Master's Thesis of Public Administration

Measuring the Government Employees' E- Satisfaction from the E- Government Services in the Democratic Socialist Republic of Sri Lanka

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February 2023

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Submitting a Master's Thesis of Public Administration

October 2022

Graduate School of Public Administration
Seoul National University
Global Public Administration Major

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December 2022

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Abstract

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Achievement of E-Government objectives depends on the E-Satisfaction. It determines the continual usage of E-Services. Government employees play a dual role in the E-Government as E-Services providers as E-Service users. If government employees are satisfied with the E-Services dedicated for them, they will provide the citizens with E-Services to the satisfactory level. The purpose of this study is to measure the level of E-Satisfaction of government employees as users from the E-Services dedicated for them provided by the Sri Lanka government. Through literature review, five determinants of E-Satisfaction have been identified as Privacy and Security, Trust, Service Quality, System Quality and Information Quality, which are affecting the aforesaid E-Satisfaction. Five hypotheses have been formulated to assess the influence of these factors on E-Satisfaction.

The collected survey data from 307 officials of Sri Lanka Administrative Service (SLAS), Sri Lanka Planning Service (SLPS) and Sri Lanka Accountants Service (SLACS) have been analyzed to test the five hypotheses. Multiple Linear Regression Analysis has been used to measure the determinants' influence on E-Satisfaction. The findings reveal that the Information Quality is the highest influential factor of E-Satisfaction while System Quality and Privacy and Security are significant factors of E-Satisfaction. Further, Trust and Service Quality has become insignificant influential determinants of E-Satisfaction. These findings have been supplemented by qualitative interview findings.

Based on these findings, policy recommendations have been made to the Government of Sri Lanka to consider the influential determinants of E-Satisfaction to implement the E-Services dedicated for government employees which would lead to higher level of adoption of those E-Services and it will generate cost and time savings for the government.

Student Number: 2021-24692

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List of Acronyms

DOI	Diffusion Of Innovation Theory
ECT	Expectation Confirmation Theory
ICDL	International Computer Driving License
CMT	Content Management Team
G2B	Government to Citizens
G2C	Government to Consumer
G2E	Government to Employees
G2G	Government to Government Institutions
GIC	Government Information Center, Sri Lanka
IBM	International Business Machines
ICT	Information and Communication Technology
ICTA	Information and Communication Technology Agency, Sri Lanka
IS	Information System
LGC	Lanka Government Cloud
LGN	Lanka Government Network
SLT	Sri Lanka Telecom PLC
TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour
USAID	United States Agency for International Development
UTAUT	Unified Theory of Acceptance And Use of Technology

Chapter 1. Introduction

1.1 Background and Purpose of the Study

Information Technology (IT) has encompassed everything and everyone and human beings have been provided with many benefits and opportunities while creating challenges for administrators and policy-makers in the public sectors. Public sectors have taken great deal of transformations to use internet to provide citizen services irrespective of location and around the clock (Abdulkarim, 2003). The governments have realized the capacity of the online services and resources and invested in great deal to deliver citizen services through such online media and mechanisms while enhancing efficiency, effectiveness and competitiveness.

Fang (2002) has defined E-Government as "The use of Information and Communication Technology (ICT) to offer government information and services". There should be access to the E-Government services including G2C, G2E, G2G and G2B for all the stakeholders whilst improving the efficiency (Carter and Belanger ,2003). Wirtz et al. (2015) has stated that E-Services to become successful, it is required an interaction between the citizens and government, which is to be user-oriented direction. The citizens' demands and requirement which are being changed over time determines the implementation strategies and success of E-Governments creating a challenging ground for E-Government implementations (Venkatesh et al., 2012).

Technical, behavioral and marketing factors combinedly form the E-Satisfaction making it multi-dimensional (Alawneh et al.,2013). Reddick and Roy (2013) define E-Satisfaction as the citizens' or customers' ability to obtain the details and information they expect as well as to get delivered a service experience which is in a position to solve their issues and fulfill their aspirations. "E-Satisfaction is the level of experience and fulfillment citizens gain

from using E-Government services in terms of content, speed, quality, security, and interface", elaborate Alaa et al. (2014). E-Government concept has become service oriented and the citizen has become customer who is the focal point of public administration (Jansen et al.,2010). "A modern public administration, which sees citizens as customers who pay rates and taxes and thus should receive value, should be able to satisfy their requirement through high quality portals and E-Services", argue Magoutas and Mentzas (2010). Therefore, user satisfaction determines E-Government success. User satisfaction over the E-Government enhances the E-Services usage and achieves customer loyalty (Magoutas and Mentzas, 2010).

The purpose of any E-Service by any E-Government implementation is to maximize the users' satisfaction. Citizens, businesses, government employees and other government institutions use these E-Services. Collectively the government and E-Service users beget the advantages of the E-Government implementations. Providing E-Services cost the government much as the implementation side. Though the implementation of this innovation is a higher cost to the government, previous studies have discovered that most countries' E-Government services have generated user satisfaction at low levels (Arduini et al., 2011).

In Sri Lanka, e-Sri Lanka project was commenced in 2002 and the government has been working to integrate all government services onto a single portal. The first phase of e-Sri Lanka has launched the Sri Lanka Gate (www.gov.lk or srilanka.lk). The portal has facilitated the citizens with over 20 E-Services at their fingertip including the facility to get certificates of examinations and E-Revenue Licenses. Further, citizens have been delivered updated information by the government institutions (Karunasena et al.,2011). The e-Sri Lanka project has been able to improve public service delivery, bridge the digital divide, bring down the costs on communication and information and enhance citizens' active participation in governance whilst empowering them (Karunasena et al., 2011). The

Government has established the Information and Communication Technology Agency Sri Lanka (ICTA) with the aim of launching E-Government projects in order to converge the public sector services into E-Services. The Ministries, the Departments and other Government Agencies have started to provide E-Government services.

"Millions of dollars had been invested in implementing numerous E-Government initiatives in the e-Sri Lanka program sponsored by the World Bank with the support of the government of Sri Lanka and other donor agencies", state Hanna (2007) .The Government has spent over 2000 million Sri Lanka Rupees for the implementations of E-Government projects in the initial stages(ICTA,2021).E-Government implementations to provide E-Services in Sri Lanka have shown lower levels of adoption in the previous studies. Karunasena and Deng (2009) report that the Sri Lankan citizens' E-Government adoption rate was 22.3% and web sites were used by 47.3 % to get information, 46.6% among them used call center services for their information needs while only 7.5% made email inquiries and online application were used by 6.0% of them, based on the empirical study. However, the same empirical study reveals that the citizens' E-Satisfaction, on the other hand, have been very high despite the fact that the E-Service availability and the volume of information provided to them have been insufficient, over 77% of citizens have been satisfied with the services provided, primarily simple E-Services, websites, and call center services, until then.

Sri Lankan government provides E-Services for the citizens (G2C), employees(G2E), government institutions (G2G) and businesses (G2B). The implementation of E-Government and service delivery are performed by the government employees and they themselves become the users of both the government E-services dedicated for them and other E-Services as citizens. They are essentially a subset of citizens (Sufna and Fernando, 2015). E-Services dedicated for government employees include a) CIGAS Web based accounting application, b) LGN email and internet services, c) Pension Management

System of the Pensions Department: www.pensions.gov.lk, d) Ministry of Public Administration web site and Intranet: www.pubad.gov.lk ,e) E-Services of the Elections Commission: www.elections.gov.lk , f) Department of Official Languages Web site (www.languagesdept.gov.lk), g) Department of Examinations Sri Lanka (www.doenets.gov.lk) and h) intranets of the institutions. E-Services dedicated for citizens includes government E-Services portal: www.gov.lk in which all the E-Services are combined into a single web portal. Government employees play a dual role as the E-Service providers and the E-Service users in the E-Government.

Government employees both provide and are provided with these E-Services and for which the government use Lanka Government Network (LGN) and Lanka Government Cloud (LGC) as the essential infrastructure services. Lanka Government Network (LGN) is the backbone network which connects all the government institutions and Lanka Government Cloud (LGC) provides government institutions with infrastructure services (ICTA,2021). Government employees are provided with connectivity to other government institutions, hosting services, government email service and internet services through the LGN. ICTA (2021) states that the investment for the LGN is USD 22 million for LGN 1.0 which is the project phase 1. LGN connected 860 government organizations into the network in the first phase including 25 District Secretariats, 50 Ministries, 331 Divisional Secretariats, 87 Departments, 46 Hospitals, and 321 Other Government Organizations (UNCTAD,2021). However, LGN Bandwidth usage data show that the usage of LGN by the government employees is at lower level (Sri Lanka Open Data Portal, 2021).

Bandwidth Category	Number of Institutions	Average Monthly Bandwidth Usage in Mbps			Average Bandwidth Usage in Mbps
		2020	2019	2018	
2 Mbps	744	0.44	0.70	0.44	0.53
5 Mbps	89	1.32	1.91	0.81	1.35
10 Mbps	24	2.10	4.32	2.30	2.91
20 Mbps	2	4.81	7.00	2.66	4.82
100 Mbps	1	6.50	0.64	0.50	2.55

Table 1 Average LGN Bandwidth Usage in Sri Lanka 2018-2020

Author Analysis based on LGN Usage Data in Sri Lanka Open Data Portal

Source: http://www.data.gov.lk/dataset/lgn-20-bandwidth-utilization-march-2018-june-2020

Roshini (2012) reports that the LGN usage has been at lower level in the study conducted in Colombo District Secretariat using staff level and associate level officers based on TAM model. The officers have been ICDL qualified, but LGN has not been adopted in their official functions. Further, it has been reported that the staff level officers have perceived LGN email usage positively.

When providing G2E E-Services, the usage of LGN is essential and LGN is the main portal dedicated for government employees. Through LGN, the government provides government employee dedicated portals such as government pensions portal, election portal, personnel data portal and government accountancy portal. Alternatively, internet services and access to aforesaid government websites and other government websites are possible through other internet services providers (ISP) such as Sri Lanka Telecom PLC (SLT) which is a government subsidiary. LGN internet access is free of charge for the government

institutions, but most government institutions are still using SLT internet services with a payment. Further, government institutions use common email portals such as Google and Yahoo other than the government email portal provided through the LGN. Due to these facts, LGN bandwidth usage is at lower levels.

LGC provides infrastructure services such as web hosting, software platforms and managed services for government institutions free of charge. However, majority of the web sites of the government sector are still hosted in third party servers including SLT Data Center.

If government employees use E-Services dedicated for them, there will be cost reductions, increased efficiency and enhanced effectiveness. Further, government employees will be able to pay greater attention on E-Government convergence of citizen services rather than engaging in manual and paper-based administrative and personnel management functions. Furthermore, government employees who are satisfied of E-Services dedicated for them will produce E-Services to the satisfactory level of other stakeholders including citizens (G2C), business(G2B) and other government institutions (G2G).

However, empirical evidence suggests that the adoption of E-Services dedicated for the government employees by them as users of E-Services is at lower levels. Among many reasons for such lower levels of adoption, the lower level of government employees' E-Satisfaction is prime. E-Satisfaction have been investigated by DOI, TAM, Web Trust, IS Success Model and UTAUT Model which are categorized as Theoretical models of IS adoption and dissemination. Information quality, system quality, and service quality being technical elements of systems have been employed to investigate and measure the E-Satisfaction. SERVQUAl, eTail Q and WEBQUAL have been employed to measure E-Satisfaction. These measures are based on productive and cost-effective measurements (Alawneh et al.,2013).

In order to provide stakeholders with a satisfied E- service, government employees are to be satisfied of the E-Services provided by them for themselves. Hence, government employees' level of E-Satisfaction from the E-Services is highly important because it reveals the E-Satisfaction level when the E-Service providers themselves become E-Service users and is an indicator of the potential deliverable satisfaction level between the E-Service renderer and the E-Service user in the context of both parties are the same.

The optimal level of E-Satisfaction from E-Services is achieved when the E-Service user is satisfied with E-Services and the best possible such level is the level in the context of the E-Service renderer and the E-Service users become the same party. Therefore, identification of the optimal E-Satisfaction levels is highly important for Sri Lanka Government to make E-Service implementations successful since the level of E-Satisfaction determines the E-Services acceptance and adoption level which determines the success rate of E-Government implementation.

Most of the previous studies have considered citizens as the population and measured the citizen's E-Satisfaction. Schaupp and Carter (2005), Welch et al. (2005), Horan and Abhichandani (2006), Teo et al. (2008), Verdegem and Verleye (2009), Chen (2010), Lai and Pires (2010), Chan et al. (2010), Karunasena and Deng (2012), Alawneh et al. (2013), Malik et al. (2016), and Anwer et al. (2016) and Li et al. (2020) have studied the E-Satisfaction of citizens.

In Sri Lankan context, Karunasena and Deng (2009,2011) have studied of E-Government public value for citizens. Samsudeen and Thelijjagoda (2015) have studied perceptions of E-Government based on UTAUT model in which university students have been the population and the same authors studied Sri Lankan citizen's behaviour towards E-Government based on UTAUT model and university academics behaviour towards E-

Government based on the same model.   Ranaweera (2016) has studied Trust over the of E-Government and his study citizens were the population. User Acceptance of E-Government has been studied by Samarakoon (2020) and the study employed citizens as the population. These studies have conducted citizens as the subject and considered entire E-Government portal as a whole. In contrast, Rajapakse and Gunawardana (2015) have analyzed the challenges and various barriers which affecting the popularization of government websites using 53 government websites as the sample.

Thowfeek and Arulanantham (2013) have studied the government employees' perception over E-Government and their E-Satisfaction using the executive grade officers in the Divisional Secretariat of Kuchchaveli, Sri Lanka considering entire E-Government portal as a whole. Sufna and Fernand (2015) have studied the factors affecting the E-Government public value confining to SLAS and to the   website of the Ministry of Public Administration.

A research gap of empirical research on the E-Satisfaction of Government Employees as users as well as considering the E-Services dedicated for government employees exists in the literature. Therefore, identifying the level of Sri Lanka government employees' E-Satisfaction as the E-Service users from the E-Services dedicated for them and the determinant factors of E-Satisfaction is the research problem of this study.

To measure the level of government employees' E-Satisfaction as E-Service users from the E-Services dedicated for them and identify determinant factors of the E-Satisfaction is the purpose of this study. The level of E-Satisfaction is measured and the determinant factors of the E- satisfaction are identified in this study. The following questions are answered by this research.

Question 1

What is the E-Satisfaction level of the government employees as users from the E-Services

dedicated for them and provided by the Government of Sri Lanka?

Question 2

What are significant determinants of the E-Satisfaction of the government employees as users from the E-Services dedicated for them and provided by the Government of Sri Lanka?

Based on previous studies, many determinants of E-Satisfaction have been identified. For the purpose of this study, the determinants which strongly effect over the government employees' E-Satisfaction have been identified as security and privacy, trust, service quality, system quality, and information quality. Previous studies in the perspective of user satisfaction have focused on these determinants. Schaupp and Carter (2005), Welch, Hinnant and Moon (2005), Yi-shun W. and Yi-wen L, (2007), Batini, Viscusi and Cherubini (2009), Verdegem and Verleye (2009) and Eid (2011) have studied on these factors. Further, these determinants have become the subjects in the studies of Wu and Wang (2009), Kang and Lee (2010) and Zavareh et al. (2012). Furthermore, Tung and Rieck (2005), Lee and Chung (2009), Yang, Yoon (2010), and Alawneh et al. (2013) have identified these factors as determinants of E-Satisfaction. These determinants have been selected for the current study since they combine the dimesons of technical: Security and Privacy and System quality, economical: Service quality, Information Quality and Trust being a behavioral construct.

1.2 Scope of the study

The study has been designed to measure the level of E-Satisfaction of government employees as users from the E-Government services dedicated for them and identify the determinant factors of the E-Satisfaction.

For the purpose of this study, government employees are confined to All- Island Services. All-Island Services represent the executives of the Sri Lanka Government who involve in the policy-making and the decision-making process. All-Island Services are confined to SLAS, SLPS and SLACS for the purposes of this study. Sri Lanka Administrative Service (SLAS) is responsible for overall decision-making, policy-making and administration. Sri Lanka Planning Service (SLPS) is responsible for planning, resource allocations and performance review. Sri Lanka Accountancy Service (SLACS) is responsible for financial management and ensuring the accountability and responsibility of maintaining the transparency of financial management. These officers have been employed in the Central Government and the Provincial Councils as well as covering the overall geographical locations of the country making them All-Island Services. The population is 5142 officers through the summation of 2612 SLAS officers, 847 SLPS officers and 1683 SLACS officers. Accordingly, the minimum required sample size is 358 officers. Based on the self-interested sampling method, self-interested officers who voluntarily responded and fell within the average values have been selected from the sample frame.

E-Services have been defined as the E-Services dedicated for the government employees as a) CIGAS Web based application, b) LGN email and internet services, c) Pension Management System of the Pensions Department: www.pensions.gov.lk d) Ministry of Public Administration web site and Intranet: www.pubad.gov.lk and e) E-Services of the Elections Commission: www.elections.gov.lk, f) Department of Official Languages Web site (www.languagesdept.gov.lk), g) Department of Examinations Sri Lanka (www.doenets.gov.lk) and h) intranets of the institutions.

1.3 Methods of the Study

This research combines quantitative and explanatory methods with qualitative analysis. The main purpose is to measure the level of E-Satisfaction of the government employees and identifying the determinant factors of the E- satisfaction of the government employees as users from the E-Services dedicated for them from the Government of Sri Lanka are the purposes of the current study. Therefore, this study examines the level of E-Satisfaction of government employees as users and the relationship between E-Satisfaction determinants and government employees' E-Satisfaction as users from the E-Services dedicated for them from the Government of Sri Lanka. The Government Officers belong to SLAS, SLAPS and SLACS and work in both the Central Government and Provincial Councils in all parts of Sri Lanka are the unit of analysis. The population was 5142 officers through the summation of 2612 SLAS officers, 847 SLPS officers and 1683 SLACS officers. Accordingly, the minimum required sample size is 358 officers at 5% margin of error, 95 % confidence level and 50% response rate. Through employing the self-interested random sampling method, the survey sample of 358 officers have been selected from the sampling frame.

A survey questionnaire is used as the survey instrument to collect the government officials' perception on E-Satisfaction and E-Satisfaction determinants. The questionnaire consisted questions on E-Satisfaction, five E-Satisfaction determinants and demographic information. Pre-test of the questionnaire has been conducted with twelve officials, four officers from each service, and modifications and corrections have been made.   It has been created in Google Forms and distributed to the responders via various electronic channels. Sufficient number of responses have not been collected during the pilot study period due to the ongoing work from home situation due to Covid-19 and electricity power cuts in Sri Lanka. Hence, enveloped questionnaires have been sent to the officials at District Secretariats, Divisional Secretariats, Ministries, Departments and Government Institutions and the

received responses have been fed to the MS-Excel Sheet. Furthermore, enveloped questionnaires were distributed to the officials of SLAS, SLPS, and SLACS who have been participating in the training programs during the survey period at the Sri Lanka Development Administration which is the training arm of Government Officials of Sri Lanka and the received responses have been fed to the MS-Excel Sheet.

SPSS software version 26 (Microsoft Inc,2021) has been used for data analysis. First, the excel sheet data have been imported into the SPSS software and run the descriptive analysis on the data model. Then the correlation analysis has been employed to test the correlation among the variables. Finally, the regression analyses have been employed to test the hypotheses to investigate the relationship between E-Satisfaction of the government employees in Sri Lanka and E-Satisfaction determinants. In order to strengthen the quantitative findings of the study, qualitative interviews have been conducted using an interview questionnaire.

1.4 Significance of the Study

A great deal of studies is available for the purpose of identifying the influential elements of citizen's adoption of E-Government in developed nations, but there has been a few research aiming to identify the factors that affect the citizens' adoption in developing countries (AlShihi, 2006; AlAwadhi and Morris, 2008). Sri Lanka is a developing country and this study is a contribution to the E-Government literature of developing countries as well as to the South Asian perspectives of E-Government.

Scholars have focused more on the E-Government from the government's point of view as the provider of public services and with less attention to stakeholder perspective. In the

stakeholder perspective, citizens have been considered as the unit of analysis in many studies but government employees who involve in the policy-making and implementing E-Government have been given relatively a lower level of attention. This study is a contribution to the few research in Government Employees' E-Satisfaction perspective of the E-Government literature.

There are a limited number of studies in Sri Lankan perspective of the E-Government literature and user satisfaction perspective of E-Government. This study is an addition to the literature of Sri Lankan E-Government perspective. Studying of three executive levels in E-Satisfaction perspective, this study is the first of such in E-Satisfaction of E-Government perspective to study directly the E-Satisfaction of the officials who are directly responsible for policy-making, decision-making, administration, planning, resource allocation and financial management.

The study findings are important signals for the proper implementation of E-Government services so as to maximize the users' satisfaction which is the objective of the E-Government implementations. Further, through the identification of the determinant factors of the E-Satisfaction and the participants are themselves both administrators and policy-makers, it is able for policy-makers to make policies for the successful implementations of E-Services which derive higher levels of user satisfaction and such user satisfaction maximize the profits and benefits of applying ICTs in the government process. For the ICT practitioners, this study provides user satisfaction view for the design and development of systems to achieve the user satisfaction and in terms of user satisfaction, Information System Continuance can be achieved.

The Information Systems, portals and web sites which are the subjects of this study are crucial for the government operations. Broadly, this study considers E-Government Portals dedicated for Government Employees in which Government Employees are the sole-users.

Sri Lanka Government Accounting System is a legacy Accounting System which used to be a command-based system. It has been upgraded as web-based application. It is crucial to get insight into the user satisfaction of the new application. SLAS officials are the users of the New CIGAS web application. Further, Lanka Government Network Internet & Email Service (LGN), which is in its third phase of the implementation, aims to provide secure, reliable and highly available underlying connectivity for the government institutions. Furthermore, Ministry of Public Administration Website and Intranet, Pension Management System of the Department of Pensions Website, Official Language Examination and Result service and Translation Services Department of official Languages web site and Foreign and Establishment Examination and Result Services of Department of Examinations web site are essential components of the personnel management in the public sector of Sri Lanka. Furthermore, Election Commission E-Services are of highly importance and Institutional Intranets which are essential for internal administration have been taken into consideration in this study. Considering these, it is essential to investigate into the E-Satisfaction level and determinants of E-Satisfaction of government employees. This study provides insights into it.

Chapter 2. Theoretical Background and Literature Review

2.1 Theoretical Background

In order to measure the level of E-Satisfaction of government employees in Sri Lanka from the E-Services dedicated for them provided by the government of Sri Lanka, E-Satisfaction is taken as the dependent variable and determinants of E-Satisfaction are taken as the independent variables. The review of articles, dissertations on E-Government, E-Government in Sri Lanka, E-Satisfaction and determinants of E-Satisfaction and relationship between E-Satisfaction and determinants of E-Satisfaction are there in this chapter. The methods used to clarify the study questions are described in this chapter. Additionally, the methods used, the validity and reliability of the survey instrument, as well as the methodological approaches, are reviewed. The papers, dissertations, and other types of materials have been looked for using the online book and journal databases from Seoul National University. The same has been looked up on Google Scholar. Information about the context and viewpoints of Sri Lanka has also been retrieved from pertinent government websites.

2.1.1 E-Government

Being an interdisciplinary field that includes public administration, public policy, political science, communication and media studies, law, engineering and computer sciences, and so on, there is no one fit for all definition for E-Government (Gregory G., 2007). "The use of information technology, particularly the Internet, to improve the delivery of government services to residents, businesses, and other government agencies is known as E-Government and that Citizens are able to engage with and receive services from the federal, state, and

municipal governments twenty-four hours a day, seven days a week through E-Government",define Palvia and Sharma,2007. A unifying theme is to be observed, though many sources have defined E-Government differently.

Source	Definition
World Bank Group (2001) (Cited by Jerry, 2020)	"The use of information technologies by government agencies to transform relations with citizens, businesses, and other arms of government for better delivery of government services, citizen empowerment, strengthen accountability, increase transparency, or improve government efficiency"
United Nations (2002) (Cited by Jerry, 2020)	"Utilizing the Internet and the world-wide-web for delivering government information and services to citizens."
Bwalya and Mutula, 2014	"E-Government refers to the use of information and communication technologies (ICTs) in the public sector, such as tools for communication and service delivery to individuals, businesses, and government agencies."

Yildz ,2007	"The term E-Government can be referred to the use of information and communication technologies (ICTs) in government to facilitate interconnectivity, service delivery, efficiency, effectiveness, transparency, and accountability."
Sharma ,2006	"E-Government refers to web-based services provided by municipal, state, and federal government agencies. The government uses information technology, specifically the Internet, to support government operations, engage citizens, and provide government services via E-Government."

Table 2 E-Government Definitions

E-Government models are the E-Government delivery models. According to Yildz (2007), ICTs facilitate interactions between citizens and the government (G2C), government and employees (G2E), government and business/commerce (G2B), governments and other government agencies (G2G) and the citizen-citizen relationship (C2C).

G2C involves Government and Citizens. It is the web presence, facilitating public services and citizen access to government data. It encourages transparency, accountability, efficiency and effectiveness.

G2G involves Government at the national level, local level and public agencies. It is the web presence that facilitates smooth interaction between government entities and the collaborative environment. It helps to improve public service communication, coordination and standardization.

G2E involves Government and the Government Employees. It Contributes to internal efficiency, effectiveness, and optimization of productivity by promoting speed information sharing.

G2B involves Government and Businesses. It reduces administrative costs and time by allowing firms to conduct business online such as renewing licenses, paying taxes, and so on. It facilitates communication and access to necessary information and services while also saving time.

C2C involves Citizens and Citizens. It promotes speed information sharing, which contributes to internal efficiency, effectiveness and productivity enhancement.

Many scholars in this discipline believe that proper E-Government implementation is able to enhance citizen empowerment and develops an effective, efficient, transparent, and accountable government Yildz (2007). It has increased managerial performance and promoted public service democratic principles and it has the ability to improve information accessibility, increase efficiency and provide broader access to essential services as well as public sector employees (Safeena R. and Kammani, 2013).

Efficiency and effectiveness: Efficiency and effectiveness is the capacity of government to attain previously set objectives and demonstrate the higher level of utilization of available resources. Effectiveness is concerned with the government's ability to carry out certain tasks, whereas efficiency is concerned with its ability to carry out such programs successfully at a reasonable cost and without wasting resources. E-Government provides the competitive advantage to the government to improve service quality and bring down the public service delivery costs by saving time and shrinking organizations.

Transparency: Today, transparency has become a widely accepted concept of good governance in a variety of circumstances (Eom, 2014). Governments all over the world are waging a war against corruption by becoming more open and transparent in their acts by disclosing more information. As a result, the use of ICTs in public administration allows for more openness and the promotion of anti-corruption laws and practices (stated Lupu and Lazar, 2015 cited by Jerry,2020).

Citizens' Empowerment: As a citizen-centric approach, E-Government aims to provide citizens a voice in public affairs administration. Citizens' empowerment passes through E-participation, which is linked to E-Government. E-participation is the use of ICT to support the democratic decision-making process (Jeong, 2007). Such ICT assisted decision making process is termed as e-democracy (stated Ann Macintosh, 2004 cited by Jerry,2020).

Four stages in the growth of E-Government implementation have been recognized by Karen Layne and Jung woo Lee (2001) namely cataloging, transaction, vertical integration and horizontal integration. The first stage of the maturity model is the Cataloguing, followed by distributing government information through the creation of government agency web sites. At this time, the government and the ruled can only communicate in one direction. The

transaction stage is the next step. At this time, online transactions are possible with government agencies allowing bi-directional communication. Integrating the operations in the boundaries of functional domains is the third level. Online operations of agencies in the same functional area are integrated. Horizontal integration is the ultimate stage. Various functional domains are merged into the same electronic system and accessed via a common gateway.

The five-stage E-Government development and maturity model has been developed by United Nations with the collaboration of the American Society for Public Administration (UN and ASPA ,2002). The Emerging Stage comprising of establishing the online presence for the government entity officially. The Improved Stage being the second stage of the model in which the government sites convert into more dynamic and the government increases the number of web sites. Government web sites provides the users with forms and interaction with officials in the third Interactive Stage. Online payments for transactions are introduced in the fourth Transactional Stage. The integration of government institutions is attained in the final stage which is the Seamless Stage.

Chronological and linear occurrence of these stages of E-Government is not always observed and expected. Further, developing countries may not follow these models as described since these nations have the opportunity to learn from the developed and industrialized countries (Yildiz,2007).

E-Government in Sri Lanka dates back to 1962. In 1962 Insurance Corporation of Sri Lanka has started using IBM for the first time in the public sector of Sri Lanka. This initiation has extended with the employment of computers in Engineering Corporation and some other public institutions (Hanna, 2008). Despite the fact that there have been considerable number of programs leading to the computerizing the government sector, most

of these programs have not been able to achieve the desired results until the government commenced the e-Sri Lanka program in 2002 (Karunasena,2012). The Government have completed the first execution step of the e-Sri Lanka project by opening Lanka Gate (www.lk or srilanka.lk). Citizens have been able to receive more than 20 E-Services through the site, including e-Revenue License and updated government information.

e-Sri Lanka project has been private-public-international agency sectoral combined effort (Hanna, 2007). Improving the delivery of public services, quality of life and social development, promoting the growth and poverty reduction in the country and bridging the digital gap have been expected through the E-Government initiative (Hanna, 2007, 2008). There have been Six e-development programs as Government Re-engineering Program, Information Infrastructure Development Program, e-society Development Program, Human Resources Capacity Building Program, Private Sector Capacity Development Program, and Regulatory Environment Development Program (Karunasena & Deng, 2009a; Karunasena,2012).

The Civil Certificate Issuing Project, the e-Divisional Secretariat Project, the e-Foreign Employment Project, the e-Samurdhi Project, the e-Population Registry Project, the e-Motoring Project, and the e-Human Resources Management Project have been implemented among others under the initiatives of Government Re-engineering Program (Karunasena,2012).

Under the Information Infrastructure Development Program, The Lanka Government Network (LGN), The Regional Telecommunication Network project (RTN) and The Knowledge Center –"Nenasela" development project have been implemented (Karunasena,2012).

The Institutional Framework Development Program has been assigned the creation the policies and institutional environment required to achieve overall E-Government goal. Rules and regulations have been enacted regarding electronic transactions, data protection, computer crimes, payment device frauds, payment and settlement. Further, privacy and intellectual property rights protection have been added in the legal and regulatory framework. Local Language Initiative has been an important effort in this. The ICT standards for Sinhala (SLS 1134: 2004) and Tamil (SLS 1326: 2008) languages, and Unicode compliant fonts have been the achievements of aforesaid initiatives. The E-Government Development Program and the Human Resources Development Program have been complementary. The primary goal of this program has been to build leadership skills among government employees. The e-Society Development Program has been an initiative of using ICT to aid the social development of Sri Lanka's most vulnerable people (Karunasena,2012).

In order to oversee E-Government planning, budgeting, and implementations in the institutions, ICT units have been established in the government institutions, and CIOs have been appointed for those units. Additionally, they are in charge of carrying out an annual ICT plan, ensuring that e-mail is used for official communications, and improving the use of Tamil and Sinhala Unicode fonts. Additionally, CIOs are required to connect their organization to Lanka Gate and the LGN. Additionally, they have been given key tasks including assessing the skills and training needs of public employees who work in all service categories and offering institutional services via the national portal using either licensed or open-source software. CIOs are in charge of upholding Sri Lanka's 2009-introduced E-Government policy (Karunasena,2012).

In 2003, ICTA was founded as the government's ICT agency. The E-Government Policy and Action Plan of ICT are put into action by ICTA. These ICT laws in Sri Lanka were made

possible by the Information and Communication Technology Act No. 27 of 2003 (ICT Act) and its modification Act No. 33 of 2008. Sri Lanka started the LGN in 2007. The government of Sri Lanka uses the privately owned, highly available, secure, and dependable LGN as the foundation of its information infrastructure. The objective of LGN is to cost-effectively and securely connect all government agencies. As a result, Lanka Government Cloud (LGC) has gained recognition as a provider of cloud infrastructure services for the systems, portals, and websites of the government. For the data interoperability between government agencies, the National Data and Identity Interoperability Platform (NDIIP) has been built. Sri Lanka is putting the Digital Government and Digital Sri Lanka initiatives into practice (ICTA,2022).

Sri Lanka Digital Government Strategy 2020-2024 has endorsed three core values, four broader strategies and has presented Digital Government Architecture and key performance indicators. Figures 1-4 depict these facts (ICTA,2022).

VALUES

➤ *Citizens First*
Digital Government Strategy that improves processes, design and offer services with citizen's needs in mind, to better serve citizens in a way that will give convenient and efficient experience.

➤ *Government as a Platform*
Digital Government Strategy that creates the necessary infrastructure of shared services and platforms, technology and processes on which to build valuable user-focused services.

➤ *Empowered Government Officer*
Digital Government Strategy that creates digitally confident workforce, working in a digitally enabled workplace to deliver better services and access high quality internal services to be more productive.

Figure 1 Digital Government Strategy: Values

STRATEGIES

1. Citizen and business focused solutions
   A user-centric approach will be adopted to design, develop and integrate services, catering to the requirements of citizens and businesses.

2. Shared digital services and platforms
   The new digital services will be common, interoperable and user friendly platforms with the aim of reducing the time and effort. Data standards will be set and a data architecture will be developed to ensure usability of data across Government digital platforms and services.

3. Develop high available and secure systems
   Systems will be designed, developed and operated, which will be resilient to cyber threats, in order to protect citizens, business and government data stored and shared across systems.

4. Unified approach towards Digital Transformation
   Processes will be reengineered and digital technology will be applied in integrating business requirements, policy, operations and technology communities, in order to transform public services.

Figure 2 Digital Government Strategy: Strategies

ARCHITECTURE
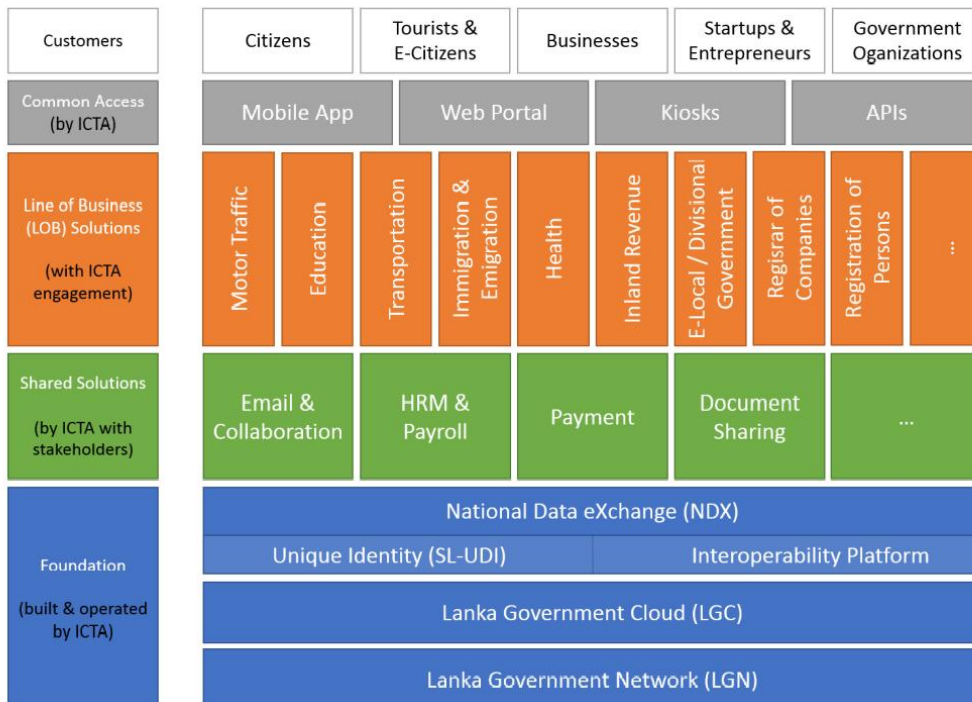
Figure 3 Digital Government Strategy: Architecture

			BY 2020	2022	2024
Infrastructure		Establish, Expand and fully function key national Network and Systems Infrastructure	50% (Usage)	25% (Usage) 100% (expansion)	50% (Usage 100% (expansion)
Interoperability Framework		Conceptualize, Design and adopt Interoperability Framework	5 (Institutions)	50% (Key Institutions)	100% (Key Institutions)
Shared Services		Citizen Friendly common services	5	20	30+
Line of Business (LOB) Solutions		Implement Key Digital Services	5	20	50

Figure 4 Digital Government Strategy: Key Performance Indicators

Sri Lanka Digital Government Enterprise Architecture provides platform for G2C, G2B, G2E and G2G levels of E-Government. Figures 5-7 depicts these architectures (ICTA,2022).
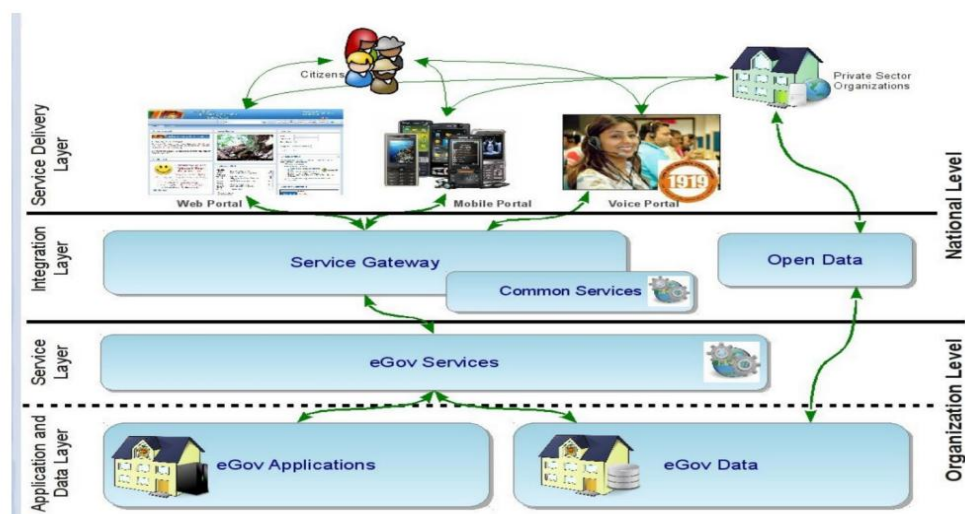
Figure 5 Government Enterprise Architecture: Layered Architecture
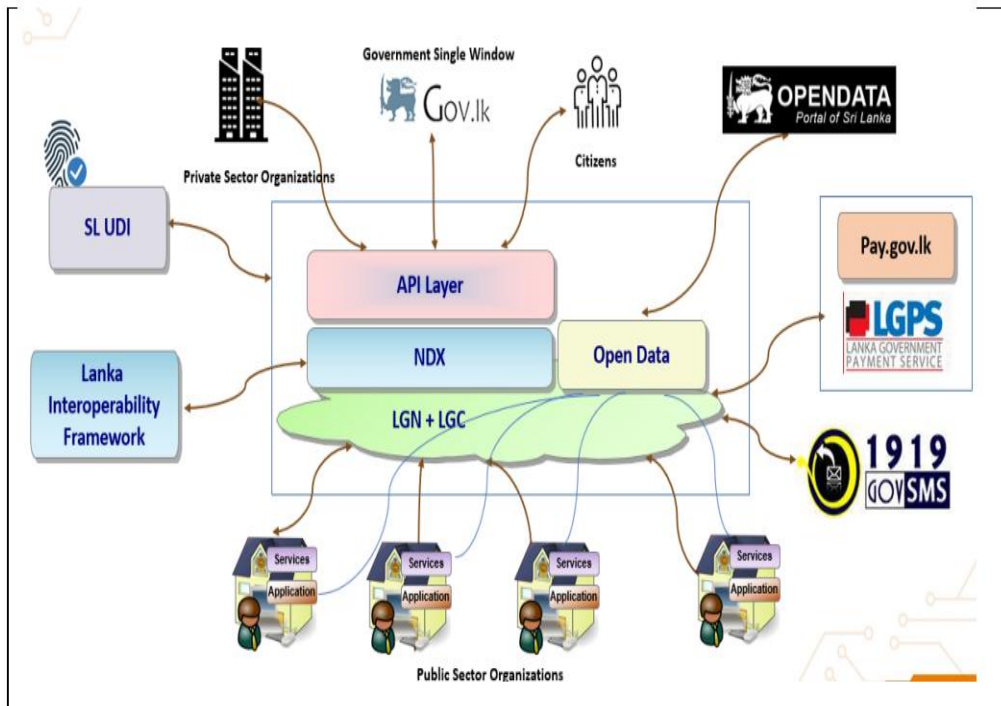
Figure 6 Government Enterprise Architecture: Core Services
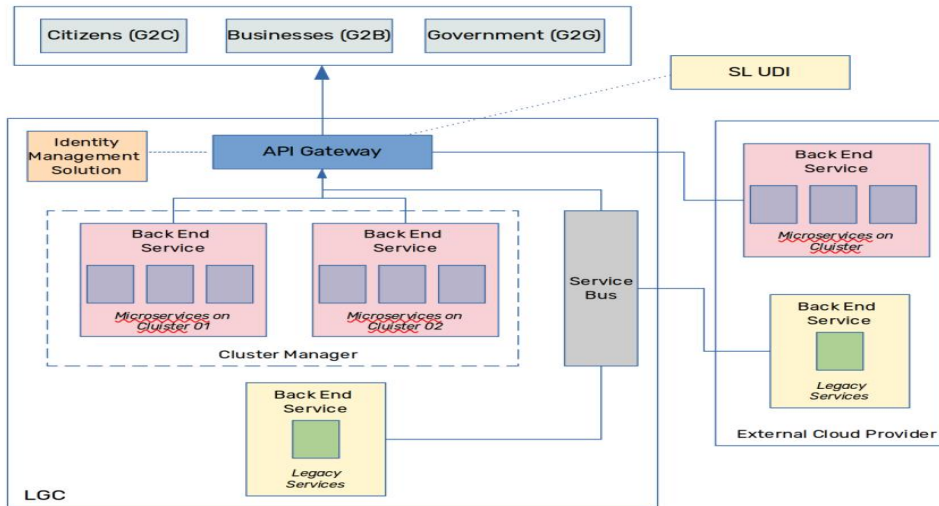
Figure 7 Government Enterprise Architecture: Business Layer Integration

In 2020, the E-Government Development Index was 0.6708, placing 85th out of 193 countries. In 2020, the e-participation index is 0.7143, placing 66th out of 193 nations (UN,2020). In

accordance with the Department of Census and Statistics survey-2020, 32.3% of homes had a desktop or laptop, and 50.1% of people were digitally literate (Department of Statistic,2021).
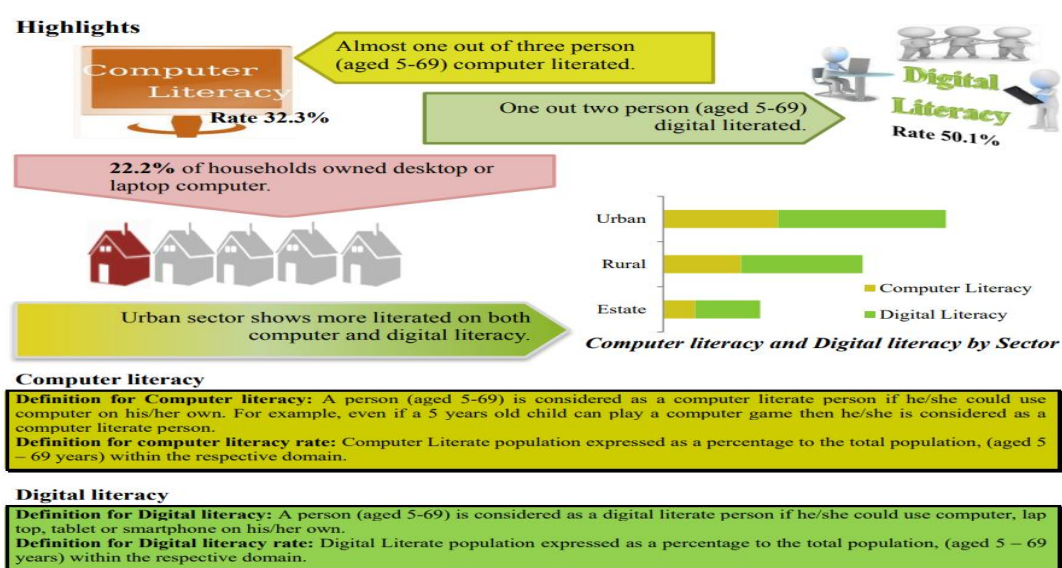
Figure 8 Sri Lanka ICT Statistics Highlights

Table 2.2 shows important web sites in the Sri Lanka E-Government Portal. These web sites provide E-Services and essential information to the stakeholders. These web sites are managed by the corresponding authority which is responsible for providing the particular service.

E-portal	Web site	Institution	Target Users	Maturity Level	Functions
Sri Lanka Government Web Portal	https://www.gov.lk	ICTA	Public Foreigners	Interactive	Providing information on the Government Services, Web Sites and Data

GIC-Government Information Center	https://www.gic.gov.lk	ICTA	Public	Interactive	Providing information on the Government Services, Web Sites and Data
Sri Lanka Trade Information Portal	https://srilankatradeportal.gov.lk/	Department of Commerce	Importers and Exporters	Interactive	Providing information on imports and exports
Sri Lanka Customs Portals	https://www.customs.gov.lk/	Department of Customs	Importers and Exporters	Interactive	Providing information on imports and exports
DOENETS	https://www.doenets.lk/	Department of Examinations	Public	Transactional	Providing information on exams Applying for the exams and issuing results
ETA	http://www.eta.gov.lk/slvisa/	Department of Immigration and Emigration	Foreigners	Transactional	Electronic Travel Authorization Issuing Visa

Civil Registration eBMD Portal	https://www.rgd.gov.lk/	Registrar General's Department	Public	Transactional	Issuing Birth, Marriage and Death Certificates
Land Registry Online Land-Online Portal	https://www.rgd.gov.lk	Registrar General's Department	Public	Transactional	Providing information on Land Registry, Notary, Translator and Land Registrar information Issuing Deeds and Extract copies
E-Services of Inland Revenue	http://www.ird.gov.lk	Department of Inland Revenue	Tax Payers	Interactive	Providing Tax Information and forms Online Registrations
Sri Lanka Foreign Employment Bureau E-Services	http://www.slbfe.lk/	Sri Lanka Bureau of Foreign Employment	Public Migrant workers	Interactive	Providing information and vacancy notices Online job bank Online complain

Tourism E-Services	https://www.sltda.gov.lk	Sri Lanka Tourism Development Authority	Stakeholders of the Tourism Industry	Interactive	Providing information on tourism Registering the establishments
Motor Traffic E-Services	https://dmt.gov.lk/	Department of Motor Traffic	Public	Interactive	Providing information on vehicle registry, registration numbers, registration process
E-revenue license	https://www.gov.lk	Western Province Commissioner of Motor Traffic	Public	Transactional	Obtaining vehicle revenue license
Bribery Commission	https://www.ciaboc.gov.lk/	Commission to Investigate Allegations, Bribery or Corruption	Public	Interactive	Providing information on bribery, allegations and corruptions Online Reporting

Government Documents	http://www.documents.gov.lk	Department of Government Printing	Public Government employees	Interactive	Providing information of government documents Downloading government gazettes Online ordering of documents
Police Clearance Certificate	https://eservices.police.lk	Department of Police	Public	Transactional	Issuing Police Clearance Certificates and validation services
Right to Information	http://www.rticommission.lk	Right to Information Commission	Public	Interactive	Providing information of Information Rights Downloading forms
Election Registry	https://eservices.elections.gov.lk	Election Commission	Public Government employees	Interactive	Election Registry Online registrations

Table 3 E-portals of Sri Lanka

Table 2.3 shows E-Services dedicated for government employees(G2E). These services are essential for government employees for their personnel management, performing certain functional duties and retrieval of information.

E-portal	Web site	Institution	Target Users	Maturity Level	Functions
Pensions Management System	https://www.pensions.gov.lk	Department of Pensions	Government employees	Transactional	Providing information on pensions Registration and Payment of Pensions
CIGAS	https://www.treasury.gov.lk	Ministry of Finance	Sri Lanka Accountants' Service	Transactional	Public sector accounting process
LGN	https://lgn.gov.lk	Lanka Government Network Limited	Government employees	Interactive	Government E-mail portal Internet and interconnectivity services for government institutions

LGC	https://lgc.gov.lk/	Lanka Government Network Limited	Government employees	Interactive	Providing software, infrastructure and cloud services Government web domain registry and hosting services
Election Registry E-Services for Government Employees	https://eservices.elections.gov.lk	Election Commission	Government employees	Interactive	Election Registry Online registrations Services for Government Employees Services for political parties
Intranet of the Ministry of Public Administration	www.pubad.gov.lk	Ministry of Public Administration	Government employees	Interactive	Personnel Management Services

DOENETS	https://www.doenets.lk/	Department of Examinations	Public	Transactional	Providing information on Establishment exams Online Applying for the exams and issuing results
Department of Official Languages	https://www.languagesdept.gov.lk/	Department of Official Languages	Public	Transactional	Providing information on Official Language exams for government employees Online Applying for the exams and issuing results Translation Services

Table 4 E-portals Dedicated for Government Employees of Sri Lanka

2.1.2 E-Satisfaction

E-Satisfaction, or the satisfaction users have with the electronic government services, promotes the acceptance, use, and continuation of electronic services. Additionally, it fosters customer loyalty. The E-Satisfaction is multi-dimensional due to the combination of technical, behavioral, and marketing aspects (Alawneh et al.,2013). According to Reddick and Roy (2013), e-satisfaction refers to citizens' or customers' capacity to receive a service experience that may address their problems, realize their goals, and provide them with the information they require. In terms of content, speed, quality, security, and interface, Alaa et al. define "E-Satisfaction" as "the degrees of experience and fulfillment that citizens receive from using E-Government services" (2014). The e-government paradigm has shifted to a service approach, making the citizen the primary focus of public policy (Jansen et al.,2010). "A modern public administration, which sees citizens as customers who pay rates and taxes and thus should receive value, should be able to satisfy their requirement about high quality portals and E-Services", argue Magoutas and Mentzas (2010). User satisfaction thus influences the success of e-government. E-Services utilization is increased and customer loyalty is attained when users are satisfied with the E-Government (Magoutas and Mentzas, 2010).

The Expectation Confirmation Theory (ECT), presented by Oliver (1980), seeks to better understand customer satisfaction and their propensity for repeat purchases. According to the ECT theory, consumers build an initial expectation before making a purchase and then shape opinions about the good or service they use after a specific amount of time tied to the initial occurrence. Consumers are then expected to gauge their degree of satisfaction based on how well their expectations were fulfilled and how well their actual performance compared to their initial performance based on expectation. As a result, satisfied customers must decide whether to make another purchase. "Satisfaction is made up of a behavioral dimension formed through

experience and a mental dimension developed via a positive attitude toward work and is linked to service quality", states Oliver (1999). Customer discontent of using electronic services may emerge as a result of technological failure, which may lead to a negative impression regarding the functionality of the linked service. Customer dissatisfaction may occur due to the issues in the designs of service or technology. Slow systems and system traversing difficulties, and difficulties log off are some other issues of customer dissatisfaction.

"Because both decisions follow an original (acceptance or buy) decision, are impacted by the initial use (of IS or product) experience, and might potentially lead to ex-post reversal of the initial decision, IS users' continuance decision is analogous to consumers repurchase decision. Hence ECT can be used to elaborate the E-Satisfaction through IS continuance", elaborates Bhattacherjee (2001).

Previous studies in the perspective of user satisfaction have focused on the determinants of E-Satisfaction. Welch, Hinnant and Moon (2005), Yi-shun W. and Yi-wen L, (2007), Batini, Viscusi and Cherubini (2009), Verdegem and Verleye (2009), Eid (2011) have studied on these factors. Further, these determinants have become the subjects in the studies of Schaupp and Carter (2005), Wu and Wang (2009), Kang and Lee (2010), Zavareh et al. (2012). Furthermore, Tung and Rieck (2005), Lee and Chung (2009), Yang, Yoon (2010), and Alawneh et al. (2013) have identified these factors as determinants of E-Satisfaction. These determinants have been selected for the current study since they combine the dimesons of technical: Security and Privacy and System quality, economical: Service quality and Information Quality and Trust being a behavioral construct.

Security and privacy are of prime importance in E-Government since E-Government portals manipulate information about their citizens than do web-vendors (Alawneh A. et al., 2013). Dixit and Datta, (2010) emphasize that privacy and security may affect positively or negatively to the E-Satisfaction depending on the feelings they have regarding these two elements. Losing of customers/users and negative word of mouth may occur at security and privacy violations (Dixit & Datta,2010).

Trust is a key factor in determining e-satisfaction. The degree to which citizens trust their government directly influences how trusting they are of e-government services (Vishanth et al., 2016). Citizens' perceptions of the hazards associated with accessing e-government services are reduced, according to Belanger & Carter's (2008) research. Studies on e-commerce have demonstrated the criticality of customer and vendor trust for the survival of the industry. "Trusting beliefs leads to trusting intentions, which in turn influences trust related behaviors such as satisfaction, loyalty and commitment", state McKnight et al. (2002). Trust enhances online shopping and has a significant impact on consumers' attitudes toward buying from online shops (Lee and Lin ,2005).

Service Quality is another important factor. According to Park & Kim's definition of service quality in 2003, it is the client's assessment of the caliber of the product or service information provided by a website. They also looked at how directly the caliber of the information affected customer satisfaction. Website content quality can predict online client trust (Mcknight et al., 2002).

Perceived quality of a service is made up of the technological dimension and the functional dimension.   Technology dimension is on what is delivered and it consists of response time, offer updates and site efficacy whereas how the service is given is the functional dimension (stated Rust & Lemon, 2009 cited by Alawneh,2013). Lee and Lin (2005) explain that many internet businesses fail because of its lower quality of E-Services. Many E-

Government portals have been created without paying close regard to the quality of their services and citizen's needs (stated Papadomichelaki and al., 2006 cited by Alawneh,2013).

System Quality is a major determinant of E-Satisfaction. Safeena R. and Kammani (2013) define System Quality as "the features and performance characteristics of E-Government web sites in terms of the quality in use or the citizen's perception of quality". Determination of user acceptance and pleasure is highly affected by System Quality. Website system quality should be good for citizens to continue to utilize E-Services and in terms of such usage, E-Government can be succeeded (Safeena R. and Kammani, 2013).

Many services are provided by E-Government via websites. As a result, in the age of online services, websites are functioning as the strong foundation for the citizen- government relationship. As a result, the search for functionalities and navigation have become critical for citizens' pleasure and intent to continue using the service. This refers to the system's overall quality (McKinney et al., 2002).

Information Quality is another major determinant of E-Satisfaction. Since the Information Quality determines the impression of the services that citizens consume, it is one of the most important variables in citizens' satisfaction. When information fails to meet quality criteria, citizens' satisfaction is declined (stated Chen, 2000 cited by Athmay et al.,2016). The relevance, timeliness, accuracy, understandability, and completeness of the provided information are all aspects of information quality (Safeena R. and Kammani, 2013).

2.2 Literature Review

DOI, TAM, Web Trust, IS Success Model and UTAUT Model being Theoretical models of IS adoption and dissemination have investigated E-Satisfaction. Information quality, system quality, and service quality have been employed as the technical elements of systems to investigate and measure the E-Satisfaction. E- SERVQUAl, eTail Q and WEBQUAL have been employed to measure E-Satisfaction. These measurements are based on productive and cost-effective measurements (Alawneh et al.,2013, Malik et al.,2016).

Theory and model methods can be employed to categorize the literature on E-Satisfaction into three groups. Publications using IS Success Model (D&M model) of DeLone & McLean is the first category. Models based on TAM are the second category. EGOVSAT has been used as the base for the third category to examine E-Satisfaction (Writz and Kurt,2016).

In terms of the first category, several scholars have applied D&M model to the E-Government. Incorporating user satisfaction, the D&M model has been employed to investigate trust influence on the success of E-Government by Teo et al. (2008). All the D&M Model's quality components have influenced E-Satisfaction positively, according to their findings. Chen (2010) analyzes user satisfaction with an online tax return filling system and concurs with findings that quality variables have a substantial impact on taxpayer satisfaction with the system.

In the second category, Davis (1989) establishes Technology Acceptability Model (TAM), which measures technology acceptance using the independent variables Perceived Ease of Use (PEoU) and Perceived Usefulness (PU). TAM has been adopted, modified, and partially

integrated in E-Satisfaction studies. Udo et al. (2012) use constructs based on acceptance theories to assess the influence of national culture on satisfaction and acceptance. The study formulates an integrated model of TAM, TPB, and D&M Model. The results demonstrate how user satisfaction is influenced by perceived utility, information, and system quality. Additionally, user happiness affects users' behavioral intention to use E-Government Services indefinitely. Lai and Pires (2010) have created an integrated model of user satisfaction and technology acceptance to examine the elements that affect e-satisfaction and adoption . They identified four elements, including information quality, system quality, social influence, that affect user satisfaction and adoption. The UTAUT has been introduced by Venkatesh et al. (2003). In their study of smart cards, Chan et al. (2010) discovers that performance expectancy, effort expectancy, and facilitating factors had a direct impact on citizen satisfaction. Several scholars who have employed the EGOVSAT model are in the third category. This model has introduced a scale for assessing citizen satisfaction with government-to-citizen web-based initiatives (Lili 2009). Horan and Abhichandani, (2006) conduct their research in this model and find that utility, efficiency, customization, reliability and flexibility have a positive impact on EGOVSAT (Writz and Kurt,2016).

Perceived usefulness, trust and compatibility have been recognized as key determinants which motivate the utilization of G2C services, notably e-voting services, by young voters in their study of college students' e-voting using TAM and DOI.

Tung and Rieck (2005) conclude that greater levels of E-Government adoption have been influenced by awareness, security, and service quality in their study of the adoption of e-government services by companies (G2B).

According to Welch et al. (2005), the use of e-government has a favorable association with individuals' trust in the government. The relationship between trust in government and trust in e-government is reciprocal. Four questions have been used to study trust.

Verdegem and Verleye (2009) discover that there have been nine elements influencing the user acceptance of their internet services in their study of user-centered E-Government. They are: infrastructure, availability, awareness, and cost. They also include technological elements, user friendliness, security/privacy, content, and usability.

Dixit and Datta (2010) have concluded that security and privacy, trust, innovativeness, familiarity, and awareness level enhanced e-banking adoption among Indian clients in their study on the topic.

In his investigation into the variables affecting e-commerce customer satisfaction, trust, and loyalty in Saudi Arabia, Eid (2011) has discovered that while customer trust has a modest impact on customer loyalty in B2C e-commerce in Saudi Arabia, it has a significant impact on customer satisfaction.

In their examination of the ideas of trust and transformational government, Bannister and Connolly (2011) find that the assumption that technology-enabled change will improve citizen trust and has a higher potential for reforming government.

In their study of the impact of E-Service Quality on e-Customer Satisfaction among 392 internet banking users, Zavareh et al. (2012) found that E-Service Quality for internet banking

services in Iran includes efficient and reliable services, fulfillment, security/trust, site aesthetics, responsiveness/contact, and ease of use. Online banking shows a significant relationship between e-Service Quality and e-Customer Satisfaction.

According to Karunasena and Deng (2012), the key factors for determining the public value of e-government in Sri Lanka are the provision of high-quality information and services, user-orientation of those information and services, the efficiency and responsiveness of public organizations, and the contributions of those organizations to environmental sustainability.

Roshini(2012) has reported that LGN usage level and frequency were at lower level through a study conducted in the Colombo District Secretariat in Sri Lanka including staff level and associate level officers based on TAM model. This case study further reveals that LGN e-mail usage is positively perceived by the staff officers.

In their study of Jordanians' E-Satisfaction of E-Government services portal Alawneh et al. (2013) find that quality of public services, accessibility, and awareness have a positive relationship with E-Satisfaction, but security, privacy, and trust does not. 400 staff from four universities in northern Jordan have been the study's participants.

Thowfeek and Arulanantham (2013) study the perception of E-Government and E-Satisfaction of public employees using the executive grade officers in the Divisional Secretariat of Kuchchaveli, Sri Lanka considering entire E-Government portal as a whole.

Samsudeen and Thelijjagoda (2015) have studied the perception of E-Government based on UTAUT model in which university students are the population and the same authors studied Sri Lankan citizen's behaviour towards E-Government based on UTAUT model and university academics behaviour towards E-Government based on the same model.

Using 53 government websites as a sample, Rajapakse and Gunawardana (2015) have examined the difficulties and hindrances to the popularization of government websites. The study has determined the variables influencing service quality.

Sufna and Fernand (2015) focus on the Sri Lanka Administrative Service (SLAS) and the Ministry of Public Administration's website as they explore the variables that affect the public value of e-government in Sri Lanka.

Accessibility, knowledge, quality, and customer expectations for the Pakistan Punjab E-Government portal all have an effect on how satisfied users are with the service, according to Malik et al. (2016). The survey included 200 employees from 8 universities in Punjab, Pakistan.

According to Anwer et al. (2016) in their study of the evaluation criteria based on citizen satisfaction from E-Government services in Afghanistan, the availability of services on multiple channels, citizen-centric features, para lingual support, process performance, skills divide, awareness, information security, and transaction security are all factors that affect citizen satisfaction from E-Government services in Afghanistan.

Ranaweera (2016) reveals the Trust Perspective of E-Government of citizens. Along with the technology acceptance model (TAM) constructs, trust has been explored as an extra construct. The study reveals that Trust is an influential factor of E-Government through the assessment of survey replies of 898 citizens.

The effects of trust on user satisfaction are mediated by G2B system effectiveness measures such as system quality, service quality, and information quality, as well as operational efficiency positively. Ricardo et al. (2019) study the direct and indirect effects of trust in online services on E-Government service users' satisfaction and other perceptions such as G2B system effectiveness and organizational operational effectiveness in Saudi Arabia.

Li et al. (2020) have found that there are eight contributing dimensions to service quality, including system quality, reliability, security, accessibility, information quality, and service capability, in their study of a chain model of E-Government service quality, perceived value, and citizens' continuous-use intention in China. The intention of customers to use a service again is effectively mediated by the perceived value of that service. The satisfaction, value, and quality of the service influence the intention to use.

Samarakoon (2020) has examined user acceptance of e-government in a population. The customer satisfaction with E-Government services in Sri Lanka was evaluated by an online questionnaire survey of 652 Sri Lankans. In this study, the effects of E-Service quality and motivational factors are examined.

Most of these studies have conducted citizens as the subject and considered entire E-Government portal as a whole. A research gap of empirical research exists on the E-Satisfaction of Government Employees as users as well as considering the E-Services

dedicated for government employees. Therefore, this study aims to identify Sri Lanka government employees' level of E-Satisfaction as the E-Service users from the E-Services dedicated for them and the determinant factors of E-Satisfaction.

Chapter 3. Research Design

This survey research combines qualitative interview analysis with quantitative, non-experimental, correlational, and explanatory methods. The major goal is to determine the level of E-Satisfaction among government employees (SLAS, SLPS, SLACS) as users of E-Services provided by the Sri Lankan government. As a result, the relationship between determinants of E-Satisfaction and government employee E-Satisfaction in Sri Lanka is investigated. This chapter covers the analytical framework, research questions and hypotheses, conceptualization and operationalization of variables, variable measurement data sources, population definition, sampling method, random sample, data collection method, and data analysis methods.

3.1 Analytical Framework of the Study

The level of E-Satisfaction among government employees in Sri Lanka (SLAS, SLPS, and SLACS) is investigated, as well as the relationship between determinants of E-Satisfaction and government employee E-Satisfaction. "What is the level of E-Satisfaction of the government employees as users from the E-Services dedicated for them from of the Government of Sri Lanka?" and "What are significant determinants for the E-Satisfaction of the government employees as users from the E-Services dedicated for them from the Government of Sri Lanka?" are the research questions. Furthermore, this study uses previous literatures and scholarships on E-Government and E-Satisfaction to state the research problem and provides five hypotheses. Among the various E-Satisfaction elements, this study places particular emphasis on the concepts of security and privacy, trust, system quality, service quality, and information quality. As a result, the dependent variable of government employees' E-Satisfaction serves as the basis for evaluating the independent

variables of security and privacy, trust, system quality, service quality, and information quality. Considered are the respondents' gender, age, education , and service.

The following analytical framework is used in order to answer how the determinant criteria determine E-Satisfaction of government employees in Sri Lanka. It also demonstrates the way of determining the relationship between variables.

Independent Variables
Security and Privacy
Trust
Service Quality
System Quality
Information Quality

Control Variables
Age
Gender
Service
Education

Dependent Variable
E-Satisfaction
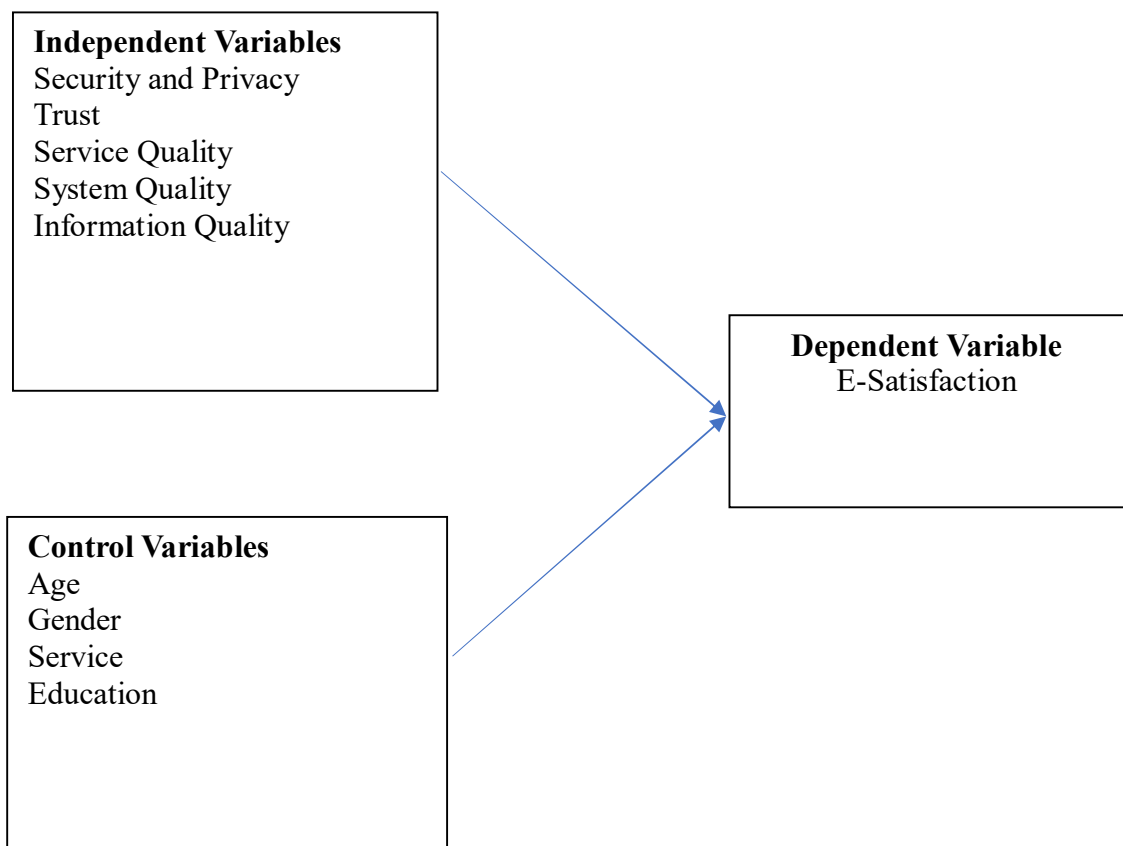
Figure 9 Analytical Framework

Using the analytical framework, the following linear regression models are developed for this investigation.

1. Sri Lanka Government Employees' E-Satisfaction with Controlled Variables

Sri Lanka Government Employees' E-Satisfaction = βo + β1* Security and Privacy + β2* Trust + β3* Service Quality+ β4* System Quality + β5* Information Quality β6*Age + β7*Gender+ β8*Service + β9*Education +E

Where;

β0 = Intercept of the regression line

β1 = Partial regression coefficient of Security and Privacy

β2 = Partial regression coefficient of Trust

β3 = Partial regression coefficient of Service Quality

β4 = Partial regression System Quality

β5 = Partial regression Information Quality

β6= Partial regression on Age

β7= Partial regression on Gender

β8= Partial regression on Service

β9= Partial regression on Education

E = error in the regression

2. Sri Lanka Government Employees' E-Satisfaction without Control Variables

Sri Lanka Government Employees' E-Satisfaction = βo + β1* Security and Privacy + β2* Trust + β3* Service Quality+ β4* System Quality + β5* Information Quality +E

Where;

β0 = Intercept of the regression line

β1 = Partial regression coefficient of Security and Privacy

β2 = Partial regression coefficient of Trust

β3 = Partial regression coefficient of Service Quality

β4 = Partial regression System Quality

β5 = Partial regression Information Quality

E = error in the regression

3.2 Research Questions and Hypothesis of the Study

The relationship between Security and Privacy and E-Satisfaction; Trust and E-Satisfaction; Service Quality and E-Satisfaction; System Quality and E-Satisfaction and Information Quality and E-Satisfaction are studied in different settings in many times. Scholars have studied more on the E-Government from the government side as the supplier of public service and with less attention to stakeholder perspective. In the stakeholder perspective, citizens have been considered as the unit of analysis in many studies but government employees who involve in the policy-making and implementation of E-Government have been given less research interest. This study is an addition to the a few research in Government Employee perspective of the E-Government literature. There are a few studies in Sri Lankan perspective of the E-Government literature and user satisfaction perspective of E-Government. This study is a contribution to the literature of Sri Lankan E-Government perspective.

A research gap of empirical research exists on the E-Satisfaction of Government Employees as users as well as considering the E-Services dedicated for government employees. Therefore, identifying Sri Lanka government employees' level of E-Satisfaction as the E-Service users from the E-Services dedicated for them and the determinant factors of E-Satisfaction is the research problem of this study. Fulfilling this research gap, this study has examined the level of E-Satisfaction of government employees belong to the Sri Lanka Administrative Service (SLAS), Sri Lanka Planning Service

(SLPS), Sri Lanka Accountancy Service (SLACS) as users and the relationship between E-Satisfaction determinants and government employee's E-Satisfaction in Sri Lanka. In order to get at the study's conclusions, the following research questions have been constructed to examine the relationship between Sri Lankan government employee E-Satisfaction and its factors.

Question 1

What is the level of E-Satisfaction of the government employees as users from the E-Services dedicated for them from the Government of Sri Lanka?

Question 2

What are significant determinants for the E-Satisfaction of the government employees as users from the E-Services dedicated for them from the Government of Sri Lanka?

According to the mainstream of previous research conclusions in similar studies, this study proposes the following hypotheses.

Security and Privacy and E-Satisfaction: Security refers to the quality of assuring information confidentiality, integrity, and availability, as well as the assurance that a government website is safe from cyberattack. Users' data are protected by privacy by never being utilized without their permission (Mukamurenzi S. et al., 2019). Dixit and Datta, (2010) emphasize that privacy and security may affect positively or negatively to the E-Satisfaction depending on the feelings they have regarding these two elements. Security and privacy are of prime importance in E-Government since E-Government portals manipulate information about their citizens than do web-vendors (Alawneh A. et al., 2013). Losing of customers/users and negative word of mouth may occur at security and privacy violations (Dixit & Datta,2010).

Government employees expect security and privacy of E-Government portals to store their

information on policies and decisions and proper measures of securing their privacy in online environments.

For the purpose of this study, security and privacy refers to the Sri Lankan government employees' belief that Government Employee Dedicated E-Services in Sri Lankan E-Government portal is protected from external attack and their confidence that their information will not be manipulated by unknown persons without their intention.

Based on the above discussions, and previous studies, the following hypothesis is proposed.

H1: The high Privacy and Security of Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal are positively affecting the E-Satisfaction level of Sri Lankan government employees as users.

Trust and E-Satisfaction: According to Pavlou and Fygenson (2006), trust is the belief that the trustee would cooperate with the trustor to fulfill the expectations without exploiting the position of vulnerability. The term "citizen trust in government" doesn't have a commonly accepted definition. Citizens' trust in e-government services is directly correlated with their faith in their government (Vishanth and al., 2016). Belanger and Carter assert that a citizen's perception of the risks involved in using e-government services is lowered by their faith in governmental organizations (2008).

The importance of trust between the vendor and the customer has been underlined in e-commerce studies. According to Mcknight et al. (2002), beliefs of trust lead to intentions of trust, which will generate satisfaction and trusting actions like loyalty and commitment. Trust influences customer views toward buying from t-retailers and increases online purchases (Lin and Lee, 2005). Because e-commerce transactions take place in online environments, which involve risk and uncertainty, trust is essential (Palvia, 2009).

Employees of the government expect and rely on the effectiveness of E-Government portals in terms of confidence and assurance.

For the purposes of this study, trust refers to Sri Lankan government employees' belief that the dedicated E-Services for Sri Lankan government employees in the Sri Lankan E-Government portal will meet their expectations and give them confidence in utilizing the portal.

The following hypothesis is proposed based on the above discussions, and previous studies, the following hypothesis is proposed.

H2: The high Trust on the Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal is positively affecting the E-Satisfaction level of Sri Lankan government employees as users.

Service Quality and E-Satisfaction: The term "service quality" relates to how well-informed a customer feels a website is regarding a product or service (Park & Kim, 2003). Additionally, Park and Kim (2003) find that information quality directly affects customer satisfaction. Online client trust is predicted by the quality of a website's content (Mcknight et al., 2002).

The two elements that make up service quality are the technological dimension, which refers to what is delivered, and the functional dimension, which refers to how the service is provided. Low-quality E-Services, according to Lee and Lin (2005), are the primary reason why many online enterprises fail.

Many E-Government portals have been built without careful consideration of the quality of

their services or the needs of citizens (Stated Papadomichelaki and al., 2006 cited by Alawneh et al. (2013)). The effectiveness and efficiency of E-Services are tied to information reliability and public service responsiveness. Whether in the public or private sector, the success of any web portal or web service is determined by the service quality, which determines whether electronic services succeed or fail (Zavareh et al., 2012).

Government employees have to obtain common civil services as revenue license, birth certificate and voting registrations through E-Government portals as ordinary citizens. Government employees expect service quality being a subset of the citizens of the country. Further, they themselves are the designers, developers and implementation bodies of the E-Government portals. They expect higher level of service quality from the E-Services dedicated for them.

For the purpose of this study, service quality refers to the Sri Lankan government employees' feeling that without bias, the services are delivered in the right time, and the capacity of the Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal to respond without delay to their demands.

Based on the above discussions, and previous studies, the following hypothesis is proposed.

H3: The high Service Quality of service the Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal is positively affecting the E-Satisfaction level of Sri Lankan Government employees as users.

System Quality and E-Satisfaction: System quality refers to the features and performance characteristics of E-Government Web sites in terms of usability or public perceptions of quality. It is a crucial aspect in determining user satisfaction and acceptance. For citizens to continue to use E-Government websites or for E-Government to succeed, the website

system quality must be good (Safeena R. and Kammani, 2013).

E-Government provides many services through websites. As a result, in the age of online services, websites serve as the backbone of citizen-government relations. As a result, citizens' satisfaction and desire to continue using the service is dependent on their ability to find functionalities and navigation. This refers to the overall quality of the system (McKinney et al., 2002).

As a subset of citizens, government personnel anticipate system quality through E-Government portals while accessing public services through those portals. They are responsible for ensuring that the E-portals are constructed by developers in accordance with the system quality requirements. They also demand high-quality E-Services in the Government E-portal dedicated to them.

For the purpose of this study, System quality refers to the Sri Lankan government employees' perception of the ease of use of Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal in terms of clarity and simplicity of functions and web design.

Based on the above discussions, and previous studies, the following hypothesis is proposed.

H4: The high System Quality of the Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal is positively affecting the E-Satisfaction level of Sri Lankan Government employees as users.

Information Quality and E-Satisfaction: Information quality is highly influential variables in citizens' satisfaction since it offers them an impression of the services they utilize. When information fails to meet quality criteria, citizens' satisfaction is declined

(Chen, 2010). The quality of information perception is one of the factors that influence a customer's decision to use one service over another. The relevance, timeliness, accuracy, understandability, and completeness of the provided information are all aspects of information quality (Safeena R. and Kammani, 2013).

Governments attempt to disseminate higher volumes of information with the use of ICT tools, resulting in a data deluge in any area. However, having a large amount of data does not guarantee that it is of high quality. This leads to the question of whether information accessibility equates to information quality.

Completeness is the consistency of volume and quality of data and information published. The amount of information available on a website can provide the impression of transparency, but all aspects of the policies may not be reflected through such information. The government sometimes hides the negative aspects of its policies. Positive bias in information that is made public is referred to as color. This clarifies why the government can hold some information in the name of the public good. The timeliness and understandability of information are referred to as usability.

Government employees as the presenters of the information are to be aware of the information quality. The quantity of information does not generate the quality of the information and they themselves expect quality of information as citizens. Further, they as users of the E-Services dedicated for them expect the higher level of information quality.

For the purpose of this study, information quality refers to the Sri Lankan government employees' perception that Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal provides accurate information, timely and without bias.

Based on the above discussions, and previous studies, the following hypothesis is proposed.

H5: The high Information Quality of the Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal is positively affecting the E-Satisfaction level of Sri Lankan Government employees as users.

3.3 Conceptualization and Operationalization

The terms required for operationalize the study are defined and used for the purpose of this study.

E-Government Portals dedicated for government employees: E-Satisfaction is the dependent variable of this study. E-Satisfaction is derived through the usage of Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal.

For the purpose of this study, E-Government Portals dedicated for government employees operationally refer to the CIGAS Web based application, LGN email and internet services, Pension Management System of the Pensions Department, the Web site and Intranet of the Ministry of Public Administration, Web site of the Department of Official Languages, Web site of the Department of Examinations and intranets of the Government Institutions.

E-Satisfaction: E-Satisfaction is the dependent variable of this study.

E-Satisfaction, according to Reddick and Roy (2013), is the ability of citizens/customers to have a service experience that addresses their problems and provides them with the information they desire.

Citizens' levels of satisfaction with E-Government services in areas of content, speed, quality, security, and interface are measured by E-Satisfaction (Alaa et al., 2014).

For the purpose of this study, E-Satisfaction operationally refers to the ability of Sri Lanka government employees to have a service experience that solves their concerns and to get the information, they require through using the Sri Lanka E-Government portals dedicated for government employees in the aspects of security and privacy, trust, service quality, system quality and information quality.

Security and Privacy: Security and privacy is an independent variable of this study.

Security refers to the assurance that the government site is secure against cyberattacks, as well as the quality of assuring data confidentiality, integrity, and availability. Users' data are not used without their consent, which is referred to as privacy (Mukamurenzi S. etal., 2019).

For the purpose of this study, security and privacy operationally refers to the Sri Lankan government employees' belief that the Sri Lanka E-Government portals dedicated for government employees are protected from external attack and their confidence that their information will not be manipulated by unknown persons without their intention.

Trust: Trust is an independent variable of this study.

There is no commonly agreed upon definition of citizen trust in government. Citizens' trust in e-government services is directly correlated with their faith in their government (Vishanth and al., 2016). According to Belanger and Carter (2008), citizens' perceptions of the risks associated with accessing e-government services are tempered by their faith in governmental institutions.

For the purpose of this study, trust operationally refers to Sri Lankan government employees' perception that Sri Lanka E-Government portals dedicated for government

employees will satisfy their expectation and their confidence in using the E-portals.

Service Quality: Service Quality is an independent variable of this study.

The term "service quality" relates to how well-informed a customer feels a website is regarding a product or service (Park & Kim, 2003). Online customer trust is determined by the caliber of a website's content (Mcknight et al., 2002).

For the purpose of this study, service quality operationally refers to Sri Lankan government employees' feeling that without bias, the services are delivered in the right time and the capacity of Sri Lanka E-Government portals dedicated for government employees to respond without delay to their demands.

System Quality: System Quality is an independent variable of this study.

In terms of usability or general public perceptions of quality, system quality relates to the features and performance aspects of E-Government Web sites. It is a crucial aspect in determining user satisfaction and acceptance. For citizens to continue to use E-Government websites or for E-Government to succeed, the website system quality must be good (Safeena R. and Kammani, 2013).

For the purpose of this study, System quality operationally refers to the Sri Lankan government employees' perception of ease of use of Sri Lanka E-Government portals dedicated for government employees in terms of clarity and simplicity of functions and web design.

Information Quality: Information Quality is an independent variable of this study.

One of the variables that influences a customer's decision to utilize one service over another is the quality of information perception. Relevance, timeliness, correctness, understandability, and completeness of the information delivered are all factors in its quality (Safeena R. and Kammani, 2013).

For the purpose of this study, information quality refers to the Sri Lankan government employees' perception that Sri Lanka E-Government portals dedicated for government employees provides accurate information, timely and without bias.

3.4 Measurement and Data Sources

The perceptions on the E-Satisfaction determinants and E-Satisfaction are gathered by using a single survey questionnaire integrating eight items for E-Satisfaction, forty items for determinants of E-Satisfaction and four questions related to respondent's demographic Information. The first section is E-Satisfaction section and it consists of eight questions in five-point Likert Scale. The scale ranged from 1 = strongly disagree,2= disagree, 3= neutral, 4= agree, to 5= strongly agree. The second section is Determinants of E-Satisfaction and it consists of forty questions in five-point Likert Scale. The scale ranges from 1 = strongly disagree,2= disagree, 3= neutral, 4= Agree, to 5= strongly agree. These forty questions are grouped into five sub scores to define five factors as Security and Privacy, Trust, Service Quality, System Quality and Information Quality. The respondents' personal qualities are the focus of the third segment, which include four questions about gender, age, education, and service. As a result, the single survey includes fifty-two questions accompanied by a letter of consent to the respondents. The information regarding variables, their properties, data sources, and measurement technique assumed in this study is shown below.

Variable	Survey Questions	Data Source
Independent Variable		
E-Satisfaction	**ES1.** I am satisfied with the services received from the Sri Lankan E-Government portal	Anderson and Suvillan (1993)
	ES2. E-Government services of the Sri Lankan E-Government portal meet my expectations	Jerry (2020)
	ES3. I will continue to use E-Government services of the Sri Lankan E-Government portal	
	ES4. I strongly recommend Government Employees to use E-Government services of the Sri Lankan E-Government portal	
	ES5. I think I made correct decision of using E-Government services of the Sri Lankan E-Government portal	
	ES6. I am satisfied with the way that E-Government portal has carried out Government transactions	
	ES7. I can recommend the public to use the Sri Lankan E-Government portal	
	ES8. overall, I am satisfied with Sri Lankan E-Government.	
Dependent Variables		
Security and Privacy	**SP1.** Sri Lankan E-Government portal has enough safeguards to make me feel comfortable in conducting government transactions	Lee and Chung (2009)
	SP2. Sri Lankan E-Government portal ensures the confidentiality of my personal information	Dixit and Datta (2010)
	SP3. Sri Lankan E-Government portal will never misuse my personal information	Eid (2011)
	SP4. Sri Lankan E-Government portal has adequate technological standards and tools to ensure that the data I send cannot be modified by unauthorized people	Zavareh et al. (2012) Kang and Lee (2010)
	SP5. Sri Lankan E-Government portal only collects my personal data that are necessary for its functioning	Alawneh et al. (2013)
	SP6. Sri Lankan E-Government portal does not provide my personal information to others without my own consent	

	SP7. I feel that Sri Lankan E-Government portal shows attention for privacy of its users SP8.Privacy and security positively influence my E-Satisfaction from Sri Lankan E-Government services	
Trust	TR1.Sri Lankan E-Government portal is trustworthy to deliver government services to its users TR2.I expect my use of the Sri Lankan E-Government portal will increase in future TR3.I trust that my all-personal information will remain in the Sri Lankan E-Government portal TR4. Sri Lankan E-Government portal is always increasing government employees' attention and interest TR5.I trust the benefits provided by Sri Lankan E-Government portal TR6.I think Sri Lankan E-Government portal is concerned with the present and future interests of users TR7.I have got the confidence in the E-Services of the Sri Lankan E-Government portal TR8. Trust positively influences my E-Satisfaction from Sri Lankan E-Government services	Schaupp and Carter (2005) Kim et al. (2009) Kang and Lee (2010) Zavareh et al. (2012) Alawneh et al. (2013)
Service Quality	SQ1.Sri Lankan E-Government portal enables me to accomplish government transactions more quickly SQ2.Sri Lankan E-Government portal enables me to enhance performance of government transactions through online support" SQ3.Sri Lankan E-Government portal enables me to accomplish more government transactions in fewer steps SQ4.Interaction with Sri Lankan E-Government portal is clear and understandable SQ5.It is easy to do what I want to do using Sri Lankan E-Government portal	Lee and Chung (2009) Kang and Lee (2010) Eid (2011) Alawneh et al. (2013) Karunasena and Deng (2012)

	SQ6. Sri Lankan E-Government portal enhances my ability to complete government transactions without	
	problems, misunderstandings and delays	
	SQ7. Sri Lankan E-Government portal provided problem solution platform is useful for me	
	SQ8. Service quality positively influences my E-Satisfaction from Sri Lankan E-Government services	
System Quality	**QS1.**Sri Lankan E-Government portal is easy for me to use	Rai et al. (2002) Wang and Liao (2008)
	QS2. Sri Lankan E-Government portal is easy for me to navigate in government transactions	
	QS3.I could use Sri Lankan E-Government portal anytime, anywhere I want	Lee and Chung (2009) Zavareh et al. (2012)
	QS4.I could feel Sri Lankan E-Government portal websites are well-designed	Jerry (2020)
	QS5.I could feel screen colours in the Sri Lankan E-Government portal web sites are pleasing	
	QS6. I could feel visual graphics in the Sri Lankan E-Government portal web sites are user friendly	
	QS7. Presentation styles in Sri Lankan E-Government portal are easy for me to understand	
	QS8. System quality positively influences my E-Satisfaction from Sri Lankan E-Government services	
Information Quality	**IQ1.**Sri Lankan E-Government portal provides me with needed information	Rai et al. (2002) Lee and Chung (2009)
	IQ2. Sri Lankan E-Government portal provides me with sufficient information	Jerry (2020)
	IQ3. Sri Lankan E-Government portal provides me with reliable information	
	IQ4. Sri Lankan E-Government portal provides me with updated information	
	IQ5. Sri Lankan E-Government portal provides me with helpful information for my questions and problems	

IQ6.Sri Lankan E-Government portal provides me with accurate information for the government transactions	
IQ7.Sri Lankan E-Government portal provides me with complete information for the government transactions	
IQ8.Information quality positively influences my E-Satisfaction from Sri Lankan E-Government services	

Demographic Variables	
1. Gender	1.Male
	2.Female
2. Age	18-25 Years
	26-35 Years
	36-45 Years
	46-55 Years
3. Education	1.Degree
	2.Masters
4.Service	SLAS
	SLPS
	SLACS

Table 5 Variable Constructs of the Study

3.5 Sampling and Data Collection Method

3.5.1 Population and Sample

Definition of Population: The study is designed to measure the government employees' level of E-Satisfaction as users from the E-Government services dedicated for them from Sri Lankan government. For the purpose of this study government employees are confined to Sri Lanka Administrative Service (SLAS), Sri Lanka Planning Service (SLPS) and Sri Lanka Accountancy Service (SLACS). These officers involve in the administration, policymaking and decision making, resource allocation and financial management.

Population

Service	SLAS	SLPS	SLACS	Total
Officials	2612	847	1683	5142

Table 6 Population of the Study

Source: www.pubad.gov.lk: Web site of the Ministry of Public Administration –as at 31st December, 2021

Sampling Frame: The seniority lists of government employees who belong to SLAS, SLPS and SLACS are the sampling frame.

Sample: Accordingly, the minimum sample size for this study is 358 at 5% margin of error, 95 % confidence level and 50% response rate. A sample of 358 is selected randomly by using self-interested sampling from the sampling frame.

Sampling Method: A sample of 358 is selected randomly by using stratified sampling and random sampling from the sampling frame.

Random Sampling

Sample –Self-interested Sampling

Service	Population	Sample
SLAS-SLPS-SLACS	5142	358

Table 7 Sample of the Study

3.5.2 Survey Instrument

The perceptions of the E-Satisfaction determinants and E-Satisfaction are recorded using a single survey questionnaire that included eight items for E-Satisfaction, forty items for determinants of E-Satisfaction, and four questions about respondent demographic information. The E-Satisfaction is the first part and consisted of four questions on a five-point Likert scale. The scale ranges from 1 = strongly disagree,2= disagree, 3= neutral, 4= agree, to 5= strongly agree.   The second section is Determinants of E-Satisfaction and it consists of forty questions in five-point Likert scale. The scale ranges from 1 = strongly disagree,2= disagree, 3= neutral, 4= Agree, to 5= strongly agree.   These forty questions are grouped into five sub scores to define five factors as Security and Privacy, Trust, Service Quality, System Quality and Information Quality. The respondents' personal qualities are the focus of the third segment, which includes four questions about gender, age, education, and service. As a result, the single survey included fifty-two questions as well as a consent letter to the respondents. The questionnaire has been pre-tested with twelve officials, four from each agency, and changes and corrections have been made as a result.

3.5.3 Data Collection Method

A survey questionnaire is used to get respondents' opinions on e-satisfaction and its contributing factors. The survey consists questions on E-Satisfaction, five E-Satisfaction determinants and demographic information It is designed in Google forms and sent to the respondents through different electronic platforms. Sufficient number of responses have not been collected during the pilot study period due to the ongoing work from home situation

due to Covid-19 and electricity power cuts in Sri Lanka. Hence, enveloped questionnaires have been sent to the officials at District Secretariats, Divisional Secretariats, Ministries, Departments and Government Institutions and the received responses have been fed to the MS-Excel Sheet. Furthermore, enveloped questionnaires have been distributed to the officials of SLAS, SLPS, and SLACS who are participating in the training programs during the survey period at the Sri Lanka Development Administration which is the training arm of Government Officials of Sri Lanka and the received responses have been fed to the MS-Excel Sheet.

Finally, the data have been entered into MS-Excel and imported into SPSS software version 26 for analysis (Microsoft Inc,2021). To evaluate the hypotheses of this study, descriptive, correlation, and regression analyses have been used to examine the link between E-Satisfaction determinants and E-Satisfaction of government employees in Sri Lanka. The researcher has kept the questionnaire replies completely confidential and trusted them. For the purposes of data analysis, only the average values of respondents' expressed opinions have been used.

For the qualitative analysis, data have been collected through interviews. The main criteria employed for selecting officers for the interviews is whether they have participated in any sort of E-Services Development Project. Accordingly, 12 officers have been selected representing three All-Island services and covering four age categories.

3.6 Data Analysis Method

In order to examine the relationship between E-Satisfaction determinants and E-Satisfaction of the government employees in Sri Lanka, the descriptive analysis, correlation and regression analysis have been performed to test the hypotheses of this study. Quantitative data

obtained from close-ended questions have been analyzed and encoded by using SPSS 26 Statistical Analysis Software. First Descriptive Statistics have been analyzed for the participants of the survey. The Demographic categories Age, Gender, Education and Service have been compared in this stage. In the second stage, Descriptive Statistics have been analyzed for the five independent variables. Demographics categories will be compared with each and every independent variable. In order to test the reliability of the survey instrument Cronbach Test has been performed. In the third stage Pearson's Coefficient Correlation Test has been performed between independent variables and controlled variables in an aim to analyze the extent to which they are correlated each other. Variance Inflation Factors have been performed in an aim to see multi-collinearity among factors. In the fourth step, Multi-linear Regression has been performed with controlled variables and without controlled variables. And based on the results, five hypotheses have been tested.

Further, qualitative analysis has been performed through the data collected through interviews. Responses of the interview informants have been tabularized through synthesis and summarizing the responses. Perception of E-Satisfaction Level and the Opinion on Increase of E-Satisfaction have been recorded individually in the tables and issues have been summarized for each and every determinant.

3.7 Reliability and Validity of the Survey Instrument

The survey contains altogether fifty-two questions accompanied by a letter of consent to the respondents. Pre-test of the questionnaire has been conducted with twelve officials, four officers from each service, and modifications and corrections have been made. In order to test the reliability of the survey instrument Cronbach Alpha Test has been performed.

Chapter 4 Presentation, Analysis and Discussion of Results

This chapter primarily focuses on the data presentation, analysis, and discussions that resulted from the methods employed for this research and the criteria used to choose responses as described in Chapter 3. After gathering the relevant information, it should be organized in a more purposeful manner. Data analysis is the process of properly organizing collected data in order to achieve a goal. This chapter is divided into eight sections that explain the research analysis and empirical findings as well as qualitative data analysis.

4.1 Characteristics of the sample

The last part of the questionnaire has been used to collect the data regarding basic demographic attributes of the respondents. It contains variables as Gender, Age, Education and Service. Gender was coded as (1= Male, 2 = Female), Age category was coded as (1 = 18 – 25 Years, 2 = 26 – 35 Years, 3 = 36 – 45 Years, 4 = 46 - 55 Years, Educational level was coded as (1= Degree, 2 = Masters), Service coded as (1 = SLAS, 2 = SLPS, 3 = SLACS). The sample characteristics presents in the table 4.1.

The sample encloses with 43.0% male and 57.0% female. Therefore, the majority of the sample is female. In the Age, there is 41.37% as the majority from the 36 - 45 Years category and only 8.47% respondents belong to 18-25 Years age category. In the aspect of Education 69.06% as the majority with the masters while 30.94% have bachelor degrees. 44.63% of the sample has shown as SLAS officers, 36.81% as SLACS officers and only 17.92% were SLPS officers.

Based on Scheme of Recruitment for each service category, Bachelor Degree is a mandatory requirement. In Sri Lanka, in most scenarios, graduation age for the bachelor degree is between 24-28 on average. Hence, it is evident in these three executive categories in the public sector as well. 18-25 age category is only 8.47%. Masters Degree is a mandatory requirement for the Grade Based Promotions in these executive services. Majority of the officers are in 36-45 age category and they are in the mid-range of their service grade. Therefore, majority of the officers have studied for a Masters degree and it is 69.06%. The sample ideally represent the population since the majority of the population is SLAS, i.e., 2612 officers and in the sample, it is 44.3% being the highest representation. There are 847 SLPS officers in the population as the lowest number of officers and in the sample, it is 17.92% being the lowest representation. All these executive officers have different levels and sorts of responsibilities in the E-Government and their responses on the E-Satisfaction of the E-Services dedicated for them are purposive and to be analyzed for the conclusions for policy implications. Therefore, the whole sample can be used in this research in a purposive way for the further analysis.

	Category	Frequency	Percentage	Cumulative percentage
Gender	Male	132	43.0%	43.0%
	Female	175	57.0%	100.0%
Age	18 – 25 Years	26	8.47%	8.47%
	26 - 35 Years	86	28.01%	36.48%
	36 - 45 Years	127	41.37%	77.85%
	46 - 55 Years	68	22.15%	100.0%
Education	Degree	95	30.94%	30.94%
	Masters	212	69.06%	100.0%

Service	SLAS	137	44.63%	44.63%
	SLPS	57	18.57%	63.19%
	SLACS	113	36.81%	100.0%

Table 8 Characteristics of the sample

Source: Survey Data, 2022

4.2 Validity and reliability of the data

Cronbach's value and response rate can be used as basic measurements for validity and reliability of the responses and the instrument which has been used to collect the data.

4.2.1 Response rate

The ratio of first-time responses from the distributed questionnaires is called response rate. It is usually expressed in the form of a percentage. Response rate of this study can be calculated as follows:

$$\text{Response rate} = \frac{\text{Number of responses}}{\text{Number of questionaires distributed}} \times 100 = \frac{307}{358} \times 100 = 85.75$$

Since the response rate of this study 85.75% which is greater than 75% and therefore, this can be used as a valid sample.

4.2.2 Reliability Statistics

Reliability analysis refers to the fact that a scale should consistently reflect the construct it is measuring. Cronbach's α is a coefficient to measure of internal consistency, that is, how

closely related a set of items are as a group. It is considered to be a measure of scale reliability.

Number of Items	Cumbrance's α value
48	0.748

Table 9 Reliability of the data collection instrument

Source: SPSS Output, 2022

Since, the value greater than 0.7, Cronbach's α has indicated the acceptable level of internal consistency. As per the criterion for Cronbach's α value, internal consistency is in the acceptable level.

4.3 Descriptive statistics

Descriptive statistics provide simple summaries about the sample and the measures. There are main numbers of basic descriptive statistics tools which describe patterns and general trends in a data set or the features of data set.

	N	Minimum	Maximum	Mean	Std. Deviation
E-Satisfaction	307	2.50	4.88	4.41	0.25
Security and Privacy	307	3.63	5.00	4.42	0.22
Trust	307	3.63	4.88	4.42	0.19
Service Quality	307	4.63	5.00	4.97	0.08
System Quality	307	2.50	5.00	4.45	0.20
Information Quality	307	2.88	4.63	4.31	0.26

Table 10 Summary statistics

Source: SPSS Output, 2022

The results shown in table 4.3 is calculated as formulated ratio scale variables for both dependent and independent variables. As per the table 4.3, highest mean value obtained from the independent variable "Service Quality" while the lowest mean value obtained from "Information Quality". When considered with the standard deviation of all variables it can be identified that there is stability among the collected data for each variable since the lower values of standard deviations.

Based on the mean value analysis, it is evident that government officers' E-Satisfaction level is at higher levels as 4.41 out of 5. The E-Services considered in this study are essential for government employees and which have been delivered using rigorous manual office systems until these systems are implemented. Despite the fact that most these web sites are in the interactive level and have security, privacy, service, system and information related issues, government officers are satisfied even with the existing level since these E-Services may have provided them with a useful, easy and better functionality than the legacy manual office systems.

As per the interviews conducted with the SLAS, SLPS and SLACS officers, they have confirmed the idea that the existing E-Services are of satisfaction when compared with the manual systems. However, they affirm that these E-Services are to be developed further when compared with private sector websites and websites of the developed countries.

As per the mean value analysis Service Quality deem to be the most influential factor for the E-Satisfaction, however based on the regression analysis, it is not a significant factor of E-Satisfaction. Further, mean value analysis suggests that Information Quality is the least influential factor, but regression analysis revealed that it is the most influential factor of E-

Satisfaction. All the officers have agreed that the five factors are influential for their E-Satisfaction based on the descriptive statistics.

Further, the interviews conducted with the officers reveal that all these determinants are influential for them and however they point out that Information Quality is of utmost importance among these factors confirming the empirical findings through the regression analysis. They are in the view that it is very difficult to get the quality information from each and every department unless they have properly maintained websites. They emphasized that the presentation of the data and information is also important for them in order to use the information in an effective manner for their decision making.

After examining the overall picture of the variables, it is useful to identify the summary of statistics based on the demographic attributes which has been concerned.

4.3.1 Demographic category comparison for E-Satisfaction

Table 4.4 has shown descriptive statistics of the E-Satisfaction according to the demographic category. As per the mean values shown in the table 4.4, in the Gender category Female shows higher satisfaction level 4.46 (SD = 0.16) than Male. The Age category 46 to 55 years shows the highest E-Satisfaction level 4.50 (SD = 0.08) while the lowest 4.17 (SD = 0.32) is for 18 to 25 age categories. In the Education category both the Degree and Masters levels show equal E-Satisfaction level 4.41 (SD = 0.26, 0.25). In the aspect of Services, the highest E-Satisfaction level 4.45 (SD = 0.23) shows the SLACS while the lowest 4.38 (SD = 0.30) shows SLAS.

The officers belong to 46 to 55 age category are highly satisfied of the E-Services while the young officers in 18-25 category show relatively lower level of E-Satisfaction. It may be due to the fact that the young officers expect more sophisticated E-Services with higher levels of quality aspects. They are relatively new to the service and have not experienced the legacy office systems when compared to the officers in higher age levels. Further, officers in the higher levels are more satisfied with the existing E-Services since they may compare these with the legacy manual procedures whereas the young officers may compare these E-Services and web sites with the private sector services and furthermore, they belong to the digital era than their senior officers. And also, their educational level has not become influential for their perceptions on E-Services.

Further, the interviews conducted with the officers reveal that the senior officers are in the view that whatever E-Service development is useful for the government and is a boon for economic development and efficiency enhancement of the government sector. In their opinion, their perception arrives in through a comparison of existing E-Services with the manual services. In contrast officers belonging to lower age categories are in the view that existing E-Services should be improved further. Their idea is that the level of data sharing and redundance of data duplication is not at satisfactory levels. They expect higher levels of automation of government functions and seeing all the functions as government functions but not as departmental functions. A single window view of government is their expectation.

Furthermore, as per the discussion with the officials, it is revealed that they are not in the view that their educational level is an influential factor in the success of government career. They perceive educational level is as an efficiency barrier for their promotion and a mandatory requirement only. Their experience is of utmost importance to them. As revealed by senior officers, Masters degree is a mandatory requirement for the promotion, but it is not a critical factor for success in the career. Therefore, it can be concluded that if education level

is not considered an influential factor in their decision-making and administrative function, it will not become an influential factor in their perceptions of E-Government and E-Satisfaction.

	Category	N	Minimum	Maximum	Mean	Standard Deviation
Gender	Male	132	3.00	5.00	4.36	0.33
	Female	175	4.00	5.00	4.46	0.16
Age	18 – 25 Years	26	3.00	5.00	4.17	0.32
	26 - 35 Years	86	3.00	5.00	4.43	0.25
	36 - 45 Years	127	3.00	5.00	4.40	0.26
	46 - 55 Years	68	4.00	5.00	4.50	0.08
Education	Degree	95	2.50	4.75	4.41	0.26
	Masters	212	2.38	5.00	4.41	0.25
Service	SLAS	137	3.00	5.00	4.38	0.30
	SLPS	57	4.00	5.00	4.42	0.16
	SLACS	113	3.00	5.00	4.45	0.23

Table 11 Demographic category comparison for E satisfaction

Source: SPSS Outputs, 2022

4.3.2 Demographic category comparison for security and privacy

Table 4.5 has shown descriptive statistics of the Security and Privacy according to the demographic category. As per the mean values shown in the table 4.5, in the Gender category Female shows higher Security and Privacy score 4.45 (SD = 0.20) than Male. The highest Security and Privacy score 4.47 (SD = 0.18) shows the age category 46 to 55 years while the lowest 4.38 (SD = 0.20) shows 26 to 35 years category. In the Education both the Degree and

Masters level show equal Security and Privacy score 4.42 (SD = 0.20,0.22). In the aspect of Services, the highest Security and Privacy score 4.45 (SD = 0.20) shows the SLACS while the lowest 4.39 (SD = 0.18) shows SLPS.

	Category	N	Minimum	Maximum	Mean	Standard Deviation
Gender	Male	132	4.00	5.00	4.37	0.23
	Female	175	4.00	5.00	4.45	0.20
Age	18 – 25 Years	26	4.00	5.00	4.42	0.29
	26 - 35 Years	86	4.00	5.00	4.38	0.20
	36 - 45 Years	127	4.00	5.00	4.42	0.22
	46 - 55 Years	68	4.00	5.00	4.47	0.18
Education	Degree	95	4.00	5.00	4.42	0.20
	Masters	212	4.05	5.00	4.42	0.22
Service	SLAS	137	4.00	5.00	4.40	0.24
	SLPS	57	4.00	5.00	4.39	0.18
	SLACS	113	4.00	5.00	4.45	0.20

Table 12 Demographic category comparison for Security and Privacy

Source: SPSS Outputs, 2022

SLACS officers are responsible financial management of the government. Being professionals of accounting and finance, they are highly concerned of Security and Privacy of transactions and information and therefore, their perception of Security and Privacy shows the highest mean value. Senior officers in the age 46-55 category are concerned of Security and Privacy than the junior officers. Female officers perceive the Security and Privacy as highly important factor in the context of E-Services as well. Education level has not influenced differently on the perception of Security and Privacy. The interviews reveal that SLACS officers' prime concern is security and privacy. They urge that the security and privacy

measures must be enhanced in order to develop most of the government websites to transactional level.

4.3.3 Demographic category comparison for Trust

Table 4.6 has shown descriptive statistics of the Trust according to the demographic category. As per the mean values shown in the table 4.6, in the Gender category Female shows trust score 4.42 (SD = 0.19) and Male 4.41(SD=0.19). The highest trust score 4.45 (SD = 0.15) shows the Age category 46 to 45 years while the lowest 4.28 (SD = 0.30) shows 18 to 25 years category. In the Education category Degree level shows higher trust score 4.44 (SD = 0.20) than Masters level. In the aspect of Services, equal Trust score 4.42 (SD = 0.20, 0.19) shows the SLAS and SLACS while the lowest 4.39 (SD = 0.16) shows SLPS.

Both male and female officers perceive Trust as important determinant approximately equal mean values. Senior officers are more concerned of Trust than junior officers. Trust is a factor based on human values such as attitude and is affected by experience. Senior officers have service experience more than junior officers and they may perceive the importance of Trust based on their experience. Senior officers are more aware of nature of higher level of political authority and their intentions and hence they are more concerned of Trust of E-Services. Further, they have the higher level of responsibility in transactions and information provision than junior level officers. Therefore, they expect higher level of Trust in these digital environments. All the three services highly perceive Trust as a determinant for their E-Satisfaction.

	Category	N	Minimum	Maximum	Mean	Standard Deviation
Gender	Male	132	4.00	5.00	4.41	0.19
	Female	175	4.00	5.00	4.42	0.19
Age	18 – 25 Years	26	4.00	5.00	4.28	0.30
	26 - 35 Years	86	4.00	5.00	4.42	0.17
	36 - 45 Years	127	4.00	5.00	4.43	0.18
	46 - 55 Years	68	4.00	5.00	4.45	0.15
Education	Degree	95	4.00	5.00	4.44	0.20
	Masters	212	4.00	5.00	4.41	0.19
Service	SLAS	137	4.00	5.00	4.42	0.20
	SLPS	57	4.00	5.00	4.39	0.16
	SLACS	113	4.00	5.00	4.42	0.19

Table 13 Demographic category comparison for Trust

Source: SPSS Outputs, 2022

As per the discussions with officers, it has been revealed that most of the E-Government project have become failure in Sri Lanka. Hence, most E-Government projects earn lower level of Trust from government employees since they are of lower level of confidence regarding the continuation of such projects.

4.3.4 Demographic category comparison for Service Quality

Table 4.7 has shown descriptive statistics of the Service Quality according to the demographic category. As per the mean values shown in the table 4.7, in the Gender category Male shows higher score of Service Quality 4.96(SD = 0.08) than Female. The equal score of

Service Quality 4.99 (SD = 0.04) shows for the Age category 36 to 45 years and 46 to 55 years while the lowest 4.89 (SD = 0.14) shows 18 to 25 years category. In the Education category Masters level shows higher score of Service Quality 4.98 (SD = 0.06) than Degree level. In the aspect of Services, the highest score of Service Quality 4.99 (SD = 0.04) shows the SLACS while the lowest 4.89 (SD = 0.14) shows SLAS.

The senior officers perceive Service Quality as highly influential for E-Satisfaction based on their experience. They are more aware of the importance of the Service Quality as well as the possible level of service delivery, service requirements and the differentiation of services than the junior officers. Officers with Masters degrees are more vigilant of public services globally and they perceive Service Quality is more crucial for their E-Satisfaction than the officers with a basic degree. SLACS officers may perceive the Service Quality since they are more aware of the investments and finances of these E-Services than other two service categories.

As per the interviews with the officers, SLAS officers emphasized the importance of Service Quality. They point out in certain circumstances E-Services have got lower quality than the manual services. Senior level officers who have got Master degrees urge that Service Quality should be improved continuously in order retain the attraction of employees as well as citizens towards the government websites.

	Category	N	Minimum	Maximum	Mean	Standard Deviation
Gender	Male	132	5.00	5.00	4.96	0.08
	Female	175	5.08	5.00	4.97	0.07
Age	18 – 25 Years	26	5.00	5.00	4.89	0.14
	26 - 35 Years	86	5.00	5.00	4.95	0.08
	36 - 45 Years	127	5.00	5.00	4.99	0.04
	46 - 55 Years	68	5.00	5.00	4.99	0.04
Education	Degree	95	5.00	5.00	4.95	0.10
	Masters	212	5.00	5.00	4.98	0.06
Service	SLAS	137	5.00	5.00	4.89	0.14
	SLPS	57	5.00	5.00	4.95	0.01
	SLACS	113	5.00	5.00	4.99	0.04

Table 14 Demographic category comparison for Service Quality

Source: SPSS Outputs, 2022

4.3.5 Demographic category comparison for System Quality

Table 4.8 has shown descriptive statistics of the system quality according to the demographic category. As per the mean values shown in the table 4.8, in the Gender category Female shows higher system quality score 4.45 (SD = 0.12) than Male. The highest System Quality score 4.47 (SD = 0.08) shows the Age category 46 to 55 years while the lowest 4.30(SD = 0.25) shows 18to 25 years category. In the Education category Master level shows higher System Quality score 4.45 (SD = 0.18) than Degree level. In the aspect of services, the highest System Quality score 4.46 (SD = 0.14) shows the SLAS while the lowest 4.42 (SD = 0.15) shows SLPS.

SLAS officers are involved in decision making and administration and hence they may perceive the System Quality as highly influential for their decisions to be made in a timely and effective manner and as a result deriving a higher level of E-Satisfaction when compared to other two services. Both male and female officers highly perceive that System Quality increases their E-Satisfaction. Further, senior officers perceive that System Quality is highly influential than the junior officers. Officers with Masters degree perceives System Quality as influential factor more than the officers with a basic degree. They may compare the web sites with other country portals and may make perceptions that Sri Lankan E-portals should have a higher level of System Quality. Knowledge level may increase the perception of the importance of System Quality.

Interview findings reveal that SLAS officers, who administrate the other services are keen on System Quality since they are responsible for smooth service delivery. Senior level officers with Masters degree and vast experience want to assure System Quality through which the services are rendered. They point out issues in LGN and LGC which are essential components of E-Service delivery to the government employees. Most officers point out the lower system quality of LGN such logging off the user after 30-minute idle time.

	Category	N	Minimum	Maximum	Mean	Standard Deviation
Gender	Male	132	3.00	5.00	4.44	0.26
	Female	175	4.00	5.00	4.45	0.12
Age	18 – 25 Years	26	4.00	5.00	4.30	0.25
	26 - 35 Years	86	3.00	5.00	4.43	0.24
	36 - 45 Years	127	3.00	5.00	4.48	0.19
	46 - 55 Years	68	4.00	5.00	4.47	0.08
Education	Degree	95	3.00	5.00	4.43	0.24
	Masters	212	3.00	5.00	4.45	0.18
Service	SLAS	137	4.00	5.00	4.46	0.14
	SLPS	57	4.00	5.00	4.42	0.15
	SLACS	113	3.00	5.00	4.44	0.27

Table 15 Demographic category comparison for System quality

Source: SPSS Outputs, 2022

4.3.6 Demographic category comparison for Information Quality

Table 4.9 has shown descriptive statistics of the information quality according to the demographic category. As per the mean values shown in the table 4.9, in the Gender category male shows higher information quality score 4.36 (SD = 0.10) than male. The highest information quality score 4.39 (SD = 0.14) shows the Age category 46 to 55 years while the lowest 4.10 (SD = 0.32) shows 18 to 25 years category. In the Education category Degree level shows higher information quality score 4.35 (SD = 0.18) than Masters level. In the aspect of Services, the highest Information Quality score 4.35 (SD = 0.17) shows the SLACS while the lowest 4.28 (SD = 0.34) shows SLAS.

	Category	N	Minimum	Maximum	Mean	Standard Deviation
Gender	Male	132	3.00	5.00	4.25	0.32
	Female	175	3.00	5.00	4.36	0.10
Age	18 – 25 Years	26	3.00	5.00	4.10	0.32
	26 - 35 Years	86	4.00	5.00	4.35	0.17
	36 - 45 Years	127	3.00	5.00	4.30	0.32
	46 - 55 Years	68	4.00	5.00	4.39	0.14
Education	Degree	95	4.00	5.00	4.32	0.18
	Masters	212	3.00	5.00	4.31	0.29
Service	SLAS	137	3.00	5.00	4.28	0.34
	SLPS	57	4.00	5.00	4.33	0.19
	SLACS	113	4.00	5.00	4.35	0.17

Table 16 Demographic category comparison for Information Quality

Source: SPSS Outputs, 2022

Senior officers perceive the Information Quality as more influential than junior officers since they are more aware of that volume of information does not enhance the Information Quality than the junior officers. They are more aware of the categories and break down of information than their junior officers and therefore, they perceive that it increases their E-Satisfaction. SLACS officers perceive the Information Quality as more influential than the other service categories since they are more concerned of the financial information when they perceive its influence on their E-Satisfaction.

As per the interview findings, SLACS officers emphasize the Information Quality since they present financial information to the government employees and citizens. They urge the importance of updated information for their decision making and managerial functions.

Senior officers expect Information Quality since they are aware of the levels of the Information Quality. Further, most officers reveal that Information Quality may help reduce corruption in public institutions.

4.4 Multicollinearity analysis (VIF)

Multicollinearity in regression refers to the fact that both independent and controlled variables are correlated with each other. The variance inflation factor (VIF) determines how much the variance of an estimated regression coefficient rises when the independent variables are associated. The VIFs will all be 1 if no variables are associated. There is no multicollinearity among independent variables if the VIF is equal to 1, but if the VIF is larger than 1, the independent variables may be moderately correlated, indicating some correlation but not enough to be concerned about. A VIF between 5 and 10 indicates high correlation that may be problematical. Therefore, the VIF which is less than 5 is in the acceptable level.

Independent Variable	VIF	1/VIF
Security and privacy	1.616	.619
Trust	1.662	.602
Service quality	1.122	.891
System quality	1.209	.827
Information quality	1.482	.675
Gender	1.071	.934
Age	2.230	.448
Education	1.108	.903
Service	2.453	.408
Mean VIF	1.550	

Table 17 VIF for Independent variables

Source: SPSS Outputs, 2022

As per the table 4.10, all the VIF values are less than 5 since there are is no negative affect from the multicollinearity. In other words, even though there is correlation between independent variables, it will not affect negatively the regression results.

4.5 Correlation analysis

Research has used Pearson's correlation analysis to quantify the relationship between dependent variable E-Satisfaction and all other independent and controlled variables which considered here.

Variable	ES	PS	TR	SQ	QS	IQ	Gender	Education	Service	Age
ES	1.000									
PS	0.564	1.000								
TR	0.465	0.509	1.000							
SQ	0.150	0.071	0.137	1.000						
QS	0.353	0.246	0.366	0.119	1.000					
IQ	0.739	0.489	0.417	0.093	0.130	1.000				
Gender	0.195	0.184	0.042	0.052	0.026	0.201	1.000			
Education	0.005	-0.006	-0.067	0.140	0.045	-0.023	-.055	1.000		
Service	0.119	0.104	0.000	0.083	-0.064	0.133	0.049	-0.129	1.000	
Age	0.243	0.109	0.176	0.188	0.301	0.197	0.192	0.029	0.685	1.000

Table 18 Coefficients of correlation

Source: SPSS Outputs

Pearson's correlation analysis was carried out to identify the dimension of the relationship between variables. Specially the relationship between dependent variable E-Satisfaction with each other independent and controlled variables. As per the table 4.11 has shown, all the independent variables have shown positive systematic relationship with the dependent variable E-Satisfaction. The independent variable "Information Quality" has shown strong significant relationship with E-Satisfaction Since P>0.05, it has shown the significant relationship under the 99% confidence level. Correlation between E-Satisfaction and security and privacy 0.564 (p = <0.001), hence there is a moderate significant relationship. Trust 0.465 (p = <0.001), and E-Satisfaction and Trust show a moderate significant relationship. The correlation between Service Quality and E-Satisfaction is 0.150 (p = 0.009) and it is a weak relationship. E-Satisfaction and system quality is 0.353 (p = <0.001) and weak relationship can be observed. In the same way, controlled variables have shown positive relationships with dependent variable E-Satisfaction. Correlation between E-Satisfaction and gender is 0.195(p = <0.001) and it shows a significant weak relationship. E-Satisfaction and age shows a significant weak relationship being 0.243 (p = <0.001). E-Satisfaction and service is 0.119 (p = 0.037) and it is a significant weak relationship. The independent variable "Education" (0.005) has shown no relationship with E-Satisfaction Since P (0.932)>0.05, it has shown the insignificant relationship under the 95% confidence level.

4.6 Regression analysis

Section 4.6, explicit the results of regression analysis performed with both independent and controlled variables. The multiple linear regression is used to explain the relationship between one continuous dependent variable and two or more independent variables (Haitovsky, 1969). The research has tested the hypotheses using the coefficients of the multiple regression.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	0.809^a	0.655	0.644	0.151	2.011

a. Predictors: (Constant), PS, TR, SQ, QS, IQ, Gender, Education, Service, Age

Table 19 Model Summary

Source: SPSS Output, 2022

Multiple regression coefficient (R) value 0.809 represents the multiple correlation between all the entered independent and controlled variables and the dependent variable. According to table 4.12, independent and controlled variables all together explained the 65% of the total variance of dependent variable level of E-Satisfaction.

As per the table 4.13, ANOVA: F =62.578; significance value (P-Value = <0.001) is less than 0.05. Therefore, the fitted regression line predicted by the independent variables significantly.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.763	9	1.418	62.578	<0.001^b
	Residual	6.731	297	0.23		
	Total	19.494	306			

a. Dependent Variable: ES

b. Predictors: (Constant), PS, TR, SQ, QS, IQ, Gender, Education, Service, Age

Table 20 ANOVA

Source: SPSS, 2022

According to the table 04.14, regression equation can be formulated as equation 01.

Equation 01:

*Sri Lanka Government Employees' E-Satisfaction = -.826 + 0.231 * Security and Privacy + 0.034 * Trust + 0.103 * Service Quality+ 0.252 * System Quality – 0.551 * Information Quality + 0.014 * Gender+ 0.025 * Age – 0.027 * Education+ 0.005* Work Experience*

As per the results shown above, gender is the most influential variable for the E-Satisfaction with a Standardized Beta Coefficient 0.575 with significance (P Value = <0.001). Privacy and Security and System Quality are the second largest influential determinants of E-Satisfaction with a Standardized Beta Coefficient 0.201 with significance (P Value =< 0.001). Trust is the least influential variable which is not shows the significant relationship with E-Satisfaction.

Coefficients of Multiple regression analysis[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Confidence Interval	
		B	Std. Error	Beta			Lower	Upper
1	(Constant)	-.826	.624		-1.324	.187	-2.053	.402
	PS	.231	.050	.201	4.628	<.001	.133	.329
	TR	.034	.058	.026	.583	.561	-.080	.148
	SQ	.103	.119	.031	.872	.384	-.130	.337
	QS	.252	.047	.201	5.348	<.001	.159	.345
	IQ	.551	.040	.575	13.849	<.001	.473	.630
	Gender	.014	.018	.028	.805	.422	-.021	.050
	Age	.025	.015	.090	1.678	.094	-.004	.055
	Education	-.027	.0.28	-.050	-.980	.328	-.082	.027
	Service	.005	.010	.019	.518	.605	-.015	.025

a. Dependent Variable: ES

Table 21 Coefficients of Multiple regression analysis
Source: SPSS, 2022

4.7 Hypotheses testing

Since the multiple regression model in the section 4.6 was not significant with independent variables the section 4.7, explains the results of regression analysis performed with independent and variables. The multiple regression model which used only the independent variables to predict dependent variable has used for the hypotheses testing.

Model Summary II

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	0.806[a]	0.650	0.644	0.151	2.008

a. Predictors: (Constant), PS, TR, SQ, QS, IQ

Table 22 Model Summary II

Source: SPSS Output, 2022

Multiple regression coefficient (R) value 0.806 represents the multiple correlation between all the entered independent variables and the dependent variable. According to table 4.15, independent variables all together explained only the 65% of the total variance of dependent variable level of E-Satisfaction.

ANOVA II[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.664	5	2.533	111.621	<.001[b]
	Residual	6.830	301	.023		
	Total	19.494	306			

a. Dependent Variable: ES

b. Predictors: (Constant), PS, TR, SQ, QS, IQ

Table 23 ANOVA II
Source: SPSS, 2022

As per the table 4.16, ANOVA: F = 111.621; significance value (P-Value = <.001) less than 0.05. Therefore, the fitted regression line predicted by the independent variables significantly.

Coefficients of Multiple regression analysis II[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Confidence Interval	
		B	Std. Error	Beta			Lower	Upper
1	(Constant)	-1.251	.582		-2.148	.033	-2.397	-.105
	PS	.232	.049	.201	4.730	<.001	.135	.328
	TR	.041	.056	.031	.732	.465	-.070	.152
	SQ	.167	.114	.051	1.471	.142	-.056	.390
	QS	.262	.046	.208	5.636	<.001	.170	.353
	IQ	.571	.039	.596	14.808	<.001	.496	.647

a. Dependent Variable: ES

Table 24 Coefficients of Multiple regression analysis II

Source: SPSS, 2022

According to the table 04.17, the regression equation can be formulated as equation 02.

Equation 02:

Sri Lanka Government Employees' E-Satisfaction = -1.251+ 0.232* Security and Privacy + 0.041* Trust + 0.167* Service Quality+ 0.262* System Quality+ 0.571* Information Quality

As per the results shown above, Information Quality is the most influential variable for the E-Satisfaction with a Standardized Beta Coefficient 0.596 with significance (P Value = <.001). System Quality is the second largest influence on E-Satisfaction with a Standardized Beta Coefficient 0.208 with significance (P Value = <.001). Security and Privacy is the third influential determinant of E-Satisfaction with a Standardized Beta Coefficient 0.201 with significance (P Value = <.001). Service Quality and Trust are least influential variables

which do not show the significant relationship with E-Satisfaction. As per the results of multiple regression analysis results of hypotheses testing has shown in table 4.18.

Assumed Hypotheses		Decision	Remarks
H_1:	The high Privacy and Security of Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal are positively affecting the E-Satisfaction level of Sri Lankan government employees as users.	Confirmed	Significant positive effect
H_2:	The high Trust on the Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal is positively affecting the E-Satisfaction level of Sri Lankan government employees as users.	Not confirmed	Insignificant positive effect
H_3:	The high Service Quality of service the Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal is positively affecting the E-Satisfaction level of Sri Lankan Government employees as users.	Not confirmed	Insignificant positive effect
H_4:	The high System Quality of the Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal is positively affecting the E-Satisfaction level of Sri Lankan Government employees as users.	Confirmed	Significant positive effect
H_5:	The high Information Quality of the Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal is positively affecting the E-Satisfaction level of Sri Lankan Government employees as users.	Confirmed	Significant positive effect

Table 25 Conclusion on the research hypotheses

Source: SPSS, 2022

4.8 Discussion with Qualitative Analysis Results

Section 4.8 has shown findings which have assessed through the summarized results as well as summarized qualitative data analysis and answer to the research questions in a purposive manner.

As per the mean values of E-Satisfaction overall E-Satisfaction level of the government employees as users from the E-Services dedicated for them and provided by the Government of Sri Lanka is at quite high level as 4.41 out of 5. In the gender category Female shows higher satisfaction level than Male. The highest E-Satisfaction level shows the age category 46 to 55 years while the lowest shows 18 to 25 age category. In the education category both Degree and Masters levels shows equal higher satisfaction level as 4.41 out of 5. In the aspect of Services, the highest E-Satisfaction level shows the SLACS while lowest shows SLAS.

As per the results gained in the Hypothesis Test, three hypotheses have been confirmed. This is true for system quality, information quality, and privacy and security. Trust and Service Quality have not been confirmed through the empirical evidence of the study. As per the qualitative analysis of interview data, it is revealed that Information Quality has become the most influential factor of E-Satisfaction while Trust and Service Quality have got lower level ratings for their influence on E-Satisfaction.

Until these E-Services and systems are implemented, the E-Services addressed in this study which are critical for government employees have been offered via rigorous manual office processes. Despite the fact that the majority of these websites are interactive and have security, privacy, service, system, and information issues, government officers are satisfied with the current level because these E-Services may have provided them with a useful, easy, and better functionality than legacy manual office systems as revealed at the interviews. Officers

between the ages of 46 and 55 are highly satisfied with E-Services, whilst young officers between the ages of 18 and 25 are less satisfied. It's possible that this is because young officers want more sophisticated E-Services with higher quality standards as revealed in the interviews. When compared to officers of a higher age level, they are relatively new to the service and have not encountered legacy office systems. Furthermore, officers at higher levels are more satisfied with existing E-Services because they compare them to legacy manual procedures, whereas young officers can compare these E-Services and web sites to private sector services. And also, their educational level has not become influential for their perceptions on E-Services.

Interview Respondent Analysis

Respondent	1	2	3	4	5	6	7	8	9	10	11	12
Age	18-25	26-35	36-45	46-55	18-25	26-35	36-45	46-55	18-25	26-35	36-45	46-55
Service	SLAS	SLAS	SLAS	SLAS	SLPS	SLPS	SLPS	SLPS	SLACS	SLACS	SLACS	SLACS
Gender	M	F	M	F	F	M	F	F	M	F	F	M
Education Level	Degree	Masters	Masters	Masters	Degree	Masters	Masters	Masters	Degree	Masters	Masters	Masters
E-Service Project	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 26 Interview Respondent Analysis

Interview Response Analysis for E-Satisfaction

	1	2	3	4	5	6	7	8	9	10	11	12
1. Level												
	Lower	Higher	Higher	Higher	Lower	Higher	Higher	Higher	Lower	Higher	Higher	Higher
2. Rating of Determinants												
1	IQ	IQ	IQ	IQ	QS	IQ	IQ	IQ	IQ	QS	IQ	IQ
2	QS	QS	QS	TR	IQ	QS	SQ	TR	SP	IQ	QS	QS
3	SP	SP	SQ	QS	SQ	SP	SP	QS	QS	SQ	SP	SQ
4	SQ	TR	SP	SP	SP	SQ	SQ	SP	TR	SP	TR	PS
5	TR	SQ	TR	SQ	TR	TR	TR	SQ	SQ	TR	SQ	TR

3.E-Satisfaction Issues

1. Not Updated   2. LGN Issues   3. Cyber Security Issues 4. Continuity Issues

4. Advantages 1. Reducing Manual Work   2. Efficiency   3. Productivity

5. Does Education Level affect E-Satisfaction? No

Table 27 Interview Response Analysis for E-Satisfaction

Privacy and Security refers to Sri Lankan government employees' belief that the Sri Lanka E-Government portals dedicated for government employees are protected from external attack and their confidence that their information will not be manipulated by unknown persons without their intention. Privacy and Security explains 23.2% change of the E-Satisfaction of government employees from the E-Services dedicated for them in the Sri Lankan E-portal. Confirmation of the hypothesis – Privacy and Security is in agreement with the findings of the previous studies of Lee et al. (2009), Dixit and Datta (2010) and Zavareh et al. (2012).

However, the finding is not in accordance with the findings of Tung and Rieck (2005) ,Verdegem and Verleye (2009) and Eid (2011).

Interview Response Analysis for Privacy and Security

	1	2	3	4	5	6	7	8	9	10	11	12
1. Perception												
	Higher	Lower	Higher	Lower	Lower	Lower	Lower	Lower	Higher	Lower	Lower	Higher
2. Increase E-Satisfaction?												
	No	Yes	Yes	No	No	No	Yes	Yes	No	No	No	Yes
3. Issues												
1. Cyber Security Issues 2. Data Theft												

Table 28 Interview Response Analysis for Privacy and Security

SLACS officers are in charge of the government's financial management. They are particularly concerned about the security and privacy of transactions and information since they are accounting and finance professionals, and their perception of security and privacy has the highest mean value. Security and privacy are more important to senior officers in the 46-55 age group than to junior officers. Security and privacy are also crucial factors for female officers in the context of E-Services. The perception of security and privacy has not been affected by education level. As per the interview data analysis, all the officers point out the issues of cyber security and data theft. They are not confident that the E-Service portals are strong enough to face any sort of cyber-attack as well as of the security of their data.

Interview Response Analysis for System Quality

	1	2	3	4	5	6	7	8	9	10	11	12
1. Perception												
	Lower	Lower	Lower	Higher	Lower	Lower	Higher	Lower	Lower	Lower	Higher	Lower
2. Increase E-Satisfaction?												
	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Issues												
1. Design issues 2. Complexity 3. LGN & LGC Issues												

Table 29 Interview Response Analysis for System Quality

System Quality refers to Sri Lankan government employees' feeling that without bias, the services are delivered in the right time and the capacity of Sri Lanka E-Government portals dedicated for government employees to respond without delay to their demands. System Quality explains 26.2% change of the E-Satisfaction of government employees from the E-Services dedicated for them in the Sri Lankan E-portal. Safeena R. and Kammani (2013), Eid (2011), McKinney et al. (2002) Rai et al. (2002), Zavareh et al. (2012), Wang and Liao (2008) and Lee and Chung (2009) have explained similar findings on System Quality. However, Jerry (2020) has found that System Quality is insignificant.

As SLAS officers are involved in decision-making and administration, they may see System Quality as having a significant impact on their ability to make timely and effective judgments, resulting in a higher degree of E-Satisfaction than the other two services. System Quality is strongly regarded by both male and female officers as increasing their E-Satisfaction. Furthermore, senior officers perceive that System Quality has a greater influence than junior officers. Officers with a master's degree see System Quality as a more influential aspect than

the officers with only a bachelor's degree. They may compare the websites to those of other countries and conclude that Sri Lankan E-portals should have a higher System Quality. The level of knowledge may influence perception of System Quality. As per the interview findings, all the officers point out the issues related to LGN and LGC which are the essential components of E-Government. Further, they emphasize various design issues and complexity of government websites and E-Service portals.

Interview Response Analysis for Information Quality

1	2	3	4	5	6	7	8	9	10	11	12
1. Perception											
Higher	Higher	Higher	Higher	Higher	Higher	Higher	Higher	Higher	Higher	Higher	Higher
2. Increase E-Satisfaction?											
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Issues											
1. Not updated 2. Biasness 3. Data redundancy issues											

Table 30 Interview Response Analysis for Information Quality

Information Quality refers to Sri Lankan government employees' perception that Sri Lanka E-Government portals dedicated for government employees provides accurate information, timely and without bias. Information Quality explains 57.1% change of the E-Satisfaction of government employees from the E-Services dedicated for them in the Sri Lankan E-portal. Chen (2010), Safeena R. and Kammani (2013), Rai et al. (2002), Lee and Chung (2009) and Jerry (2020) have reported that Information Quality is significant for E-Satisfaction. Senior officers consider Information Quality to be more influential than junior officers because they are more aware that having more information does not improve Information Quality. They are

more aware of information categories and breakdowns than their junior officers, which they believe increases their E-Satisfaction. Information Quality is more influential to SLACS officials than the other service categories because they are more concerned with financial information when it comes to its impact on their E-Satisfaction.

As per the interview findings, all the officers emphasize the issue of non-update of information in government websites. Further, they point out data redundancy issues and duplication of the same data in several institutions. The employees' personal data should be entered once to Public Administration Website, and then again to the Pension Department Website and in another occurrence to other websites such as Election Commission Website. They emphasize the Data Interoperability Infrastructure to be developed and implemented in order to avoid such redundancies. ICTA has taken initial steps regarding this, but have not yet been implemented.

Interview Response Analysis for Trust

1	2	3	4	5	6	7	8	9	10	11	12
1. Perception											
Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower
2. Increase E-Satisfaction?											
No	Yes	No	Yes	No	Yes	No	No	No	No	No	Yes
3. Issues											
1. Continuity Issues 2. Political Influence Issues											

Table 31 Interview Response Analysis for Trust

Trust refers to Sri Lankan government employees' perception that Sri Lanka E-Government portals dedicated for government employees will satisfy their expectation and their confidence in using the E-portals. Trust could only explain 4.1 % change of the E-Satisfaction of government employees from the E-Services dedicated for them in the Sri Lankan E-portal. Hence Trust has become an insignificant determinant of E-Satisfaction based on the above empirical evidence. The findings of Schaupp and Carter (2005), Zavareh et al. (2012), Dixit and Datta (2010), Ranaweera (2016) are contradicted with this finding. Al-Jaghoub et al. (2010), Alawneh et al (2013), Jerry (2020) have reported similar findings with this study. As per the interview findings, all the officers point out Trust issues such non-continuity of E-Service portals and systems and political influence on the E-Services. All the officers have got lower perception of Trust regarding the E-Services dedicated for them. And also, most of the officers do not believe that Trust will increase their E-Satisfaction as well. The officers themselves do not trust the government due to political instabilities and political influence over the government service. Therefore, they believe that Trust is not achievable in E-Service systems and hence, they point out that Trust does not increase their E-Satisfaction.

Interview Response Analysis for Service Quality

1	2	3	4	5	6	7	8	9	10	11	12
1. Perception											
Higher	Lower	Higher	Higher	Lower	Lower	Higher	Lower	Lower	Higher	Lower	Lower
2. Increase E-Satisfaction?											
Yes	Yes	No	No	Yes	Yes	No	No	Yes	No	No	Yes
3. Issues											

1. Capacity Issues   2. Delay

Table 32 Interview Response Analysis for Service Quality

Service Quality refers to Sri Lankan government employees' feeling that the expected services are delivered without bias, in the right time and the capacity of Sri Lanka E-Government portals dedicated for government employees to respond without delay to their demands. Service Quality could explain only 16.7% change of the E-Satisfaction of government employees from the E-Services dedicated for them in the Sri Lankan E-portal. Hence Service Quality has become an insignificant determinant of E-Satisfaction based on the above empirical evidence. Tung and Rieck (2005), Lee et al. (2009), Lee et al. (2009), Verdegem and Verleye (2009), Al-Jaghoub et al. (2010), Dixit and Datta (2010), Eid (2011), Karunasena and Deng (2012) and, Jerry (2020) have reported that Service Quality is an influential determinant of E-Satisfaction and hence those findings are in contradictory with the findings of Service Quality. But the finding is similar with the findings of Wang and Liao (2008). As per the interview findings, all the officers point out Service Quality Issues related to capacity and delay. Most of the officers do not believe that Service Quality increases their E-Satisfaction. They themselves are not satisfied of the traditional government service channels and hence, they do not believe that the Service Quality is achievable in E-Service platforms also.

As per the results gained above, it is evident that Gender, Age, Education and Service have insignificant influence on the E-Satisfaction of government employees from the E-Services dedicated for them in the Sri Lankan E-portal. Gender may be seen as a crucial factor of E-Satisfaction in the previous studies in which the population was citizens. The population of this study was the government executive services SLAS, SLPS and SLACS and hence gender and education are insignificant among these services. As per the interview findings, all the officers respond that education is not an influential factor for their perceptions on E-Services.

Trust has not become an influential factor of E-Satisfaction. This explains that Trust is not contributing to the E-Satisfaction level of the government employees. Trust depends on the beliefs, norms, values and the tradition and as well as it is a subjective personal characteristic. Sri Lankan government employees may perceive Trust as a basic requirement to accept E-Services and adopt them in the E-Government portal rather than a determinant which contribute for the E-Satisfaction. Further, Trust may be seen as a basic standard or fundamental element of the E-Services dedicated for government employees in Sri Lankan E-Government portal. Trust in the government directly affects the Trust in E-Services. As revealed in the interviews, most officers are in the view that Trust is unachievable in E-Services due to political influences on E-Services and portals. Even though, most officers value Trust component, they do not believe that Trust can be seen in E-Services and hence, perceive it is not important.

Service Quality may be seen as a basic standard or fundamental element of the E-Services dedicated for government employees in Sri Lankan E-Government portal. Therefore, government employees do not perceive it as a determinant of E-Satisfaction. Further, the contribution of Service Quality is 16 % for the E-Satisfaction while Information Quality is 57.1% and Privacy and Security is 23.2%. They may perceive that quality information on a secure system enhances their satisfaction on the standard level of Service Quality. As per the interview findings, it is revealed that the officers believe that Service Quality is unachievable in E-Services based on their experiences in traditional government service delivery channels. Even though most officers value Service Quality, having perceived that it is unachievable even in E-Service channels, they perceive Service Quality as a less important determinant in E-Satisfaction.

Chapter 5 Conclusion and Recommendations

The review of the study process, policy recommendations, and research proposals are covered in this chapter.

5.1 Conclusion

This study is a quantitative and explanatory research supplemented by qualitative analysis. The main purpose is to measure the level of E-Satisfaction of the government employees as users from the E-Services dedicated for them from the Government of Sri Lanka.

For this purpose, the Theory of Expectation and Confirmation has been taken as the basis which explains that the consumers are willing to continue the use of the product or service if it meets their expectations that they have made before the consumption of the particular product or service. Government employees makes expectations of the E-Services and if the particular expectations are met, they will be satisfied of E-Services and will continue to utilize those E-Services.

This study examines the level of E-Satisfaction of government employees and the relationship between E-Satisfaction determinants and government employee's E-Satisfaction in Sri Lanka. "What is the level of E-Satisfaction of the government employees as users from the E-Services dedicated for them from of the Government of Sri Lanka?" and "What are significant determinants for the E-Satisfaction of the government employees as users from the E-Services dedicated for them from the Government of Sri Lanka?" are the research questions. Further, this study has used previous literatures and scholarships on E-Government and E-Satisfaction to state the research problem and provide five hypotheses. This study emphasizes the ideas of security and privacy, trust, system quality, service quality, and information

quality among the different factors of E-Satisfaction. As a result, the independent variables of security and privacy, trust, system quality, service quality, and information quality are evaluated in relation to the dependent variable of government employees' E-Satisfaction. The demographic characteristics of respondents are considered: gender, age, education, and service.

E-Satisfaction is the dependent variable of this study. E-Satisfaction is derived through the usage of Sri Lankan Government Employee Dedicated E-Services in Sri Lankan E-Government portal. For the purpose of this study, E-Government Portals dedicated for government employees operationally refer to the CIGAS Web based application, LGN email and internet services, Pension Management System of the Pensions Department, the Web site and Intranet of the Ministry of Public Administration and intranets of the Government Institutions.

The Government Officers belong to SLAS, SLAPS and SLACS and work in both the Central Government as well as Provincial Councils in all parts of Sri Lanka were the unit of analysis. The population was 5142 officers through the summation of 2612 SLAS officers, 847 SLPS officers and 1683 SLACS officers. Accordingly, the minimum required sample size was 358 officers at 5% margin of error, 95 % confidence level and 50% response rate. 358 officers have been selected as the sample randomly by using self-interested sampling from the sampling frame.

The respondents' perceptions of on E-Satisfaction and E-Satisfaction determinants are collected by using a survey questionnaire. The survey consists questions on E-Satisfaction, five E-Satisfaction determinants and demographic information. Pre-test of the questionnaire has been conducted with twelve officials, four officers from each service, and modifications and corrections have been made. It has been designed in Google forms and sent to the respondents through different electronic platforms. Sufficient number of responses has not

been collected during the pilot study period due to the ongoing work from home situation due to Covid-19 and electricity power cuts in Sri Lanka. Hence, enveloped questionnaires have been sent to the officials at District Secretariats, Divisional Secretariats, Ministries, Departments and Government Institutions and the received responses are fed to the MS-Excel Sheet. Furthermore, enveloped questionnaires have been distributed to the officials of SLAS, SLPS, and SLACS who were participating in the training programs during the survey period at the Sri Lanka Development Administration which is the training arm of Government Officials of Sri Lanka and the received responses were fed to the MS-Excel Sheet.

Finally, the data have been entered into MS-Excel and imported into SPSS software version 26 for analysis (Microsoft Inc,2021). To evaluate the hypotheses of this study, descriptive, correlation, and regression analyses were used to examine the link between E-Satisfaction determinants and E-Satisfaction of government employees in Sri Lanka.

As per the mean values of E-Satisfaction overall E-Satisfaction level of the government employees as users from the E-Services dedicated for them and provided by the Government of Sri Lanka is at quite high level as 4.41 out of 5. In the gender category Female shows higher satisfaction level than Male. The highest E-Satisfaction level shows the age category 46 to 55 years while the lowest shows 18 to 25 age category. In the education category both Degree and Masters levels show equal higher satisfaction level as 4.41 out of 5. In the aspect of Services, the highest E-Satisfaction level show the SLACS while lowest shows SLAS.

As per the results gained in the Hypothesis Test, three hypotheses have been confirmed. This is the case for Privacy and Security, System Quality and Information Quality. Trust and Service Quality have not been confirmed through the empirical evidence of the study. Information Quality explains 57.1% change of E-Satisfaction being the highest influential factor. Privacy and Security explains 23.2% change and System Quality explains 26.2% change of the E-Satisfaction of government employees from the E-Services dedicated for them in the Sri Lankan E-portal. Service Quality has been able to explain only 16.7% change

of the E-Satisfaction and Trust has not become an influential factor of E-Satisfaction. As per the results of the study, it has been evident that Gender, Age, Education and Service have insignificant influence on the E-Satisfaction of government employees from the E-Services dedicated for them in the Sri Lankan E-portal.

The empirical findings have been proven to be true further by qualitative analysis. For the qualitative analysis, data have been collected through interviews. The main criteria employed for selecting officers for the interviews is whether they have participated in any sort of E-Services Development Project. Accordingly, 12 officers have been selected representing three All-Island services and covering four age categories.

5.2 Policy Recommendation to Sri Lanka Government

The findings have revealed important recommendations for policy makers, administrators and planners in Sri Lanka. First the policy makers and E-Government planners are able to understand and take insights into the determinants of E-Satisfaction of government employees. They are able to focus on the influential determinants of E-Satisfaction in the policy process as well as in the planning of E-Government and E-Service projects. This will aid in increasing the E-Satisfaction level of the government employees and which will be the potential E-Satisfaction level which could be maintained in the citizen level E-Government implementations since this E-Satisfaction level is the one when the service providers and the users are the same.

Government employees show a reluctance to use the LGN Internet and E-mail services as suggested by the bandwidth usage analysis. Sunday Times (2021) has reported that the LGN being a high investment, has failed to achieve its expected results. Roshni (2012) reports that the LGN usage has been at lower level in the study conducted in Colombo District Secretariat

using staff level and associate level officers based on TAM model. The officers have been ICDL qualified, but LGN has not been adopted in their official functions. It is evident that government employees perceive Security and Privacy as influential for their E-Satisfaction in this study. However, certain over the limit security restrictions such as system log-off after thirty minute of idle time, difficulty of access through the mobile phones due to security measures and so on implemented in the LGN may hinder the E-Satisfaction of government employees. Hence, E-Government planners and authorities of LGN are to consider the signaling factor of Security and Privacy and its appropriate degree in LGN implementation. It will increase the LGN usage and bring cost-saving and time-saving for the government operations and the delivery of citizen services.

LGC has been established as the central cloud for hosting government web sites and information systems which are essential for delivering E-Services. As per the Sri Lanka Digital Government Structure (ICTA,2022), all the government web sites and information systems are to be stored in the LGC. It is evident that some crucial web sites such as the Department of Examination web site (www.doenets.lk), Sri Lanka Bureau of Foreign Employment Web site which contains National Foreign Employment Database (www.slbfe.lk) and ICTA web site (www.icta.lk) have not yet taken the gov.lk domain and stored in the LGC. Most of the web sites which are in the gov.lk domain, are stored in the third-party web servers either in SLT Data Center or foreign web servers. Having the LGC and Government Internet Data Center, most government institutions do not utilize these resources provided free of charge. Only 40 government institutions have obtained the LGC service as at 01.04.2022 (LGC,2022). The recent Data Scam of the National Medicine Regulatory Authority (NMRA) reveals that the data related to medicines, procurement and prices have been deleted by the private sector company who provided web development and maintenance services for the NMRA (Sunday Times,2022; Dailynews,2022; Dailymirror,2022). This sort of critical cases will affect the Security and privacy perception of government employees' E-Satisfaction adversely and will hinder the usage of LGC further.

Sri Lanka Computer Emergency Response Team (SLCERT) reports that 7 government officials out of 10 are lack of awareness, knowledge and skills of cybersecurity and prevention of cyber-attacks based on the findings of the survey of "Public Officers' Information and Cyber Security Readiness Assessment" Further, SLCERT has conducted government web audit initiative and initial assessments for 120 websites were completed successfully, and as of December 31, 2019, 49 government agencies were able to remedy vulnerabilities on their websites, while 9 elected to develop new ones. (SLCERT, 2022). The government is to strengthen the activities of SLCERT further and make government employees more aware of cyber security. Further, web content management committee members (CMT) and ICT officers are to be given intensive training on cyber security which will be in favor of Security and Privacy enhancement in the government web sites and it will lead to higher level of E-Satisfaction.

Rajapakse and Gunawardena (2015) discuss that in their study on the popularizing the government websites using 53 websites in the Sri Lanka E-Government portal. that the uniformity of government websites is clearly lacking. And further, the majority of web sites have been hosted for the sake of hosting a web site and do not show enough user concern. Although some websites focus on giving specific valuable information, the users expect more interactive government websites than merely access to listed information. Almost every website has focused on describing political hierarchies, which may not provide much value to users. Web site accountability is frequently disregarded. Government web site executability is lacking, which is one of the most important areas in worldwide government web services. It is evident in this study that the government employees expect higher level of Information Quality for the E-Services dedicated for them. Government institutions depend on ICT Officers in the design, development and hosting of the web sites. ICT officers are technical experts and in most scenarios are not well aware of the services of the particular government entity. Also, they are not aware of what information to be presented and how it should be

presented. For this purpose, Content Management Team (CMT) which is headed by the Chief Digital Information Officer (CIDO) has been recommended by the Sri Lanka Government Web Standard Manual (ICTA,2022) is a proper solution. CMT consists of web master, web developer and officers from each and every division of the institution. In order to achieve the objectives of the CMT, proper training is to be given to the CMT members in both aspects of ICT and Infographics.

In most government web sites information have been just presented in paragraph and list formats. There is a high volume of information but the Information Quality is at lower levels. Government officials tend to keep information in their custody and refuse to share in some scenarios. The Right to Information Act No. 12 of 2016 has enacted the compulsory information which is to be published in the government web sites. The respective heads of the government institutions are to be given a training on web design, development and hosting procedures in order to bring down the higher level of dependency of ICT officers, web developers and web masters. Transfer of ICT officers, CMT members and web masters may create adverse effects to the institution web site and it is observed that some government web sites have been abandoned or not properly updated. In such scenarios, Information Quality will be decreased and it will lead to the lower level of E-Satisfaction and discontinuance of E-Services.

Sri Lankan web sites are to be tri-lingual adhering to the Official Language Policy of Sri Lanka. They should be presented in Sinhalese, English and Tamil languages. This is a challenging effort in terms of maintaining the Information Quality. Web content writers are staff of the institute and have the sense, look and feel of the institution and which will reflect in their writing most of the time in Sinhalese language. Translators are outsiders and they are not well aware of the ground aspects of the organization and they most of the time realize the web content just as another document for translating. This will lead to the misinterpretation of the original ideas and in most scenarios, it has been found that there are discrepancies among

the three languages of the web sites. Further, some institutions update only one or two language versions of the web site. Web content writers are to be given proper intensive training on the technical aspects of web design and development process as well as infographics. Further, translators are to be given an awareness training on the context of government institute for which they are translating the web documents. These efforts will help in the maintenance of Information Quality of E-Services.

It is evident in this study that government employees perceive System Quality as an influential factor of E-Satisfaction. Web design, development and management process are to be managed properly by the government institutions so that System Quality can be maintained. ICTA has issued "Guidelines for Developing Sri Lanka Government Web sites" which is to be followed by the government institutions for overall management of the web process (ICTA,2022). Training of CMT, ICT officers and web masters and content writers on the technical aspects of web sites is highly important for the maintenance of System Quality in government web sites which will increase the level of E-Satisfaction.

"Guidelines for Developing Sri Lanka Government Web sites" has recommended that "when the project budget is below Rs. 2,000,000 - where the services of a Start-up IT company could be acquired for the development of the website". Most of start-up companies are owned by one or two ICT professionals and almost all the tasks are performed by these individuals. Government may have recommended this option with an aim to develop ICT ventures in Sri Lanka. However, there are several issues related to Security and Privacy, Information Quality and System Quality which were identified as influential factors of E-Satisfaction in this study. When Development Projects are offered to Start -up ventures based on the procurement process by the particular institution. In the procurement committee CIDO, ICT officer, webmaster and a university academic should be members. In the web site development project, the government institute reveals higher volumes of institutional information to private sector ventures. Further, these ventures manage the transactional

modules of these web sites. It is apparent that there is no mechanism to ensure that how these ventures manipulate the government information. This is a concern of Security and Privacy. Hence, there should be a proper licensing mechanism for "Government Web Site Developers" and such registered web developers should annually reveal to the corresponding authority who is liable for issuing license such as ICTA, the government web sites they maintain, their adherence to the government web development guidelines and standards and how have they manipulated the government information disclosed to them. If such a regulatory mechanism is not implemented, there will be scatter of government information and transaction modules in the hand of private sector ventures and the government has no authoritative control over them and there is no proper regulation of the government web and software developers. Despite, there are legal enactments related to ICT, this sort of initiative has not yet been implemented by the Sri Lanka government.

In the absence of a central licensing and regulatory mechanism for government web site developers, it is difficult to maintain the unity and System Quality of these web sites. Further, if such a licensing authority is there, it will be able to conduct User Acceptance Test (UAT) centrally for all the government web sites. It will establish the standards properly and industry professionals and developers will follow the government web development guidelines more concernedly. It will increase the System Quality which influences positively to increase E-Satisfaction.

The central management of the government web sites, systems and E-Services, is highly important to increase the Quality of Information of government web sites and E-Services. Further, it will build up unity of information presentation across the government web sites and reduce information redundancy and unnecessary volumes of static information.

It should be noted that this central management of government web sites, licensing of government web and software developers, storing all the government data in the LGC,

enhancing the usage of LGN, getting the adherence of government institutions to follow Sri Lanka Cyber security standards introduced by SLCERT are responsibilities of ICTA Sri Lanka. It may observe that the functionalities of ICTA have been hindered due to ministerial changes, poor leadership, on-going political instability, and captured by private sector entities. When this authority is not functioning properly, it will adversely affect to the government web sites, systems and E-Services which will lead to diminish E-Satisfaction and it will result in lower level of IS adoption.

Sri Lanka has established the Information and Communication Technology Service in 2009 as per the "Extraordinary Gazette No. 1631/20 - WEDNESDAY, DECEMBER 09, 2009". "The role of Sri Lanka Information and Communication Technology Service is to utilize Information and Communication Technology to build up an excellent public service in order to make the service, expected from the public service in the Democratic Socialist Republic of Sri Lanka, a reality by maintaining a proper relationship and coordination with internal external institutions which assist in implementing the policies and using new trends of information and communication technology filed, being the foremost service in implementing the policies of information and communication technology of the government", (Ministry of Public Administration, 2022). The existing carder of ICT service is 3256 officers in which 2670 are class III, 455 are class II and 131 are class I. ICT service has been established as a service in the combined service. Combined services consist of Associate Level officers. SLAS, SLPS and SLACS are all-island services which have executive powers. The class I of ICT is in the SL-1 category but it is still in the combined service category. It is noted that, in the era of digitalization, digital government and Sri Lanka having a digital government strategy to implement, the government has purposely established the ICT service in a lower-level service category. ICT officers are unable to make independent decisions and they have to report to the SLAS. And further, ICT officers are positioned below all the All-island services. Furthermore, CIDOs have been appointed for the government institutions which were named as CIO in e-Sri Lanka project at beginning of E-Government in Sri Lanka. CIOs

have been second level SLAS officers. Then there hasn't been no ICT service. Even after ICT service has established, CIDO positions have been allocated to the same second level SLAS officers. ICT service officers have been ignored in this scenario as well. These adverse contexts will not enhance ICT developments in the government institutions. It will adversely affect E-Satisfaction as well. Hence, it is recommended that re-establishing ICT service class I and Class II as all-island services and class III as a separate service which in the level of Public Management Officer Level (PMO) as Public ICT Assistant (PICTA). These reforms will help achieving the ICT developments and achievement of Digital Government Strategy implementations.

As per the interview findings, it is revealed that most of the officers do not believe that Trust and Service Quality can be implemented in E-Services. They believe that the political influence and instability avoid Trust to be implemented in E-Services. Further, they believe that Service Quality is unachievable in E-Services due to the fact that their experiences have not been positive in the traditional government service delivery channels. Policy-makers are to consider these perceptions. Trust should first be in the government itself before it is being implemented and reflected in the E-Services. Continuation of E-Services will enhance Trust in a certain perspective. Training programs on attitude development and change will help change attitudes related to Service Quality which has been bound to previous experiences. If these aspects are improved, government employees will perceive Trust and Service Quality as important determinants of E-Satisfaction.

As a whole, most of the officers who faced the interviews emphasize the need of cybersecurity and hence there should be a central authority to secure government data. Establishing a Data Security Authority is of prime importance for building Trust and Privacy and Security concerns of E-Satisfaction.

5.3 Recommendations for Future Studies

This study has been conducted selecting the three most influential All-Island Services in Sri Lanka, SLAS, SLPS and SLACS. Further research is to be conducted expanding the population to both Combined Services and All-Island Services. It will elaborate the influence of the level of the service on E-Satisfaction in a more progressive manner.

Further, geographical level comparisons are possible selecting provinces. Selecting Western Province Officials and North Central Province officials and making a comparison will give insights on the geographical dispersion of the E-Satisfaction of government employees.

This study has considered LGN and several other E-Government portals dedicated for government employees. Conducting a case study on the LGN Usage will explain the reasons for the lower bandwidth usage and lower level of adoption of LGN by government employees. Further, conducting case studies LGC acceptance will reveal more insights into E-Satisfaction of government employees and its influence on IS adoption.

Conducting a study on the effect of ICT officers' service category and level expectation to their E-Satisfaction and their performance will reveals more insight into their perception on their IT duties and E-Satisfaction specifically.

This study has considered both the Central Government and Provincial Councils. Comparison studies of the Central Government employees and Provincial Council employees will enhance the understanding of the E-Satisfaction determinants based on the readiness for E-Government.

This research has focused much on quantitative data analysis and it was supplemented by qualitative analysis. Further studies can be conducted in the form of pure triangulation combining quantitative and qualitative components equally.

Comparative studies can be conducted between the levels of E-Satisfaction of government employees and citizens. Further, comparisons can be made between government employees and semi-government employees. Furthermore, government and private sector comparisons will reveal clearer picture on the satisfaction levels of E-Services.

This study has considered E-Services dedicated for government employees and measured their E-Satisfaction form those services. It is possible to conduct studies comparing government employees E-Satisfaction as citizens from the common E-Services and government employees as users of E-Services dedicated for government employees.

5.4 Limitations of the Study

In connection with the final results of the study, it should be noted that there were several difficulties and limitations. First, data collection has been unable to be completed through the Google Form. Several factors have affected this situation such as Covid-19 related work from home and purposive holidays of the government, on-going economic instability related strikes of the government sector, issues of mobility for the government employees due to the on-going fuel crisis and other adverse conditions prevailed in the country during the study period. This has avoided the possibility of getting all-island responses for the study to a certain extent.

Further, time and resource constraints on collecting data has been another limitation of this study. Conducting interviews has become costly and time consuming and   hence qualitative analysis has been employed as a supplementary analysis.

This study has focused government employees who are in the decision-making roles and has not taken into consideration the employees who are in the implementation roles. Further, the Grades of the selected services and their employment sectors have not taken into consideration.

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Appendix

Survey Questionnaire

Measuring the Government Employees' E- Satisfaction from the E-Government Services in the Democratic Socialist Republic of Sri Lanka

Dear participant,

This survey questionnaire is for the thesis entitled, "Measuring the Government Employees' E- Satisfaction from the E-Government Services in the Democratic Socialist Republic of Sri Lanka" for the partial fulfillment of the requirement for the degree of Master in Public Administration at Seoul National University, South Korea.

Information about your perception on the determinants of E-Satisfaction (security and privacy, trust, service quality, system quality, and information quality) and E-Satisfaction are collected from the officials of Sri Lanka Administrative Service (SLAS), Sri Lanka Planning Service (SLPS) and Sri Lanka Accountancy Service (SLACS). The data collected through this survey will be used solely for the purpose of the analyses in my master's degree dissertation. You are kindly requested to provide your honest and true perceptions for the statements in the survey. Please spend 15 minutes of your precious time for the completion of the survey. Findings of this research are useful for understanding of determinants of E-Satisfaction and level of E-

satisfaction. Such knowledge will assist in the policy formulation and reforms in Sri Lanka E-Government. Your individual perceptions and beliefs are fully confidential and anonymous. You are kindly requested to provide your free and independent views and beliefs for the statements of this survey. Please read the notes about E-Satisfaction and determinants of E-Satisfaction and provide your perceptions on the statements.

Please read the following notes about E-Satisfaction and determinants of E-Satisfaction if you feel these beneficial for you to clearly understand the concepts.

Concept	Description
E-Government Portals dedicated for government employees	1. CIGAS Web based application 2. LGN email and internet services 3.Pension Management System of the Pensions Department 4. Web site and Intranet of the Ministry of Public Administration 5. E-Services of the Election Commission web site 6.Department of Official Languages web site 7.Department of Examinations web site 6. Institutional / Departmental Intranets in your Institution /Department
E-Satisfaction	Your ability to have a service experience that solves your concerns and to get the information, you require through using the Sri Lanka E-Government portals dedicated for you in terms of security and privacy, trust, service quality, system quality and information quality.
Security and Privacy	Your belief that Sri Lanka E-Government portals dedicated for you, are protected from external attack and your confidence that their information will not be manipulated by unknown persons without your intention.
Trust	Your perception that Sri Lanka E-Government portals dedicated for you, will satisfy your expectation and your confidence in using the E-portals.

Service quality	Your feelings that the expected services are delivered in the right time, without bias and the capacity of the Sri Lankan E-Government portals dedicated for you to respond without delay to your demands.
System quality	Your perception of ease of use of Sri Lankan E-Government portals dedicated for you in terms of clarity and simplicity of functions and web design.
Information quality	Your perception that Sri Lankan E-Government portals dedicated for you provides accurate information, timely and without bias.

How to respond for the Survey

Please read all the sections and instruments carefully and respond to all the

statements

in quick way as far as possible. Please select one choice among 5 through 1

based on your perceptions.

5 Strongly Agree

4 Agree

3 Uncertain

2 Disagree

1Strongly

Disagree

Your responses will be treated utmost confidentially and utilized only for education

purposes.

1 8

Thanking you in advance.

Student Researcher,

Weerakoon Gamage Wasantha Sri Lal,

GMPA, Graduate School of
Public Administration, Seoul
National University, South Korea.

Contact No   : +94769664385

Email   : s rigamagewasantha@gmail.com

1. E-Satisfaction	Please tick the relevant column.

Survey Question	5 Strongly Agree	4 Agree	3 Neutral	2 Disagree	1 Strongly Disagree
ES1. I am satisfied with the services received from the Sri Lankan E-Government portal					
ES2. E-Government services of the Sri Lankan E-Government portal meet my expectations					
ES3. I will continue to use E-Government services of the Sri Lankan E-Government portal					
ES4. I strongly recommend Government Employees to use E-Government services of the Sri Lankan E-Government portal					
ES5. I think I made correct decision of using E-Government services of the Sri Lankan E-Government portal					
ES6. I am satisfied with the way that E-Government portal has carried out Government transactions					
ES7. I can recommend the public to use the Sri Lankan E-Government portal					
ES8. overall, I am satisfied with Sri Lankan E-Government.					

2. Privacy and Security	Please tick the relevant column.				
Survey Question	5 Strongly Agree	4 Agree	3 Neutral	2 Disagree	1 Strongly Disagree
SP1.Sri Lankan E-Government portal has enough safeguards to make me feel comfortable in conducting government transactions					
SP2. Sri Lankan E-Government portal ensures the confidentiality of my personal information					
SP3.Sri Lankan E-Government portal will never misuse my personal information					
SP4. Sri Lankan E-Government portal has adequate technological standards and tools to ensure that the data I send cannot be modified by unauthorized people					
SP5. Sri Lankan E-Government portal only collects my personal data that are necessary for its functioning					
SP6.Sri Lankan E-Government portal does not provide my personal information to others without my own consent					
SP7. I feel that Sri Lankan E-Government portal shows attention for privacy of its users					
SP8.Privacy and security positively influence my E-Satisfaction from Sri Lankan E-Government services					

3. Trust	Please tick the relevant column.				
Survey Question	5 Strongly Agree	4 Agree	3 Neutral	2 Disagree	1 Strongly Disagree
TR1. Sri Lankan E-Government portal is trustworthy to deliver government services to its users					
TR2. I expect my use of the Sri Lankan E-Government portal will increase in future					
TR3. I trust that my all-personal information will remain in the Sri Lankan E-Government portal					
TR4. Sri Lankan E-Government portal is always increasing government employees' attention and interest					
TR5.I trust the benefits provided by Sri Lankan E-Government portal					
TR6. I think Sri Lankan E-Government portal is concerned with the present and future interests of users					
TR7.I have got the confidence in the E-Services of the Sri Lankan E-Government portal					
TR8. Trust positively influences my E-Satisfaction from Sri Lankan E-Government services					

4. Service Quality	Please tick the relevant column.				
Survey Question	5 Strongly Agree	4 Agree	3 Neutral	2 Disagree	1 Strongly Disagree
SQ1. Sri Lankan E-Government portal enables me to accomplish government transactions more quickly					
SQ2. Sri Lankan E-Government portal enables me to enhance performance of government transactions through online support"					
SQ3. Sri Lankan E-Government portal enables me to accomplish more government transactions in fewer steps					
SQ4. Interaction with Sri Lankan E-Government portal is clear and understandable					
SQ5.It is easy to do what I want to do using Sri Lankan E-Government portal					
SQ6.Sri Lankan E-Government portal enhances my ability to complete government transactions without problems, misunderstandings and delays					
SQ7.Sri Lankan E-Government portal provided problem solution platform is useful for me					
SQ8.Service quality positively influences my E-Satisfaction from Sri Lankan E-Government services					

5. System Quality	Please tick the relevant column.				
Survey Question	5 Strongly Agree	4 Agree	3 Neutral	2 Disagree	1 Strongly Disagree
QS1.Sri Lankan E-Government portal is easy for me to use					
QS2.Sri Lankan E-Government portal is easy for me to navigate in government transactions					
QS3.I could use Sri Lankan E-Government portal anytime, anywhere I want					
QS4.I could feel Sri Lankan E-Government portal websites are well-designed					
QS5.I could feel screen colours in the Sri Lankan E-Government portal web sites are pleasing					
QS6. I could feel visual graphics in the Sri Lankan E-Government portal web sites are user friendly					
QS7. Presentation styles in Sri Lankan E-Government portal are easy for me to understand					
QS8. System quality positively influences my E-Satisfaction from Sri Lankan E-Government services					

6. Information Quality	Please tick the relevant column.				
Survey Question	5 Strongly Agree	4 Agree	3 Neutral	2 Disagree	1 Strongly Disagree
IQ1.Sri Lankan E-Government portal provides me with needed information					
IQ2.Sri Lankan E-Government portal provides me with sufficient information					
IQ3.Sri Lankan E-Government portal provides me with reliable information					
IQ4.Sri Lankan E-Government portal provides me with updated information					
IQ5.Sri Lankan E-Government portal provides me with helpful information for my questions and problems					
IQ6.Sri Lankan E-Government portal provides me with accurate information for the government transactions					
IQ7.Sri Lankan E-Government portal provides me with complete information for the government transactions					
IQ8.Information quality positively influences my E-Satisfaction from Sri Lankan E-Government services					

Demographic Information	
Gender	☐ Male ☐ Female
Age	☐ 18-25 Years ☐ 26-35 Years ☐ 36-45 Years ☐ 46-55 Years
Education	☐ Degree ☐ Masters
Service	☐ SLAS ☐ SLPS ☐ SLACS

Interview Questionnaire

Interview Questions

Topic of the research: **Measuring the Government Employees' E-Satisfaction from the E-Government Services in the Democratic Socialist Republic of Sri Lanka.**

Part A -Background of staff

Age	◯ 18-25	◯ 26-35	◯ 36-45	◯ 46-55
Gender	◯ Male	◯ Female		
Service	◯ SLAS	◯ SLPS	◯ SLACS	
Education Level	◯ Degree	◯ Masters		
Have you participated in E-Service Development Project	◯ Yes	◯ No		

Part B -E-Satisfaction

1. As your perception, what is the level of your E-Satisfaction from the E-Services dedicated for government employees provided by the Government of Sri Lanka?

   - Higher Level ⬭
   - Lower Level ⬭

2. Rate the following determinants from most influential determinant to least influential determinant regarding increase your E-Satisfaction level? (1 for the highest and 5 for the lowest)

   - Security and Privacy ⬭
   - Trust ⬭
   - Service Quality ⬭
   - System Quality ⬭
   - Information Quality ⬭

3. Explain E-Satisfaction issues of E-Services which are dedicated for government employees and you use?

4. Explain advantages of E-Services dedicated for government employees?

5. Do you think your Education Level affects E-Satisfaction?

Part C – Security and Privacy

1. What is your perception of Security and Privacy of the E-Services dedicated for you? (Higher or Lower)

2. Do you think Security and Privacy increases your E-Satisfaction level? (Yes or No)

3. Explain Security and Privacy issues of the E-Services which are dedicated for government employees and you use?

Part D – Trust

1. What is your perception of Trust of the E-Services dedicated for you? (Higher or Lower)

2. Do you think Trust increases your E-Satisfaction level? (Yes or No)

3. Explain Trust issues of the E-Services which are dedicated for government employees and you use?

Part E – Service Quality

1. What is your perception of Service Quality of the E-Services dedicated for you? (Higher or Lower)

2. Do you think Service Quality increases your E-Satisfaction level? (Yes or No)

3. Explain Service Quality issues of the E-Services which are dedicated for government employees and you use?

Part F – System Quality

1. What is your perception of System Quality of the E-Services dedicated for you? (Higher or Lower)

2. Do you think System Quality increases your E-Satisfaction level? (Yes or No)

3. Explain System Quality issues of the E-Services which are dedicated for government employees and you use?

Part G – Information Quality

1. What is your perception of Information Quality of the E-Services dedicated for you? (Higher or Lower)

2. Do you think Information Quality increases your E-Satisfaction level? (Yes or No)

3. Explain Information Quality issues of the E-Services which are dedicated for government employees and you use?

스리랑카 전자정부 서비스 공무원의 전자만족도 측정

Wasantha Sri Lal WEERAKOON GAMAGE

서울대학교 행정대학원

글로벌행정전공

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5가지 가설의 검증을 위하여 SLAS(스리랑카 행정 서비스), SLPS(스리랑

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키워드: 전자만족, 전자정부, 개인 정보 보호 및 보안, 신뢰, 서비스 품질, 시스템 품질, 정보 품질

학생 번호: 2021-24692

Acknowledgement

First, I express my gratitude to my Academic Advisor, Professor Eom Seok-Jin, for his expertise and consistent guidance for making this study a success. My thank goes to my panel examiners, Professor Koo Mingyo and Professor Kim Yunji for their constructive comments and suggestions.   I would like to express my sincere thanks to all the professors and faculty members of the Graduate School of Public Administration (GSPA) of the Seoul National University.