 % 12.1 % (Ampara)
Internet and e – mail usage (aged 5 – 69 years)	17.5 % (Internet) 14.9 % (e - mail)	Gampaha 18.1 % (I) 13.6 % (e)	6.8 % (Internet) 5.4 % (e - mail)	Ampara 6.8 % (I) 4.4 % (e)

Source: *Department of Census and Statistics of Sri Lanka,* 2014 and 2015 (Table constructed by researcher according to the statistics of two years)

Now the communication and technology has been developed in a massive way and mobile phones and internet became important tools in terms of e-governance services. As United Nations' survey, "data regarding telecommunication infrastructure index and its components, percentage of individuals using internet is 18.29, fixed telephone subscriptions per 100 inhabitants is 16.35%. Mobile – cellular telephone subscriptions per 100 inhabitants is 96.33%. Fixed (wired) broadband subscriptions per 100 inhabitants is 2.01%. Wireless broadband subscriptions per 100 inhabitants is 4.47%" (2014: 227).

Many other factors are affecting to determine the adoption of e-governance services such as peoples' awareness, easiness, and demographic factors.

In case of demographic factors, the study looks for main four factors, namely, age, gender, educational level, and income level. The report of *Household Income and Expenditure Survey (2012/13)* conducted by the Department of Census and Statistics published in 2015 provided important data on these factors on all districts (25) of Sri Lanka. However, the selected divisions have different statistics on selected demographic factors and it can be done a comparison between selected two divisions (Gampaha and Ampara District) as follows:

Table 1.2: Some demographic statistics of Gampaha and Ampara District, 2012/13

	Gampaha District	Ampara District
Monthly household income (mean) by province and district	Rs.58,248	Rs.32,537
Household population of head of the household by sex, province and district (Heads in thousands)	436 (M) 137 (F)	120 (M) 38 (F)
Percentage distribution of population by selected age groups, province and district	24.7 (0-14) 60.9 (15-59) 14.4 (60 and above)	29.7 (0-14) 60.9 (15-59) 9.4 (60 and above)
Percentage distribution of population (aged 5 years and above) by level of education, province and district	2.2 (No Schooling) 17.8 (Up to grade 5) 42.0 (Passed grade 6-10) 22.1 (Passed G.C.E. O/L) 15.8 (Passed G.C.E. O/L and above) 0.1 (Special education)	4.6 (No Schooling) 32.6 (Up to grade 5) 39.4 (Passed grade 6-10) 13.9 (Passed G.C.E. O/L) 9.5 (Passed G.C.E. O/L and above) 0 (Special education)

Source: *Department of Census and Statistics of Sri Lanka,* 2015 (Table constructed by researcher according to the statistics of two districts)

Furthermore, the status on access to services (eagerness and ability) and awareness of e-governance services are varied in these two divisions. Despite the country's performance on

e-government and strong e-governance services, there is a possibility to raise a question that, does citizens' adoption of those services is remain in an expected level? In other words, what is the citizens' perspective on e-governance services or do they have a positive perception on public services which are providing by administrative institutions through electronic means. None of studies have discussed about this issue and this study will be an opportunity to explore that issue and causes of the issue to research community, general public, think tank, and policy makers.

Based on above facts, this research problem can be formulated to be solved:

"Though, Sri Lanka remains in a significant position regarding e-governance at the global as well as regional level, does citizens' adoption of e-governance services remain in an expected level?"

1.4. Objective (s) of the Study

1.4.1. General Objective

The general objective of this study is to understand the citizens' perspective on e-governance services in Sri Lanka.

1.4.2. Specific Objectives

- To explore the status of citizens' adoption of e-governance services in two selected division.
- To compare the status of citizens' adoption of e-governance services in two selected divisions.

1.5. Research Questions

To reach these objectives, four research questions are formulated as follows:

1. To what extent is the public usage of e-governance services in two selected divisions?
2. What are the tendencies can be seen in adopting of e-governance services?
3. To what extent is the satisfaction of citizens on e-governance services?
4. What are the factors influencing for citizens' adoption of e-governance services?

1.6. Significance of the Study

After the preliminary literature review on this research area, it found that there are so many studies on e-governance services, citizens' adoption regarding developed countries. Although there is a lack of studies on developing countries. Regarding Sri Lanka, it cannot be seen some comparative or cross-sectional studies on citizens' adoption of e-governance services in regional level.

It should be cleared that, there is a lack of studies on citizens' perspective on e-governance services in Sri Lanka. Specially, the idea of citizens' adoption did not touch by researchers in an optimal way. So, there is a space to fill this research gap in this area. Specially, it seems that, students and scholars who have Humanities Social Science background, are not preferring to do researches on e-governance and its services. Probably, information and lessons of this area did not include in curricular in secondary education system. Also, tertiary education system in universities may not be interested to have lessons or separated course units in their syllabuses of their degrees.

Instead of them, the study area has been touched and covered by students and scholars who come from information and technology disciplines and management background. Although, the problem is that, how they can measure the societal values by using technological data? This issue can be considered also as a motivation factor to do this research.

This study will discusses about the lower level administrative system and services which are providing by those bodies. The majority of the citizens are dealing with these local level bodies in a very close way. Therefore, this relationship is more significant to measure the adoption level of e-governance services. On the other hand, the selected divisions have different features in terms of demographic and geographical formation. Among two divisions, Attanagalla is located in Gampaha District which is close to the central part of the country. Uhana is located in Ampara District which remains in the periphery of the country. Therefore, it would be an interesting study to know and explore things on the status of e-governance system and citizens' perspective regarding e-governance services.

There are some reasons in selecting these two divisions. As mentioned above, the two districts are located in two main provinces in the country with a significant distance. These two districts have different demographical and geographical features. Specially, there can be

seen a Sinhala majority population in Gampaha District. In Eastern province Tamils and Muslims are the majority. In case of religions, Islam and Hindu are the majority. But, In Ampara district, Sinhala-Buddhist is the majority. Other two districts (Batticaloa and Trincomalee) covered by Muslims and Hindus. Therefore, Ampara district can be identified as a diverse district in terms of ethnicity, religion, and languages. Importantly, Ampara District has been affected by the ethnic war of Sri Lanka for long time. However, some of the geographical and demographic features of two selected division can be noted as follows:

Table 1.3: Geographical and demographic features of two selected divisions

Information	Attanagalla Division	Uhana Division
Area	1,200 Km2	485 Km2
Population	178,816 (2012)	58,276 (2012)
Ethnic Formation	Sinhalese-154,969, Sri Lankan Moors-21,389, Sri Lankan Tamil-927, Malays-657, Other-874	Sinhalese-58,231, Sri Lankan Moors-7, Sri Lankan Tamil-32, Burgher-1, Other-5
Religious Formation (District)	Buddhist-71.48%, Christian-21.19%, Muslim-5.01%, Hindu-2.28%	Buddhist-38.61%, Christian-1.95%, Muslim-43.63%, Hindu-15.81%

Department of Census and Statistics of Sri Lanka, 2012 and 2015 (Table constructed by researcher according to the statistics of two divisions)

1.7. Operational Definition

Adoption is kind of an activity which can be seen in different manner. It can be seen intentional and / or unintentional adoption. In other words, adoption can be happened by forcing someone from another one also. Although, citizens' adoption on government services should be lied on first idea. Specially, regarding e-governance services, citizens may be adopted those or may not be. Accordingly, it can be defined as **citizens' intention to accept e-governance services**. There should have an eagerness of citizens to adopt those services. Also, it need to be required some other factors such as awareness, easy of services. Also, demographic factors are affecting to determine it.

1.8. Hypothesis

Four (04) hypothesis can be developed as follows based on the demographic features:

1. Male citizens have high level of usage of e-governance services than female citizens.
2. Young citizens use e-governance services than elder citizens.
3. Educated citizens receive services than less educated or uneducated citizens.
4. Citizens with a high income tend to be used services than citizens with a low income.

1.9. Methods and Methodology

It is to be noted that this study carried out as a comparative study. Mainly it is studied two divisions in the country. In case of sample (study population), 60 respondents are distributed among two divisions as thirty (30) for each division. Additionally 10 administrative officers have been selected from both DSs. This sample is selected randomly and concerned the demographic factors such as age, educational level, and income level except gender.

This study based on existing literature on e-governance and specific statistical data that can be gathered by the research population. Clearly, it should be used both the qualitative and quantitative methods. In this regard, the Mixed-Method is requested to collect data. Both primary and secondary data have been used. The primary data is collected by a questionnaire survey and several interviews. Secondary data is collected from existing international, regional, and national level literature on e-governance. It can be identified some themes such as e-governance, citizens' adoption, and Re-engineering Government program of Sri Lanka.

Secondary data and information will be gathered from books, e-books, journals, e-journals, research articles, research papers, masters and doctor level thesis, acts, research proposals, working papers, annual reports, institutional surveys, and etc. In addition, the study looked for particular government websites, national web portal, and other online service websites. However, the data collection plan can be noted in a table as follows:

Table 1.4: Primary data collection plan (Quantitative and Qualitative)

Division	Primary Data			
	Tool	Informant	Number	Total
Attanagalla	Questionnaire Survey	Citizens (M) Citizens (F)	15 15	30
	Interviews	Citizens (M) Citizens (F)	05 05	10
	Interviews	Administrative Officers in DS	05	05
Uhana	Questionnaire Survey	Citizens (M) Citizens (F)	15 15	30
	Interviews	Citizens (M) Citizens (F)	07 03	10
	Interviews	Administrative Officers in DS	05	05
Total				**90**

(Table constructed by researcher in order to present the primary data collection plan of study)

Since this study discusses about citizens and their behaviors in receiving and interactions, the interview method will useful to collect the information. It was interesting to mix with them and it is helped to draw an actual picture about citizens' perspective on e-governance system in Sri Lanka.

To analyze the quantitative data, the Statistical Package for the Social Sciences (SPSS) has been used. The qualitative data is analyzed by the thematic analysis.

1.10. Chapter Outline

The thesis is divided into five chapters.

The chapter one is the introductory chapter and it discusses about the background, research problem, research questions, objective (s), significance, operational definition, hypothesis, and methods and methodology of the study.

The chapter two focuses on the literature review, theoretical discussion, and the analytical framework of the study. The literature on e-governance, citizens' adoption, and some related themes is reviewed. Based on the related literature and the theoretical discussion, an analytical framework has been developed.

The chapter three discusses the e-governance system of Sri Lanka. Specially, the chapter discusses about e- Sri Lanka program and some developments of the e-governance system of Sri Lanka from 1983 to now using some studies as well as institutional surveys. Furthermore, the chapter disclose about the Re-engineering government program of Sri Lanka.

The chapter four discusses the methods and methodology. And this chapter presents the qualitative and quantitative data in a comparative way. Finally, the data is analyzed.

Fifth and last chapter summarized the whole thesis and discussed the whole research findings.

Chapter 2
Literature Review, Theoretical Discussion and Analytical Framework

2.1. Introduction

This chapter contains the literature review and theoretical background of the study. First, the chapter explores the literature and previous studies related with the main themes and the Re-engineering Government program of Sri Lanka. Second, the chapter looks for pick up some theories and implications from literature that can be used to develop an analytical framework for the study. Regarding a comprehensive literature review, it is focusing on international, regional, and national literature related with the concept of e-governance, citizens' adoption of e-governance services, and some issues (specially emerged from the demand side) which can be seen in e-governance of some countries including Sri Lanka.

2.2. Literature Review

The study mainly deals with the concept and themes such as of e-governance, citizens' adoption, e-governance services, and the Re-engineering government program of Sri Lanka. Therefore, literature and studies related with those concepts, themes, the program, and issues can be illustrated in a comprehensive way. It should be noted that, there will be explored international as well as national level literature on main themes.

2.2.1. The Concept of e-governance

The concept of governance has been changed through many decades and components and characteristics of governance becoming advance as these changes. "Electronic governance can be identified as one of most important change in the arena of governance. E-governance has the potential to change the face of government thoroughly" (Sharma, Bao, and Qian, 2012: 19). As a new paradigm of governance, it could change the way of governments think. And it has been proofed that, it can be used in public service delivery systems in more efficient, effective, accountable, and transparent way. Similarly, this is a new model of governance which is expecting the citizens' participation in the process of governing. Importantly, most of the developed and developing countries have been adopted this concept from 1990s. Some of them have succeed in different extents on delivering public services by using electronic means. "The governments all around the world are stirring toward providing

public services through electronic avenues" (Kabir and Baniamin, 2011: 37). However, these are the ideal identifications of the concept of e-governance. In other words, the practical scenario can be differed from country to country. Therefore, first it should be cleared those terms properly.

Sharma noted, "the terms e-Governance and e-Government are using in an interchangeable way. e-Governance and e-Government are the terms treated to be similar; however, there are some differences between the two" (Sharma, 2014, 25). Many of them have been defined terminologies in their work and it can be seen many definitions on e-governance or e-government. Although, this chapter explores some related definitions on e-Governance in a very short way. Further, Sharma noted that, "E-Government is the use of the ICTs in public administrations combined with organizational change and new skills to improve public services and democratic processes and to strengthen support to public policies" (Sharma, 2014, 25). According to the World Bank, "e-government means to governmental use of information technologies (such as Wide Division Networks, the Internet, and mobile computing) that have ability to transform relations with citizens, businesses, and other agencies of government" (Sharma 2002 cited in Bhuiyan, 2009: 34).

Moreover, United Nations mentioned that, "E-government is defined as utilizing the Internet and the world-wide-web for delivering government information and services to citizens" (Jain Palvia and Sharma, 2007: 1). It is cleared that, ICT has been involved with the concept of e-Government and public services which are providing through electronic means. Furthermore, Jain Palvia and Sharma noted that, "while definitions of e-government by various sources may vary widely, there is a common theme. E-government involves using information technology, and especially the Internet, to improve the delivery of government services to citizens, businesses, and other government agencies" (Jain Palvia and Sharma, 2007: 1).

At the same time, it can be found a definition on e-Governance such as the perspective of the e-Governance is "the use of the technologies that both help governing and have to be governed" (Rossel and Matthias cited in Sharma, 2014, 25). Furthermore, Sharma, Bao, and Qian mentioned, "E-governance has included as information-age model of governance that seeks to realize processes and structures for harnessing the possibilities of information and communication technologies (ICTs) at various levels of government and the public sector for

providing good governance" (Sharma, Bao, and Qian, 2012: 19). According to this explanation, in addition to advancement of ICT, e-Governance looks for the progress and innovations on governance like good governance. Oje, Shareef, and Janowski noted that, e-Governance seeks to exploit ICT for transform the internal working of public organizations in order to create efficient and effective public service delivery and manage the external stakeholders (citizens and businesses) to maximize the participation in policy and democratic processes (Oje, Shareef, and Janowski, 2010).

e-Governance need not be limited to the public sector, rather it has to be expanded into the private sector, non-governmental organizations (NGOs), and other associations too (Keohane and Nye, 2000 cited in Jain Palvia and Sharma, 2007). It should be noted that, there can be seen some similarities of definitions on e-government and e-governance. However, the concept of e-governance seem to be an advance one than e-Government. Because, it involves not only the public sector, but also the private sector and civil society. Otherwise it can be said that, "e-government is a part of the whole e-Governance system. Conceptually it can be argued that 'e-government' is a prerequisite of 'e-governance', while it is also one of the actors of the overall 'e-governance' system" (Kabir and Baniamin, 2011: 38).

Thereafter, it should be identified the major components of e-governance. Simply, there are four (04) components or interactions between government and other sections of society, namely, G2G (Governments to Government), G2C (Government to Citizen), G2B (Government to Business), G2E (Government to Employee). Some scholars identified above components as different e-governance services. "E-Government services are categorized into four types according to their stakeholders" (Akman et al., 2005 cited in Nawaz, n.d: 10). However, these component can be described in a detailed way.

"The G2G e-government involves building the backbone of e-government by developing the ICT infrastructure at the organizational level" (Ray, Gulla, Dash, & Gupta, 2011 cited in Karunasena, 2012: 18). In other words, G2G involves interactions among government officials. Karunasena said that, "these interactions can be within a particular governmental office or among various governmental organizations. Improving the ICT infrastructure facilitates the creation of a connected government to share data and conduct electronic transactions

between and among public organizations" (United Nations, 2003; Evans & Yen, 2006; Beynon-Davies, 2007; Al Nagi & Hamdan, 2009 cited in Karunasena, 2012: 18).

"The G2C e-government involves in facilitating the communication between the government and citizens electronically in an efficient manner" (Evans & Yen, 2006 cited in Karunasena, 2012: 17). Importantly, this interaction encouraging the citizens' participation in e-governance. "This includes not only the delivery of public services, but also citizens' participation in the decision-making process in government" (Kaaya, 2009 cited in Karunasena, 2012: 17). Concepts like e-Democracy and e-Participation have been emerged as the advancement of this interaction.

"The G2B e-government focuses on improving the efficiency and effectiveness of the delivery of services to businesses and reducing the burden on businesses" (Evans & Yen, 2006; Lu, Shambour, Xu, Lin, & Zhang, 2010 cited in Karunasena, 2012: 18). Indeed, it involves interaction between government and businesses. Now many of the business activities such as taxation, government procurement can be done by internet.

The G2E seems another internal set of interactions. It involves interaction between the government and government employees. It can be included some activities like salary, pension, and leave. Nawas noted that, "it is an e-government dimension that cater only for government employees, such as the provision of human resource training, etc." (Nawaz, n.d: 11).

Kabir and Baniamin (2011), talked about the models of e-governance and some missing links in terms of developing countries. They noted that, "The ASPA – UN model is very similar to that of Layne and Lee" (Yildiz, 2007 cited in Kabir and Baniamin, 2011: 40). Most importantly, this journal article proposed a new model that can be reduced the weaknesses of previous models and those models likely have been fixed with developed countries. Although, in developing countries cannot be forwarded with those models due many issues. Therefore, the new model will be fixed with developing countries. Although the study is not going to discuss about the different type models in e-governance in detailed.

2.2.2. Citizens' Adoption of e-governance Services

In operationalize of the idea of citizens' adoption of e-governance services, it can be defined as, "citizens' intention to get e-governance services". In other words, it is an intentional acceptance by citizens and there should have an eagerness to adopt those services. In Sri Lankan context, government has been introduced services by using electronic means under the Re-engineering program which is one of a component of e-Sri Lanka program. Now, citizens can get services in an efficient, effective, transparent, and accountable way. It is need to remind that, this study is particularly looks for citizens' behaviors on government information, not citizens' intention to conduct government transactions on e-government websites.

Of late, the idea of citizens' adoption becoming a significant theme in studies on e-governance. Regarding developed countries, there can be seen many researches on citizens' adoption of e-governance services. The reason may be developed countries have strong enough e-governance systems and citizens have been involved and participated in those systems in a good extent. Importantly, they have paid their attention on not only the supply side, but also the demand side. Probably, they have established strong e-governance systems in their countries and they does not have or they have few issues on ICT and other infrastructure, political commitment, accesses, awareness, and citizens' participation. "The e-governance movement in developed countries is mostly generated by the availability of internet based technology, through which it becomes possible to access government organizations remotely with cheap cost" (Saxena, 2005 cited in Sharma, Bao, and Qian, 2012: 19). In other words, developed countries have advanced e-governance system that can be provided public services efficiently and effectively. Also, citizens can get many benefits from the advancement of ICT in those countries. United Nations' e-government Survey Report, 2012 noted that:

> An increasing number of governments, mostly in developed countries, are making greater efforts to increase usage of services. They start by recognizing that the benefits of e-government services are very much determined by the number and type of users of these services, and the frequency of their use (United Nations, 2012: 101).

On the other hand, the income level, education, living standards, and many other economic and social factors remain in high positions. For instance, American e-government system strategies are geared towards user-centric solutions, which serve to synergize governance processes and systems across multiple public administration domains (United Nations, 2012). Developed countries could achieved many targets on e-governance and services they are providing through ICT.

Generally, the status and achievements of e-governance systems in developing and least developed countries not better compare with developed countries. There can be seen many issues such as lack of ICT infrastructure, less political and policy commitment, less access, inadequate awareness and citizens' participation on e-governance, and so on. In fact, they have a lack of basic infrastructure to promote advance e-Governance systems and services. "Majority of the developing countries do not have the basic infrastructure and technologies for going online and in the absence of Internet infrastructure" (Sharma, Bao, and Qian, 2012: 19).

Therefore, many of the modalities does not match with the social, economic, and political environment of developing countries. "Many of the developing countries do not have the required basic infrastructure and technologies for going online and in the absence of Internet infrastructure, individuals do not have a choice about going on line, for the means of doing so are not at hand" (Rose, 2005 cited in Kabir and Baniamin, 2011: 40 – 41). Even though, developing countries have strong enough e-governance systems, there should be developed many things from demand side or citizens' side. "Even if there is any, many people do not have the ability to access those resources" (Kabir and Baniamin, 2011: 41). The demand side have not been developed as expected level, therefore it can be said that, e-governance services are not utilized in an optimum level.

However, themes like citizens' adoption, citizens' participation, public value, and citizens' trust in e-governance of developing countries became important issues need to be addressed. As mentioned above, most of the studies have been done regarding developed countries. Although, there are some studies on developing countries (specifically on African and East and West Asian countries) and least developing countries, only few studies have been done on citizens' adoption of e-governance services of South Asian countries (including Sri Lanka).

Despite the achievements and developments of e-governance system of Sri Lanka, researchers have not been looked for the demand side. Although, there are some national level studies, it is difficult to find out studies based on specific divisions of the country. Mainly, this study is willing to fill that research gap as an initiation study. Accordingly, it should be discussed about the studies that have been done in international level. Later will focus about national level studies on citizens' adoption of e-governance services.

Basically, some researchers signified the importance of studies on demand side of e-governance systems of developing countries. Similarly, they realized that, there is a low level of adoption in these countries. Sharma et al., (2012) mentioned that, "a number of e-government researches focuses on the supply side like government infrastructures and policies, not on the demand side, called, the citizens' perspective. Unfortunately, some researchers have been ignored the factor of human beings in their studies on e-Governance" (Heeks, Bailur and Verdegem and Verleye cited in Sharma et al., 2012). Instead of that, most of the studies have pointed out the issues related with e-Governance development and service delivery. Particularly, this study implied the importance of people in any e-government system. Also, researchers showed many issues and challenges that can be emerged from both supply side as well as demand side. "These challenges involve lack of awareness of e-government services, access, trust, security concerns, and the digital divide" (Cater and Weerakkody, 2008 cited in Sharma et al., 2012). However, the influence these challenges can be varied from country to country. Although, governments have been established e-governance services, still citizens like to choose traditional paper work in public services. Developed countries are getting many advantages from e-governance services while developing countries are getting less.

Moreover, the study discusses about the e-governance systems in South Asia with a special concern on Nepal. "South Asian countries are similar in a variety of ways, such as geography, IT infrastructure, literacy rate, and e-government services development and adoption" (Sharma et al., 2012: 21). Overall, one of the most important reason for the low-level adoption that, needs and requirements of citizens have been ignored in e-governance services of developing countries like South Asia. Researchers identified many reasons for that like low level of human capital, e-Participation, and awareness not only in Nepal, but also in South Asia. Even though, the study has been showed some data about the status related with e-

governance, e-governance ranking of South Asia, e-readiness Index, Online Service Index, ICT Distribution Situation of South Asian countries (including Nepal), those data has been changed from year to year. Likewise, this study only based on empirical data. However, the study not provided a definition that, what is citizens' adoption of e-governance services. Instead of that, the study presented some statistical data and by using those data they concluded that, there is a low-level adoption in developing country.

Zafiropouloset al., (2012) carried out a study, titled, *Assessing the Adoption of e-Government Services by Teachers in Greece.* Researchers have been applied some models like Technology Acceptance Model (TAM), the extended TAM, and theories like the Diffusion of Innovations (DOI) theory. Their main research population was primary and secondary education teachers in Greece. Specially, the study has given emphasis on the idea of trust as well as risk in e-governance websites. The empirical study conducted as an online survey and only the internet users have been surveyed. Finally, the study found that, for the adoption of e-governance services by Greek teachers, practical and operational issues on efficiency of services should be considered first (Zafiropouloset al., 2012). Researchers stated that, only few studies have been undertaken regarding e-governance adoption and this study can be considered as a starting point for other researchers.

AlShihi (2006), submitted a thesis for the degree of Doctor of Philosophy in School of Information Systems, Victoria University, titled, *Critical Factors in the Adoption and Diffusion of E-government Initiatives in Oman*. Importantly, Oman is a country which is showing high EGDI (Electronic Government Development Index) within last few years. Specially, the study investigated the obstacles related with the development and diffusion of e-government with a concentration on non-technical and country-specific factors. Researcher found some non-technical barriers that have been affected citizens' use of technology and adopting e-governance in Oman, like users' lack of IT knowledge and the absence of marketing campaigns.

Particularly, the study found both technical and non-technical barriers to e-governance adoption and dissemination. Regarding technical barriers, infrastructure and e-governance systems development issues can be found in the highest position. It should be noted that, these issues mostly coming from the supply (government) side. But, when it comes to non-

technical barriers, there can be seen many issues coming from demand (citizens) side. The study have explored issues such as culture, politics, leadership support, security and legislation, demographics, users' trust, users' needs and expectations, and resistance to change. However, researcher has carried out the study based on Oman e-governance system and there are number of surveys and interviews have been done. Finally, the study provided a socio-technical framework for adoption, detailing causes and effects of the critical factors in the adoption and diffusion of e-governance initiatives in Oman.

Ahmed (2012), studied on citizens' usage of e-governance services in developing countries. He focused on Egypt in his study and discussed the factors influencing on Citizens' behaviors. "Mainly, the study raises the importance of empirical studies on e-governance and according to Ahmed, such kind of empirical studies are heavily ignored" (Ahmed, 2013: 113). On the other hand he mentioned the necessity of to have studies on developing countries. Specially this study attempted to fill this gap in the literature by developing and validating an empirical-based model for systematically predicting and examining the various critical factors influencing citizen intention to use public e-services in developing countries, and enhancing the probability of their participation, as well as, examining the actual implementation of e-government applications in Egypt as an example (Ahmed, 2013). The study implied that, the low usage level of e-governance services and the slow rate of adoption are still recognized as endemic problems for e-governance implementation in African countries. Specifically, "in In Egypt, e-government service uptake is, however, very low; with only 11.3 percent of Egyptian households being aware of the existence of e-government services and only 2 per cent of these households actually using these services. The most commonly used services in Egypt are online payment of public utilities" (United Nations, 2014: 143). However, the study found that, perceptual factors that are influencing citizens' intention to use the e-governance applications such as security issue.

Rokhman (2011), discussed about e-governance adoption in developing countries, with the special reference on Indonesia. He showed that, "previous studies found that success of e-government implementation is dependent not only government support, but also on citizen's willingness to accept and adopt e-government services" (Rokhman, 2011: 228). This study carried out to find, how the acceptance of Indonesian Internet users to e-governance services,

in terms of relative advantage, image, compatibility, and ease to use variables. The study used innovation diffusion theory of Rogers as a main theory in theoretical framework. And the research population was the internet users in different areas of Indonesia and out of the country. Importantly, he done his questionnaire survey by online and respondents are invited by Facebook. The study found that, 705 (93.9%) respondents out of 751, have intention to adopt e-governance services. Only 46 (6.1%) not have (Rokhman, 2011). Although, Indonesia remains in a low position on global ranking of e-governance readiness, the adoption level is high among internet users.

Al-Jaghoub, Al-Yaseen, and Al-Hourani (2010), did a study on developing countries, specially focused on Jordan. They have used some terms like Awareness and Acceptability. This paper presents the results of a pilot study that aims to assess factors which could influence the awareness and use of e-governance services in Jordan. They examined some issues such as accessibility of e-government, citizens' attitude towards privacy and security, the required services and costs. However the findings showed that, the awareness on e-governance services not reached expected level. There is a limitation of that, the sample consisted by young students, most of them have high income and have access to internet. Simply, they should at least know what e-government is (Al-Jaghoub, Al-Yaseen, and Al-Hourani, 2010). In other words, it can be found some social-economic factors like income and education level some technical factors like Internet access and easiness of usage that are influencing on adoption of e-governance services.

AlAwadhi and Morris (2009), studied the factors influencing the adoption of e-governance services. As they mentioned, the initiatives of e-governance of all countries depend on government support as well as citizens' adoption of e-governance services. The study focused on the attitudes and perceptions of the citizens Kuwait. They investigated some factors such as usefulness, ease of use, reforming bureaucracy, cultural and social influences, technology issues, and lack of awareness. These factors influencing to adopt e-governance services. But, this study also have been limited towards only internet users and all the respondents are undergraduate and postgraduate students from Kuwait University. Even though, researchers used non-technical variables to measure the adoption of e-governance services. Also they

claimed that, many things to do from supply side or government and various groups in societal level can be contributed the resources and knowledge.

After the review of international and regional literature on citizens' adoption of e-governance services, it should be looked for national level literature. Comparatively, Sri Lanka has a long history regarding e-governance system and many studies have been done from late 1990s. Although, most of the studies done from government perspective (supply side). Otherwise those are dealing with the e-governance initiatives, infrastructure, political commitment, and etc. But, there are few studies carried out from citizens' perspective (demand side). Those studies are discussed some themes such as public value, citizens' use behavior, citizens' trust in e-governance and services. Only few studies have been covered the theme, citizens' adoption of e-governance services. Of late, researchers, scholars, and students prone to study about citizens' perception of e-governance services of Sri Lanka.

Very recently, Nawaz and Thelijjagoda (2015) published a research paper, titled, *Sri Lankan Citizens' Use Behavior towards E – Government Services.* Mainly, this study focused on factors influencing Sri Lankan citizens' adoption of e-governance services. And researchers used the UTAUT (Unified Theory of Acceptance and Use of Technology) model and selected key determinants from that model. This study used the UTAUT model devised by Venkatesh et al. (2003) and made a few modifications to answer the research question and fit to Sri Lankan context. Due to the time and financial issues this study is limited into only the internet users. However, the study has four (04) independent variables to measure the use behavior, namely, performance expectancy, effort expectancy, social influence, and facilitating conditions. Findings shows that, if the citizens realize the benefits in their performance gained from e-governance services, more of them will adopt the system. And the effort expectancy factor has a significant positive influence on the behavioral intention to adopt e-governance (Nawaz and Thelijjagoda, 2015). In case of social influence, study found that, it has a positive influence to citizens' adoption. Specially, the awareness through media (visual, print, and online) on e-governance services is more significant.

Furthermore, if the facilitating conditions are perceived as high, the e-governance adoption will be high. Interestingly, the prices of mobile phones, internet packages, and computer devices are becoming cheaper. Also, many of institutions have computerized and networked.

Ultimately, this study suggests that the necessary resources and information and continuous support need to be provided to encourage citizens to use services that are compatible with their lifestyle (Nawaz and Thelijjagoda, 2015). Since, there are no published studies on citizens' adoption of e-governance in Sri Lanka before, this study has contributed to the conceptual aspects of e-governance by identifying the key factors influencing citizens' intention and use behavior of e-governance services.

Same researcher's duo, Samsudeen and Thelijjagoda (2015), did another study on factors influencing for the intention to use e-governance in Sri Lanka. This study specifically focused on undergraduate students of South Eastern University of Sri Lanka. As previous study, they used the UTAUT model to identify the influencing factors. And thy surveyed students who have and have not experience of e-governance services of Sri Lanka. The study found that, effort expectancy was significant in the intention to use e-governance services, however performance expectancy and social influence were insignificant in the use of such services (Samsudeen and Thelijjagoda, 2015).

Thus, literature and previous studies have been done related with main two themes can be discussed. It is cleared that, it is possible to choose some theories and implications.

2.2.3. The Re-engineering Government program of Sri Lanka

Since, this study looking for citizens' adoption of e-governance services that are providing under the Re-engineering Government program of Sri Lanka, it should be reviewed the literature related it. Basically, the Re-engineering Government program is introduced as one of a component of the e-Sri Lanka Roadmap or program in 2002. The third chapter of this study will be discussing about the e-governance system and specially e-Sri Lanka program and Re-engineering Government services of Sri Lanka. Although, the national and international level literature will be provided an identification on the program in order to clarify the existing scenario.

After adopting the e-Sri Lanka Roadmap to be implemented, some of the ICT experts, scholars, researchers, and even students have been started to investigate and assess the progress and status of e-Sri Lanka. Rainford (2003), documented that, "there are currently six core programs being implemented under the supervision and coordination of ICTA. Each of the

programs are sub-divided into a number of strategies or components and then into a number of projects and activities within each component" (Rainford, 2003: 8). The Re-engineering Government program is designed to use ICT in public service delivery in an efficient, effective, and transparent way. "The objective of the Re-engineering Government Program is fundamental reform of government with the objective of improving citizen service delivery" (Rainford, 2003: 10). In other words, it aims to change the way government think and work. "The vision of e-Sri Lanka is to take the dividends of ICT to every village, to every citizen and to every business and transform the way government thinks and works" (Rainford, 2003: 4). According to the classification of e-governance services, the Re-engineering program deals with three (03) types of services, namely, G2G, G2C, and G2B. It is cleared that it included vast area of stakeholders who are getting benefits from e-Sri Lanka program. Rainford (2003) noted some impact of this program. Primarily, it has three (03) databases like the public, land and companies registers. Also including key services such as a Government Information Centre, e-Motoring, e-Foreign Employment and e-Divisional Secretariat.

Karunasena (2012), submitted his Doctor of Philosophy thesis, titled, *An Investigation of the Public Value of e-Government in Sri Lanka.* Although, this study discusses about the public value and little bit about citizens' adoption, it can be seen a broad description about the Re-engineering government program. "The adoption of e-government dramatically transforms the way that government interacts with citizens" (Karunasena, 2012: 45). Importantly, he identified this program as an important theme in the theoretical background of this study. "The Re-engineering the government program is facilitated by other e-development programs which aim to develop information infrastructure, develop human resources capacity in the public sector, formulate strategies and policies, and develop the regulatory environment and an e-society. These four programs create an enabling environment for the effective development of e-government in Sri Lanka" (Karunasena, 2012: 27 – 28). In Re-engineering program facilitated to government websites and portals, a country portal, government information Centre, prioritized G2C services like e-divisional secretariat, e-population registry, e-pension, e-motoring, e-land database, birth death marriage certificate, e-foreign employment, Prioritized G2G services: e-human resources management (Karunasena, 2012).

Hanna (2008), wrote a book, *Transforming government and empowering communities: The Sri Lankan experience with e-development.* This book focuses on the institutional innovations needed to lead the diffusion of the new information and communication technology (ICT) that can help transform developing economies into knowledge economies and information societies. Author identified that, creating ICT based institutions is a long term process, but it is necessary to developments of countries. The ICT revolution is opening up new sources of growth and new opportunities to solve long-standing development problems (Hanna, 2008: 1). Specifically, this book discusses about the experience of Sri Lanka including the e-Sri Lanka and tried to connect it with the notion of development. "The e-Sri Lanka program takes a holistic approach in using ICT for development, making it a fully integrated ICT-enabled development project" (Hanna, 2008: 5). In this perspective, the Re-engineering government program identified as a coherent investment program in ICT applications, information sharing, knowledge management, process reengineering, service innovation, and human resources to deliver faster, more efficient, and more transparent government services to all citizens and businesses (Hanna, 2008). Furthermore, author notes about this program with the emphasis on its objectives, vision, and strategies.

Samarajiva (2004), done a study about effective governance in Sri Lanka. The objective of effective governance must deliver citizen-centric services (Samarajiva, 2004). This study have given a synthesis about a path for government to get out from dysfunctionalities to an effective governance. Researcher proposed the e-Sri Lanka strategy for accomplish that. Specially, e-Sri Lanka has been promoted the idea of transforming governance process through ICT. Significantly, the study draws the importance of the Re-engineering government program in this transforming endeavor. Likewise, he identified number of barriers to the establishment of e-government and its precondition-ICTs such as lack of purchasing power of citizens, lack of literacy (general or ICT), difficulties in accesses, inadequate ICT infrastructure, less demand for internet-based or other e-governance services, and resistance to reengineering and rightsizing (Samarajiva, 2004). This study totally based on secondary data and no empirical analysis.

Another important study regarding this program done by Jayawardena (2014), titled, *The Electronic Hospital Information System Implemented at the District General Hospital*

Trincomalee – An Experience of Business Process Reengineering. This cross-sectional study investigated the computer based electronic information system in district general hospital in Trincomalee, Eastern Province of Sri Lanka. Jayawardena notes that, "long term objective of the project was to build and maintain a patient database for analysis of data and to facilitate evidence-based decision making process. Short term objectives were, to have properly maintained hospital health statistics, to have a paperless hospital information system and to reduce costs and improve the accuracy and timeliness of hospital information system" (Jayawardena, 2014: 1).

However, this effort can be identified as an achievement of the outcome of Re-engineering government program. "Specially, patients can get their radiological images copied to a CD, thus missing of reports or duplicating of reports will not be a problem here after. They also can do online booking in advance for a date for surgery from the theatre. Hospital records are maintained by the out-patient module. This system was readily accepted by the patients too" (Jayawardena, 2014: 1). Although, this Health Information System (HIS) could achieved many advantages and citizens got many benefits, there can be seen some challenges emerged from demand side. From demand side, "there were several steps to be followed and each one of these steps would be a challenge to the management. Jayawardena mentioned that, at the pre-implementation stage changing minds of the staff from traditional to new computerization system was the biggest challenge" (Jayawardena, 2004: 7).

Literature and previous studies above mentioned, are significantly related with this study. Otherwise, there can be seen many literature and studies on e-governance and its services from different perspectives and regarding different country contexts. However, the study should have a theoretical background and on the basis of the theoretical discussion, it will possible to develop an analytical framework.

2.3. The Theoretical Background

As the literature that have been reviewed, the study intends to find some theories that can be used to analyze the data. In fact, there are many theories that can be applied in e-governance studies. Also specific models such as ASPA, UN, TAM, UTAUT, and etc. have been developed by some researchers and international organizations in order to study the citizens' adoption of e-governance services. But, the study is not going to use those models. Even

though, those models will not be used in theoretical framework in this study, there is a possibility to use some of implications of those models. Theoretically and conceptually, there are two themes in this study, namely, (1) citizens' adoption, and (2) e-governance services.

First theme related with the citizens' perception, intention, behavior, and acceptance of e-governance services. Second theme deals with the Re-engineering government program of Sri Lanka and its services. It should be noted that, e-governance services have been introduced as a new way of governance and it could be named as an innovation. This kind of innovations can be adopted or ignored by citizens in any contexts. Hence, the study is claiming to use the Diffusion and Innovation (DOI) theory. Let's pay the attention for this theory and its applications.

2.3.1. Diffusion of Innovation (DOI) Theory

Generally, diffusion of Innovations seeks to explain how innovations are taken up in a population. This theory developed by United States communication scholar and sociologist E.M. Rogers in 1962. Rogers argued that, "diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system" (Rogers, 1983: 5). It originated in communication to explain how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. It can be applied to the study like this; if e-governance is a new idea (an innovation) and e-governance services are products how people adopt those and how long will be gained to spread. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. Adoption means that a person does something differently than what they had previously (Boston University School of Public Health, 2016). A person or citizen must be perceived that, e-governance services as an innovative idea or product. "An innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption" (Rogers, 1983: 11). As mentioned above, the idea of e-governance and e-governance service are new for citizens in many contexts. Hence, there is a possibility to adopt that new thing or perhaps they will be ignored it. Rogers noted, "newness in an innovation need not just involve new knowledge. Someone may have known about an innovation for some time but not yet developed a favorable or unfavorable attitude toward it, nor have adopted or rejected it" (Rogers, 1983: 11).

Particularly, this theory discussed about the technological innovations, information, and uncertainty. The e-Sri Lanka program has been introduced as an innovation which is used technology or ICT in the process of governance and public administration of Sri Lanka. "A technology is a design for instrumental action that reduces the uncertainty in the cause-effect relationships involved in achieving a desired outcome" (Thompson, 1967 cited in Rogers, 1983: 12). There are two components of a technology; (1) a hardware aspect, and (2) a software aspect (Rogers, 1983). These two components have distinct features and sometimes, hardware remains in visible position while software remains invisible. On the other hand, information (software) dominates technology. Even though, the software aspects are significant in technological innovations and information can be used as an instrument or tool in terms of innovations in e-Governance. Theory says that, "we should not forget that technology almost always represents a mixture of hardware and software aspects" (Rogers, 1983: 13).

In application of this theory on the discussion of this study on citizens' adoption of e-governance services (specifically services that are providing under the Re-engineering government program), it is useful to measure the adoption behaviors (nature and level of adoption) of citizens and benefits they are getting from new innovation of technology including hardware aspect as well as software aspect. As this theory, "there is generally an implication that a technological innovation has at least some degree of benefit or advantage for its potential adopters" (Rogers, 1983: 13). At the same time, those benefits and advantages may not be cleared always. Rogers notes that, "this advantage is not always very clear-cut or spectacular, at least not in the eyes of the intended adopters. They can seldom be very certain that an innovation represents a superior alternative to the previous practice that it might replace" (Rogers, 1983: 13). Obviously, there are distinct and effective benefits and advantages of e-governance services for citizens, particularly than the previous traditional and manual services were giving by government. This theory will help to identify the new changes after introducing the innovation in services and to what extent the adoption those services by citizens.

Furthermore, the theory implied a very important aspect on adoption of innovations of technology. In all innovations, there will be an uncertainty in the minds of potential adopters

regarding the expected results of innovations. Similarly, the innovation creates opportunities to reduce the uncertainty. Importantly, this is causing to adoption the innovation by individuals. Although, this study is not going to apply this aspect of uncertainty in a broad way to analysis the empirical data which will be gathered in future. Even though, some ideas will be used according to the data.

However, it is important to have an idea about the characteristics of innovations to understand the different rate of adoption of individuals. As this theory, there are five (05) characteristics as follows:

1. ***Relative advantages*** is the degree to which an innovation is perceived as better than the idea it supersedes. This may be measured in economic terms, social-prestige factors, convenience, and satisfaction. Whatever the objective of the innovation, important thing is whether individuals adopt the innovation as an advantage. If they perceive the relative advantage of an innovation in a greater way, the adoption rate also will be greater.

2. ***Compatibility*** is the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters. In other words, if the innovation will not be fixed with existing social norms and values, individuals will not be adopted it.

3. ***Complexity*** is the degree to which an innovation is perceived as difficult to understand and use. Some innovations can be adopted by individuals as the simplicity. Others will be more complicated and adopt it very slowly.

4. ***Trialability*** is the degree to which an innovation may be experimented with on a limited basis. Before the innovation, it will possible to experiment new ideas and individuals will be adopted those.

5. ***Observability*** is the degree to which the results of an innovation are visible to others. After adoption of innovations, the consequences can understand by other members of society (Rogers, 1983).

In addition, the theory of diffusion of innovations gives its emphasis on the concept of Re-Invention. Specially, diffusion scholars defined it as the degree to which an innovation is changed or modified by a user in the process of its adoption and implementation (Rogers,

1983). However, an innovation is not necessarily invariant during the process of its diffusion. Likewise, adopting an innovation is not necessarily a passive role of just implementing a standard template of the new idea (Rogers, 1983).

In the context of an innovation exists, communication is a crucial factor. Communication will spread out the innovation from one and another individual, and ultimately to the society. In diffusion process, communication help to exchange new ideas. This process involves four elements, namely, (1) an innovation, (2) an individual or other unit of adoption that has knowledge of, or experience with using, the innovation, (3) another individual or other unit that does not yet have knowledge of the innovation, and (4) a communication channel connecting the two units (Rogers, 1983).

In the study, citizens' awareness about e-governance services will be used in analysis as one of an independent variable. Therefore, the component of communication channels can be applied. Usually, citizens are getting information about e-governance services by communication channels. On one hand, people who are receiving public services through the Re-engineering government program, they will be satisfied with it and share their experiences on that innovation among others in interpersonal level. On the other hand mass media is playing an important role in order to aware citizens. Some studies noted the importance of mass media in influencing factors to adopt e-governance services. Nawaz and Thelijjagoda mentioned that, "awareness messages that are produced and gained via mass media, such as television and newspapers, are considered to have an effect that is likely to influence citizens' Intentions to adopt or refuse technology" (Nawaz and Thelijjagoda, 2015: 228). Moreover, "advertisements and awareness campaigns on television, newspapers and government agencies websites are more likely to convince the citizens to adopt e-Government systems" (Nawaz and Thelijjagoda, 2015: 228).

However, this theory has been categorized the various kind of adopters. Theory classified five (05) type of adopters on the basis of innovativeness as follows:

1. ***Innovators: Venturesome*** – they are the active information seekers about new idea. And they have higher levels of uncertainty about innovations. The innovator must also

be willing to accept an occasional setback when one of the new ideas he or she adopts proves unsuccessful, as inevitably happens.

2. *Early Adopters: Respectable* – they are the more integrated part of the social system. Whereas innovators are cosmopolites, early adopters are localities. This adopter category, more than any other, has the greatest degree of opinion leadership in most social systems.

3. *Early Majority: Deliberate* – they are adopting new ideas just before the average member of a social system. The early majority's unique position between the very early and the relatively late to adopt makes them an important link in the diffusion process.

4. *Late Majority: Skeptical* – they are adopting new ideas just after the average member of asocial system. They do not adopt until most others in their social system have done so.

5. *Laggards: Traditional* – they are the last in a social system to adopt an innovation. They possess almost no opinion leadership. They are the most localities in their outlook of all adopter categories; many are near isolates in social networks (Rogers, 1983).

According to the unit of analysis of the study, the main innovator is government of Sri Lanka. The early adopters would be other organizations such as private sector (national) and aid agencies (international). The early majority would be the government agencies that have been adopted Re – engineering government program and designated to deliver the services under the program. The late majority would be the citizens and business entities which are located in divisions that close to the capital (Colombo) of the country and they may be adopted e-governance services before the last adopters. Finally, the laggards would be the citizens who living in periphery of the country. This classification is very much important for clarify and identify the stakeholders involve in whole system of e-Governance system and e-governance services of Sri Lanka. Also it will help to understand the level of citizens' adoption of e-governance services.

After this categorization of adopters, the theory has been discussed about the rate of adoption. "The rate of adoption is related with the time dimension. The rate will high when

the members of the society adopting an innovation speedily. The rate of adoption is usually measured by the length of time required for a certain percentage of the members of a system to adopt an innovation" (Rogers, 1983: 23). Importantly, the rate of adoption would be measured using an innovation of a social system, rather than an individual. Likewise, there will be some differences in the rate of adoption in different social systems. There can be seen many differences in different social systems and in a same social system. Rogers said that, "it is important to remember that diffusion occurs within a social system, because the social structure of the system affects the innovation's diffusion in several ways" (Rogers, 1983: 24). The study looks to select different divisions to study and obviously there are differences between those two divisions. Therefore, the rate of adoption will differ from one division to another division due to the different social system they have. Though, it is not possible to apply this idea of social system to the analysis of this study in an actual way, some implications can be used.

Moreover, innovation can be adopted or rejected (1) by individual members of a system, (2) by the entire social system. There are three (03) types of innovation – decisions as follows:

1. *Optional innovation – decisions* are choices to adopt or reject an innovation that are made by an individual independent of the decisions of other members of the system.
2. *Collective innovation – decisions* are choices to adopt or reject an innovation that are made by consensus among the members of a system.
3. *Authority innovation – decisions* are choices to adopt or reject an innovation that are made by a relatively few individuals in a system who possess power, status, or technical expertise (Rogers, 1983: 347).

In this regard, citizens' adoption of e-governance service can be an optional-innovation decision. Because, an institution of government has been created the e-governance programs, projects, and services as an innovation and citizens are adopting the services that are providing mainly by government. The diffusion of innovation theory has been developed an analytical framework by using different variables. The study is looking for use some variables as independent variables in its own analytical framework as an appropriate way. However, it would be better to have a look the framework which Rogers has been done.

Figure 2.1: A paradigm of variables determining the rate of adoption of innovations
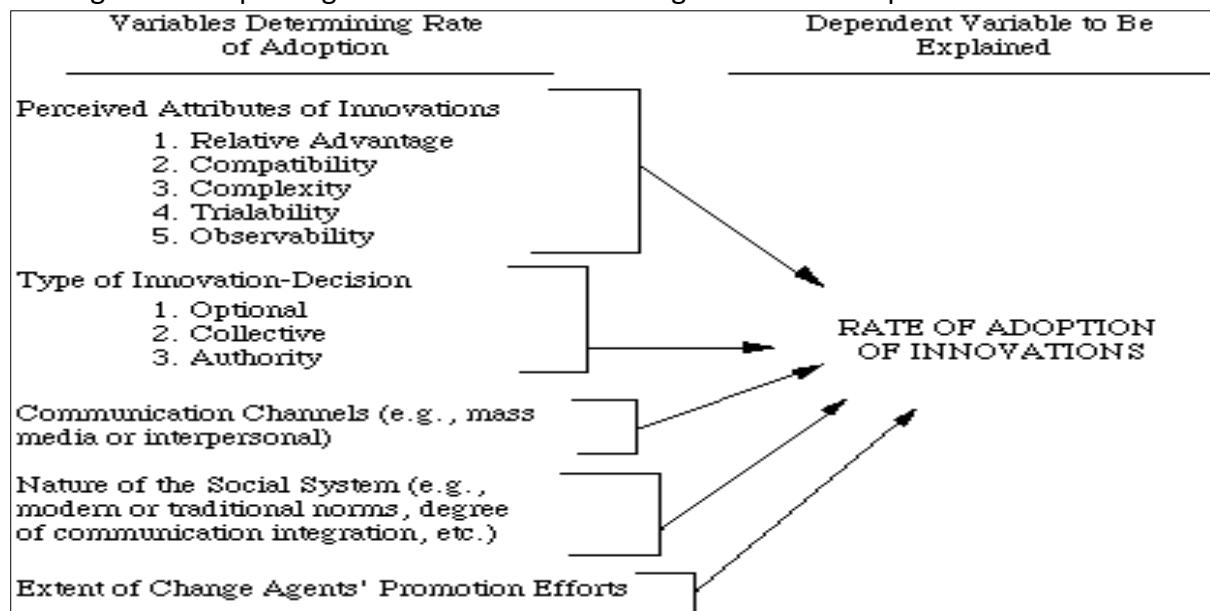
Source: *Rogers, E. M., 1983, Diffusion of Innovations, 3rd Edition, p. 233*

In brief, Diffusion and Innovations theory can be applied in a significant extent in this study. Specially, the analytical framework which is created by Rogers based on his research study will help to develop the analytical framework of the study. The theory have been discussed about some of the characteristics of innovations. Those characteristics are providing an idea about the rate or amount of adoption of innovations. In Sri Lankan context, government developed the e-Sri Lanka program and the Re-engineering government program promised to provide services to citizens in an efficient, effective, transparent, and accountable manner. The research problem of the study is asking that, does citizens have been adopted those services in an expected level. In this point, those characteristics that theory has made can apply to verify the existing situation about citizens' adoption of e-governance services in Sri Lanka.

The classification of adopters is a dimension which has been used to find a comprehensive answer for the first research question of the study; to what extent is the public usage of e-governance services in two selected divisions. Additionally, the theoretical implications about different communication channels and adoption of innovations is used to find out answers for last research question of the study; what are the influencing factors for citizens' adoption of e-governance services. Likewise, the theoretical implications on the dimension of social system (particularly the social structure) and types of innovation-decisions tried to find the answers for rest of the research questions.

2.4. An Analytical Framework

The proposed analytical framework has three independent variables to measure the dependent variable, called, citizens' adoption of e-governance services. There are three independent variables, namely, (1) Awareness, (2) Easiness, and (3) Demographic Factors. Also, each independent variables have measurable indicators.

It should be noted that, first (Awareness) and second (Easiness) independent variables are based on the theory of Diffusion of Innovation (DOI) and related literature on e-governance as well as citizens' adoption of e-governance services. The third (demographic factors) independent variable has been developed based on the relative literature on e-governance and citizens' adoption of e-governance services. However, the proposed analytical framework can be constructed as follows:

Figure 2.2: The Analytical Framework
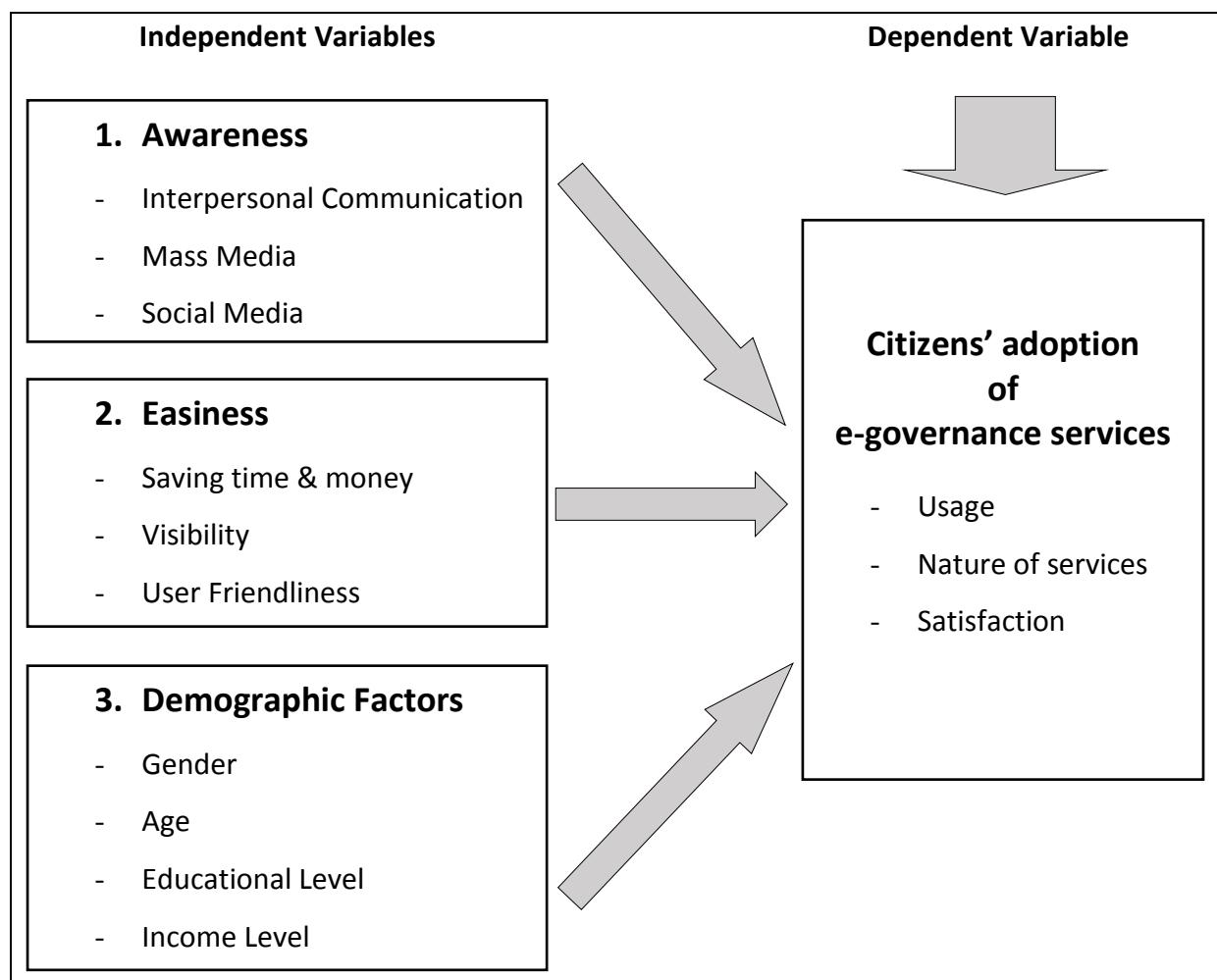
2.4.1. The dependent variable

The dependent variable has three measurable indicators such as usage, nature of services, and satisfaction of services. The usage of the services could be numerical (how many citizens that are get the e-governance services) and the time is mattered (how many times citizens get the e-governance services).

Moreover, the nature of services will be indicated citizens' adoption of e-governance. The Re-engineering Governance program has public, company, and land registration database and services like Government Information Centre, e-Motoring, e-Foreign Employment, and e-Divisional Secretariat. All citizens may not be intended to get all the services at a same time. Similarly, some citizens may not be intended to use some services. Other citizens may be intended to get those services. It will be depended on the nature of services.

The satisfaction of the services depends the quality of services, quality of the information, and benefits of services. Regarding the benefits of services, citizens benefited by getting e-governance services than they got from normal public or manual services. "Since they adopt innovations relatively earlier, they gain more of the benefits of innovations" (Rogers, 1983: 126). After they realized that, they can get more benefits by using e-governance service they will be adopted more. At the same time, these benefits can be created socio-economic gap between different social groups. "When the issue of equality has been investigated, we often find that the diffusion of innovations usually widens the socio-economic gap between the higher and the lower status segments of a system" (Rogers, 1983, 118). Even though, the e-Sri Lanka program promised to take the dividends of ICT to every village, citizens, and businesses.

2.4.2. The Independent Variables

Awareness is someone know about the things. In other words, weather citizens know about e-governance services or not. On the other hand, how they know that. Generally, this is depending on communication means or communication channels. "A communication channel is the means by which messages get from one individual to another" (Rogers, 1983: 17).

Three communication channels have been proposed in terms of awareness of citizens on e-governance services as follows:

1. Interpersonal Communication

This is an informal way of communication and citizens come to know about the things in an informal and unstable way. Interpersonal channels are more effective in persuading an individual to adopt a new idea, especially if the interpersonal channel links two or more individuals who are living nearby. "Interpersonal channels involve a face-to-face exchange between two or more individuals" (Rogers, 1983: 18).

2. Mass Media

This is a formal type of communication channel. It includes both print and visual media that controlling by the government and private organizations. "Mass media channels are often the most rapid and efficient means to inform an audience of potential adopters about the existence of an innovation, that is, to create awareness-knowledge" (Rogers, 1983: 17 – 18). It involves, radio, television, newspaper, and so on.

3. Social Media

Undoubtedly, this is an innovative way of communication among each other. This is based on hardware (like computer devices and mobile phones) and software and mobile applications (Apps). Even though, there are some issues regarding authenticity. However, there should have some preconditions like ICT literacy, resources, and other technical conditions.

Easiness is about the status of simplicity of using and getting somethings. Also it is giving an idea about how it can be realized in a simple way. The easiness of e-governance services will be increased the citizens' adoption. "Some innovations are readily understood by most members of a social system; others are more complicated and will be adopted more slowly" (Rogers, 1983: 15). "In general, new ideas that are simpler to understand will be adopted more rapidly than innovations that require the adopter to develop new skills and understandings" (Rogers, 1983: 15). This independent variable has three measurable indicators, namely, saving time and money, visibility, and user friendliness.

1. Saving Time and Money

Because of the easiness of intend to use or get e-governance services their time and money will be saved. In other words, e-governance services supposed to be provided the services for citizens in an effective and efficient way. Citizens no need to wait long time in government institutions to get the services by electronic means. "The degree of relative advantage may be measured in economic terms, but social-prestige factors, convenience, and satisfaction are also often important components" (Rogers, 1983: 15). After convince this advantage situation, they will be adopted e-governance services.

2. Visibility

If citizens understand and ensure the consequences of e-governance services or if it can be seen, that is called, visibility. "The easier it is for individuals to see the results of an innovation, the more likely they are to adopt" (Rogers, 1983: 16). Particularly, citizens able to see the consequences of technology in the selected government program. "Most of the innovations studied in diffusion research are technological ideas. A technology is a design for instrumental action that reduces the uncertainty" (Rogers, 1983: 232). Specifically, they are getting services and they may be asked them others to get those. "Such visibility stimulates peer discussion of a new idea, as friends and neighbors of an adopter ask him or her for innovation-evaluation information about it" (Rogers, 1983: 16).

3. User Friendliness

If citizens can get services in a friendly environment, it can be considered as user friendliness. User friendliness is one an objective of e-governance services under the Re-engineering program.

Demographic Factors are the personal characteristics are used be to collected the data of people in a specific population. The study have been selected four (04) demographical factors that can be affected to citizens' adoption of e-governance services.

1. Gender

This is an important demographical factor in any population. The gender factor has biological characteristics as well as social characteristics. In biographical sense, it can be seen, male,

female, and others are taking as main gender categories in the society. In societal sense, gender is depending on the different role of male, female, and other. In fact it is a social construction in that sense. Some researchers claim that, "research on gender differences shows that men tend to be more highly task-oriented than women" (Venkatesh, Morris, Davis and Davis, 2003: cited in AlAwadhi and Morris, 2009: 584). This will be affected in different ways in adoption of e-governance services.

2. Age

This is the very preliminary demographic factor of a given population. It has a numerical aspect as well as a maturity aspect. Adoption will be depended on these two aspect of this age factor. Likewise, some other factors also will be affected this factor. For instance, young people are familiar with social media and other media channels. So there is possibility to adopt e-governance services by young citizens than old citizens. It has been found by researchers like Venkatesh et al., (2003) that "age has significant, direct, and moderating effect on the adoption and usage behavior of users of technology" (Nawas, n.d: 22).

3. Educational level

It is a demographic factor that influencing to the social status of individuals. The social status will be reflected the education level. Generally, those who have excessive literacy consider as educated citizens. Although literacy is not giving an actual status of an educated citizen. However, different levels of education may be affected to adoption of e-governance services.

4. Income level

This is reflecting that how much a person earning in a certain time. It can be low, meddle, and high. Whatever the level of money that a person earning it will be affected his or her life pattern and household affairs. It is hypothesized that, high income level citizens will adopt services than low income level citizens. Even though, low income level citizens can be adopted e-governance services than high income level citizens due to the design and objectives of the selected e-governance program.

2.5. Conclusion

This chapter have been discussed about the literature review, theoretical background, and the analytical framework. In literature review, there were two themes and one program, namely, the concept of e-governance, citizens' adoption of e-governance services, and the Re-engineering Government program of Sri Lanka. A comprehensive literature review used to reviewed international, regional, and national level literature. There were number of studies have undertaken on e-governance and e-governance services of different countries and it is found that, many perspective have been used in those studies. Some studies tried to define the concept of e-governance, some studies focused on e-governance services in respective country contexts. Additionally, some studies used and analyzed different models of e-governance. Regarding citizens' adoption of e-governance services, it reviewed numerous studies that done by various researchers. Some studies defined the idea of citizens' adoption and implied the importance of doing studies from citizens' perspective. Some studies investigated the influencing factors on citizens' adoption. Moreover, some studies promoted specific models in citizens' adoption of e-governance and its services. Researcher found that, significant studies done about European countries like Greece, South-East Asian countries like Singapore, Malaysia, and Indonesia, also African countries like Egypt, Zambia, and Mauritius. Other studies focused on some Middle-East countries such as Jordan, Oman, and Kuwait. Few researches looked for South Asian countries including Nepal, Pakistan, and Sri Lanka.

In addition, the chapter paid the attention on the Re-engineering Government program of Sri Lanka. As a component of the e-Sri Lanka Roadmap, this program designed to provide services through electronic or ICT means for citizens. Similarly, the program introduced to provide public services in an effective, efficient, transparent, and accountable way. Some studies have taken by independent researches as well as organizations. Although, there is a lack of academic studies on this program and its institutional evaluation.

In theoretical background, the Diffusion of Innovation (DOI) theory has been adopted and related implications of the theory used to develop the analytical framework of the study. The depended variable (citizens' adoption of e-governance services) depends on three major independent variables, namely, awareness, easiness, and demographical factors. Each independent variables have identified three measurable indicators.

Chapter 3
e-governance in Sri Lanka

3.1. Introduction

This chapter discusses about the e-governance system of Sri Lanka. Therefore, the chapter has to be looked on the e-Sri Lanka program as well as the Re-engineering government program of Sri Lanka. Particularly, the chapter pays its attention on developments of information and communication technology (ICT) sector and e-governance system of Sri Lanka. Compare with other South Asian countries, Sri Lanka has a long history and remains at an optimal position and achieved many developments in ICT and e-governance. However, in governance process, a formal e-governance program started to implement from 2002. The e-Sri Lanka program introduced to develop an ICT roadmap for Sri Lanka. Meanwhile, the Information and Communication Technology Agency (ICTA) of Sri Lanka established in July 2003. In same year, the government adopted an ICT act in order to fulfil significant objectives on ICT in the country.

3.2. Developments in ICT and e-governance policies, programs, and projects

3.2.1. National Computer Policy of 1983

Before adopt the idea of e-governance, Sri Lanka had experiences in terms of using computers since early 1960s. When IBM (International Business machines) supplied the insurance corporation, computer has been introduced to the country (Samaranayake, 1998 cited in Hanna, 2008).

The very first step to develop an ICT in Sri Lanka was the National Computer Policy (COMPOL) of 1983. "This first attempt was taken by the Natural Resources, Energy and Science Authority of Sri Lanka (NARESA) on the instructions of the then President. A committee appointed by NARESA produced the National Computer Policy" (ICTA Sri Lanka, 2009: 1). Though there were no strong implementation mechanisms, this policy can be noted as an important initiation in terms of ICT in the country. ICTA Sri Lanka mentioned that, "since the first policy initiative there have many draft ICT policy documents produced, but probably due to the absence of a powerful implementer these have remained with no noticeable progress in implementation" (ICTA Sri Lanka, 2009: 1). Coincidently, the year 1983 was the starting year of a protracted

ethnic conflict in the country. "Sri Lanka started efforts to take advantage of computerization in government relatively early, in the 1970s. These efforts then lost momentum, in part because of the political turmoil and civil war" (Hanna, 2008: 105). This is also a reason to decelerate the implementation of ICT policies. In addition, there were some other shortcomings for less implementation of ICT related policies. Hanna notes:

> "Among these were a shortage of internal champions and the lack of a process leading to buy-in. Other constraints included the lack of a national strategy and road map to guide investment priorities and the absence of a strong authority to enforce policies and standards for information sharing, to support e-leaders and champions, and to build a shared information infrastructure across government" (Hanna, 2008: 105).

However, the COMPOL goes under a new authority. "Subsequently, the recognition of the COMPOL by the government paved the way to the founding of the Computer and Information Technology Council of Sri Lanka (CINTEC), which was named later as the Council for Information Technology - by a Parliamentary Act No. 10 of 1984, to function directly under the then President" (Dissanayake and Dissanayake, 2013: 308). However, after this first initiation, it took a long time to design a comprehensive ICT and e-governance policy in Sri Lanka.

3.2.2. The *e*-Sri Lanka Program

In the discussion about ICT and e-governance policies, programs, projects and entire system, it should be noted that, Sri Lanka remains in a significant position in South Asian region. "The e-government strategy in Sri Lanka is arguably one of the most comprehensive in the South Asian region and possibly among Asian countries as a whole" (Rainford, 2003: 3). The country has been showed many achievements and lessons on ICT and e-governance to the developed world. "In Sri Lanka, notable achievements have also been made during the past decade in bringing ICT into society from an almost negligible starting point" (World Bank, 2015:4).

Specially, a country which had a long-lasting war, these developments and status in ICT and e-governance should be appreciated. In a crucial time period in the war, Sri Lanka could create the e-Sri Lanka program in 2002. "Sri Lanka's e-development strategy, "e-Sri Lanka: an ICT Development Roadmap", (e-Sri Lanka Roadmap) elaborated in November 2002, recognized

e-government as a critical area and spelt out the need to establish an institutional framework for planning and implementing e-governance" (Rainford, 2003: 3). This program was not only a simple project, but also an e-governance project that consisted many discussions as well as it aided by different organizations. Davidrajuh writes:

> "Sri Lanka's first ever e-government conference was held in May 2003. The event was given the utmost importance by the government of Sri Lanka and was supported by some inter-governmental organizations such as the United States Agency for International Development and the Swedish International Development Agency" (Sunday Leader, 2003 cited in Davidrajuh, 2004: 93).

Particularly, e-Sri Lanka has a broad objective to develop the nation and increase the citizens' lives. "According to the official document, the main purpose of e-Sri Lanka is to achieve the desired levels of development by enhancing national competitiveness and reducing or eradicating poverty by realizing enhancements to the quality of life of its citizens" (Government of Sri Lanka, 2003 cited in Davidrajuh, 2004: 93). As a whole, it looked for social and economic development of various sectors of the country. The e-Sri Lanka Roadmap seeks to leverage ICTs towards achieving socio – economic development across multiple sectors of the economy and society (Rainford, 2003: 4). Specially, a set of e-governance strategies have been designed to achieve many goals. Dissanayake and Dissanayake said, "It included information infrastructure building, improvement of human resources in ICT, citizen-specific service delivery, creating a modern government using ICT for social and economic development, and endorsing Sri Lanka as a destination for ICT" (Dissanayake and Dissanayake, 2013: 307).

"The vision of e-Sri Lanka is to take the dividends of ICT to every village, to every citizen and to every business and transform the way government thinks and works" (Rainford, 2003: 4). It is clear that, the vision also tries to cover all the sectors of the society from the government to business and citizens. "The e-Sri Lanka vision and roadmap gave birth to a nation-wide ICT for development initiative, addressing all sectors of the economy and society, where ICT is used to enhance national competitiveness, reduce poverty and improve the quality of life of citizens" (Rainford, 2003: 4).

The benefits of the e-Sri Lanka program are getting by these three sectors. Davidrajuh (2004) has mentioned the benefits that are getting by the government, business, and citizens.

There are three benefits for the government:

- "to empower civil servants with information and communication tools, to facilitate coordination across the government agencies and improve competition and transparency in public procurement",
- "to integrate marginalized regions and communities within an equitable resource distribution framework, to facilitate effective decentralization and broadening of public participation in development policy formulation and program implementation, and to transform government services to become cost-effective and citizen-centered",
- "to provide quality education at all levels and to all parts of the country. To provide students and teachers throughout the country with access to a world-class educational curriculum via the internet" (Davidrajuh, 2004: 93)

There are four benefits for businesses:

- "to revitalize Sri Lanka's main and traditional industries, like agriculture, tourism and apparel, so that the share of value-addition to the end product is increased, and to penetrate into new markets via internet-based sales channels",
- "to emerge as a major transportation hub for air and sea cargo, by modernizing ports and by developing a modern trade net that dramatically reduces transaction costs for importers and exporters. To enable businesses to become increasingly competitive and to attract foreign investors",
- "to reduce transaction costs to businesses",
- "to create a communication environment that allows optimal opportunities for businesses to engage in all forms of e-commerce" (Davidrajuh, 2004: 93).

There are three benefits for citizens:

- "to improve the delivery of public services and knowledge and education to all, and to make government accessible and accountable to the average citizen",

- "to create a communication environment that allows optimal opportunities for all Sri Lankan citizens to participate fully in the global information economy, and for all citizens to support their economic, learning and personal needs",
- "to facilitate inexpensive contact with families abroad via e-mail and voice over the internet via Cyber Cafes in all towns" (Davidrajuh, 2004: 94).

It is obvious that, e-Sri Lanka program contains a vast area to cover and, specially for citizens it has very important benefits in order to provide public services in an accessible and accountable way. Also, it is looking for to connect citizens with the global communication world. In addition to giving the advancement of ICT for citizens, it should be noted that, e – Sri Lanka program has been designed to develop the whole country. Rainford writes that, "the design of e-Sri Lanka is based on the need to take a more holistic approach to development using ICT. In other words, economic and social development is the overall objective with ICT merely playing the role of an enabler of development" (Rainford, 2003: 5).

When it comes to talk about the stakeholders who involve with the e-Sri Lanka program, mainly the idea has been raised from the private sector. "It includes the National Chamber of Commerce and the local software industry leaders" (Hanna, 2007 cited in Karunasena, 2012: 26). With the initiation of the private sector, there were many stakeholders from public sector and civil society. Likewise, there were some international stakeholders such as SIDA, USAID, and The World Bank. "The concept of e-Sri Lanka had its origins in the private sector, initially among leaders from the local software industry and associations who were working closely with the US Agency for International Development (USAID) on an ICT Cluster Initiative" (Rainford, 2003: 4).

Some of the documents stated that, the e-Sri Lanka program comprises six component programs like:

- ICT Policy, Leadership and Institutional Development Program,
- ICT Human Resource Development and Industry Promotion Program,
- Backbone Communications Infrastructure,
- Tele-Centre Development Program,
- Re-engineering Government Program,
- E-Society Program (MG Consultant, 2011: 1).

Some documents have been mentioned that, there are five comprehensive programs:

I.   Building the national implementation capacity,

II.   Building the information (ICT) infrastructure and an enabling environment,

III. Developing ICT human resources,

IV.   Re-engineering government and delivery of citizen services,

V.   Leveraging ICT for economic and social development (Rainford, 2003: 4).

Some other documents have cited these programs in detail. In the book, named, *Transforming Government and Empowering Communities: The Sri Lankan Experience with e – Development* mentioned that, the e-Sri Lanka program consists of six basic component programs:

- *ICT policy, leadership, and institutional development* – a policy development and capacity-building program to create an enabling environment for the knowledge economy and develop the local institutional capacity to lead and implement an ambitious ICT program.

- *ICT human resource development and industry promotion* – an innovation fund to build ICT human resource capacity and create jobs through a dynamic ICT sector, foreign and local investment in the sector, and diffusion of ICT among small and medium-size enterprises.

- *Regional telecommunications network development* – a smart, least-cost subsidy scheme to extend the information infrastructure and connectivity to serve poor communities and rural areas.

- *Telecenter development* – smart subsidy and entrepreneurial development schemes to develop affordable access to ICT tools, ICT literacy, local content, e-government services, and e-commerce applications – using the new information infrastructure, e-government applications, and a grassroots- oriented innovation fund.

- *Reengineering government* – a coherent investment program in ICT applications, information sharing, knowledge management, process reengineering, service innovation, and human resources to deliver faster, more efficient, and more transparent government services to all citizens and businesses.

- *E-society* – an innovation fund to mobilize local knowledge, digitize and share local content, and use ICT for social development and grassroots participation, with the aim of promoting ICT-enabled rural development, social capital, mutual understanding, equitable access to knowledge, and empowerment of the poor (Hanna, 2008: 5-6).

According to the World Bank, e-Sri Lanka has several expected outcomes such as:

- A more effective, citizen-centered and business-friendly government.
- Empowerment of the rural poor, disadvantaged groups, women, and youth through increased and affordable access to information and communication tools.
- Developed leadership and skills in ICT.
- Employment in the ICT and IT enabled services (ITES) industry.
- Enhanced competitiveness of user industries and services (The World Bank, 2004 cited in Rainford, 2003: 7).

However, to implement and coordinate the e-Sri Lanka, government used to create an institution called, Information and Communication Technology Agency (ICTA) became operational in 2003 under the Information and Communication Technology Act.

3.2.3. Information and Communication Technology Act and Information and Communication Technology Agency of Sri Lanka

The Information and Communication Technology Act, No 27 of 2003 adopted for major reasons such as:

1. To provide for the establishment of the National Committee on Information and Communication Technology of Sri Lanka,
2. To provide for the setting out of a National Policy on Information and Communication Technology and for the preparation of an action plan,
3. To provide for the appointment of a Task Force for Information and Communication Technology,
4. To provide for the establishment of the Information and Communication Technology Agency of Sri Lanka charged with the implementation of the National Policy in both the public and private sectors, and

5. To provide for matters connected therewith or incidental thereto (Parliament of Sri Lanka, 2003: 1).

Number 4 (four) has clearly said that, one of a purpose of adopt ICT act to create ICTA with the attention on implementation of e-governance policy in public as well as private sector. "The Information and Communication Technology Agency of Sri Lanka (ICTA) is established under the Information Communication Technology Act 27 for coordinating e – Sri Lanka initiatives" (Karunasena, 2012: 27).

According to the ICT act, ICTA shall be the executive agency to assist the task force and committee. In this background, the agency shall have the powers and functions like

a) provide all information necessary for the formulation of the National Policy,

b) submit proposals to be included in the National Policy and action plan,

c) take all such steps as are necessary to facilitate the implementation of the National Policy,

d) prepare the strategy and programs which needs to be implemented in both the government and the private sectors,

e) provide all information necessary for the formation of the National Policy on Information Technology,

f) recommend to the Task Force, matters which need to be taken into consideration in the preparation of the action plan,

g) submit proposals in respect of matters which needs to be included in the National Policy and action plan, and (h) prepare the strategies and programs which need to be implemented in both the government sector and the private sector (Parliament of Sri Lanka, 2003: 4-5).

As the e-Sri Lanka program has been initiated by the private sector the ICTA also initiated by them. "The ICT Agency of Sri Lanka (ICTA) was established as a government owned private company" (Dissanayake, 2011: 54). ICTA can be identified as a crucial step in terms of vigorous implementation of e - Sri Lanka Roadmap. "Under the ICT Act, ICTA was mandated to formulate and implement strategies and programs in both the government and the private sector and pursuant thereto ICTA was instrumental in preparation of the **"e-Sri Lanka Development Project"** and its implementation since 2005" (GreenTech Consultants, 2011: 1).

For the establishment of ICTA, Sri Lanka has been referred many country contexts. "ICTA was established in 2003 through an Act of Parliament, as the apex body for ICT policy setting and direction for the country and given the mandate of coordinating implementation of e-Sri Lanka. In setting up a centralized unit like ICTA, Sri Lanka followed the example of many other countries" (Rainford, 2003: 12).

ICTA is a permanent institution overseen by Ministry of Telecommunication and Digital Infrastructure and inter-Ministerial Committee which consists of Minister of Telecommunication and Digital Infrastructure, Minister of Finance, Minister of Education, Minister of Justice, Minister of Public Law and Order, Minister, Minister for Investment Promotion, Minister Policy Planning, Minister, State Minister Defense, Sectary Defense, Secretary Public Administration, Secretary of Telecommunication and Digital Infrastructure Chairperson ICTA Managing Director, ICTA (ICTA, 2016).

The mission of the ICTA is "Transform Sri Lanka towards a creative knowledge-based society through digitally empowered citizens" (ICTA, 2016). It is clear that, the ICTA is looking for to empower citizens and it helps to make the country as a creative and knowledgeable society. As the ICTA, there are several objectives such as:

- Making digital connectivity a way of life for all citizens,
- Be the first in achieving the status of a fully connected nation,
- Making the ICT profession three times larger within the next five years,
- Having 50% more experts in the ICT profession within the next three years,
- Digital services and multi-channel government services to be fully integrated within three years,
- Bring the ICT economy to a minimum of $20 billion within a five year time frame (ICTA, 2016).

Importantly, the ICTA have been presented about their notions regarding particular sectors like government, communication, education, health, agriculture, private sector, and transportation in their official website. Among these categories, it would be interesting to explore their ideas on government. The ICTA shows the importance and benefits of ICT in the process of governance:

"ICTs offer a unique opportunity for governing elite, as ICT has the capacity to empower civil society to play its role more effectively and facilitate the performance of governments' main function-serving the citizens of the country. Executing in the government sector, ICT applications are promising to enhance the delivery of government services to citizens not only by improving the process and management of government, but also by redefining the traditional concepts associated with it" (ICTA, 2016).

Thereafter, the ICTA talk about their contribution for the process of governance in Sri Lanka. Specially, they mentioned about their role in local governance system and its functions. "ICTA has already invested in diverse e-government projects to increase the efficiency and effectiveness in local governance, restructure the public service delivery and management functions, ensure social accountability and transparency, assure social inclusiveness, and strengthen the productivity of local authorities" (ICTA, 2016).

Then it states their main objective on government and it seems to be an objective to reach to the notion of good governance. The ICTA is looking for to serve for citizens in an advanced. "The main objective of the ICTA's program on Government is to deliver faster, more efficient, and more transparent government services to all citizens and businesses by improved e-Government solutions" (ICTA, 2016). In other words, they expects to use ICT to provide best services for citizens. Obviously, it will be greater than previous manual public service delivery system based on traditional paperwork.

Moreover, The ICTA looks for deceiver more responsive, less cost, transparent, and accountable public services by using ICT. Not only that, programs are designing to include particular marginalized and vulnerable groups and communities. "ICTA intends to use ICT to improve the reach and responsiveness of public services, reduce transaction costs, make government more transparent and accountable, and address the urgent needs of under-privileged communities and isolated regions of the country" (ICTA, 2016). They have already started different projects to accomplish these objectives such as:

- Cross Government Digital Documentation System for selected government organizations,

- Scanning and digitizing of existing Government documents of Selected government organizations,
- Digital Document delivery system for post offices island wide,
- Video conferencing facility for selected government organizations (ICTA, 2016).

Additionally, ICTA works at the national level in order to fulfill of the needs of citizens. "ICTA is working on implementing a Government Data Centre that consolidate all hardware and software resources in a single location and enable access to the services in reliable, efficient and secure managed by Government organizations to offer Citizen Services" (ICTA, 2016). For instance, ICTA has been initiated to the Government Information Center (GIC). There were many problems to get government information in a smooth way and GIC became a solution for it. MG Consultant mentioned, "the Government Information Centre (GIC) was established as the Sri Lanka's first one-stop Government call center under the Re-engineering Government Program in August, 2006 to enable the citizens to obtain Government information and services in an efficient, effective and friendly manner" (MG Consultant, 2011: 2).

"Citizens who have issues anything relates with government departments, they can easily call the 1919 hotline" (Dissanayake, 2011: 57). However, this concept of GIC has been helped to become a country which is having an advanced e-governance system. In other words, it is providing that kind of important enough services for citizens in an optimal way. United Nations notes, "The Government Information Center (GIC) is now providing more than 65 online services through basic phones calls, such as train schedules, job opportunities abroad, flight schedules, exam results, economic indicators, medical services and contact details" (United Nations, 2014: 29). Specially, the GIC provides public services without any discriminations that can be based on income level, education level, geographical differences, ethnicity, gender, and so on. "With the GIC, all-inclusive eservices can be delivered to the rich and poor alike and hence everyone can become a beneficiary of the digital advancement in government" (United Nations, 2014: 29).

ICTA has been initiated many programs to provide best services for citizens through implementing e-Sri Lanka Roadmap and finally it helps to social and economic development of the country.

3.3. The Re-engineering Government Program

Generally, reengineering government has a capacity to integrate these all sectors. Hanna mentioned:

> "Reengineering government to harness the potential of ICT can vastly improve the sharing of information and simplify complex, fragmented processes between agencies, businesses, and citizens. It can promote partnerships across the public, private, and civil society sectors to deliver client-centric service. It can also promote greater transparency, participation, and trust in government" (Hanna, 2008: 82).

From the government perspective, Sri Lanka remains in an optimal position regarding e-governance services and the Re-engineering program has been helped to reach for that. "Sri Lanka has implemented a unique e – government initiative with the implementation of the re – engineering government program" (Karunasena & Deng, 2009, 2010 cited in Karunasena, 2012: 27). This program can be identified as an important component as well as a core program of the e-Sri Lanka program. The basic objective of this program is to create an advanced public service delivery system in the country. "The objective of the Re-engineering Government Program is fundamental reform of government with the objective of improving citizen service delivery" (Rainford, 2003: 10). In detailed, Hanna said, "the reengineering government program pursues major, sustainable improvements in the Sri Lankan government's efficiency, transparency, effectiveness, and quality of services" (Hanna, 2008: 251).

It is believed that, this program will be changed the way government works. The vision of the Re-engineering program is "to provide citizen services as efficiently as possible by reengineering and technologically empowering business processes to improve the way government works" (Hanna, 2008: 251). Transform the way government thinks and works is an important part of the vision of the e-Sri Lanka program. Rainford notes, it looks for government business processes empowering, including government-to-government (G2G), government-to-citizen (G2C) and government-to-business (G2B) (Rainford, 2003: 10). It seems to be a comprehensive e-governance initiative and trying to cover all the sectors of the society.

The program is reengineering the public sector works by using ICT and implementing novel ICT-enabled administrative policies such as:

- Processes designed around the client rather than the organization,
- Government accountability to clients for service level standards,
- Electronic sharing of data across agencies,
- Always-on, user-friendly, distance-neutral information and service facilities for citizens and businesses,
- Transparency in government operations (Hanna, 2008: 251).

When it comes to pay the attention on the strategies of the Re-engineering program, it is cleared that, the program looks for an advanced public service, administrative reformations, and strong e-governance system in the country. It should be noted that, these strategies have been tried to cover most important area of the public administration and governance system of the country. Hanna noted some strategies such as:

- Create the enabling environment in government for a successful e-government program,
- Collaborate with the administrative reforms regime and bring about a new governance framework enabled by ICT,
- Ensure that public service personnel acquire the ICT skills required for an efficient and effective e-government,
- Ensure that the stock of ICT equipment required for an efficient and effective e-government program is upgraded,
- Interconnect government agencies to raise productivity through improved interaction,
- Make public services "truly citizen centric," ensuring geographically neutral delivery (Hanna, 2008: 251).

By using this strategies the program has been gave its emphasis on several matters. GreenTech Consultants mentioned eight (08) circumstances:

I. Client-focused rather than organization-centered processes;
II. Government accountability for service level standards to its clients;

III.   Electronic sharing of data across agencies;

IV.   Separation of service delivery (front-end) from transaction processing (back-end) functions;

V.   Always-on, user-friendly, distance-neutral information and service facilities to citizens and businesses;

VI.   Transparency in government operations; and

VII.   Selective unbundling and privatization of selected activities that can be more efficiently and effectively performed by the private sector (GreenTech Consultants, 2011: 2).

In the impact of Re-engineering government program, basically it has been improved the public service delivery system by using ICT means. Importantly, the program designed with the participation of various sectors of the society. "The design of the program was led by a focus group, broadly representing the different sectors, including civil society. Priority services and applications were identified by the focus group, and formed the basis for the e-government strategy for Sri Lanka." (Rainford, 2003: 16). As mentioned in previous chapter, the Re-engineering government program is conducting main three databases like public, land, and company registers. In addition, it has services such as Government Information Center (GIC), e-Motoring, e-Foreign Employment and e-Divisional Secretariat. This effort can be identified as a transformation of public services from the manual paper work to an electronic services. Samarajiva mentioned that:

> "Rightsizing and reengineering will result in the elimination of many forms, approvals, ratification processes, and other similar procedures, thus simplifying the citizen-government interface. However, e-government does not simply reduce the services on offer to citizens. It facilitates the offering of novel and useful services not available earlier" (Samarajiva, 2004: 173).

Since, this study deals with the concept of e-governance and service delivery in e-governance, it should be paid the attention regarding Sri Lankan context. Theoretically, Government to Citizens (G2C) services focus on developing user-friendly one-stop centers of services for easy access to high quality government services and information (Islam and Ahmed, 2007). Previously, citizens have been faced many problems while there were getting public services

by public institutions like Divisional Secretaries. For instance, citizens had to waste a lot of time to even travel to office and get the information which they expected. But, it is not necessary to go to the public institutions or officials and it can be done by giving a phone call. Similarly, citizens have been engaged many issues when they were dealing with the public officials in government offices. Generally, the administrative officers in government agencies are becoming rude and arrogant when citizens ask for information. Although, now citizens can use the service, called Government Information Center. "At present, the GIC is arguably the most "used" citizen service in the e-Sri Lanka e-Gov. portfolio. The other G2C projects depend on Internet access or on counter service" (Galpaya, Samarajiva, and Soysa, n.d: 6).

Though, this study discusses about the demand side's perspective regarding the Re-engineering government program, it would be better to understand the supply side or governments' perspective. It is said that, there are many stakeholders are involving with this program and they have different kind of expectation. It seems very difficult to deal with them. Also there many resistance factors and actors about the e-governance system in the country. Commonly, this types of resistances can be found in any countries who are introducing e-governance systems and other ICT initiatives in their governance and administration systems. In Sri Lanka, those resistance have been emerged in a specific ways. Samarajiva said that:

> "Perhaps one of the most fundamental barriers to e-government is resistance to reengineering and rightsizing of government. It is widely recognized that dysfunctional institutions have staying power; they are entrenched by powerful incentives and constraints. Fears of job loss and changes in terms of employment could cause current government employees to resist the reforms necessary for e-government. Also, the loss of rent-seeking opportunities by the introduction of more transparent procedures and elimination or reduction of government discretion is likely to create resistance to change" (Samarajiva, 2004: 180).

It is said that, the changes (e-governance initiatives) may difficult to introduce in a rigid bureaucratic organizational environment. Because, administrative officers have been practiced normal paper work for long time in administration and still may not ready to adopt new changes quickly. On one hand, this can be identified as a cultural factor too. Navaratna-Bandara noted:

"The public administrative system in Sri Lanka is far from achieving responsive governance through the use of e-governance. This could be attributed to factors, such as the huge costs involved in the establishment and maintenance of IT-based systems, the low rate of computer literacy among the population, and the consistence of a large number of non-IT-based public service delivery centers that require a responsive and citizen-friendly administrative culture rather than large systematic changes" (2013: 484).

It should be noted that, this kind of backward situations can be reduced the usage of ICT in governance and citizens will be discouraged to adopt the services that are providing by using electronic means. Furthermore, there are also some national level issues like lack of political commitment. Without a strong political commitment, it is difficult to initiate and maintain the new changes like e-governance. Although, the e-Sri Lanka program and the Re-engineering program have been achieved particular developments in a short time. And it has to be continued further. "The participatory approach to design and implementation of the re-engineering government program has been successful to a limited extent" (Rainford, 2003: 18). Specially, it seems that, local governance bodies are getting benefits by engaging with the Re – engineering program while they are providing public services to citizens related with this program. "Nevertheless, ICTA, its partners and the program as a whole, would certainly benefit through further engagement of the beneficiaries, including local government offices and the rural communities, in determining the most appropriate application of ICT" (Rainford, 2003: 18).

Thus, the Re-engineering program and its services can be discussed. In addition, it would be interesting to know the status of e-governance system in Sri Lanka. International studies, surveys, and other documents regarding Sri Lanka are using to describe that.

3.4. United Nations' e-government Survey Data

As mentioned earlier, compare with other South Asian countries, Sri Lanka remains an optimal position regarding e-governance and e-services. But, the problem is how could measure the status of the country. For this, it can be used some academic studies and particular surveys which have been done by some international organizations. Basically, these studies and surveys showed statistical data rather than empirical data. On one hand, those data implies

important status of e-governance systems and services that are providing by different countries including developing nations. On the other hand, these studies and surveys showed the challenges which are facing by developing countries regarding ICT and e-governance. In Asian countries, Korea and Singapore are leading the region. According to *United Nations e-Government Survey (2014)*, "the Republic of Korea has retained the top spot in 2014 with its continued leadership and focus on e-government innovation. Australia (2nd) and Singapore (3rd) have both increased considerably over their 2012 global rankings." (United Nations, 2014: 4). These three countries are the world e-governance leaders.

Interestingly, in United Nations' e-government survey, they have been used the E – Government Development Index (EGDI) in their methodological framework. "The EGDI is a composite measure of three important dimensions of e-government, namely: provision of online services, telecommunication connectivity and human capacity…" (United Nations, 2014: 13). Before pay the attention on Sri Lanka, it would be better to understand the e-governance status of Asian region by using this survey report. Despite of lower level of income, high level of population, and many other social-political-economic-cultural-religious issues Asian countries have e-governance initiatives. "While some countries have advanced considerably over others, Asia as a whole progressed at a leaner rate till 2010-almost in line with the advances in the world average-and then took off" (United Nations, 2012: 15). Among top 20 countries in Asia, Republic of Korea, Singapore, Japan, Israel, and Bahrain have very high level of EGDI. In the high level of EDGI, Sri Lanka positioned in 74. However, Sri Lanka has the first position in South Asia

However, the survey has been mentioned some of the developments regarding e-governance system of the country. The report highlighted the e-governance strategies in the country and specially the Government Information Center (GIC) and other online services that are providing by the government. Because of the e-governance strategies, Sri Lanka has become to a best position in the region. United Nations states:

> "The online portal offers A-Z government web indexes, 108 e-services for citizens,
> 51 e-services for businesses and 10 non-residence related e-services. The portal
> also offers extensive mobile and SMS services, an e-participation portal,
> government forms easily accessible online, a developed open data portal with

data available in various formats, as well as a whole-of-government strategy" (2014: 28).

Prior to 2014 survey, United Nations done surveys in 2008, 2010, and 2012. According to that survey reports, Sharma et al., mentioned the e-government rankings in South Asia.

Table 3.1: e-government Rankings in South Asia

Country	World e-government ranking			E-government
	2008	2010	2012	2012
Maldives	95	92	95	0.4994
Sri Lanka	**101**	**111**	**115**	**0.4357**
India	113	119	124	0.9829
Pakistan	131	146	156	0.2823
Bhutan	134	152	152	0.2942
Bangladesh	142	134	150	0.2991
Nepal	150	153	164	0.2664
Afghanistan	167	168	184	0.1701

Source: (Sharma et al., 2012: 21)

It is showing that, the country did not achieve a significant progress from 2008 to 2012. However, according to the survey report this situation been changed in 2014. "Sri Lanka ranks first in Southern Asia, with the Maldives ranking in second position. The Sri Lankan government has made a substantial effort to develop its online portal which now ranks 74th in the world" (United Nations, 2014: 28). Table 4.2 shows e-governance data in 2012 and 2014 data.

Table 3.2: e-government Rankings in World and South Asia

Country	World e-government ranking		South Asia ranking	South Asia ranking	EGDI of 2014
	2012	2014	2012	2014	
Maldives	95	94	01	02	0.4813
Iran (Islamic Republic of)	100	105	02	03	0.4508
Sri Lanka	**115**	**74**	**03**	**01**	**0.5418**
India	125	118	04	04	0.3834
Bangladesh	150	148	05	06	0.2757
Bhutan	152	143	06	05	0.2829
Pakistan	156	158	07	07	0.2580
Nepal	164	165	08	08	0.2344
Afghanistan	184	173	09	09	0.1900

(Table constructed by researcher based on the data of United Nations e-government survey 2012 and 2014)

It is cleared that, Sri Lanka changed their rank from 115 to 74 in world rank. Furthermore, the country became the first country in EDGI in South Asia in 2014. In addition to rank countries according to EGDI, the survey has been explained and collected data of important dimensions on e-governance systems all around the world such as:

- Online service delivery,
- E-Participation,
- Whole of government and collaborative governance,
- Mobile and other channels for inclusive multichannel service delivery,
- Bridging the digital divide, and
- Open Government Data.

By using the data about these dimensions, it can be measured the status of e-governance system of Sri Lanka.

First, the survey reports on global progress in online service delivery. Likewise, it considered the factors that may help or hinder the roll-out of e-services at the national level (United Nations, 2014). Mainly, it is measured the use of ICT by governments to deliver public services at national level of 193 countries (United Nations members). The survey assessed two things, namely, the technical features of national websites, e-government policies and strategies applied in general and by specific sectors for delivery of services (United Nations, 2014). There are several online service categories. The data has been collected about online services on environment, education, health, finance, labor, and social welfare functions (United Nations, 2014).

According to the survey France remains at the top position regarding online service delivery. Likewise Singapore and the Republic of Korea also remain in highest level. Sri Lanka ranks 37th (global) and 06th (middle income group countries) in the list of top countries in online service delivery (by income group) (United Nations, 2014). It implies that, as a developing country as well as a country who had many issues, Sri Lanka is using the advancements of ICT in the online public service delivery in an advanced way. Not only that, the country stands in the list of high online service delivery performance relative to income with a 0.6535 online service index (United Nations, 2014).

The third chapter of the survey presents the data on e-Participation of the United Nations member countries. The notion of 'participation' can be defined as a crucial component of democracy. In a democratic state, citizens should have a right to participation in many means of the process of governance. In most of the countries, right to participation has been accepted and guaranteed by their own constitutions. Similarly, the idea of participation has a cultural value and patterns of citizens' participation have been changed because of the ICT revolution.

"E–participation expands a government's toolbox for reaching out to and engaging with its people" (United Nations, 2014: 61). Governments can be introduced online ways to create public participation. Specially, social media has a vital role and capacity to fulfil this. "In a similar vein, governments can learn to use social media as a tool to collect and take into account people's views and feedback" (United Nations, 2014: 62).

The United Nations e-Government Survey has been used a three-level model of e-participation, namely, (1) e-information, (2) e-consultation, and (3) e-decision-making (United Nations, 2014). In the global and regional rankings, Sri Lanka stands in the top 50 countries as the income level. "There are seven lower middle income countries in the top 50, which are Morocco, Mongolia, Sri Lanka, India, Republic of Moldova, El Salvador and Georgia and one low income country (Kenya)" (United Nations, 2014: 64).

Next dimension is whole-of-government and collaborative governance. "whole-of-government can be defined as "agencies working across portfolio boundaries to jointly achieve integrated responses to the issues of policy development, program management and service delivery" (Ojo et al., 2011: 234 cited in United Nations, 2014: 75). It is cleared that, the concept of whole of government tries to address issues of governance from a single point. Additionally, collaborative governance implies a process of governing based on collaboration between government and non-government actors (United Nations, 2014). According to the data about the level of whole-of-government in member countries, Sri Lanka scored more than 66.6% in whole-of-government (United Nations, 2014). And this is the only country in South Asian region.

Then, the survey presents the data on mobile and other channels for inclusive multichannel service delivery of the member states. In a pluralistic society, there are various social groups

and communities. Governments should have to address these groups and communities equitably through their public administration and governance systems. Specially, in the public service delivery, traditional ways may not adequate to include all the communities of a society. e-governance can be introduced as an important solution to accomplish this. Since, it has different types of means to deliver services for the general public, all can be included. "Different modalities and channels for extending public service delivery to all the people and leave no one behind including disadvantaged and vulnerable groups" (United Nations, 2014: 95). ICT is using to deliver the public service in different means like mobile apps, social media channels, and etc. This novel ways in governing processes have been changed the world.

The survey has listed several channels (non-exhaustive) that are using in the public service delivery such as counter (face-to-face) service, telephone (voice) service and call centers, web portal, email, SMS and other messaging services, mobile portal (mobile website), mobile app, social media, public kiosks, intermediaries through public-private partnership (United Nations, 2014). In case of government portals, Sri Lanka has 1919 Government Information Center (GIC). By dialing 1919 from any phone, citizens can get access for all services which are providing by the government (United Nations, 2014). As mentioned earlier, the GIC can be identified an important component of the e-Sri Lanka program. Clearly, it has no limitations discriminations for any citizen. Also, it seems a very easier way to get services in a very short time.

Bridging the digital divide is the next chapter of the United Nations e-government Survey. Digital divide is one of a crucial factor of any e-governance system. It can be reduce the gap that exists between populations in terms of access to ICT, ICT literacy, the availability and accessibility of high quality, relevant content-including e-governance services. "The digital divide is inextricably linked to social equity in today's information world" (United Nations, 2014: 123). Specially, e-governance systems can be provided e-Services for marginalized groups and communities like women, disabilities, elders, and youth.

As noted earlier, the e-Sri Lanka program has six component and one of a component designed to take ICT dividends to the rural communities. Under the component of information infrastructure, the program, called, Nenasala (The Knowledge Centers) have been established

in various rural areas in the country (initially in the North, East, and South of the country). Rainford notes:

> By concentrating on the most deprived regions, that is, the North, East and South of the country, the Nenasala project is also intended to significantly contribute towards reducing existing inequalities and bridging the 'development divide' between these regions on the one hand and the western province on the other (Rainford, 2003: 14).

The data regarding the online services to marginalized groups that are providing by the Eastern European countries, Hungary, Czech Republic, Poland, and Russia remain in advanced positions (United Nations, 2014). However, Sri Lanka could not have reached to a good position. "Similarly, in Southern Asia, India and the Islamic Republic of Iran provided 43 per cent followed by Bangladesh, Nepal, Pakistan, Maldives and Sri Lanka at 21 per cent of online services to vulnerable groups" (United Nations, 2014: 135). Although, Sri Lanka marked as a country which is providing services for immigrants. "In Asia, China, Kazakhstan, Japan, Mongolia, the Republic of Korea, Pakistan, Maldives and Sri Lanka offered services while in Europe, Czech Republic, Lithuania, Norway, Sweden, United Kingdom were among those putting out information and services for the immigrants" (United Nations, 2014: 135).

Chapter 08 presents the findings in Open Government Data (OGD) of member countries. In a democratic governance process, citizens should have a right to get government's information. The OGD is a significant system to create transparency of government. "One of the tools used to increase transparency and participation is Open Government Data (OGD), which can be defined as government information proactively disclosed and made available online for everyone's access, reuse and redistribution without restriction" (United Nations, 2014: 163). Indeed, OGD can be created relationships between government and citizens. "OGD introduces a new approach to publishing government data and Helps Bridge the gap between government and citizens" (United Nations, 2014: 163). The survey has been assessed and evaluated data on sectors such as education, health, finance, social security, labor and environment. However, according to data, Sri Lanka as a lower middle income country scored higher than 66.6 percent (United Nations, 2014). The Open Government Data portals helped

to reach this position for the lower middle income countries like India, Sri Lanka, Morocco, Republic of Moldova, Ghana and Indonesia.

In sum, Sri Lanka remains in significant conditions regarding e-governance system. Specially, the e-Sri Lanka program designed as a comprehensive e-governance development program since early 2000. Since important initiations of e-governance, the country became the first country with highest EGDI. As the survey, there can be seen mix data on status of the e-governance system through several dimensions specially in 2014. Overall, the country showed a noticeable progress from the beginning to 2014.

Sri Lanka has passed eight years since the war victory in 2009. In the post-war atmosphere, Sri Lanka took the opportunity to develop the country. Unfortunately, this development merely covered only the physical development. But, the governments have been failed to develop the betterment of citizens that much. It can be done by distributing the advantages of ICT. Likewise, there should have positive innovations in the system of governance and public administration.

3.5. Conclusion

This chapter aimed to discuss about the e-governance system of Sri Lanka. In that sense, the chapter looked for e-governance initiatives in the country. Particularly, it has been paid the attention on e-Sri Lanka program as well as Re-engineering government program. Since, early 1980s, Sri Lanka has had e-governance initiatives. Compare with other South Asian countries, Sri Lanka has a long history in ICT and the country has different kind of experiences on e-governance. Before the e-governance initiations, Sri Lanka had experiences in using computers since early 1960s. After introducing a computer policy act in 1983, from early 2000, there can be seen many developments in ICT area. Among these developments, ICTA is one of the notable development. This institution

However, in the process of governance and public administration, a formal e-governance program started to implement from 2002. The e – Sri Lanka program introduced to develop an ICT roadmap for Sri Lanka. Meanwhile, the Information and Communication Technology Agency (ICTA) of Sri Lanka established in July 2003. In same year, the government adopted an ICT act in order to fulfil significant objectives on ICT in the country.

Chapter 4
Data Analysis and Findings

4.1. Introduction

This chapter deals with the things such as research methods and methodology as well as data analysis, findings and presentation. In case of methods and methodology, the chapter disclose the research approach, research design, and research setting. Also, data analysis techniques are discussing. Then, chapter analyzes the qualitative data and presents the findings. Lastly, the quantitative data analyzes and presents the findings.

4.2. Research methods and methodology

"A research methodology is an overall approach to addressing a research problem from the theoretical underpinning of the research to the collection, analysis and interpretation of the data" (Hussey & Hussey, 1997 cited in Karunasena, 2012: 84). It can be used various kind of research methods to collect, analyze, and interpret the data. "In general, a research methodology can be considered as a framework for guiding the researcher towards accomplishing the research objectives" (Creswell, 2009 cited in Karunasena, 2012: 84). Mainly, this chapter aims to discuss the methodological approach of this research work. In this sense, the chapter deals with research approach, research design, research setting, and etc.

4.2.1. Research Approach

"There are three types of approaches to research including quantitative, qualitative and mixed-methods approaches" (Creswell, 2009 cited in Karunasena, 2012: 86). This research attempts to explore the status of citizens' adoption of e – Governance services in Sri Lanka. "Research approach can be quantitative, qualitative or mixed which provide general direction toward research work" (King et. al., 1994 cited in Joshi, 2011: 30). This particular research is required to use the Mixed-Method approach to reach the research objectives and questions. In other words, the study used quantitative as well as qualitative research approaches.

Joshi said that, quantitative studies use numbers and statistical methods (Joshi, 2011). In order to know the citizens' perspective (demand side) on e-governance services in Sri Lanka, researcher intents to use the quantitative approach. "It refers to the numerical

measurements of specific aspects of phenomenon and seeks to test causal hypothesis and to measure and analyze that are easily replicable by other researcher" (King et. al., 1994 cited in Joshi, 2011: 30).

Likewise, to know the real situation about citizens' adoption of e-governance services, the study used the qualitative approach too. "Qualitative research, on the other hands, covers a wide range of approaches and tends to focus on one or a small number of cases with intensive interviews or depth analysis of historical materials" (King et. al., 1994 cited in Joshi, 2011: 30).

Therefore, this study adopted a combination of both methods. Basically, the primary data collected through questionnaire survey. The semi-structured interviews methods are used to obtain qualitative data.

4.2.2. Research Design

AlShihi mentioned that, the research design is "the logical sequence that connects the empirical data to a study's initial research questions and, ultimately, to its conclusion" (Yin, 1994 cited in AlShihi, 2006: 36). In the same way as Bouma (1996) recommends, the selection of a research design and methods for this project aims to answer the research questions and meet the research objectives (Bouma, 1996 cited in AlShihi, 2006: 36)

However, this study used the Mixed-Method approach to collect data. "The adoption of the mixed-methods approaches which are influenced by pragmatism, has become popular among researchers in the recent times" (Mayrin, 2007; Bryman, 2008; Tashakkori & Teddlie, 2008 cited in Karunasena, 2012: 89).

In this regard, written documents were used to understand the contexts, initiatives, and status in e-governance of Sri Lanka. In order to collect quantitative data, questionnaires provided for citizens to measure the independent variables, namely, awareness, easiness, and demographic factors on citizens' adoption of e-governance services. Similarly, semi-structured interviews were conducted with service seekers to understand the independent variables with a special attention on the real understanding about e-governance and e-governance services in Sri Lanka. Furthermore, several interviews conducted with the administrative officers from both DS in order to understand the adoption of e-governance services that provide by the e-enabled counters.

4.2.3. Research Setting

Organization

As discussed in previous chapters, the unit of analysis of this study were two divisions that are located in different districts in Sri Lanka. The organization which was selected to study are Uhana DS from Ampara District (Eastern Province) and Attanagalla DS from Gampaha District (Western Province).

The 13th amendment for the constitution of Sri Lanka 1987 has been devolved the political and administrative power to local authorities. Thereby the provincial councils and local government bodies are established. So there are three levels of governance, namely, the central government, the provincial councils, and the local authorities (LAs). Local government is the third and lowest level of the state structure of Sri Lanka. These local authorities are responsible for providing various public services such as roads, sanitation, drains, housing, libraries, Public Park, etc. to citizens. Mainly local authorities have been divided into three parts: (A) Municipal Councils, (B) Urban Councils, and (C) *Pradeshiya Sabhas[1]* (Divisional Councils). There are 23 MCs, 41 UCs, and 271 DCs in the country. Since 1987, the local government bodies elected by the open list proportional representation (PR) system. Local bodies are elected by the voters of their respective divisions for a four – year term. These councils function under their respective legal enactments. However, the main reason of establishment of *Pradeshiya Sabhas* was carry out devolved functions of the provincial councils, the bureaucratic / administrative machinery that facilitates such functions is in the office of the Divisional Secretary. Divisional Secretariats are the lower level administrative units in the Divisional Level which controls by the central government. "The Divisional Secretariat (DS) system (Deconcentration administration system at the divisional level) established in 1992 to with the objective of providing public service under one roof without going to district, provincial or national level institutions" (Damayanthi, 2011: iii). Regarding the DSs system in Sri Lanka, it should be noted that, these administrative units are the close administrative bodies to the mass public. Kruse nots that, DSs are not functioning as elected bodies, but employ by the administrative officers or civil servants those who recruited the Sri

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[1] Pradeshiya Sabhas have established by the Divisional Council Act No. 15 of 1987 as lowest local government institutions in Sri Lanka.

Lanka Administrative Service (Kruse, 2003). "It is headed by an officer Grade I of the Sri Lanka Administrative Service (SLAS) attached to the Ministry of Public Administration and Home Affairs" (Damayanthi, 2011: 14).

In this study, researcher found that, two selected DSs have almost similar kind of organization structures and functions. Uhana DS has 55 Grama Niladhari (Village Officer)[2] divisions and the population density which is 56865 (Uhana DS, 2010). The vision of Uhana divisional secretariat is *Exclusive Service for the People in "Uturu Wewgampaththuwa[3]* (Uhana DS, 2010). Their mission is, *Subscribing Standard of living of People in "GolOya Valley" Using human Physical & new technology for doing welfare & statutory, service efficiently* (Uhana DS, 2010). Like any other DSs, Uhana DS has had an objective to provide best services for the citizens in their division in very efficiently from the beginning.

Attanagalla DS has been established in 24th October 1992 under Divisional General Secretariats which were formed to de - centralize the government's responsibilities. The vision of Attanagalla DS is, "To be the best public institution in fulfilling the needs of the general public to utmost" (Attanagalla DS, 2016). And their mission is, "Uplifting the people's living condition to an optimum level through proper management with public involvement by effectively utilizing the resources adhering to the government policies" (Attanagalla DS, 2016). At the beginning it had 86 Grama Niladhari divisions. Currently, there are 151 Grama Niladhari divisions in Attanagalla DS. In both DSs, they have six (06) divisions (sections) such as Administrative, Social Service, Planning, Accounts, Registrar, and Pension. Also, these divisions has similar functions under their powers.

Participants

The primary data collected through a questionnaire survey and several interviews. Mainly, there were two types of participant, namely, service seekers and service providers. The service seekers included the citizens in two selected divisions. The service providers were selected from administrative officers those who are working in two DSs.

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[2] Village level public officer appointed by the central government.
[3] 'Uturu Wewgampaththuwa' is the historical identification of Ampara / Digamadulla District which is divided into three divisional secretariats, namely, Uhana, Ampara, and Damana.

A questionnaire survey was conducted and questionnaires were provided for the citizens by two ways. In first way, questionnaires distributed by going door to door in selected divisions. In second way, researcher went to two selected DS offices. For the qualitative data, face-to-face 20 structured interviews conducted with the citizens from two divisions. Some of the respondents faced interviewed in their homes and some of them faced their interviews in respective DS offices. The questionnaire was drafted in English and translated to Sinhala language. It should be noted that, it was difficult to catch them while they were getting services or after getting services. Most of them showed a hurry to go back their homes or day to day work. In most of the cases, researcher had to fill up the responses in the questionnaires instead of respondents. Additionally, structured interviews was conducted with administrative officers with relevant open-ended supplement questions in order to know the supply sides' (government) perspective. Some administrative officers took some time to respond for the interview questions and they have return their responses within two weeks.

The random sampling method has been used to select respondents to gather data. Among service providers, the study has been selected administrative officers those who are providing e-governance services. In the questionnaire survey, 60 questionnaires were provided for citizens and door to door way was succeed. Interestingly, all the administrative officers in both DSs used to respond all the questions in a very friendly way. Specially, Divisional Secretaries in two DSs were showed their flexibility and helped to coordinate administrative officers even in the working time.

4.3. The Qualitative Data

The study used qualitative data as well as quantitative data in order to identify about citizens' adoption of e-governance services in Sri Lanka. "A qualitative approach to research aims to understand the research problem in the light of the meanings that individuals have given to such a problem based on their experiences" (Denzin & Lincoln, 1998, 2005; Merriam, 2002 cited in Karunasena, 2012: 165). On the basis of a particular theory, three independent variables have been made such as awareness (interpersonal, mass media, social media), easiness (saving time and money, visibility, user friendliness), and demographic factors (age, gender, educational level, income level).

"A qualitative approach uses different types of qualitative data. Individuals' thoughts and beliefs obtained from individual interviews and focus group discussions are commonly used as qualitative data" (Karunasena, 2012: 165). As mentioned earlier, qualitative data collected through interviews. Twenty (20) citizens have been interviewed by researcher where some of respondents were interviewed in their homes. Some of respondents were interviewed at their respective DSs when they were getting or after getting services. The qualitative data can be analyzed using many different techniques such as grounded theory, thematic analysis, and so on (Karunasena, 2012).

Accordingly, this study chooses the thematic analysis to analyze qualitative data that collected from interviews. It should be noted that, service seekers as well as service providers have been interviewed in order to understand about citizens' adoption of e-governance services in selected divisions. Therefore, it has to be analyzed qualitative data that collected from these two types of interview. Based on the variables, this study adopts the thematic analysis technique to analyze qualitative data. "The use of thematic analysis in this research is due to its simplicity, less demanding nature and imposition of only a few constraints at data collection and analysis, and provision of a systematic approach to summarize a large volume of data into meaningful and descriptive themes" (Howitt, 2010 cited in Karunasena, 2012: 166).

Though this study do have a more or less huge set of qualitative data, the thematic analysis can be used in a proper way. "Thematic analysis is a systematic way of grouping complex qualitative data into a number of themes for increasing the accuracy in understanding and interpreting people's experience or observations about people, events, and situations" (Boyatzis, 1998; Attride-Stirling, 2001 cited in Karunasena, 2012: 167). There are three sets of aims in thematic analysis, namely, examining commonalities, examining differences, and examining relationships. According to Boyatzis, "a theme is a pattern found in the information that at minimum describes and organizes the possible observations and at maximum interprets aspects of the phenomenon" (Boyatzis, 1998 cited in Karunasena, 2012: 167). Boyatzis notes that, there are two ways to classify types of themes (codes). First way is three (03) approaches and it includes, theory-driven (deductive), prior data and research (deductive), and data-driven (inductive) approaches. Second is two (02) approaches which included concept-driven coding and data-driven coding.

Among these ways, this study requires to use theory-driven thematic analysis. In this sense, themes are based on pre-existing theoretical concerns (Karunasena, 2012). The theory-driven approach is the most frequently used approach because it can lead to the development of codes and themes based on theories familiar to researchers (Boyatzis, 1998). As discussed in the theoretical framework, this study uses a single theory, called, diffusion of innovations theory that developed by E.M. Rogers. Based on this theory, an analytical framework has been made. It should be noted that, the analytical framework developed in pursue of the analytical framework that done by Rogers based on his study. "The wordings, meanings, expressions of the elements of the theory may be specific to the context of the researcher's field" (Boyatzis, 1998 cited in Karunasena, 2012:168). As this backdrop, the theory-driven thematic analysis can be used to analyze qualitative data.

In the thematic analysis, there can be seen three type of themes, namely, the basic (lowest level) themes, the organizing (middle-order) themes, and global (highest-level) themes (Attride-Stirling, 2001 cited in Karunasena, 2012). The structured-interviews have given for respondents by papers. Therefore, there is no a necessity to transcribe the data from the verbal version into a written text.

The thematic analysis contains several steps (Attride-Stirling, 2001; Braun & Clarke, 2006; Braun & Clarke, 2006; Howitt, 2010), namely,

1. Familiarizing with data: helps to researcher to get a better understanding of the details of the collected data set,

2. Initial coding: involves in assigning specific codes for each line or more lines in the transcribed text,

3. Searching for themes: involves in searching for themes based on the initial coding,

4. Reviewing themes: involves activities such as breaking down certain themes into two or more themes, converging overlapping themes for creating a new theme and discarding themes,

5. Defining and labelling themes: defines and labels themes.

6. Developing thematic maps: involves in developing thematic networks that show the important themes (global, organizing, and basic themes) at multiple levels and their relationships (Karunasena, 2012).

In case of the validity and reliability of the qualitative data, these two concepts defined by many ways. "Validity is defined as the degree to which the researcher has measured what he has set out to measure" (Smith 1991: 106 cited in Kumar, 2011: 166). Regarding the concept of reliability, Kumar mentioned that, "if a research tool is consistent and stable, hence predictable and accurate, it is said to be reliable. The greater the degree of consistency and stability in an instrument, the greater its reliability. Therefore, a scale or test is reliable to the extent that repeat measurements made by it under constant conditions will give the same result" (Moser & Kalton 1989: 353 cited in Kumar, 2011: 168). On one hand, in a qualitative research these two concepts are very important. No matter what techniques are used to analyze qualitative data, the validity and reliability of the research findings are always critical in qualitative research (Yin, 1994; Whittemore et al., 2001; Sridharan, Deng, & Corbitt, 2010 cited in Karunasena, 2012: 172). On the other hand, there are some differences between qualitative and quantitative studies in terms of the concepts of validity and reliability.

However, Johnson (1997) shows five types of validity in qualitative studies, namely, (a) descriptive validity, (b) interpretative validity, (c) theoretical validity, (d) internal validity, and (e) external validity (Johnson, 1997). Particularly, this study tries to ensure the interpretative validity. Regarding the descriptive validity, responses for the interview questions are cross-checked with additional notes that were taken by informal conversations that include participants' viewpoints, experiences, thoughts, and feelings). Despite of these types of validity, to ensure the validity and reliability of the collected data, data collected from one method was cross checked with another method.

4.4. Qualitative Data Analysis and Findings – I (Thematic Analysis and Findings)

First, it is analyzing the data that collected from the interviews done with 20 citizens (Service Seekers). As noted above, this study take the theory-driven thematic analysis for exploring the status of citizens' adoption of e-governance services in Sri Lanka. Based on the independent variables, that can be identified three global themes, namely, awareness of e-governance services (with three organizing themes like interpersonal communication, mass media, and social media), easiness of get e-governance services (with three organizing themes like save time and money, visibility, and user friendliness), and demographic factors (with four organizing themes like gender, age, education level, and income level). Based on the

dependent variable another three global themes have identified, namely, usage, nature of services, and satisfaction. Accordingly, a thematic analysis map can be drawn as follows:

Figure 4.1: The thematic analysis map for understanding citizens' adoption of e-governance services
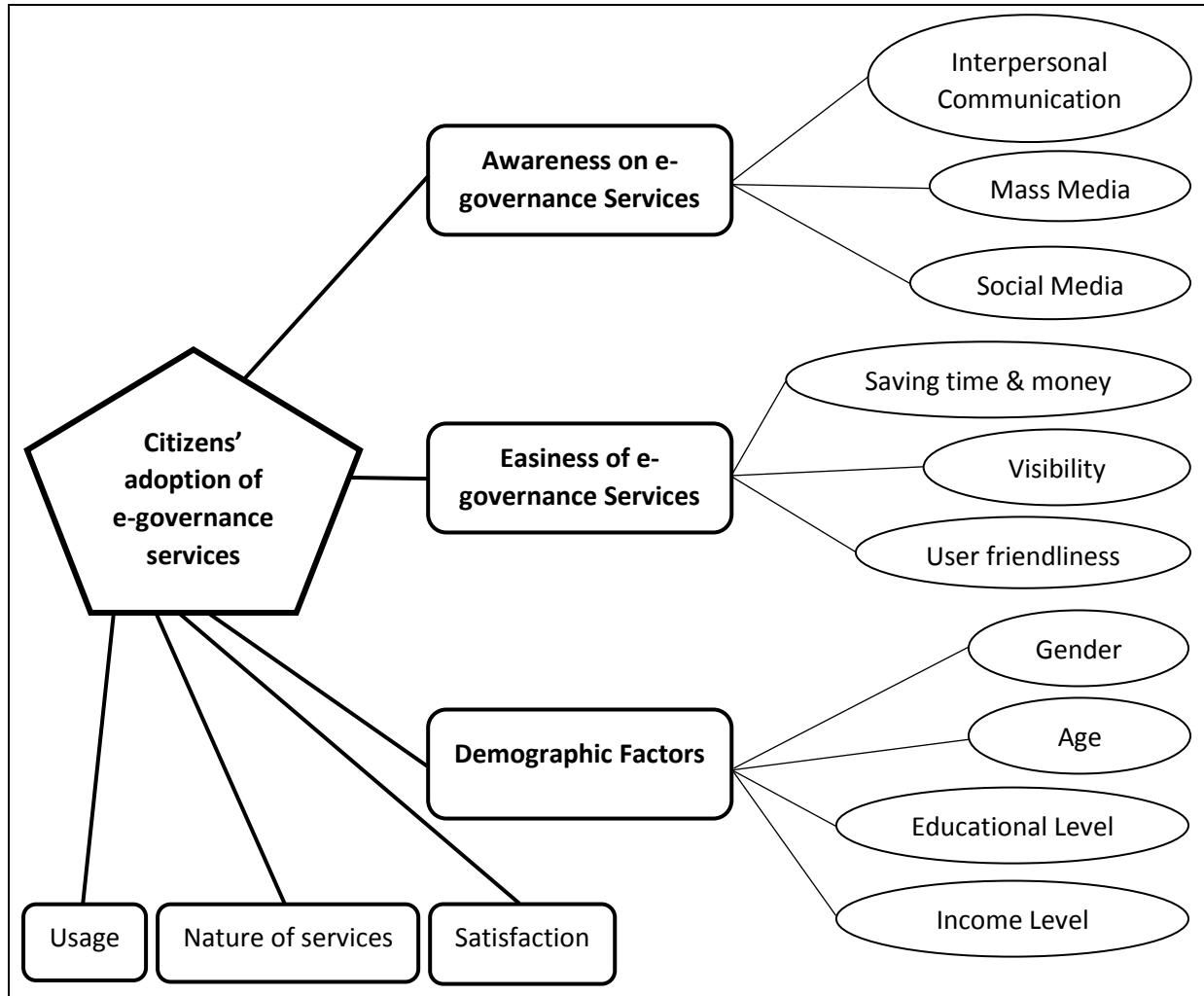
4.4.1. Global Theme One: Awareness on e-governance services

The awareness of e-governance services is the first global theme in the thematic analysis of this study. It consists by three organizing themes (measurable indicators of the independent variables), namely, (a) interpersonal communication, (b) mass media, and (c) social media. Through these organizing themes, it is possible to investigate citizens' awareness of e-governance services. The study found that, awareness is very important factor. According to some participants, they are getting services from the administrative units and government webs, even though in most of the cases, they are not aware that, those services are providing by use of electronic means. A participant states as follows:

"I do not have an interest to know about the e-governance services. Are there any public services that can us get as electronic services. Although, we are getting some services from our respective Divisional Secretariats, we do not know that, there are some e-governance services".

The study found that, the interest about the e-governance services and to know about the e-governance services can be increased the awareness. According to another participants proclaimed that:

"We are still getting traditional public services from the DSs. Likewise, we are not using internet or any other new technologies to get public services. Even, we do not know how to browse a website in our mobile phones. But, the future generation can be experienced the advancement of Information and communication technology and e-governance services will be opened to the mass public in the future".

However, different communication channels have a vital role. Specially, the interpersonal communication and mass media are important channels. Because, these communications channels are comparatively close to citizens. Although the social media channel yet not catches the mass public. Even though, all these communication channels are not rich enough to aware citizens about e-governance or e-governance services. A participant said that:

"Some of the administrative officers have mentioned about e-governance services while we are going to our DSs. But this kind of information is not enough to know about these services properly. It would be better to have some formal awareness programs that can be organized by the DS. Television does not have these type of awareness programs. I do not have any idea about the social media".

As the poor awareness programs and communication, most of the citizens could not get a proper idea about the e-governance services. Another interviewee states as follows:

"This is a completely new concepts for general public like us. Unfortunately, there are no sufficient programs about these services that can be created by the government. But, we have seen some advertisements in national newspapers about e-governance as well as digitalization. Even though, these advertisements

are not enough compare with the advertisements on e-services related with the private sector such as e-banking, SMS services, m-Cash and so on. The government has an important part to enhance the peoples' interest regarding this new concept".

The study found that, except the interpersonal communication, mass media and social media channels not do a sufficient job to aware citizens about e-governance services. The interpersonal communication between the administrative officers and citizens is the most usable communication channel. As another participant:

"We knew about e-governance services by coming to our DS. The administrative officers are giving information about this new services. They said that, we can get e-governance services instead of traditional public services that based on the paperwork. According to them, I think by getting the e-governance services we can save our time as well as money. Although, mass media should have sufficient awareness programs. So that, citizens can have a real idea".

It should be noted that, in the thematic analysis this global theme has more or less similar kind of data from both division.

4.4.2. Global Theme Two: Easiness of e-governance services

Easiness seems to be significant factor that influence to citizens' adoption of e-governance services. This global theme is explained by three organizing themes, namely, (a) saving time and money, (b) visibility, and (c) user friendliness.

As most of the participants of Attanagalla division, stated that, e-governance services can get easily. Only few participants those who are not aware about e-governance services do not have an idea about the easiness of getting e-governance services. A participant disclosed that:

"e-governance services that provide by the government web portals such as 1919 – Government Information Center (GIC) can get in a very fast way. Although, to get e-governance that provide by the DS, we have to physically visit there. When we go there, that can be found some delays come from the bureaucrats". It doesn't mean that, all the officers are getting late to fulfil the requirements of citizens. As

an example, now we can get copies of our birth, marriage, and death certificated within few minutes. Previously, we had to go to the District office".

The participants from Uhana division sowed that, except the issues emerge when getting e-governance services from the government webs, there can be seen many issues by getting e-governance services from their DS. An interviewee argues as follows:

"When we are talking about the easiness, we cannot forget about the knowledge and interest of the administrative officers. In fact, they do not have a sufficient understanding about e-governance and e-governance services. Similarly, they are not an interest about that. Likewise, they are not friendly enough with citizens".

Interestingly, as some responses and experiences of the participants, many of the problems have been emerged from the supply side. Another participant argued that:

"I do not familiar with internet. But I can say that, there are many issues such as weaknesses of bureaucrats those who have responsibilities on their respective subjects, insufficient knowledge about e-governance services, inadequate specialists and experts on new technology, and lack of skilled administrative officers. These issues resulted to still we have traditional public services".

Some of the participants mentioned that, as their less interest and inadequate knowledge, they could not understand about the easiness of getting e-governance services. In the opinion of one participant:

"Personally, I did not have a necessity of e-governance services. Although, I am using a smart mobile phone, I do not how to browse for internet. So, how could I know about the easiness"? But I feel, electronic services may easy our lives due to the new technology than traditional public services".

In sum, as the participants' responses, there should have adequate awareness programs to aware the public on e-governance services. Particularly, there is a lack of awareness in rural divisions like Uhana. As the ideas of another participant:

"Although, we know about the e-governance services and benefits like easiness, citizens should have further awareness. Specially, the grass root level must strengthen and mobilize towards information and communication technology.

Instead of the awareness on e-governance and ICT, they have many social and economic problems. Many of them have big economic problems in their day to day lives. Therefore, they are struggling with these problems and they do not have much knowledge to access for e-governance services. On one hand they do not have adequate ICT infrastructure. On the other hand, they have a fear on new technologies"

4.4.3. Global Theme Three: Demographic factors

The study has obtained 20 participants for interviews from the quantitative sample to investigate citizens' adoption of e-governance services in Sri Lanka. Among 20 participants, 10 participants selected from Uhana division and other 20 participants from Attanagalla division. As this study is a comparative study, it has to be presented the data that collected from both divisions. First lets concern on the demographic factors. In fact, the participants have showed different demographic characteristics.

In Attanagalla division, 5 participants are within 31-45 years, 2 in 46-60 years, 1 participant each from 16-20, 21-30 years, and 60 and above age group. Among the participant, 5 are male and 5 are female. Regarding the employment, 3 participants are unemployed, 2 are business assistants, 1 participant is a pharmacist, 1 participant is a retired technical officer, 1 participant is a labor, 1 participant is a quantity surveyor, and 1 participant is a student. On educational level, 3 interviewees remain G.C.E. Advanced Level, 2 interviewees remain G.C.E. Ordinary level, 2 interviewees have vocational education, and other 3 interviewees respectively remain graduate, undergraduate, and 6-11 grade level. In case of the income level, 5 participants do not have income (3 unemployed, 1 student, and 1 house wife), 3 participant have monthly income Rs.20, 000-30, 000, and 2 participants have Rs.40, 000-50, 000.

Among the participants that selected from Uhana division, 4 are within 31-45 years, 3 are within 21-30 years, and 1 participant each from 16-20 years, 46-60 years, and 60 and above age group. Among them 7 participants are male and other 3 participants are female. They represent a variety of employment sectors and professional status. Among them, 4 participants are lawyers, 2 are farmers from the agriculture sector, 2 participants from the public servants, 1 participant from the trading or business sector, and 1 is unemployed.

Regarding the educational level, all the law professionals remain in graduate level, 3 participants remain G.C.E. Advanced Level group, and 1 participant each from post-graduate level, G.C.E. Ordinary level, and grade 6-11. According to their income (monthly) level, 3 earn Rs.60, 000 and above, 2 earn Rs.50, 000, 1 earns 15, 000, and 3 participants did not show an interest to say about their income level.

Demographic factors of participants have been already presented before the thematic analysis map. Now, it would be better to present and analyze the data collected from both divisions simultaneously.

4.4.4. Global Theme Four: Usage of e-governance services

The usage of e-governance services is crucial to measure the adoption. A particular question has been made to know the level of usage of e-governance services. It asked that, how many times you have got e-governance services in past 06 months. A participant states that:

> "I do not remember how many times I have come here to get public services. But I have come here to get general services. Not the e-governance services. And I did not know I have got some e-governance services till you (researcher) said about it".

The usage of e-governance services is investigating not only based on the DSs and its e-governance services, but also based on the e-governance services that can get from the government webs. As a description of another participant:

> "I am going to the DS very rarely. Generally, I go there to renew the motor revenue license. To get it we should go there. Instead of coming to the DS physically, I am using the internet to get government information. Specially, the information about government departments, telephone numbers, etc. If there is an e-governance service that allows to get our motor revenue license online, that would be better. It will save our time".

Specially, the young generation is not going to get e-governance services from their respective DSs. Instead of going to DSs, they just browse government websites and get information. Although, elder and less experienced citizens those who do not have an enough knowledge

about e-governance services, are going to get traditional public services. An elder participant stated that:

> *"I do not know, there are e-governance services that can be obtained from the DS. Usually, we are going to get our pensions. Although, administrative officers are providing this services manually. Even they are not using a single computer to provide the services. So, it is taking time and we are remaining in long queues".*

In most of the cases, participants from Attanagalla emphasized that, they are not that much interest to go to the administrative units. Truly, they are going to their DS only as their needs. Otherwise, they are using the internet to get services such as GIC. An interviewee explains as follows:

> *"Instead of go to the DS, I am using internet to get government information. Specially, I can get any information about governments' ministries, departments, and other institutions from the 1919 – Government Information Center".*

Regarding Uhana division, this situation is different. Some of the participants are getting e-governance services without knowing. The Interviewees stated that, they did not get e-governance services from the DS. All the professionals said that:

> *"We do not know that, there are e-governance services that can we get from the DS. The only need to go to the DS is when we need to renew our motor revenue license. We know that, this services is providing by use of computers. And it is not taking time. Within 5 minutes we can renew our license. Likewise, it can be renewed not only by our DS, but also any DS located in our District. Even though, we didn't know that, it's an e-governance service".*

According to rest of the participants, they have adopted only the basic e-governance services that can get from the DS. They only go to the DS as their needs. On one hand, most of them go there to get traditional public services such as pensions, land matters (land registrations, transfers, deed information, and etc.), and other general needs. On the other hand, they wonder about some e-governance like online services. A participant stress as follows:

"I usually go to the DS to get services on lands. But, this service is a fully manual. Administrative officers not use electronic means and they maintain bundle of files. If this services will provide by online we may face many problems".

4.4.5. Global Theme Five: Nature of e-governance services

Citizens are getting variety of e-governance services. It can be identified two things through this global themes, namely, what kind of e-governance services and why citizens are getting that kind of services. Basically, selected DSs are providing more or less similar type of e-governance services under the Re-engineering government program. The most uses service is motor revenue license renew service. Furthermore, citizens can get the copies of birth, marriage, and death certificates. Attanagalla DS has been thought to start e-governance services for giving electronic national identity cards and some land services. One of the participant said that:

"I usually come to the DS to renew my license. Addition to this, it is not necessary to come here. Although, I know that, we can get birth certificate copies electronically. I also got some copies of birth certificate of by child. The good thing is that, if we have the serial number of the original certificate we can get copies from any DS located in our District".

In addition to the counter services, citizens can get e-governance services from government web sites like 1919 – Government Information Center (GIC). Though, most of the participants are using this government portal, they did know that, currently citizens can get information about 1459 Services offered by 194 organizations in the GIC. Also this web is presents by three languages, namely, Sinhala, Tamil, and English. Therefore, almost all citizens access this web as their needs. As the viewpoint of a participant:

"The 1919 is very useful to get governments' information. I am using my mobile phone to get information easily. The information available in Sinhala language. I feel comfortable as the information is very easy to read and understand by our mother language".

In Uhana DS, some of the interviewees do not know about the GIC and other online services. Except motor revenue license renew service and public registration, still citizens get public

services based on paperwork from their DS such as land registration, pensions, and other welfare services. According to a participants' opinion:

"I come to renew our revenue license of my motor bicycle one a year. Additionally, I went there to get copies of birth and marriage certificates. As I know our DS does not have any other e-governance services. If we have that kind of e-governance services, it would be better and it will save our time and money. Instead of maintaining tons of papers it will be interesting to have e-governance services".

But some young participants are getting e-governance services (online) through their mobile phones. Also they expect more electronic services that can be obtained by online. One young participant states as follows:

"I am frequently using the 1919 to get information. Specially, I am getting contact numbers of government organizations. It is very easy to use and no need an extra ordinary knowledge to browse this website".

Generally, citizens are getting e-governance services as their needs. Compare with the participants in Uhana, many of the participants that interviewed in Attanagalla, interest to put an effort to search about e-governance services. Interestingly, they adopt e-governance services in order to make easy their day to day lives. One of a young and female participant says:

"I am using internet to het different type of information. While we are giving services for our customers, reliable information is very important. If we provide trustworthy information, customers trust us and they will come to our shop again".

It seem that, instead of physically visit to the DSs, citizens like to browse websites and get services. Although, the responses and experiences of the participants in Uhana, the situation is quite different. Most of them get traditional public services from the DS as their needs. Additionally, they are not interest to get online services. On one hand, they do not have a much demand for e-governance services. On the other hand, citizens satisfy with the general public services.

4.4.6. Global Theme Six: Satisfaction on e-governance services

This theme explains citizens' satisfaction on e-governance services. After identified the usage and nature of e-governance services, it would be interesting about the level of satisfaction on e-governance services. Under this theme, it is analyzed the data set on the quality of e-governance services and information, and benefits. Most of the participants in both divisions, more or less satisfy with e-governance services what they are getting from their respective DS and government websites. Although, the level of satisfaction is not remains in a highest position. In other words, there should have fulfil many other social, political, economic, and cultural requirements. An interviewee expresses his opinion on his satisfaction on e-governance services as follows:

> *"I personally satisfy with this kind of services. But there should have an adequate demand for e-governance services. In fact, they are not aware enough. Otherwise, the government has a crucial part to promote e-governance services".*

It is cleared that, there are issues from both the demand side as well as the supply side in terms of e-governance and services. There is a lack of necessity to have e-governance services from the demand side and the policies, programs, and projects are not strong enough to integrate the mass public. The same interviewee said that:

> *"As a whole I satisfy on e-governance services. But there are many problems regarding ICT infrastructure, human resources, and strong public policies. The government should have innovations in public service delivery. Likewise, the government should allocate grants for the new projects like digitalization in public services. So that, citizens will be adopted e-governance services more and more".*

There are two factors to influence to the satisfaction on e-governance services, namely (a) quality of the services and information, and (b) benefits of the services. These factors can be differed between the counter services of DSs and the online services. A participant who is using internet than counter services argues as follows:

> *"Since I am not going to get e-governance services I am using my mobile phone and computer to get online services. Because, I believe that, the services are good and the information is reliable. In sum, I satisfy on the online services. But I do not*

know about others. I mean they may not have a sufficient understanding on ICT and adequate infrastructure like smart phones and laptops".

It seems that, there are no special benefits by getting e-governance services from the DSs. Only thing is that, citizens no need to wait in long lines. Because, it is believed that, the counters and administrative officers which designated to provide e-governance services provide public services in an efficient and effective manner. Likewise, these services keep the transparency and accountability in the process of public service delivery. Compare with traditional public service delivery process, officers cannot get briberies from citizens. Therefore, it can be said that, e-governance services created a corruption free environment in administrative units like DSs. Although, this kind of clean and clear environment cannot be expected in all institutions.

One interviewee states as follows:

"We are not getting extra ordinary benefits from e-governance services. Officers are showing their laziness too. They are not efficient and effective enough in providing public services. I do not know the reasons for this situation. Probably, they are not skilled or they are ignored the new technology. Specially, it is very difficult to get services from elder officers. But, I must say that, we can assure the transparency of these services".

However, the participants in Uhana have more or less similar stories on the satisfaction on e-governance services. They pointed out some issues emerged from the supply side. One participant said that:

"I satisfy with e-governance services that I am getting from the DS. But, the quality of the services are very low. I believe that, public policies should strong in order to have high quality of e-governance services. Specially, the utilization of the new technology not remains in a satisfactory level. The government machinery should be strengthen in terms of e-governance. Likewise, there are some cultural issues like trust. For instance, I do not like to give my mobile phone and personal laptop to my children to search websites to get online services. Because, when they search something, there can be seen many unnecessary advertisements and messages on mobile display or computer screen".

One participant (professional) express his idea as follows:

"I think our DS and its officers are not ready to provide these kind of services. Because, they do not have enough facilities and knowledge for it".

Moreover, there are many issues that can be seen from the supply side of e-governance services. A female professional interviewee expressed her view as follows:

"Although, there is a possibility to get services from the Government Information Center, there are many queries when it come to the practical implementation. Even though, there are some advertisements which are said that, citizens can get services within one hour, few hours, and one or two days, this is not a true in the practice. And I have a doubt that, whether there is an effective, efficient public service delivery or not".

In sum, the satisfaction depends on some factors such as interest, experiences, and trust on ICT and e-governance from the demand side. In the supply side, there should have adequate infrastructures, strong political commitment, and so on from the supply side.

4.5. Qualitative Data Analysis and Findings – II (Thematic Analysis and Findings)

Second, it is analyzing the data that collected from the interviews done with 10 administrative officers (Service Providers) from both DSs. As presented earlier, both data set divided into six global themes with three organizing themes for each global themes in order to understand about citizens' adoption of e-governance services. However, it is used the same thematic analysis technique to analyze this data set.

However, this data set has been analyzed to identify the supply sides' perspective. In other words, this data helped to understand the service providers' understanding, experiences, and opinions on e-governance services. Also, the data helped to understand the real scenario of e-governance service in Sri Lanka.

In previous section, it has been analyzed the data that collected from the interviews done with citizens. Additionally, this study interviewed the administrative officers who are providing e-governance services in DSs. Interestingly, their responses can be used to analyze the qualitative data to provide a validity for the data that collected from the interviews of citizens. It should be noted that, the data analyses of both divisions in a comparative manner.

4.5.1. Awareness on e-governance services

In the awareness on e-governance services, interpersonal communication is very important. There is an uncertainty about mass media channels. The social media channels do not have an influence in awareness. In case of interpersonal communication, citizens are getting know about e-governance services from other citizens as well as from the administrative officers in their respective DSs. The administrative officers hold an important role to aware citizens. An administrative officer (Land section) of Attanagalla states that:

> *"For me, citizens' awareness on e-governance services is very low. But, we are trying to give some information. Some of citizens are asking about e-governance services. But majority of citizens are not. On the other hand, we don't have programs to aware citizens that organize by our DS. We only have a citizen's charter that present a list of public services and time duration that will take to get those services. It does not show any information about e-governance services".*

Clearly, DSs do not have sufficient awareness programs on e-governance services. Although, the administrative officers always ready to give information for citizens. Another administrative officer (Registrar section) expresses her opinion as follows:

> *"Majority of citizens aware about e-governance services. They got information from others. But I am not sure about the mass media. Likewise, citizens are asking from us about e-governance services. We also provide information for them. But, we do not have particular programs for educate citizens".*

Even though, there is an interpersonal communication between the administrative officers and citizens, citizens are not aware enough about e-governance services. An administrative officer (Land section) from Uhana DS stress his opinion as follows:

> *"As I think, citizens not aware about e-governance services. But some of them have got information from mass media. But, they do not have an adequate awareness. In very rare time, they are asking from us about e-governance services. But we are ready to provide information".*

However, the interpersonal communication is playing a remarkable role in awareness. But, there are some issues in mass media channels. It should be noted that, mass media channels

have a vital role in promoting new concepts like e-governance in the country. Generally, majority of citizens have televisions in their homes and read newspapers as a habit. Since, many citizens do not have sufficient accesses for social media channels, awareness on e-governance services will not be affected by social media channels. As the qualitative data, the awareness on e-governance system remains in a moderate level. Because, there cannot be seen enough awareness programs, activities, and propagandas in the mass media and social media channels.

4.5.2. Easiness of e-governance services

Regarding the easiness of getting e-governance services, saving time and money as well as visibility are the critical factors. The counter services in DSs not help to save money and time that much. An administrative officer (Registrar section) in Attanagalla DS states as follows:

> *"Citizens can get e-governance services easily. From our section, citizens can get the copies of their birth, marriage, and death certificates. It takes only few minutes. Also, this section provide copies of these certificates for all citizens who live in Gampaha District".*

It is cleared that, citizens can see the consequences of e-governance services. This visibility is very important to make the sense of easiness. Ones get an e-governance services, citizens have a tendency to tell about the easiness of it for others. "Such visibility stimulates peer discussion of a new idea, as friends and neighbors of an adopter ask him or her for innovation – evaluation information about it" (Rogers, 1983: 16).

The user friendliness is not a critical factor to explain the easiness regarding the counter services. In the interviews with the administrative officers, all the officers stated that, citizens get e-governance services in a friendly environment. One officers expressed her experiences as follows:

> *"We are renewing more than 200 hundred motor revenue license in a day. There are no issues coming from the peoples' side. Because, they know that, there are computers and other electronic equipment to provide this service. They no need to wait for long time to renew their licenses"*

But, in the online services, user friendliness is very important. For instance, if e-governance services available in local language, citizens can easily understand and get it very fast. Citizens may not have any issues by getting services. From the theoretical discussion of this study emphasizes that, a technology is a design for instrumental action that reduces the uncertainty" (Rogers, 1983). Therefore, user friendliness can be identified as a critical factor for easiness to get e-governance services that can be get from websites.

4.5.3. Demographic factors

The demographic factors have not been presented in the thematic analysis. Although, it would be interesting to analyze the demographic feature of citizens in both divisions in order to understand about citizens' adoption of e-governance services. The study looked for four demographic factors such as age, gender, educational level, and income level. The responses of the administrative officers can be used to analyze the citizens' demographic factors. Interview questions asked in order to know the age levels, gender specifies, education levels, and income levels.

Regarding these demographic factors, an administrative officer of Attanagalla DS states that:

"From 20-60 year citizens are coming to our section for renew their motor revenue license. Male citizens are the majority. But, I do not have an idea about their income level. And, citizens are coming with different income level. But, 90-100 of three wheel (Taxi) and motor bicycle drivers are coming in a day".

One interviewee from Uhana DS states as follows:

"Citizens in all ages are coming to get services. Likewise, male as well as female citizens are coming. Although young people are coming get services to our section (Registrar section) compare with elder citizens. The majority of citizens are farmers".

Another administrative officers expressed her opinion as follows:

"There is no special age level or sex of citizens those who are coming to get services. Even elder citizens are coming to get services. Although, elders' educational level seem low, they are aware about services than young citizens. Further, citizens with every levels of education are coming".

It can be said that, the demographic factors are not the critical factor to explain adoption of e-governance services. As their needs, all the citizens are getting services. But, it should be said that, male citizens are coming to get some services (e.g. to renew motor revenue licenses) than female citizens. Researcher could see many males than females in front of counters in DSs. At the same time, female citizens are coming to get some services (to get copies of birth, marriage, and death certificates) than male citizens. Addition to these two demographic factors, educational level and income level are not the critical factors towards adoption of e-governance services. Although, it is to be noted that, citizens who have high level of income are not usually coming to the DSs. The reasons can be found from the quantitative data. Probably, they are using online services, instead of physically visit their DSs.

4.5.4. Usage of e-governance services

Usage of e-governance services is a critical factor for the adoption of e-governance services. Since most of the citizens use both (counter services as well as online services) services the level of usage is affecting to increase or decrease the level of adoption. An administrative officer of Attanagalla DS says as follows:

"From 9 a.m. to 3 p.m. citizens are coming to get services for our section (Accounts section). Approximately 200 citizens are coming to renew their motor revenue licenses".

Another administrative officer of the same DS states that:

"A good amount (about 150) of peoples are coming get services to our section (Register section). Since citizens have lost their original copies of birth certificates of their children are coming. They know that, they can get this services within few minutes. Citizens from every DSs located in Gampaha District are coming to get services. In somedays, we cannot handle these amount of citizens".

An administrative officer of Uhana DS expressed his opinion as follows:

"Citizens are coming to get e-governance services without knowing due to their less awareness. We have lot of citizens for counter services specially in the Accounts section. But, still our section (Land) do not have proper e-governance services. If we have these kind of services people will adopt those".

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According to the administrative officers from Attanagalla DSs, the usage of e-governance services remains in a positive position. Even, elder citizens ask about e-services in their pension's payments system. Yet, they are getting their pensions under a manual public service delivery system. The Land section of Attanagalla DS is looking for start an e-governance service, called, e-Slim. Likewise, the Registrar section wait for the central governments' decision to start providing electronic national identity cards (e-NIC). These are the future developments in the public service delivery system in terms of e-governance.

In contrast, the administrative officers of Uhana DS have a different stories. It was difficult to conduct interviews with citizens in Uhana DS. Even though, they use minimum amount of e-governance services, they do not know that, these services are providing by electronic means. Similarly, they are getting some information by government portals such as 1919-GIC. It should be noted that, they have an expectation that, the government will be starting services that can get by SMS. Already, they are getting some governments' SMS about government information, they do not know it is also a part of the big process of e-governance. Compare with Attanagalla DS, Uhana DS do not have at least its basic ICT infrastructure except the e-Motoring service. Since, the e-Motoring service function under the supervision and monitor of the central government, it remains in a positive position. Although, in some sections like public registrar section, there are so many technical issues. The main network system has been stopped working. A female development officer in this section disclosed her experience as follows:

> *"We had a services that allows to get copies of birth, marriage, and death certificates of citizens who are in Ampara District. From 10 months, this service has been stopped. When there was the internet connection and other facilities, we have provided about thousands of certificate copies. Although, now we can provide only about two hundred copies. Due to this circumstance, citizens have been facing many problems".*

The usage of e-governance services will be discouraging due these kind of factors. Accordingly, it will be affecting to citizens' adoption e-governance services. Therefore, this study like to identify usage of services is a critical factor.

4.5.5. Nature of e-governance services

The nature of services seems not to be a critical factor. Because, the study looked for limited e-governance services that are providing under the Re-engineering government program of Sri Lanka. According to the feedbacks of the administrative officers, one of the most popular e – Governance service is the online motor revenue licenses. From this service, citizens can renew their motor revenue licenses within few minutes. After starting this service, The WPDMT (Western Provincial Department of Motor Traffic) initiated further innovations together with Information and Communication Technology Agency (ICTA). Currently, most of the DSs are providing this service for citizens. Many of the officers in Uhana DSs stated as follows, *"This service is the most popular and usage of this service is very high. In a day, we are providing about 60 – 70 licenses. In some days, it is exceeding this amount".*

The next popular counter service is BMD copies issuing service. Under the Re-engineering program, they have three types of Resisters Data Base, namely, public, land, and company. The public resisters database plays an important task. But, this registrar section in both DSs have more or less similar issues. As an opinion of a public management assistant in Attanagalla:

> *"We have some administrative omissions. Sometimes, the speed of internet get slow. So, citizens as well as we are facing many difficulties. Citizens are coming to get their service from us and they need to go home and work as soon as possible. They do not like to waste their time in government offices"*

By contrast, the administrative officers in Uhana DS are not facing these kind of problems. According to the, there is no special demand for e-governance services. Therefore, citizens are ready to accept any kind of public services what the DS provide. As the observations of researcher, the manual public service delivery system also function not in a proper way. Then, there are no spaces even talk about e-governance services. Although the Land section started to maintain their land database in order to reduce the paperwork in their DS. But it cannot be transferred into an electronic services in near future. The pension section also uses computers in order to enhance the efficiency and effectiveness on administration work. As a whole, they have very limited e-governance services. On the other hand, the demand side is not aware

strong enough to adopt these services. Whatever the services, citizens adoption is just based on their needs.

In addition to e-governance services that provide by counters in DSs, generally citizens use internet. Under the Re-engineering program, citizens use the call center services such as 1919 (http://gic.gov.lk/). Citizens' interest in getting government information through mobile phones has investigated in this study. Citizens who use smart mobile phones tend to be searched many things in internet. They also started to access government information through their mobile phones. As they said, it is very easy to use and the information is available in their local languages. Due to these reasons, citizens have adopted it. Most of the participants state that, they got contacts information of government organizations. Though, the participants from Uhana have less interest to use this service, the participants from Attanagalla proclaimed that, they are very much interest to use their mobiles instead of visit to DSs. One administrative officer in Uhana DS said as follows:

> *"If citizens have and if they aware about the online services, they able to save their time and money too. Personally, I am very interesting to use mobile applications. As I know, the government has many services. But, citizens not aware enough and still they expect papers in the public service delivery system. If I say for one of the person who come to me to get services, I will send you a SMS for you about the progress on your need, he or she definitely will disagree with me".*

Many of the participants in Uhana division, not aware about the 1919 service. They were wondering after researcher said about this services. Interestingly, one female participant states:

> *"I have qualified for university entrance in this year. The government has decided to admit students by an online application system. So, we have to adopt it. Previously also I have used 1919 to get some information about government departments. I got information in a few time and I can trust those".*

It is cleared that, despite the nature of services, if citizens have an interest and necessity to get it they will adopt it. Therefore, the nature of e-governance services is not a critical factor to explain citizens' adoption of e-governance services.

4.5.6. Satisfaction on e-governance services

The satisfaction of the services can be explained by the quality of services and information and benefits of services. Undoubtedly, e-governance services should have significant qualities than traditional manual services. The information should be trusted that can be seen in the web spaces. Also, notable benefits have to be generated by getting e-governance services. In other words, if citizens get benefits from e-governance services, they will adopt it immediately.

However, the satisfaction on e- governance services can be identified as a critical factor on citizens' adoption of e-governance services. The satisfaction depends on both demand side as well as supply side. The interviews with the administrative officers of both DSs showed that, citizens satisfy with limited services. A female officer in Uhana DS states as follows:

> *"These services are saving time and money of citizens. Also these services keep the efficiency and effectiveness" Due to these reasons, I think citizens get satisfy on e-governance services. They no need to wait in long time in the DS. If we do not have some practical issues like slow of interne, officers' delays, and other technical issues, citizens will more satisfy by getting these services".*

It is cleared that, if the supply side (government) do not have adequate commitment, ICT infrastructure and other requirements on e-governance services, demand side (citizens) will not be adopted e-governance services in an expected level. Similarly, if citizens do not have a demand for e-governance services, supply side will not be promoted these services anymore. The traditional public service delivery systems will be remain further.

In case of online services, citizens can get quality information from government websites. Most of the interviewees stated that, the information that they are getting from 1919 call center is very reliable. As their personal experiences, this call center has every kind of information about government organizations. So, they no need to search information in other sources. On the other hand, it is saving time and money for citizens. Because, they it is not necessary to go to public organizations. Therefore, the quality of the services of DSs and information in websites increase citizens' satisfaction.

The benefits are created by the factors such as the quality of services, time and money savings, and so on. The benefits for citizens increase the satisfaction on e-governance services. Rogers notes that, "since they adopt innovations relatively earlier, they gain more of the benefits of innovations" (1983: 126). As mentioned in previous chapters the e-Sri Lanka program has been designed to take the dividends of ICT to every village, citizens, and businesses. So, e-governance services have a social impact too. In this sense, satisfaction seem as a critical factor for citizens' adoption of e-governance services.

4.5.7. The Summary

Thus, the qualitative data can be analyzed that presented in the thematic analysis. The data set has divided into six global themes (with three organizing themes for each global theme). All the themes tried to understand about citizens' adoption of e-governance services. This section has been analyzed data that collected from interviews done with the general public and administrative officers in DSs.

The analysis revealed several important facts on six global themes. In the awareness on e-governance services it is found that, different communication channels have different impact on awareness. However, interpersonal communication channel critically influential. But, mass media channel remains in a doubtful position. The social media could not influenced on awareness yet in a massive way. In the easiness of e-governance services, saving time and money and visibility are the highly influencing. But user friendliness is not a critical in the counter services in DSs. But, it is an important dimension in the online public service delivery system.

After that, last three global themes - usage, nature of services, and satisfaction on services have been explained. The usage levels of services exist in a moderate level. The satisfaction on services is critically affecting on citizens' adoption of e-governance services. Although, nature of services is varied. It is found that, most of citizens tend to be adopted counter e-governance services than online services. However, the qualitative data analyzed in a comparative way to understand the different status of adoption of e-governance services in both divisions. The analysis showed that, in some themes have similarities while some themes have differentiates among selected divisions.

4.6. Quantitative Data Analysis and Findings

For collecting the quantitative data, 60 questionnaires are distributed for respondents of both divisions. Researcher went door to door and some of the respondents attained at their respective DSs. The questionnaire is developed to find the answers for research questions. It consists by four parts and 21 questions with several sub questions based on the dependent variable and independent variables of the study. Part A, question number 1 to 7 developed asked the demographic information of the respondents. Part, B, question number 8 to 13 developed to ask about awareness on e-governance services. Part C, question number 14 to 16 developed to ask about easiness of e-governance services. Part D, question number 17 to 21 developed to obtain answers for the dependent variable and its measurable indicators such as usage of services, nature of services, and satisfaction on services.

Statistical Package for the Social Sciences (SPSS) adopted to analyze the quantitative data. Simple frequency distribution and cross tabulation correlation are the statistical tools applied to analyze data. "It is more useful when data were measured on nominal and ordinal scales" (Pallant, 2005 cited in Joshi, 2011: 37). This study also have taken these two scales for measure the quantitative data.

The validity is an important concern in the quantitative studies. Kumar nots that, there are three types of validity in quantitative studies, such as face and content validity, concurrent and predictive validity, and construct validity (Kumar, 2011). In the face validity, there should have logical linkages between research questions on the instrument and objectives. The specific objectives of this study are (1) to identify the citizens' perception and perspective on e-governance services and (2) to explore and compare the status of citizens' adoption of e-governance services in two different divisions. The questionnaire has been constructed to reach this objectives. The content validity means, covers the full range of the issue or attitude being measured by the questions (Kumar, 2011). The questionnaire is tried to cover three independent variables that allow to investigate citizens' adoption of e-governance services.

In spite of the concurrent and predictive validity, the construct validity is been used in this study. "Construct validity establish correct measures for phenomenon being studied. It can be increased by using multiple sources of evidence, creating a chain of evidence, and reviewing case study report by "key informants" (Yin, 2003:34 cited in Joshi, 2011: 37). For

instance, this study is used a measurable indicators, such as usage, nature of services, and satisfaction in order to measure the level of adoption. Thus, the validity of the data has been assured.

It should be noted that, the quantitative data covers two different divisions. Therefore, data presentation and analysis takes a comparative manner. The data in line with the independent variables can be presented first. First, it should have an understanding about the demographic features of the respondents.

4.6.1. Demographic factors

The demographic information of the survey is analyzed across the respondents' gender distribution, age group, educational level, occupational status, occupational level, employment sector, and income level. The simple frequencies in descriptive statistics are used to understand the demographic information of respondents.

In this study, 15 male participants and 15 female participants have selected from each division. The total number of male participant is 30 and female is 30. Accordingly, as a percentage it is 50% for males and 50% for females as follows:

Figure 4.2: Gender distribution of respondents (%)
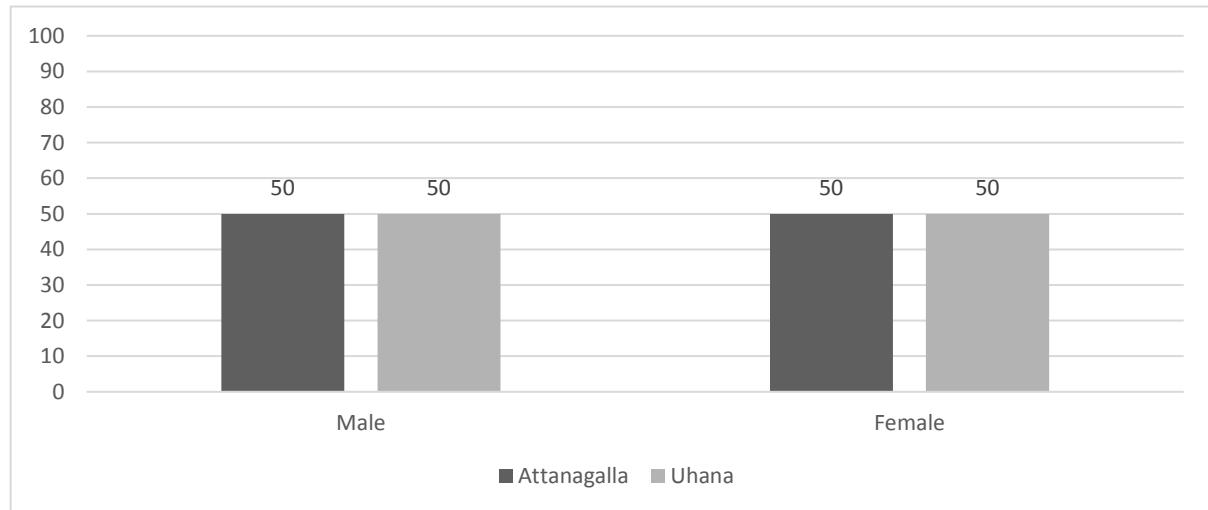
(Source: Survey Data, 2016)

The next demographic factor of respondents is age level. The age levels of Respondents into few age groups, such as 16-20, 21-30, 31-45, 46-60, and 60 and above. There is no missing data. The frequencies and percentages of age levels of respondents is follows:

Table 4.1: Age levels of respondents

Attanagalla			Uhana		
Age group	Frequency	Percentage	Age group	Frequency	Percentage
16-20 years	3	10	16-20 years	Nil	Nil
21-30 years	7	23.3	21-30 years	10	33.3
31-45 years	11	36.7	31-45 years	9	30
46-60 years	6	20	46-60 years	6	20
60 and above	3	10	60 and above	5	16.7
N	30	100	N	30	100

(Source: Survey Data, 2016)

Regarding age levels of the respondents in Attanagalla division 31-45 age group obtained majority of the respondents. In Uhana division, it is obtained by 21-30 age group. Interestingly researcher could communicate with 5 elder respondents in 60 and above years in Uhana division. And there are no respondents in 16-20 years in Attanagalla division. However, the large most of the respondents categorized into two age groups, namely 21-30 and 31-45 in both divisions.

Then, the study collected data on the education levels of the respondents. The levels have been grouped by nine (09) groups, namely, no school, primary education (1-5 grades), 6-10 grades, General Certificate of Education (Ordinary Level), General Certificate of Education (Advanced Level), under graduate, graduate, vocational education, and masters and above. The frequencies and percentages of respondents' education levels can be presented as follows:

Table 4.2: Educational level of respondents

Educational Level	Attanagalla		Uhana	
	Frequency	Percentage	Frequency	Percentage
No School	1	3.3	Nil	Nil
Primary (1-5 grades)	Nil	Nil	2	6.7
6-10 grades	Nil	Nil	Nil	Nil
G.C.E. O / L	13	43.3	10	33.3
G. C. E. A / L	8	26.7	11	36.7
Undergraduate	4	13.3	1	3.3
Graduate	1	3.3	5	16.7
Vocational education	1	3.3	Nil	Nil
Masters and above	2	6.7	1	3.3
N	30	100	30	100

(Source: Survey Data, 2016)

As this data set, there is one respondent who have not been schooled in Attanagalla. Also, there are no respondents for primary (1-5 grades) and 6-10 grades. The respondents who have G.C.E. O / L and G. C. E. A / L qualifications obtained the large part. In Uhana, there no respondents in the categories such no school, 6-10 grades, and vocational education. Similar with Attanagalla, Uhana also obtained the majority of respondents from G.C.E. O / L and G. C. E. A / L categories. Significantly, Uhana has 5 graduates in the respondents who were in the survey.

Next, the quantitative data about respondents' occupational status can be drawn. The occupational status is categorized under six (06) groups, namely, working, self-employed, unemployed, retired, student, and house wife. The data of both divisions can be presented in a column charts as follows:

Figure 4.3: Occupational status of respondents (%)
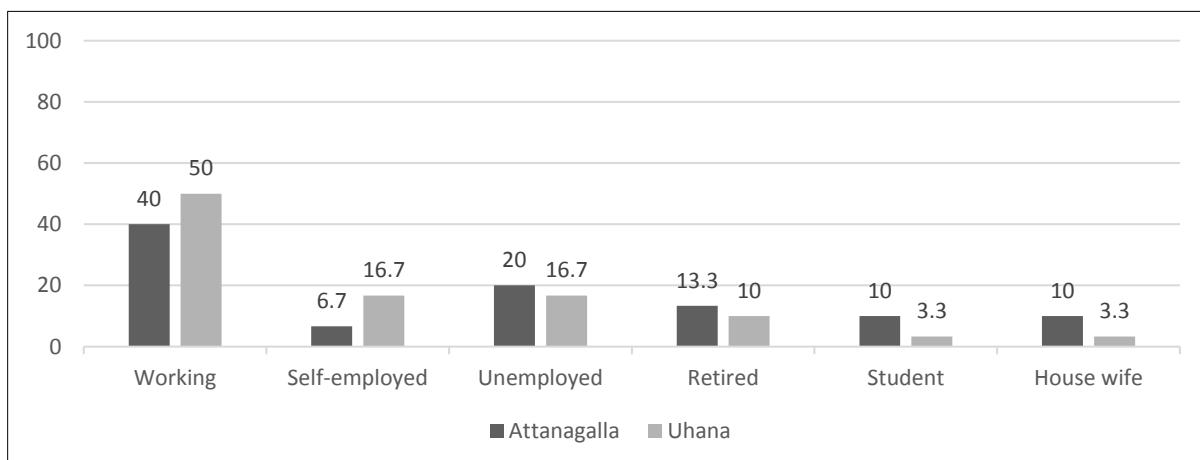
(Source: Survey Data, 2016)

As frequencies, Attanagalla has respondents like, 12 (working), 2 (self-employed), 6 (unemployed), 4 (retired), 3 (student), and 3 (housewife). In Uhana, 15 (working), 5 (self-employed), 5 (unemployed), 3 (retired), 1 (student), and 1 (housewife). However, most of the respondents from both divisions are working.

After that, the quantitative data on respondents' occupational levels have been gathered. The occupational sectors divided into several categories such as agriculture, business, executive, top management, and director, professionals (lawyer, doctor, accountant, etc.), health (nurse, family health officer), finance, academic / Teacher, and other. Under this sectors let's see the frequencies and percentages.

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Table 4.3: Occupational levels of respondents

Occupational Level	Attanagalla		Uhana	
	Frequency	Percentage	Frequency	Percentage
Agriculture	Nil	Nil	2	6.7
Business	2	6.7	7	23.3
Executive, top management, and director	Nil	Nil	1	3.3
professionals (lawyer, doctor, accountant, etc.	1	3.3	5	16.7
Health (nurse, family health officer)	1	3.3	Nil	Nil
Finance	2	6.7	Nil	Nil
Academic / Teacher	1	3.3	3	10
Other	11	36.7	5	16.7
Missing	12	40	7	23.3
Total valid	18	60	23	76.7
N	30	100	30	100

(Source: Survey Data, 2016)

There are some missing data regarding both divisions. Because unemployed persons did not response this particular question. There can be high frequencies in other category in Attanagalla division. In Uhana division, most of the respondents are in business category.

Next demographic feature is respondents' occupational sectors. This is explained under four (04) groups, namely, public sector, private sector, NGOs, and other. The percentages of respondents' occupational sectors can be presented in a column chart as follows:

Figure 4.4: Occupational sectors of respondents (%)
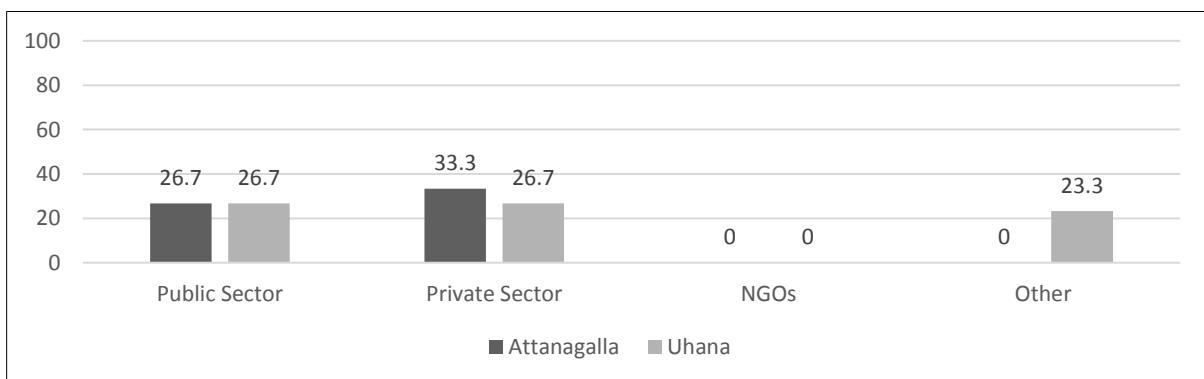
(Source: Survey Data, 2016)

There are 12 missing values in Attanagalla and 07 in Uhana. Because these respondents are unemployed. However, it seems that, percentages of public sector workers are similar in both divisions. But, percentage of private sector workers is higher in Attanagalla than Uhana. There are no NGOs workers and other sector workers in Attanagalla. Even though, there are no workers from NGOs sector in Uhana, there are many workers from other sectors.

The last important demographic factor is income level (monthly) of respondents. The levels have been categorized in seven (07) groups such as below Rs.10,000, Rs.10,000-20,000, Rs.20,000-30,000, Rs.30,000-40,000, Rs.40,000-50,000, Rs.50,000-60,000, and Rs,60,000 and above. The data on both divisions can be drafted in a bar chart as follows:

Figure 4.5: Income level (monthly) of respondents (%)
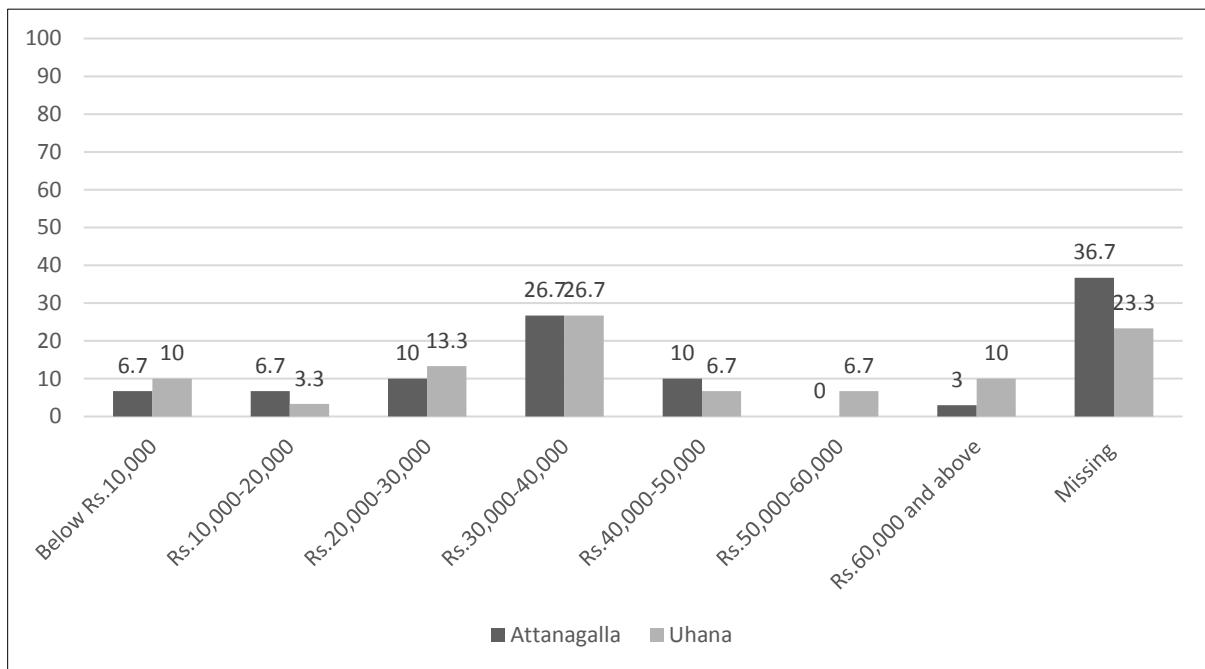
(Source: Survey Data, 2016)

There are 11 missing 11 in Attanagalla division. Also, 07 in Uhana division. Most likely, these missing values is based on the particular respondents' occupational status (unemployed and housewife). Majority of the respondents from both divisions have Rs.30,000-40,000 monthly income. Interestingly, it is showed same percentages in both divisions.

Thus, the qualitative data on demographic information of respondents in both divisions can be presented. Due to the small size of sample, it cannot be predicted that, these are the actual demographic features in respective divisions. There are many differences as well as less similarities between two divisions. Then, will see the quantitative data on another independent variable.

4.6.2. Awareness on e-governance services

The quantitative data about awareness on e-governance services measured by three indicators, namely, interpersonal communication, mass media, and social media channels.

Citizens get aware through these three different communication channels. However, the questionnaire has developed six (06) questions. The question number 6 has three sub questions with ranking.

The first question ask to know about citizens' general awareness on e-governance services and the Re-engineering government program. The frequencies and percentages can be used to analyze the descriptive statistics. The data on respondents' awareness on e-governance services in both divisions is follows:

Table 4.4: Awareness on e-governance services of respondents

Awareness on e-governance services	Attanagalla		Uhana	
	Frequency	Percentage	Frequency	Percentage
Yes (aware)	17	56.7	21	70
No (Not aware)	13	43.3	9	30
Total	30	100	30	100

(Source: Survey Data, 2016)

It is showed that, most of the respondents have awareness on e-governance services. The study particularly concerned on e-governance services that provide under the Re-engineering government program of Sri Lanka. Simply, the frequencies on awareness is high in Uhana than Attanagalla. However, it will be interesting to know that, how many males and females are aware and how many are not aware on e-governance services. Here, it is used the crosstabs and data is as follows:

Table 4.5: Gender distribution on awareness on e-governance services

Awareness	Attanagalla		Uhana	
	Male	Female	Male	Female
Yes	10	08	14	07
No	05	07	01	08
Total	15	15	15	15

(Source: Survey Data, 2016)

It is clearly shows that, male are the respondents who have awareness on e-governance services in both divisions. Male has a significant amount (14) of aware respondents. As the qualitative data, male citizens are aware than female citizens on e-governance services. The awareness can be measured through different types of communication channel. A question asked from respondents who have awareness, what is the communication channel you got awareness. The data can be drawn in a column chart as follows:

Figure 4.6: Sources of awareness on e-governance services (%)
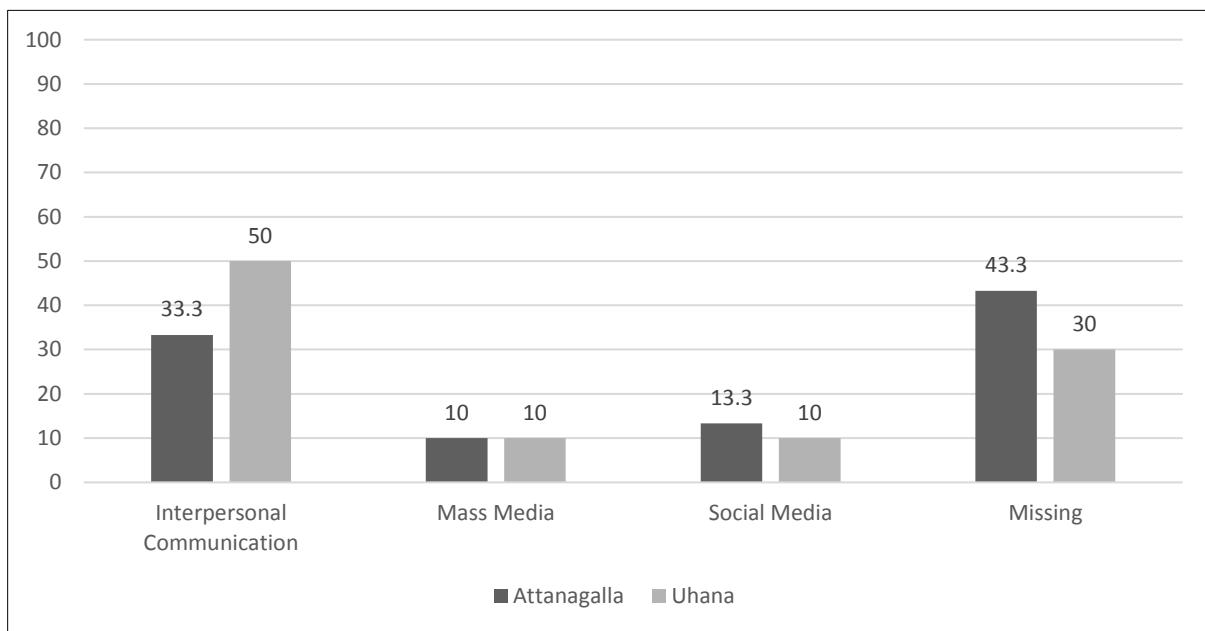
Impersonal communication channel is the most usable source in awareness in both divisions. Mass media channel has similar data in both divisions. Compare with Uhana division, respondents get to know about e-governance services from the social media channel in Attanagalla division. The missing data represents the respondents (Attanagalla-13, Uhana 09) who do not have aware on e-governance services.

The next question asked to know, what kind of information respondents have got from the interpersonal communication channel. There were three responses for this question, namely (1) It is merely a program which is introduced by government, (2) It is a program which is providing services to the citizens, and (3) It is a program which can be increased efficiency, effectivity, transparency, and accountability in public service delivery. The respondents have been used these answers for above question. The data analyzed that responses as follows:

Table 4.6: Information from the interpersonal communication

Question No.	Attanagalla		Uhana	
	Frequency	Percentage	Frequency	Percentage
1	3	10	7	23.3
2	10	33.3	9	30
3	4	13.3	5	16.7
Total valid	17	56.7	21	70
Missing	13	43.3	9	30
N	30	100	30	100

(Source: Survey Data, 2016)

Most of the respondents stated that, it is a program which is providing services to the citizens. Only 4 and 5 respondents respectively in Attanagalla and Uhana proclaimed stated that, it is a program which can be increased efficiency, effectivity, transparency, and accountability in public service delivery.

Then, a question asked to know that, are there enough awareness activities and programs the in mass media channels (both visual and print) about e-governance services. The data on this question can be presented as data in a pie chart as follows:

Figure 4.7: Availability of enough awareness activities and programs in the mass media (%)
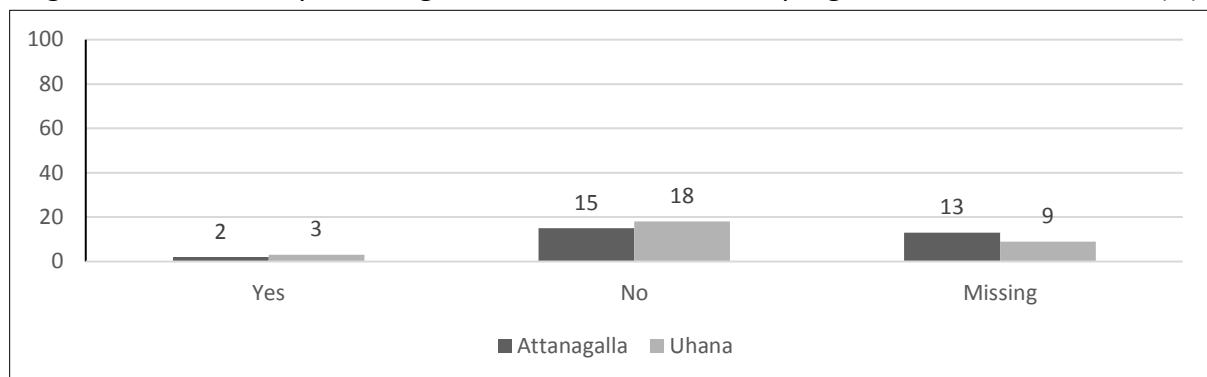
(Source: Survey Data, 2016)

The data shows that, there are no adequate awareness activities in the mass media channel. The qualitative data also emphasized that, there is a doubtable notion on mass media. In terms of the sources of awareness, mass media remains in 2nd position. Respondents could not see enough programs and activities in mass media on e-governance services such as paper notices, documentaries, advertisements, news, and so on. The situation is more or less similar in the social media channel. A question asked to know about the availability of trustworthy information in social media about e-governance service. The responses from both divisions can be presented as follows:

Figure 4.7: Availability of trustworthy information in the social media

Availability of trustworthy information	Attanagalla		Uhana	
	Frequency	Percentage	Frequency	Percentage
Yes (available)	4	13.3	4	13.3
No (not available)	13	43.3	17	56.7
Total valid	17	56.7	21	70
Missing	13	43.3	9	30
N	30	100	30	100

(Source: Survey Data, 2016)

According to the majority respondents, social media channels not provide trustworthy information on e-governance services. On one hand, they got very less information from social media channels. On the other hand, they have not an interest to search any information on e-governance services. The trust is an important factor in terms of adoption. Here, the situation is quite different. If they do not use social media and if they do not have an interest to search information in social media, how could they know about the availability on trustworthiness?

Next, the quantitative data collected to understand the importance information in different communication channels. This importance is measured through five (05) responses, namely, very high, high, uncertain, moderate, and low. The frequency distribution and crosstabs are used. There are three separate sub questions and separate responses from both divisions can be presented as follows:

Table 4.8: Importance of information in Interpersonal communication

Communication Channel	Importance	Attanagalla		Uhana	
		Frequency	Percentage	Frequency	Percentage
Interpersonal communication	Very high	2 (1M) (1F)	6.7	2 (M)	6.7
	High	4 (2M) (2F)	13.3	8 (5M) (3F)	26.7
	Uncertain	7 (4M) (3F)	23.3	2 (1M) (1F)	6.7
	Moderate	2 (M)	6.7	8 (5M) (3F)	26.7
	Low	2 (1M) (1F)	6.7	1 (M)	3.3
Total valid		17	56.7	21	70
Missing		13	43.3	9	30
N		30	100	30	100

M=Male   F=Female
(Source: Survey Data, 2016)

Table 4.9: Importance of information in mass media

Communication Channel	Importance	Attanagalla		Uhana	
		Frequency	Percentage	Frequency	Percentage
Mass media	Very high	Nil	Nil	Nil	Nil
	High	4 (3M) (1F)	13.3	5 (4M) (1F)	16.7
	Uncertain	9 (4M) (5F)	30	8 (5M) (3F)	26.7
	Moderate	3 (M)	10	3 (2M) (1F)	10
	Low	1 (F)	3.3	5 (3M) (2F)	16.7
Total valid		17	56.7	21	70
Missing		13	43.3	9	30
N		30	100	30	100

(Source: Survey Data, 2016)

Table 4.10: Importance of information in social media

Communication Channel	Importance	Attanagalla		Uhana	
		Frequency	Percentage	Frequency	Percentage
Interpersonal	Very high	2 (F)	6.7	1 (M)	3.3
	High	4 (M)	13.3	2 (M)	6.7
	Uncertain	9 (5M) (4F)	30	15 (9M)(6F)	50
	Moderate	1 (M)	3.3	1 (M)	3.3
	Low	1 (F)	3.3	2 (1M) (1F)	6.7
Total valid		17	56.7	21	70
Missing		13	43.3	9	30
N		30	100	30	100

(Source: Survey Data, 2016)

The data shows that, most of the respondents from both divisions have an uncertainty about importance of information in mass media and social media. In Attanagalla, the level of uncertainty is high than Uhana on interpersonal communication. Also, the responses for high level importance of information are same regarding all communication channels in Attanagalla. In both divisions, there are no responses for high level importance of information in mass media channel. The uncertainty level on importance of information in social media is high in Uhana (50%) than Attanagalla (30%).

The levels of awareness on e-governance services through different communication channels are more or less different on both divisions. The data showed that, interpersonal communication is important than mass media and social media in terms of the sources of awareness. Additionally, it can be seen the gender distribution on the importance of information in different communication channels regarding both divisions. It is cleared that, different communication channels have different influence on create awareness on e-governance services among citizens. So, citizens' adoption of e-governance services influence by awareness that got from different communication channels in different levels.

4.6.3. Easiness of e-governance services

From the question number 14, 15, and 16 asked to get information from respondents on easiness of e-governance services. Easiness of e-governance services measured through three (03) indicators, namely, save time and money, visibility, and user friendliness. It should be noted that, the study concerned the e-governance services that can be received by DSs (e-enabled counter services) as well as by internet (call center services and online services).

First, the data collected to know about the overall response about easiness receiving of e-governance services. The simple frequency is analyzed descriptive statistics as follows:

Figure 4.8: Easiness of e-governance services (%)
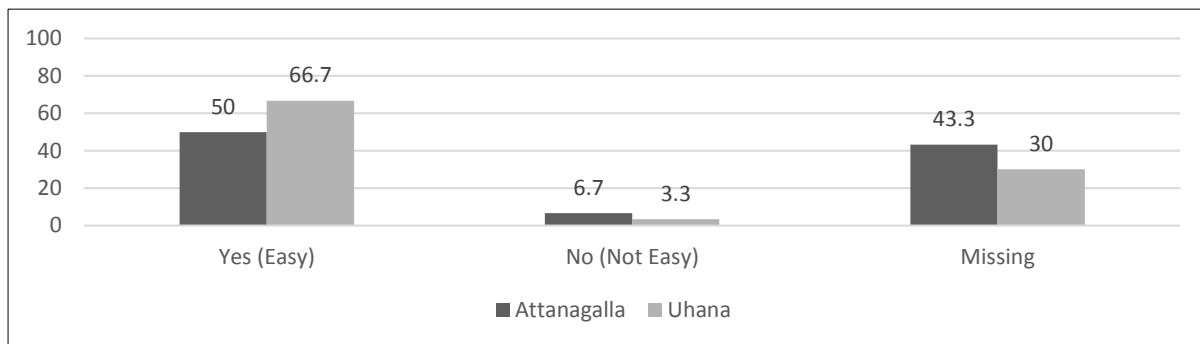
(Source: Survey Data, 2016)

The overall picture says that, e-governance service are easy to get. Only few respondents have proclaimed that, it is not easy. The frequencies of respondents are distributed as 15 (Yes) and 2 (No) in Attanagalla and 20 (Yes) and 1 (No) in Uhana. It implied that, they have an idea about e-governance services are easy to get from both ways (counter and online services). Even though, it cannot be concluded that, receiving e-governance is very easy. It should be categorized the degree of easiness. The frequencies and percentages of the degree of easiness have given below:

Table 4.11: The degree of easiness

Degree	Attanagalla		Uhana	
	Frequency	Percentage	Frequency	Percentage
Very easy	1	3.3	6	20
Easy	12	40	9	30
Average	4	13.3	5	16.7
Difficult	Nil	Nil	1	3.3
Very difficult	Nil	Nil	Nil	Nil
Total valid	17	56.7	21	70
Missing	13	43.3	3	30
N	30	100	30	100

(Source: Survey Data, 2016)

Now, it is cleared that receiving e-governance services is "easy", not "very easy". Similarly, it is not difficult and very difficult. There are no responses in category of very difficult.

Next, the survey is collected data on easiness of e-governance services through three measurable indicators, namely, save money and time, visibility and, user-friendliness. It should be noted again, here the study concerned both on counter services in DSs and online

and call center services in internet. To know the responses, the question number 16 provided three statements such as, compare with manual the public services delivery system,

1. e-governance services allow to save money and time of citizens,

2. e-governance services provide in an effective, efficient, accountable, and transparent manner (visibility), and

3. e-governance services can be received in a friendly environment regarding counter services. The online services ensure the user-friendliness.

Respondents got five (05) types of response, namely, strongly disagree, partly disagree, partly agree, strongly agree, and do not know. The data can be presented as follows:

Figure 4.9: The level of save money and time (%)
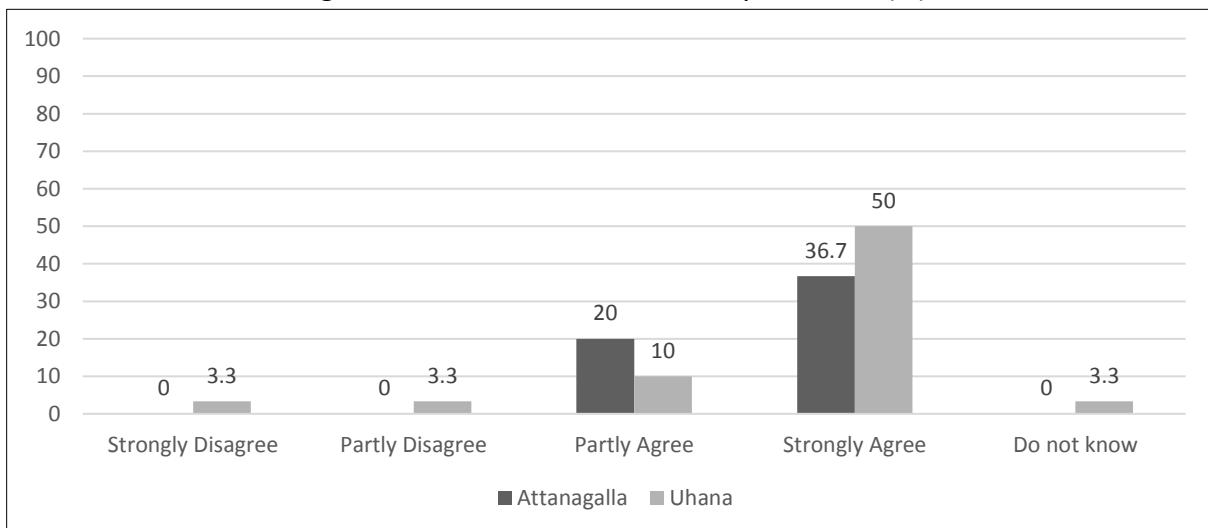
(Source: Survey Data, 2016)

Figure 4.10: Provide effective, efficient, accountable, and transparent services (%)

(Source: Survey Data, 2016)

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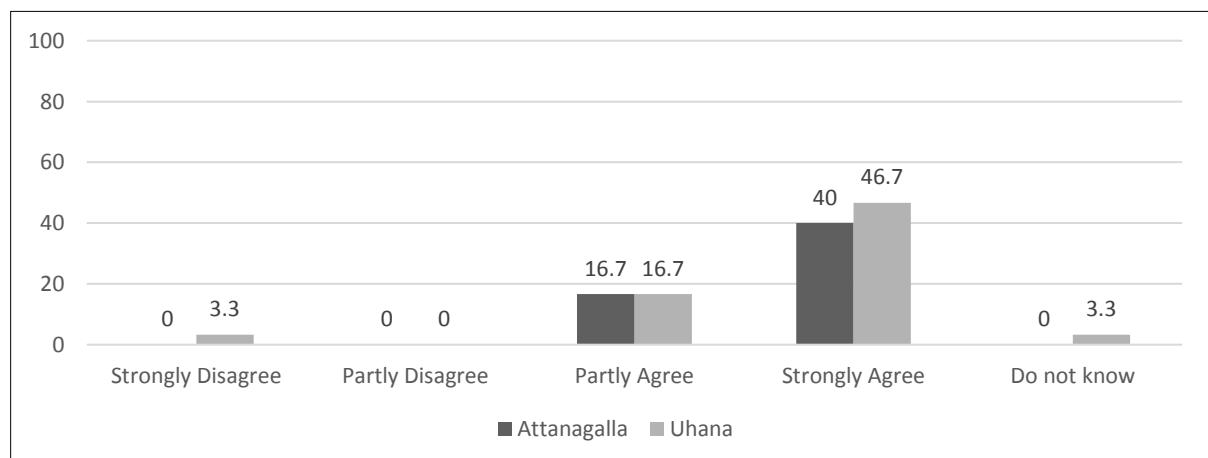
Figure 4.11: Availability of services in a friendly environment / user-friendliness (%)
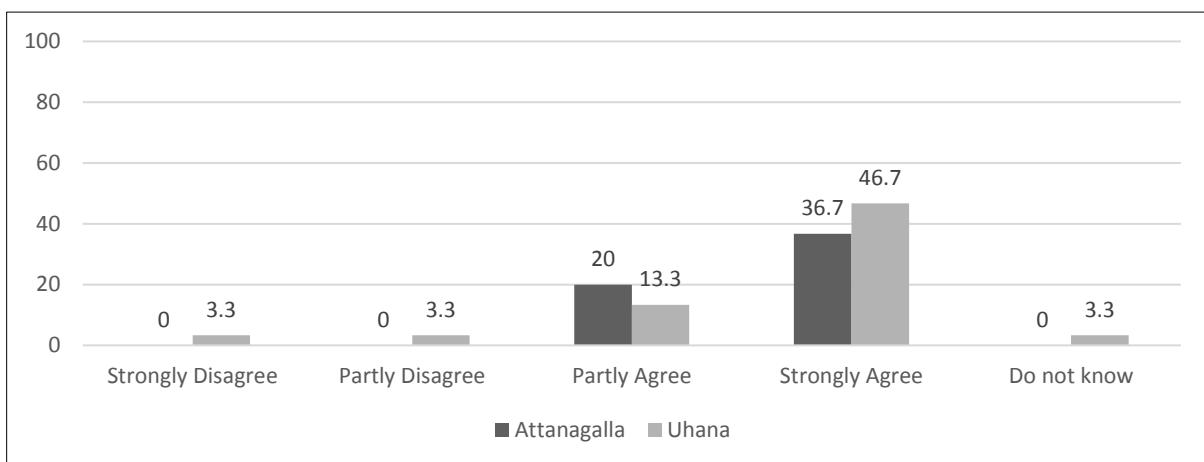
(Source: Survey Data, 2016)

The overall answer on above all three statements is "strongly agree" in both divisions. After that, there are some respondents partly agreed with all three statements. There are only few respondents who strongly disagree, partly disagree, and do not know. This is said that, many of the respondents have a positive perception on e-governance services.

Thus, it can be presented the data on three independent variables of this study. The demographic factors will be analyzing again with the dependent variable. Regarding awareness and easiness have similar as well as different data in both divisions. However, the qualitative data seems to be differed from the quantitative data. These similarities and differences will be discussing in the last chapter. Now, the attention should be paid on the dependent variable.

The dependent variable of this study is citizens' adoption of e-governance services. It is measured to be through three (03) measurable indicators, namely, usage, nature of services, and satisfaction.

4.6.4. Usage of e-governance services

In usage of e-governance services, the study looked for two things such as respondents' moves to their respective DSs to get public services and degree of getting e-governance (under the Re-engineering government program) services. First, let's see about the data on respondents' moves to DSs in both divisions. The frequencies and percentages can be presented as follows:

Table 4.12: Moves of respondents to DSs

Degree	Attanagalla		Uhana	
	Frequency	Percentage	Frequency	Percentage
Very frequently	Nil	Nil	Nil	Nil
Frequently	1	3.3	Nil	Nil
Normally	11	36.7	12	40
Sometimes	5	16.7	9	30
Total valid	17	56.7	21	70
Missing	13	43.3	9	30
N	30	100	30	100

(Source: Survey Data, 2016)

There is no data in "very frequently" category in both divisions. Also only 1 respondent go to DS frequently in Attanagalla and no one in Uhana. Most of the respondents normally and some of them go to their respective DSs sometimes. In other words, they are going these respondents are going there as needs and requirements.

Next, respondents' degree on receiving e-governance services under the Re-engineering government program. They got four (04) types of response like (1) Regularly (2) Usually (3) Rarely, and Very Rarely. The data can be presented in a bar chart as follows:

Figure 4.12: Degree of receiving e-governance services (by counter services, call centers, web portals) (%)
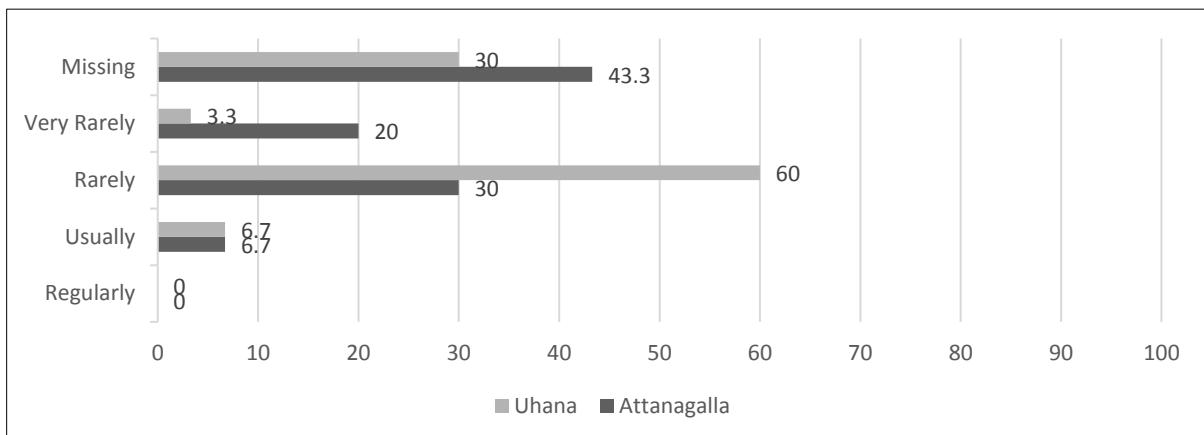
(Source: Survey Data, 2016)

There are no regular respondents that receive e-governance services. Most of the respondents are rarely getting e-governance service. As frequencies it is 9 in Attanagalla and 18 in Uhana. So, Uhana has a significant amount of respondent who receive e-governance services rarely. There are some respondents who receive service very rarely in both divisions. The qualitative data showed that, participant are receiving services only when they have a

need for services. Otherwise, they do not have an interest to put extra ordinary look for services. In some cases, participants are not aware about either it is an e-governance service or not. They just receive services unknowingly.

4.6.5. Nature of e-governance services

The next measurable indicator of the dependent variable is nature of e-governance services. This indicator looked for, what kind of e-governance services that are receiving by respondents. There are seven (07) services under the Re-engineering government programs, namely, public Registration, company Registration, land Registration, Government Information Center (GIC), e-Motoring, e-Foreign Employment, and e-Divisional Secretariat. From the data on nature of services allows to understand the services which is / are more usable and not.

Table 4.13: Frequency distribution of e-governance services

Nature of service	Attanagalla		Uhana	
	Yes	No	Yes	No
Public Registration (BMD)	12	5	11	10
Company Registration	Nil	17	3	18
Land Registration	1	16	5	16
GIC (1919)	11	6	5	16
e-Motoring	9	8	12	9
e-Foreign Employment	Nil	17	Nil	21
e-Divisional Secretariat	Nil	17	Nil	21

(Source: Survey Data, 2016)

It is shows that, the most use e-governance are public registration (Birth, Marriage, and Death) and e-Motoring (vehicles' revenue licenses issuing), and GIC (1919-call center service). Among these services, e-Foreign Employment and e-Divisional Secretariat are not using by respondents. Likewise, services such as company registration and land registration also identified as less use e-governance services.

4.6.6. Satisfaction on e-governance services

Rest of the two questions developed to know about the satisfaction of respondents on e-governance services. The satisfaction is measured by quality of services, quality of information, benefits of services. Before measure the level of satisfaction it had to know

about three (03) statements have been provided for respondents in order to know about the factors influence to satisfaction as follows:

1. The DSs (counters) and internet (web) provide quality e-governance services,
2. There is high quality of information that citizens can get from DSs as well as internet and,
3. There are benefits by getting e-governance services.

The respondents got five (05) types of response, namely, (1) Strongly Disagree (2) Partly Disagree (3) Partly Agree (4) Strongly Agree, and (5) Do not Know. It is better to present data on three statements separately in clustered columns as follows:

Figure 4.13: Quality of services (%)
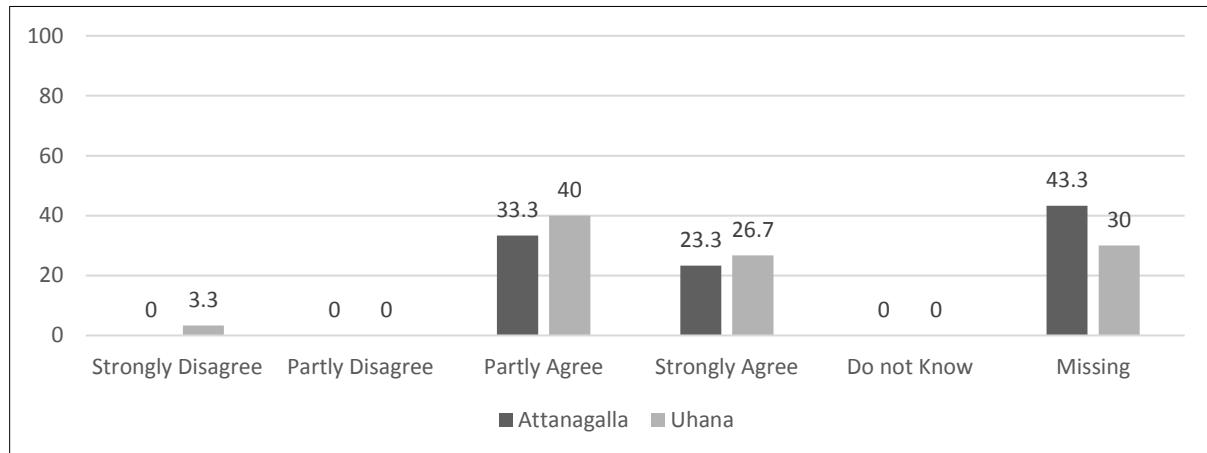
(Source: Survey Data, 2016)

Figure 4.14: Quality of information (%)

(Source: Survey Data, 2016)

114
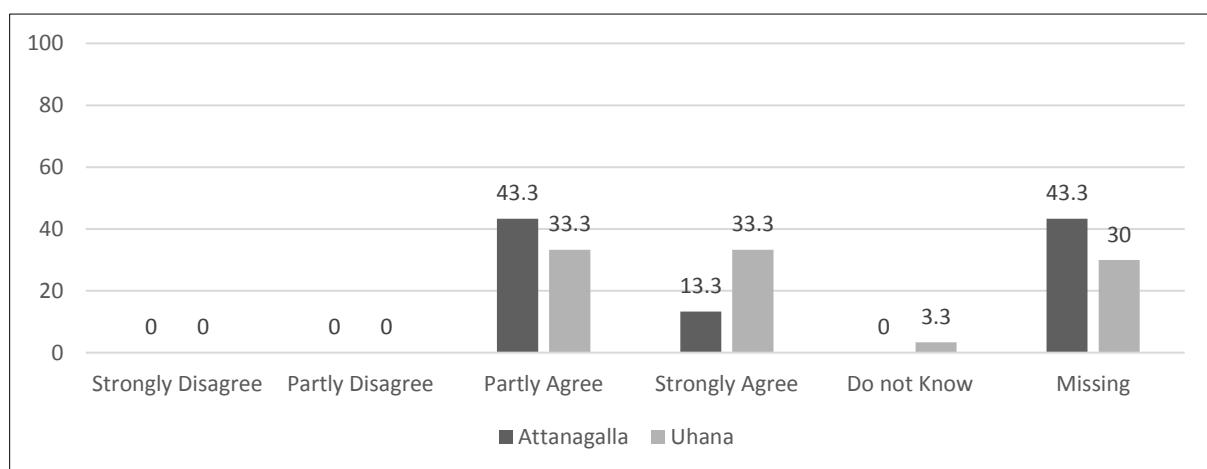
Figure 4.15: Benefits of e-governance services (%)
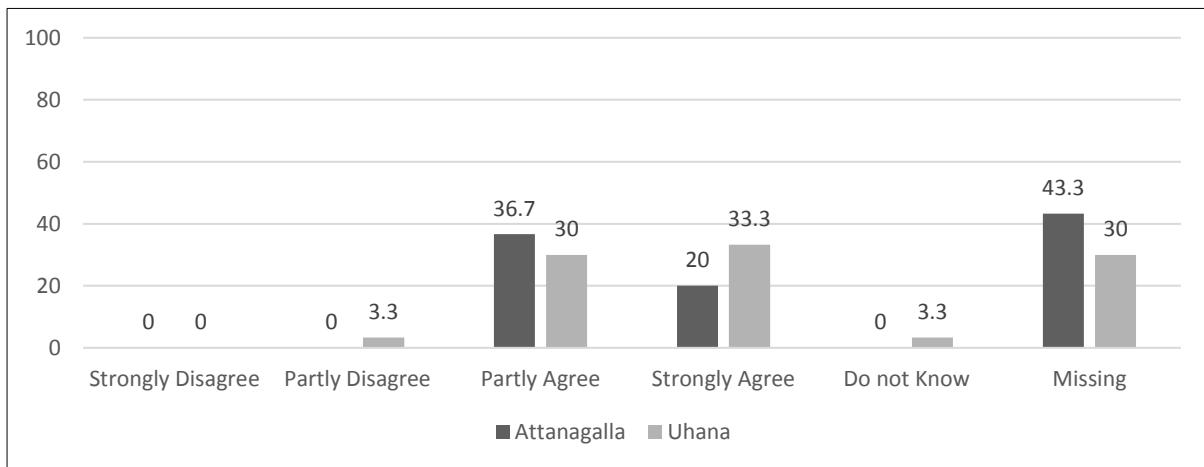
(Source: Survey Data, 2016)

These finding clearly showed that, most of the respondents have positive answers on above three statements. Although, they have not strongly disagreed or strongly agreed with the statements. Instead of that, they only a have half consensus. In other words, they obtained a moderate position regarding the influence factors on satisfaction of e-governance services. These influence factors are highly important to explain the satisfaction.

After getting know about the influence factors on satisfaction, it has been opened an approach to measure the level of satisfaction. Here, it is used a scale from 1 to 9 to understand the satisfaction level. The implications for each numbers are distributed like: 1 = Not Satisfactory, 2 = Satisfaction Level 2, 3 = Satisfaction Level 3, 4 = Satisfaction Level 4, 5 = Satisfactory, 9 = Do not Know. However, the responses from both divisions presents as follows:

Figure 4.16: Satisfaction levels of respondents on e-governance services (%)

(Source: Survey Data, 2016)

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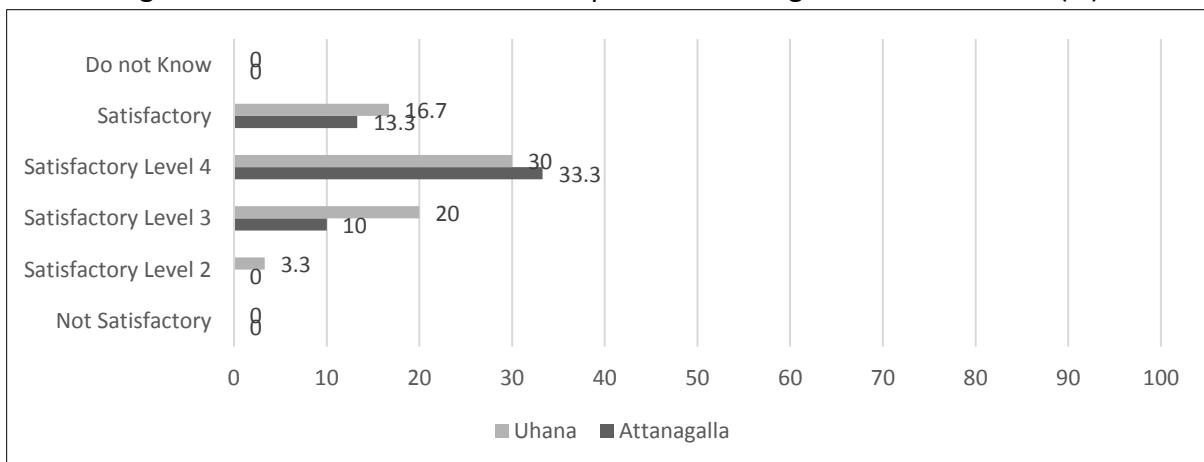
Most of the responses remain in the category of satisfactory level 4. It is very close to the category of satisfactory. The responses distributed on satisfactory level 2 to satisfactory level 4. There are no respondents who have in the category of not satisfactory and do not know. All the respondents included in different satisfactory levels. As a whole, respondents have an average level of satisfactory on e-governance services.

To a proper explanation on the dependent variable, some of the independent variables can be crossed with dependent variable by using cross tabulation in descriptive statistics analysis. This helps to test the hypothesis in this study. Let's see the crosstabs analysis between the usage rates of e-governance services across the respondents' demographic factors. Firstly, let's do a cross tabulation to identify the linkage between gender and usage.

Figure 4.14: Crosstabs between gender and usage rate

Usage	Degree	Attanagalla		Uhana	
		Male	Female	Male	Female
Moves to DSs to receive public services	Very Frequently	0	0	0	0
	Frequently	1	0	0	0
	Normally	7	4	9	3
	Sometimes	2	3	5	4
N		15		17	
Receiving e-governance services	Regularly	0	0	0	0
	Usually	2	0	2	0
	Rarely	2	7	12	6
	Very Rarely	6	0	0	1
N		15		17	

(Source: Survey Data, 2016)

As this crosstab analysis chart, male respondents are normally going to their respective DSs than female respondents to get public services. Both male and female are not frequently going to receive public services from DSs. However, male respondents in Attanagalla are usually receiving e-governance services than female respondents. In Uhana, males are very rarely receiving e-governance services. Although, male respondents obtained the majority in terms of usage e-governance services. This supports the hypothesis that, male has high usage to e-governance services than female. Accordingly, the hypothesis can be proofed that, male citizens have high level of usage of e-governance services than female citizens. Secondly, it can be seen the crosstabs between usage and age levels of respondents as follows:

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Table 4.15: Crosstabs between age level and usage rate

Usage	Degree	Attanagalla					Uhana				
		16-20	21-30	31-45	46-60	60 & above	16-20	21-30	31-45	46-60	60 & above
Receiving e-governance services	Regularly	0	0	0	0	0	0	0	0	0	1
	Usually	0	1	1	0	0	0	1	0	0	0
	Rarely	1	2	3	2	1	0	8	3	4	3
	Very Rarely	0	2	2	1	1	0	0	1	0	0
N		17					21				

(Source: Survey Data, 2016)

Above chart shows that, in spite of the degree of usage, 31-45 age group is receiving large amount of e-governance services in Attanagalla. By contrast, it is 21-30 age group in Uhana. It implies that, younger citizens have an interest to get services than elder citizens. This supports the hypothesis that, young citizens use e-governance services than elder citizens. Next, another cross tabulation can be done in order to understand the link between educational level and usage.

Table 4.16: Crosstabs between educational level and usage rate

Usage	Degree	Attanagalla									Uhana								
		No Schooling	1-5 grades	6-10 grades	G.C.E. O / L	G.C.E. A / L	Undergraduate	Graduate	Vocational Education	Masters and above	No Schooling	1-5 grades	6-10 grades	G.C.E. O / L	G.C.E. A / L	Undergraduate	Graduate	Vocational Education	Masters and above
Receiving e-governance services	Regularly	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Usually	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	0	0	0
	Rarely	0	0	0	2	4	1	1	0	1	0	0	0	9	7	1	0	0	1
	Very Rarely	0	0	0	5	0	1	0	0	0	0	1	0	0	0	0	0	0	0
N		17									21								

(Source: Survey Data, 2016)

The data shows that, respondents have education qualifications from G.C.E. O / L have higher usage than respondents who have education levels from "No schooling" to "6-10 grades". At the same time, respondents who remain in educational level from "undergraduate" to

"masters and above level" does not show a significant interest to receive e-governance services. Even though, respondents remain in educational level G.C.E. O / L and G.C.E. A / L also receive services rarely and very rarely. There are very few usual service seekers in both divisions. However, this not supports the hypothesis that, educated citizens receive services than less educated or uneducated citizens. Because, as the data, there is no significant amount of service seekers those who have high levels of education.

The last cross tabulation is to be linked the income level and usage of e-governance services. The linkage can be done through seven (07) income level of respondents as follows:

Table 4.17: Crosstabs between income level and usage rate

Usage	Degree	Attanagalla							Uhana						
		Below Rs.10000	Rs.10000-	Rs.20000-	Rs.30000-	Rs.40000-	Rs.50000-	Rs.60000 and above	Below Rs.10000	Rs.10000-	Rs.20000-	Rs.30000-	Rs.40000-	Rs.50000-	Rs.60000 and above
Receiving e-governance services	Regularly	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Usually	0	0	0	1	0	0	0	0	1	1	0	0	0	0
	Rarely	1	1	0	3	1	0	1	2	0	2	7	1	2	1
	Very Rarely	0	0	3	1	0	0	0	0	0	0	0	0	0	0
N		12							17						

(Source: Survey Data, 2016)

This chart shows that, respondents who have different income level, they have different level of usage rate. Indeed, respondents remain at income level such as Rs.20000-30000 and Rs.30000-40000 have high usage rate in both divisions. Although they are the middle income respondents and close to middle income level. Otherwise, respondents who have high income level such as Rs.50000-60000 and Rs.60000 and above do not show an eagerness to use e-governance services. Therefore, this not supports to the hypothesis that, citizens with a high income tend to be used services than citizens with a low income.

It is said that, first two hypothesis have been accepted. But, third and fourth hypothesis have been not accepted. Thus, quantitative data can be analyzed and it produced important findings on citizens' adoption of e-governance services in selected divisions.

4.7. Conclusion

The chapter mainly deal with both qualitative and quantitative data analysis and findings regarding citizens' adoption of e-governance services. First, it is discussed the methods and methodology that used in this study. Then the qualitative data has been analyzed in a descriptive way. After, the quantitative data has been analyzed by using the SPSS. Accordingly, four hypothesis of this study have been tested by using some crosstabs analysis.

This chapter put a significant attention on data analysis and findings. The qualitative data collected through semi-structured interviews with 20 citizens and 10 administrative officers. Under the thematic analysis, six global themes and several organizing themes have been used to analyze the data. It is to be noted that, researcher got more or less similar kind of findings on selected divisions. In some cases, there can be seen some differences. In case of first two global themes (awareness and easiness) two divisions showed similar data while the third global theme has different data on different divisions. Although there are some differences between two divisions on last three global themes such as usage, nature of services, and satisfaction.

The quantitative data collected by a questionnaire survey with 60 respondents. Mainly, frequency analysis and cross tabulation are used to analyze descriptive statistics. The findings emphasized that, most of the respondents are using e-governance services. Even though, some of them do not know that, they are using e-governance services. In case of tendencies in adopting services, findings sated that, there are no distinctive dimensions. Most of the respondents are using e-enabled counter services instead of online services. Additionally, the level of satisfaction on services is positioned in a moderate level.

The findings on awareness on services and easiness of services showed many similarities between two divisions. Although, there are many differences on demographic features of respondents between two divisions. Since, the hypothesis are based on the demographic factors some of the cross tabulation analysis done in order to understand the linkages between the demographic factors and usage level of e-governance services. These crosstabs helped to test the four hypothesis. However, two hypothesis have accepted and other two is not accepted.

Chapter 5
Conclusion

5.1. Introduction

First, this chapter aims to summarize the whole thesis. Then, the chapter discusses about the research findings in line with the theoretical foundation. Finally, the thesis can be concluded with a mention about further implications of research on this area. This study tried to understand the citizens' perspective on e-governance services in Sri Lanka. Though, the concept of governance has a long historical background, the concept of e-governance has been emerged in the recent history. From the beginning it introduced to change the traditional face of governance and public administration. Basically, it came up with the automation in public service delivery in mostly developed countries, but also in some underdeveloped countries. By the time, the concept of e-governance has been changed rapidly due to the information and communication revolution. Under the advancement of ICT, many of underdeveloped countries. Sri Lanka adopts this new concept from the early 1980s. Accordingly, the country is developed many e-governance programs such as e-Sri Lanka. In a short time period, Sri Lanka achieved significant developments in e-governance. The country could stand in high positions in global and regional e-governance ranking.

This study concerned on one of an important element of the e-Sri Lanka, called, the Re-engineering government program. The study selected two divisions from Gampaha (Attanagalla) and Ampara (Uhana) Districts. The study amid to know about the citizens' perspective on e-governance services that provide under this program. DSs are the lower level administrative units that designated to provide many public services for citizens. The e-Sri Lanka program introduced an automation process for all the DSs in Sri Lanka. Under this program, DSs started to deliver services by using different electronic means. As discussed in chapter 3, the Re-engineering government program has seven (07) programs.

This study investigated citizens' adoption of these services. Among these services, DSs provide some selected services as their ICT and human resources. All the citizens can receive these services. Some services remain in internet (government web portals, government call center, and other online services). With this study background, to fulfil the specific objectives of the study, a broad research problem has been constructed as follows: *Though, Sri Lanka remains*

in a significant position regarding e-governance at global as well as regional (South Asia) level, does citizens' adoption of e-governance services remain in an expected level? To answer this problem, the study is formulated four research questions such as (1) to what extent is the public usage of e-governance services in two selected divisions? (2) what are the tendencies can be seen in adopting of e-governance services? (3) to what extent is the satisfaction of citizens on e-governance services? and (4) what are the factors influencing for citizens' adoption of e-governance services?

To find the comprehensive answers for these question, the study obtained the mix-method research methodology. Diffusion of Innovation (DOI) theory has been adopted to build up the theoretical discussion. Based on related literature and theoretical discussion, an analytical framework has been created with a dependent variable that is to be measured through three (03) independent variables. On the basis of the analytical framework, a survey and several interviews are conducted to collect primary data. The survey have received responses of 60 citizens and 20 interviews with citizens and 10 interviews done with the administrative officers in selected DSs. To analyze the qualitative data the thematic analysis is used. And, the quantitative data analyzed by SPSS data analysis software. After the analysis of quantitative data four hypothesis have been tested.

Research findings from the thematic analysis are used to understand the citizens' perspective on e-governance services in Sri Lanka. The results from the SPSS analysis and findings from the thematic analysis are used to validate overall findings of the research. This last chapter tries to discuss the overall findings based on the theoretical concerns of this study. Then, the chapter discusses about the spaces for further studies on related field.

5.2. Research Findings and Theoretical Concerns

This study received findings from two ways, namely (1) the thematic analysis findings based on the qualitative data and (2) the results from the SPSS analysis. These two types of findings can be presented based on the theoretical foundation. This study was adopted the Diffusion of Innovation theory that developed by E.M. Rogers in 1962. Some of the implications of this theory have been used in the theoretical discussion and an analytical framework is developed based on this discussion as well as related literature. After the data analysis, now the time is look on research findings parallel with theoretical concerns.

As Rogers, "diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system" (1983: 5). It originated in communication to explain how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. This has been applied in this study as follows: if e-governance is a new idea (an innovation) and e-governance services are products how people adopt those and how long will be gained to spread that innovation. "An innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption" (Rogers, 1983: 11). Thus, citizens adopt e-governance services as a new idea and practice. Maybe, citizens can be ignored this new idea and practice. Research findings from the thematic analysis showed that, citizens are getting many public services frim administrative units. But, they do not which service is the e-governance service or which service is not. Someone may have known about an innovation for some time but not yet developed a favorable or unfavorable attitude toward it, nor have adopted or rejected it" (Rogers, 1983: 11).

The findings on the dependent variable showed the necessity of revisit the theoretical implications. The independent variable is measured through three indicators, namely, usage, nature of services, and satisfaction. Let's pay the attention on usage of e-governance services.

In the theoretical implications, there are different kind of adopters. However, some research findings not completely matched with the theoretical concerns. According to this theory, there are five (05) type of adopters, namely, innovators (venturesome), early adopters (respectable), early majority (deliberate), late majority (skeptical), and laggards (traditional). As the explanation on these types of adopters, chapter two noted that, main innovator is government of Sri Lanka. The early adopters would be other organizations such as private sector (national) and aid agencies (international). The early majority would be the government agencies that have been adopted Re-engineering government program and designated to deliver the services under the program. The late majority would be the citizens and business entities which are located in divisions that close to the capital (Colombo) of the country and they may be adopted e-governance services before the last adopters. Finally, the laggards would be the citizens who living in periphery of the country.

Although, this theoretical implication cannot be completely with the research findings. Basically, this study investigates the citizens' perspective on e-governance services. In other words, this study deals with the demand side of e-governance in Sri Lanka. Above explanation on adopters emerged not only from the demand side, but also from the supply side. Otherwise, the majority is adopters represents the supply side (government). The demand side only have the last two type of adopter (late majority and laggards). Above description says that, late majority are the e-governance users in the center (urban areas) of the country and laggards are the e-governance users in the periphery (rural areas) of the country. In fact, Attanagalla is located in an urban division and Uhana is located in a rural area of the country. Even though, research findings showed that, there are no significant differences between two selected divisions regarding the usage of e-governance services. As the findings of the thematic analysis, there is no different between Attanagalla and Uhana division on usage. As the results of SPSS analysis, the usage rates are more or less similar in both divisions. But, the frequencies on citizens who are receiving services very rarely in Uhana (60%) division is higher than Attanagalla (30%). It is cleared that, the types of adopters cannot be applied as mentioned in theoretical discussion with research findings on usage of e-governance services.

Furthermore, the theoretical discussion implied another implication of adoption, called, the rate of adoption. As the DOI theory, the rate of adoption related with the time dimension. "The rate of adoption is usually measured by the length of time required for a certain percentage of the members of a system to adopt an innovation" (Rogers, 1983: 23). As the findings of the thematic analysis based on the qualitative data collected from interviews with several citizens from both divisions, some of the participants do not know that, there are e-governance services that they can get. Likewise, they do not know about some online e-services such as GIC. The GIC of Sri Lanka has been introduced in long time ago under the e-Sri Lanka program. Although, still citizens did not have shown an interest even to know that instead of adoption. It is said that, still the time is not came to adopt this innovation.

In case of the nature of e-governance services, there can be seen several services under the Re-engineering government program. Findings showed that, citizens have different type of adoption rates on these services. They adopt their services as their needs. According to the theoretical discussion, there are three (03) types of innovation-decisions, namely, optional, collective, and authority. It seems that, this classification can be applied for the findings on

tendencies that can be seen in adopting e-governance services. Among the services, public, land, and company registration can be identified as optional innovation-decisions. Because, citizens can receive this services electronically as well as manually. Moreover, e-services in internet like, government web portals, GIC-1919, and etc. also included in this category. Citizens can adopt or reject these online services. Additionally, e-Motoring seems like an authority innovation-decision. Because, the government has been decided to introduce this service with the technological assistance of other institutions.

Satisfaction is the next measurable indicator in the dependent variable. Satisfaction has been explained through quality of services, quality of information, and benefits of services. Comparatively, e-governance services have these three advantages than manual public services. The DOI theory says that, relative advantages is the degree to which an innovation is perceived as better than the idea it supersedes. This may be measured in economic terms, social-prestige factors, convenience, and satisfaction. Whatever the objective of the innovation, important thing is whether individuals adopt the innovation as an advantage. If they perceive the relative advantage of an innovation in a greater way, the adoption rate also will be greater (Rogers, 1983).

The thematic analysis proclaimed that, citizens have a considerable satisfaction on e-governance services. But, there should be developed some social, political, economic, and cultural aspects in order to enhance the level of satisfaction. The SPSS analysis helped to measure the level of satisfaction. However, citizens from both divisions obtained a moderate position regarding the influence factors (quality of services, quality of information, and benefits of services) on satisfaction of e-governance services. As a whole, respondents have an average level of satisfactory on e-governance services.

This study particularly examined the factors influencing for citizens' adoption of e-governance services. Based on the dependent and independent variables of this study, the qualitative and quantitative data has been collected. In first independent variable (awareness) is measured through three measurable indicators, namely, interpersonal communication, mass media, and social media. The DOI theory have put a significant attention on communication channels. In the diffusion of innovation, communication is a crucial factor. It helps to spread the innovation from one to other. A communication channel connecting the two units (Rogers,

1983). The study found that, interpersonal communication is important than mass media and social media channels. But DOI theory says that, "mass-media channels are more effective in creating knowledge of innovations, whereas interpersonal channels are more effective in forming and changing attitudes toward the new idea, and thus in influencing the decision to adopt or reject a new idea" (Rogers, 1983: 35-36). Interpersonal communication channel is more effective in persuading an individual to adopt a new idea, especially if the interpersonal channel links two or more individuals who are near peers. Research findings says that, citizens are getting information on e-governance services from other citizens as well as bureaucratic officers in administrative units.

Regarding easiness of e-governance services, the survey data implied that, it is easy to receive e-governance services according to most of the respondents. Only few respondents responded that, it is not easy. Even though, it is not very easy to get. In the thematic analysis findings are similar with SPSS analysis results. The easiness is measured by three indicators such as save money and time, visibility, and user friendliness. In the theoretical implications imply that, "the easier it is for individuals to see the results of an innovation, the more likely they are to adopt" (Rogers, 1983: 16). The thematic analysis found that, some services are very easy to get. "Some innovations can be adopted by individuals as the simplicity" (Rogers, 1983).

For instance, GIC (1919-government call center) service is very easy to get. Rogers notes that, "most of the innovations studied in diffusion research are technological ideas. A technology is a design for instrumental action that reduces the uncertainty" (1983: 232). Due to the availability of services in local languages (Sinhala and Tamil), many citizens have an interest to adopt. Because, service seekers can get reliable information and can understand easily. Likewise, it has been connected to the idea of awareness. Specifically, citizens get services and they ask them others to get those. "Such visibility stimulates peer discussion of a new idea, as friends and neighbors of an adopter ask him or her for innovation-evaluation information about it" (Rogers, 1983: 16). Rogers showed five (05) characteristics of innovations. The last characteristic is observability. Observability is the degree to which the results of an innovation are visible to others. After adoption of innovations, the consequences can understand by other members of society (Rogers, 1983). An example, citizens who have got traditional public services based on paperwork, could understand the consequences of

electronic services. Findings show that, the easiness of e-governance services is based on this visibility.

Choosing the demographic factors that influence to adoption of e-governance services is based on previous studies and related international, regional, and national level literate on e-governance and citizens adoption of e-governance services. Therefore, this independent variable (demographic factor) do not directly deals with the theoretical foundation of this study.

Likewise, there will be some differences in the rate of adoption in different social systems. There can be seen many differences in different social systems and in a same social system. Rogers said that, "it is important to remember that diffusion occurs within a social system, because the social structure of the system affects the innovation's diffusion in several ways" (Rogers, 1983: 24). Since this study selected two divisions of the country, researcher could see some differences as well as similarities between them. For instance, some of the elder participants in Uhana refuse to adopt e-governance services due to many reasons such as less ICT literacy, social-economic issues, less trust on e-services, and so on. In contrast, some elder participants from Attanagalla, claimed that they want innovations in the public service delivery system like e-governance. The social system has been influenced to have these kind of different arguments.

Thus, it is possible to discuss the research finding based on the theoretical concerns. As noted earlier, the DOI theory has been partly applied in this study. In other words, researcher referred the analytical framework that developed by Rogers in his research work. Some of the independent variables have been borrowed from this analytical framework. Similarly, some of the variables have been dropped as the study purpose. However, the theoretical discussion of this study has been helped to find comprehensive answers for research questions. The answers found by using the analytical framework of this study.

However, as the DOI theory, e-governance services as an innovation did not diffused in a significant way. Still, citizens are not showing a considerable interest on e-governance services. Even though, there are adequate ICT infrastructure, policies, programs, and projects that have introduced e-governance services, citizens are not utilizing properly.

As a whole, this study reflects an important crosscut of citizens' perspective on e-governance in Sri Lanka. It is cleared that, Western theories and specific models on e-governance cannot be completely applied to understand the citizens' perspective that can be seen in developing countries like Sri Lanka.

5.3. Further Research Implications

During the literature survey and field survey of this study, researcher found that, there are some avenues for further studies related with the field of e-governance.

During the literature survey, it is found that, there is a lack of studies that have been done on e-governance from the citizens' perspective (demand side) in the region of South Asia. In Sri Lanka, very less studies have been done by scholars who come from management and technical studies background. Therefore, researchers who come from Social Science and Humanities background have an opportunity to study on e-governance from the citizens' perspective.

Similarly, during the literature survey, it found that there is a significant amount of studies that have been done on evaluation of e-governance programs, policies, and project of Sri Lanka. Although, very few studies have concerned about the evaluation of citizens' acceptance or adoption of these programs, policies, and project. In other words, there is an avenue for studies for evaluate the citizens acceptance or adoption of e-governance. Though, many of the governments have introduced different type of e-governance initiatives, it should be looked on citizens' perceptions on these initiations. Then, it may possible to do actual evaluations on e-governance in Sri Lanka. So, the think-tank has a responsibility to do studies.

Moreover, there is an implication for further studies on citizens' or users' adoption on different e-governance services in Sri Lanka. Though, there are some studies on online public services such as GIC, there is a lack of studies on other e-governance services that provide by different government institutions.

During the discussions with the administrative officers, it revealed that there are many issues on electronic public service delivery systems in their respective DSs. As some officers, they do not have adequate ICT infrastructure, human resources (skilled), and so on. Particularly, some administrative officers do not have an interest to work with the new technology. This

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bureaucratic culture regarding innovations in public service delivery should be disclosed in order to have a proper evaluation of e-governance system in Sri Lanka. This is another further implication to be studied.

This study has been covered the citizens' perspective on one of an important component of the e-Sri Lanka program. Under this program, there are six component programs that able to make take the dividends of ICT to every sectors of the country. During the field survey and interviews with general public, researcher felt that this vision has not been reached up to the level. This is also can be marked as another study area in e-governance of Sri Lanka.

During the discussions with general public (specially in Uhana division), it is found that they have so many social, economic, and cultural issues. Instead of talking about e-governance services, researcher had to discuss with them and listen to them about these issues. It seems that, before study about citizens' perception on e-governance services, this background has to be discussed. This is also another implication for further studies.

5.4. Conclusion

This last chapter summarized the whole thesis work. After that, the findings from the thematic analysis as well as results from the SPSS analysis have been discussed with the theoretical implications that used in the theoretical discussion. Overall findings disclosed that, citizens have an average intention to accept e-governance services. In other words, it is not a lower level of adoption or high level of adoption. Interestingly, there is no significant differences between selected divisions in terms of the level of adoption of e-governance services.

According to the research findings, it revealed that, most of the citizens who live in the rural area have an interest to receive e-governance services from government institutions than internet. In other words, the online public services are not utilized in a proper way. On the other hand, citizens are not demanding new services in the rural area. But, citizens who live in the urban area expect that the government will be introducing new e-governance services that able to make their lives easy. However, citizens are receiving services as their needs. Additionally, some of the demographic factors such as gender and age have positive influence in adopting e-governance services. But some demographic factors like education and income do not have a direct influence in adopting e-governance services. Finally, usage, nature of services, and satisfaction on services have different dimension in selected division.

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Annexure

Annex I: The English Version of the Questionnaire

Questionnaire survey
On

Citizens' adoption of e-governance services: A comparative study on Attanagalla and Uhana Divisions in Sri Lanka

Dear Sir / Madam,
I am Asanka Nirmal Senadeera, a student of Master in in Public Policy and Governance (MPPG) in North South University, Dhaka, Bangladesh. This Master program is a Partnership program among North South University, University of Bergen, Norway, University of Peradeniya, Sri Lanka, and Tribhuvan University, Nepal.

I am currently doing my final research under the title, *Citizens' adoption of e-governance services: A comparative study on Attanagalla and Uhana Divisions in Sri Lanka* for fulfill the master program in December, 2016.

Nowadays, the concept of e-governance (electronic governance) became popular in Sri Lanka and e - governance is using information and communication technology to provide public services to the citizens in effective, efficient, transparent, and accountable manner. Governments have been started to provide different kind of electronic services to the citizens. Specially, citizens can get e-governance services (under the **Re-engineering Government** program) from most of the Divisional Secretariats under the e-Sri Lanka program.

The objective of this research is to carry out a study from citizens' perspective or demand side on e-governance of Sri Lanka. This questionnaire survey is designed to identify the citizens' perception and perspective on e-governance services and to explore and compare the status of citizens' adoption of e-governance services in two different divisions.

This is a comparative study and it has been selected Attanagalla and Uhana Divisional Secretariats. It is informing that, you have been randomly selected and invited to participate in this survey. Your valuable responds will be collected and analyzed in order to complete this study.

Participation is entirely voluntarily. This survey contains four parts and you are requesting to answer all questions. It should be noted that, you will not get any kind of benefits (financial or other) return back for participating in this survey.

I am assuring you all responses will be confidential.

Thank you in anticipation of your involvement.
Yours sincerely,
Asanka Nirmal Senadeera.

Note:

If you have any questions about your participation in this survey and if you require additional information please contact the researcher.
Name: ***Asanka Nirmal Senadeera***
Mobile: ***+94715168166***
Email: ***asankauoc40@gmail.com***
Postal Address: ***X.L.20.Bridge Camp, Uhana*** or ***A/B-11/27, Ranpokunagama, Nittambuwa.***

Form No	:	
Date	:	
Divisional Secretariat	:	

Part A: Demographic Information of the Respondent

1. Gender : 1. Male (   ) 2. Female (   )
2. Age :
   a. 16-20
   b. 21-30
   c. 31-45
   d. 46-60
   e. 60 and above
3. Education Level:
   1. No Schooling _____
   2. Primary level (Grade 1-5) _____
   3. Grade 6-11 _____
   4. G.C.E. Ordinary level _____
   5. G.C.E. Advance level _____
   6. Undergraduate _____
   7. Graduate _____
   8. Vocational education _____
   9. Master's degree and above _____
4. Occupational Status
   1. Working _____
   2. Self-employment _____
   3. Unemployment _____
   4. Retired _____
   5. Student _____
   6. House Wife _____
5. Occupation Level
   1. Agriculture _____
   2. Trading _____
   3. Executive, top management, director _____
   4. Professionals (lawyer, doctor, accountant, etc.) _____
   5. Health (Nurse, Family Health Officer, etc.) _____
   6. Finance _____
   7. Academic/Teacher _____
   8. Public servant _____
   9. Other (Please specify) _____
6. Occupational Sector
   1. Public _____
   2. Private _____
   3. NGOs _____
   4. Other (Please specify) _____
7. Income Level (Monthly / SLR)
   1. Below Rs.10,000 _____
   2. Rs. 10,000-20,000 _____
   3. Rs. 20,000-30,000 _____
   4. Rs. 30,000-40,000 _____
   5. Rs. 40,000-50,000 _____
   6. Rs. 60,000 and above _____

Part B: Awareness of the Respondent about e-governance services
8. Do you know about the **Re-engineering government program** and its services?
   1. Yes ( )   2. No ( )
9. If yes from where did you know about it?
   1. From others (General Citizens, Public Officers in DS)   _____
   2. From Mass media (Television, Radio, News Papers)   _____
   3. From Social media (Facebook, specific websites)   _____
10. What did you know about the **Re-engineering** government program from other citizens and officers in DS?
   1. It is merely a program which is introduced by government   _____
   2. It is a program which is providing services to the citizens _____
   3. It is a program that provide
      efficient, effective, transparent, and
      accountable public service delivery   _____
11. Are there enough awareness activities in mass media channels (both visual and print) about e-governance services
   1. Yes (   )   2. No (   )
12. Do you think that, Social media channels are providing trustworthy information about e-governance services?
   1. Yes ( )   2. No ( )
13. To what extent do you think that, the information you have got from different communication channels is important?

Communication Channel	Level of Importance				
	Very High	**High**	**Uncertain**	**Moderate**	**Low**
a. Interpersonal	1	2	3	4	5
b. Mass Media	1	2	3	4	5
c. Social Media	1	2	3	4	5

Part C: Easiness to get e-governance services
   (Saving time and Money, Visibility, and User Friendliness)
14. Do you think that, it is easy to get e-governance services from Divisional Secretariat?
   1. Yes ( )   2. No (   )
15. How much it is easy to get those services?
   1. Very Easy   _____
   2. Easy   _____
   3. Average   _____
   4. Difficult   _____
   5. Very Difficult   _____
16. Please express your opinion in the following statement.

Compare with manual public service delivery system and its services	Strongly Disagree	Partly Disagree	Partly Agree	Strongly Agree	Don't Know
a. e-governance services help to save money and time in getting services	1	2	3	4	5
b. e-governance services are providing services in effective, efficient, transparent, and accountable way and it can be seen	1	2	3	4	5
c. e-governance services can get in a very friendly environment without any problem or with minimum problems	1	2	3	4	5

Part D: Getting e-governance services

17. How often you are going to get public services from your Divisional Secretariat?
    1. Very Frequently _____
    2. Frequently _____
    3. Normally _____
    4. Sometimes _____

18. How often do you get electronic services that are providing under the Re-engineering government program?
    1. Regularly _____   3. Rarely _____
    2. Usually _____   4. Very Rarely _____

19. What kind of services you are getting?
    1. Public Registration _____
    2. Company Registration _____
    3. Land Registration _____
    4. Government Information Center (GIC) _____
    5. e-Motoring _____
    6. e-Foreign Employment _____
    7. e-Divisional Secretariat _____

20. Please express your opinion in the following statement.

Statement	Strongly Disagree	Partly Disagree	Partly Agree	Strongly Agree	Don't Know
a. e-governance provide good quality services	1	2	3	4	5
b. e-governance provide good quality information	1	2	3	4	5
c. Benefits can get by receiving e-governance services	1	2	3	4	5

21. Overall, are you satisfy with e-governance services?
    1. Not Satisfactory _____
    2. Satisfaction Level 2 _____
    3. Satisfaction Level 3 _____
    4. Satisfaction Level 4 _____
    5. Satisfactory _____
    9. Do not Know _____

Thank you for your kindly association!

Annex II: The English Version of the Interview Questions for Citizens

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Citizens' adoption of e-governance services: A comparative study on Attanagalla and Uhana Divisions in Sri Lanka
The Interview for Citizens

Dear Sir / Madam,

I am Asanka Nirmal Senadeera, a student of Master in in Public Policy and Governance (MPPG) in North South University, Dhaka, Bangladesh. This Master program is a Partnership program among North South University, University of Bergen, Norway, University of Peradeniya, Sri Lanka, and Tribhuvan University, Nepal. I am currently doing my final research under the title, *Citizens' adoption of e-governance services: A comparative study on Attanagalla and Uhana Divisions in Sri Lanka* for fulfill the master program in December, 2016.

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The objective of this research is to carry out a study from citizens' perspective or demand side on e-governance of Sri Lanka. This interview is designed to identify the citizens' perception and perspective on e-governance services and to explore and compare the status of citizens' adoption of e-governance services in two different divisions.

This is a comparative study and it has been selected Attanagalla and Uhana Divisional Secretariats. It is informing that, you have been selected as an administrative officer and invited to participate in this interview. Your valuable responds will be collected and analyzed in order to complete this study.

This interview is entirely voluntarily. And it has four parts and fifteen questions. You are requesting to answer all questions. It should be noted that, you will not get any kind of benefits (financial and other) return back for participating in this survey.

I am assuring you all responses will be confidential.

Thank you in anticipation of your involvement.
Yours sincerely,
Asanka Nirmal Senadeera.

Note:
If you have any questions about your participation in this survey and if you require additional information please contact the researcher.
Name: *Asanka Nirmal Senadeera*
Mobile: *+94715168166*
Email: *asankauoc40@gmail.com*
Postal Address: *X.L.20.Bridge Camp, Uhana* or *A/B-11/27, Ranpokunagama, Nittambuwa.*

Form No	:
Date	:
Divisional Secretariat	:

Part A: Demographic Information

1. Gender: Male (   ) Female (   )
2. What is your age?
3. What is your educational level?
4. What is your occupation / Profession?
5. How about your monthly income?

Part B: Awareness on e-governance services
6. Do you know about e-governance services?
    1. Yes (   )   2. No (   )
    If No, What are the reasons?
    If yes, from where did you know about it?
7. What did you know about e-governance services by different communication channels (interpersonal, mass media, and social media)?
8. Do you think is that information important?
    1. Yes (   )
    2. No (   )
    If No, What are the reasons?

Part C: Information about easiness to get e-governance services
9. Do you think that, it is easy to get e-governance services?
    1. Yes (   )
    2. No (   )
    If No, What are the reasons?

Part D: Information about getting e-governance services
10. How many times did you get e-governance services in past 06 months from your DS?
11. Are you frequently get e-governance services?
12. What kind of services you are getting?
13. Why? (Please give some reasons)
14. Do you think that, can you get quality e-governance services, information and benefits?
    1. Yes (   )
    2. No (   )

    If No, What are the reasons?
15. Overall, are you satisfy with e-governance services?
    1. Yes (   )
    2. No (   )
    If No, What are the reasons?

Thank you for your kindly association!

Annex III: The English Version of the Interview Questions for Administrative Officers

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Citizens' adoption of e - Governance services: A comparative study on Attanagalla and Uhana Divisions in Sri Lanka

Interview for the Administrative Officers (e-governance services providers) in selected Divisional Secretariats

Dear Sir / Madam,

I am Asanka Nirmal Senadeera, a student of Master in in Public Policy and Governance (MPPG) in North South University, Dhaka, Bangladesh. This Master program is a Partnership program among North South University, University of Bergen, Norway, University of Peradeniya, Sri Lanka, and Tribhuvan University, Nepal.

I am currently doing my final research under the title, *Citizens' adoption of e-governance services: A comparative study on Attanagalla and Uhana Divisions in Sri Lanka* for fulfill the master program in December, 2016.

Nowadays, the concept of e-governance (electronic governance) became popular in Sri Lanka and e-governance is using information and communication technology to provide public services to the citizens in effective, efficient, transparent, and accountable manner. Governments have been started to provide different kind of electronic services to the citizens. Specially, citizens can get e-governance services (under the **Re-engineering Government** program) from most if the Divisional Secretariats under the e-Sri Lanka program.

The objective of this research is to carry out a study from citizens' perspective or demand side on e-governance of Sri Lanka. This interview is designed to identify the citizens' perception and perspective on e-governance services and to explore and compare the status of citizens' adoption of e-governance services in two different divisions.

This is a comparative study and it has been selected Attanagalla and Uhana Divisional Secretariats. It is informing that, you have been selected as an administrative officer (especially e-governance services) and invited to participate in this interview. Your valuable responds will be collected and analyzed in order to complete this study.

This interview contains Twenty Seven (27) questions and you are requesting to answer all questions.

I am assuring you all responses will be confidential.

Thank you in anticipation of your involvement.
Yours sincerely,
Researcher.

Contact Details:
Asanka Nirmal Senadeera
+94715168166
asankauoc40@gmail.com
X.L.20.Bridge Camp, Uhana or *A/B-11/27, Ranpokunagama, Nittambuwa.*

| Interview No: |
| Divisional Secretariat: |
| Date: |

A. General Information
1. What is your position in your work place?
2. How long you have been working in this DS? (Service period so far)?
3. How long you have started to provide e-governance services?

B. Specific Information on your Divisional Secretariat and e-governance service delivery
4. Have you got ICT training from government or private / other institutions?
5. What kind of ICT training programs you have participated?
6. Do you think that, the ICT training is useful for you when you are providing services for the citizens?
7. Are you aware enough about the e-Sri Lanka and Re-engineering government program?
8. Have you got enough training or have you participated any program regarding e-government and e-governance services in Sri Lanka?
9. Do you have sufficient ICT infrastructure (computers and other accessories) in your DS to provide e-governance service for the citizens?
10. Do you have appropriate human resources (trained or non-trained officers) in your DS to provide e-governance service for the citizens?

C. Opinions on citizens' awareness on e-governance services in Divisional Secretariat
11. Do you think that, citizens are aware about e-governance services?
12. As you think, how they know about e-governance services?
13. Are citizens asking from you about those services?
14. Are you providing enough information about e-governance services for the citizens?
15. Are there programs to aware citizens on e-governance services in your Divisional Secretariat?
16. Do you have enough awareness instruments (citizens' charter, bill-boards, notices, and etc.) to acknowledge citizens on those services in your DS?

D. Opinions on citizens' usage, satisfaction, and nature of e-governance services
17. How often citizens are coming to get e-governance services from DS?
18. Do you think that, citizens are satisfied with e-governance services that are providing under the Re-engineering government program?
19. If not, can you express, what are the reasons for that?
20. What type of e-governance services you are proving in you DS?
21. What type of e-governance servicers citizens are getting frequently?

E. Opinions on Easiness of e-governance services in Divisional Secretariat
22. Do you think that, e-governance services which are you providing for the citizens are easy to get for them?
23. Compare with previous paper works / manual works in service delivery, do you think e-governance services are:
   - Saving money and time Yes (   ) No (   )
   - Effective, efficient, transparent, and accountable in nature Yes (   ) No (   )
   - Can provide in a friendly environment (without conflicting situations) Yes (   ) No (   )

F. Administrative officers' observations and opinions about some demographic factors (Gender, Age, Educational Level, Income Level) of citizens those who are coming to get e-governance services from Divisional Secretariat
24. What are the age level of citizens which are coming to get services frequently?
25. What is the gender of citizens which are coming to get services frequently?
26. What are the education level of citizens which are coming to get services frequently?
27. What are the income levels of citizens which are coming to get services frequently?

Thank You for spending your valuable time!