

**SYSTEM CONTINUANCE MODEL FOR
LOCAL E-GOVERNMENT IN INDONESIA**

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SYSTEM CONTINUANCE MODEL FOR LOCAL E-
GOVERNMENT IN INDONESIA

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ABSTRACT

Information and communication technology promises efficiency, speed of information delivery, global reach, and transparency. The development of information and communication technology gave rise to e-government which is a public service model that is carried out online – including in Indonesia. The development of the e-government system in Indonesia has begun to increase in quantity, but the quality is still lacking because the implementation of e-government is not evenly distributed in all regions. In addition, many local e-government projects and local government ongoing use have resulted in significant failure rates. This study aims to determine the level of relevance of the system continuance model in measuring the continuance of local e-government in Indonesia. In addition, this study also aims to find out what factors influence the continuance of local e-government in Indonesia. The research conducted includes quantitative research. The population selected for this research is selected citizens who use local e-government in Indonesia. A total of 390 valid samples were taken and determined based on non-probability sampling using convenience sampling from local e-government users in Indonesia. Valid data were analyzed with SmartPLS 3.0 software using the partial least squares structural equation modelling method with the partial least squares path modelling approach. Variation accounts for 70.2 percent of the total between system use factors and user satisfaction explained by the continuance of the system. The findings from hypothesis testing reveal that nine hypotheses have a significant effect that are supported, except for seven that are not supported, including those that damage the continuance of the system. This finding confirms the importance of quality, meeting citizens' expectations in terms of ease of use and feasibility of e-government support facilities, proven in this study to be the most important factor in the literature on the continuance of e-government systems. This study also provides some fundamental implications for local government agencies. Theoretically, this integrated model can enrich the model for predicting the continuance of e-government systems. Then, in practical terms, this research provides an appropriate approach for stakeholders in government organizations in Indonesia to determine what factors influencing the continuance of local e-government systems need to be considered in order to obtain the highest benefits from e-government projects in Indonesia. Finally, the proposed model shows that it is necessary to improve the quality factors (system quality, service quality, and information quality), behavioural factors (expectation and feasibility).

Keywords: System continuance model, perceived quality, perceived user behaviour, local e-government

APPROVAL

This is to certify that this thesis conforms to acceptable standards of scholarly presentation and is fully adequate, in quality and scope, for the fulfilment of the requirements for the degree of Doctor of Philosophy

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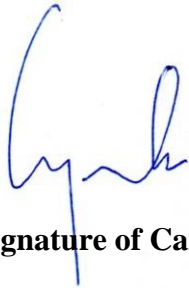
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(17 July 2023)

DECLARATION

I hereby declare that the thesis submitted in fulfilment of the PhD degree is my own work and that all contributions from any other persons or sources are properly and duly cited. I further declare that the material has not been submitted either in whole or in part, for a degree at this or any other university. In making this declaration, I understand and acknowledge any breaches in this declaration constitute academic misconduct, which may result in my expulsion from the programme and/or exclusion from the award of the degree.

Name: Dody Herdiana



Signature of Candidate:

Date: 17 July 2023

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TABLE OF CONTENTS

ABSTRACT	ii
APPROVAL	iii
DECLARATION	iv
ACKNOWLEDGEMENTS	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	ix
LIST OF FIGURES	xi
LIST OF ABBREVIATION	xii
CHAPTER 1 INTRODUCTION	1
1.0 Background of the Study	2
1.1 Problem Statement	11
1.2 Research Questions	12
1.3 Objectives	13
1.4 Research Hypotheses	13
1.5 Operational Definitions	15
1.6 Justifications and Significance of the Study	15
1.7 Theoretical Contributions	16
1.8 Practical Contributions	16
1.9 Contribution to Methodology	17
1.10 Chapter Summary	17
CHAPTER 2 REVIEW OF LITERATURE	19
2.0 Introduction	19
2.1 General Perspective and Stages of E-government Development	21
2.2 The DeLone and McLean IS Success Model	34
2.3 The Unified Theory of Acceptance and Use of Technology	39
2.4 The Expectations-Confirmations Model	45
2.5 The Integrated Models Used in IS Literature	51
2.6 Conceptual Framework	53
2.7 Chapter Summary	62
CHAPTER 3 METHODOLOGY	64
3.0 Introduction	64
3.1 Research Design	65
3.2 Population and Sampling	68
3.3 Instrumentation	70
3.4 Validity & Reliability	73
3.5 Data Collection Procedure	79
3.6 Research Ethics	81
3.7 Pilot Study	82
3.8 Chapter Summary	93
CHAPTER 4 RESULTS AND DISCUSSION	94
4.0 Introduction	94
4.1 Profile of Respondents	97

4.2	Reliability of Measurements	101
4.3	Descriptive Analysis	105
4.4	Discussion of Findings	113
4.4.1	General Discussion of the Findings	114
4.4.2	Relevance of SCM for Local E-government in Indonesia	123
4.4.3	Factors Influencing the System Continuance of the Local E-government in Indonesia	125
4.4.4	The Role of Perceived Quality and User Behavior	127
4.5	Chapter Summary	128
CHAPTER 5	CONCLUSION, IMPLICATION AND RECOMMENDATIONS	130
5.0	Introduction	130
5.1	Conclusion	131
5.2	Limitation of the Study	136
5.3	Implications of the Study	136
5.3.1	The Theoretical Implications	138
5.3.2	The Practical Implications	139
5.3.3	Methodological Implications	140
5.4	Recommendation for Future Research	140
	REFERENCES	142
	APPENDICES	157
	Appendix A	157
	Appendix B	163

LIST OF TABLES

Table	Page
1.1 UN E-government survey 2020 overview	4
1.2 Operational definitions	15
1.3 Outline of research study	18
2.1 Examples of e-government implementation research in Indonesia	29
2.2 Summary of the findings in the IS success literature	36
2.3 Summary of the findings in the UTAUT literature	41
2.4 Summary of the findings in the ECM literature	47
2.5 List of basic models and theories	54
3.1 Questionnaire grid	70
3.2 Alternative score for questionnaire answers	73
3.3 The demographic profile of the pilot study respondents	84
3.4 Descriptive statistical measures on pilot studies	85
3.5 Cross loadings scores from the pilot study	87
3.6 Constructs validity and reliability from the pilot study	89
3.7 R-Square score from the pilot study	90
3.8 Path coefficient test of the pilot study	91
4.1 Questionnaire distribution and response rate	99
4.2 Demographic variables	100
4.3 The Cross-loading scores of the main research	102
4.4 Fornell-larcker criterion value	103
4.5 Heterotrait-monotrait ratio value	104
4.6 The validity and reliability of the main research constructs	105
4.7 Path coefficient value	106

4.8	R-square value	107
4.9	f-square value	108
4.10	Structural model assessment results	110

LIST OF FIGURES

Figure		Page
1.1	2020 EGDI overview for e-government Indonesia	5
1.2	The structure of the thesis chapters	17
2.1	Systematic literature review processes	19
2.2	The Delone and McLean IS success model	35
2.3	The update Delone and McLean IS success model	35
2.4	The UTAUT model	40
2.5	The expectations-confirmations model	46
2.6	The conceptual framework in the current study	55
2.7	The system continuance model	57
2.8	Relationship of variables and hypothesis in the research model	59
3.1	General summary of current research	65
3.2	Deductive approach to current studies	67
3.3	The system continuance model with some items removed	92
4.1	DKI Jakarta provincial government official website	96
4.2	West Java provincial government official website	96
4.3	Banten provincial government official website	97
4.4	Final structural model assessment results	109

LIST OF ABBREVIATION

ACU	Actual Use
AeU	Asia e University
ASEAN	Association of Southeast Asian Nations
AVE	Average Variance Extracted
BIU	Behavioural Intention to Use
CB-SEM	Covarian-Based Structural Equation Modeling
COT	Costs of Technology
COX	Complexity
CSE	Computer Self-Efficacy
CSQ	Computer Self-Efficacy
CTQ	Complementary Technology Quality
ECM	Expectation-Confirmation Model
EDGI	E-government Development Index
EFX	Effort Expectancy
EGA	E-government Adoption
EPART	E-Participation
ESQ	Education System Quality
f^2	Effect Size
FCC	Facilitating Conditions
G2B	Government to Business
G2C	Government to Citizen
G2G	Government to Government
HBT	Habit
HCI	Human Capital Index

HEGDI	High E-government Development Index
HMV	Hedonic Motivation
ICT	Information and Communication Technology
IDI	Individual Impact
INQ	information Quality
IS	Information System
IT	Information Technology
ITU	Intention to Use
LEGDI	Low E-government Development Index
LMS	Learning Management System
MEGDI	Middle E-government Development Index
MSE	Mobile Self-Efficacy
NBF	Net Benefits
ORI	Organizational Impact
OSI	Online Service Index
PEJ	Perceived Enjoyment
PEU	Perceived Ease of Use
PFX	Performance Expectancy
PIV	Personal Innovativeness
PLS	Partial Least Square
PLS-SEM	Partial Least Squares Structural Equation Modelling
PRS	Perceived Risk
PRV	Price Value
PSF	Perceived Satisfaction
PSQ	Perceived Support Quality

PUF	Perceived Usefulness
PVL	Perceived Value
Q ²	Q-square
R ²	R-square
RQ	Research Questions
SCI	Social Influence
SCM	System Continuance Model
SCT	Social Cognitive Theory
SEM	Structural Equation Modeling
SVQ	Service Quality
SYQ	System Quality
SYU	System Use
TAM	Technology Acceptance Model
TCP	Information Technology Capability
TII	Telecommunication Infrastructure Index
TNGIS	Tamil Nadu Geographic Information System
TOG	Trust of the Government
TOI	Trust of the Internet
TPB	Theory of Planned Behavior
TRS	Trust
TSQ	Technology Support Quality
UBV	Usage Behaviour
UCF	User Confirmation
UED	User Education
UN	United Nations

USF	User Satisfaction
UTAUT	Unified Theory of Acceptance and Use of Technology
VHEGDI	Very E-government Development Index
VIF	Variance Inflation Factor

CHAPTER 1

INTRODUCTION

The rapid development of information and communication technology (ICT) will open opportunities and challenges to create, access, process and utilize accurate information (Amor, 2021; Wang et al., 2021). On the other hand, the development of ICT has given birth to a model of public services carried out through e-government – including in Indonesia (Sofyani et al., 2020; Tangi et al., 2021). Therefore, in this era of regional autonomy, one of the efforts to realize good governance is to utilize e-government – another term that is more popular in Indonesia is an electronic-based government system (Nurdin, 2021; Putra & Dhanuarta, 2021; Saputra et al., 2020). All stakeholders believe that an electronic-based government system is the key to the implementation of efficient, quality, transparent and accountable public services, based on efficiently integrated data from the central and regional governments (Ismail et al., 2020; Putra & Dhanuarta, 2021; Sa'adah, 2020; Setyawan & Gamayuni, 2020).

Meanwhile, the development of e-government in Indonesia is not only carried out in the scope of government but also includes the general public who understand digital services and the business world on an ongoing basis (Farida et al., 2020; Setyawan et al., 2019). This is due to several obstacles in the development of e-government in Indonesia, including the lack of ICT infrastructure, human resources, citizens readiness to use e-government services, and hostile arrangements, and hostile arrangements (Farida et al., 2020; Kumajas, 2021; Putra & Dhanuarta, 2021). Responding to these challenges, the Government of the Republic of Indonesia has initiated a policy of using ICT to build e-government for good and integrated governance from local to central government (Nurdin, 2021; Rachmawati & Fitriyanti, 2021). The goal is that the ICT infrastructure that will be built can be used together to

be coordinated by all agencies at the central and regional levels (Nurdin, 2021; Rachmawati & Fitriyanti, 2021; Setyawan et al., 2019).

This study aims to determine the level of relevance of the system continuance model (SCM) in measuring of the continuance of local e-government in Indonesia. In addition, this study also aims to find out what factors influence the continuance of local e-government in Indonesia. Finally, to determine the effect of perceived quality and perceived user behaviour on the continuance of local e-government in Indonesia. The research conducted includes quantitative research. The population selected for this research is selected citizens who use local e-government in Indonesia. Samples were taken and determined based on non-probability sampling using convenience sampling from local e-government users in Indonesia in three provinces (namely Jakarta, West Java, and Banten).

1.0 Background of the Study

ICT promises efficiency, speed of information reach, global reach, and transparency (Almukhlifi et al., 2019; Choi et al., 2018; Ismail et al., 2020; Sabani et al., 2019; Sofyani et al., 2020). The development of ICT has given birth to e-government which is a public service model that is carried out online (Manoharan & Ingrams, 2018; Sabani et al., 2019; Utama, 2020). E-government offers public services that can be accessed 24 hours, anytime, and from wherever users are (Susanti et al., 2021). Aware of the benefits of e-government (Sa'adah, 2020), the Indonesian government in 2003 issued policies in every region throughout Indonesia (Aditya, 2020; Nastiti et al., 2022). Therefore, in this era of regional autonomy, one of the efforts to realize good governance is to utilize e-government (Kalashnyk, 2021; Magal & Sitokdana, 2021) – another term which is more popular in Indonesia is an electronic-based government system. All stakeholders believe that an electronic-based government system is the key

to the implementation of efficient, quality, transparent and accountable public services, based on efficient integrated data from the central and regional governments (Utama, 2020).

The policy that emerged as an e-government development initiative was welcomed by government agencies in Indonesia. In addition, the development of e-government in Indonesia is not only carried out in the scope of government but also includes the general public who understand digital services and the business world. Meanwhile, the rapid development of ICT will open opportunities and challenges to create access to, process, and utilize accurate information (Amor, 2021; Wang et al., 2021). Information is a very valuable commodity in the era of globalization that must be mastered in order to increase the competitiveness of an organization (including local governments) on an ongoing basis. Responding to these challenges, the Government of the Republic of Indonesia has initiated a policy of using ICT to build integrated e-government for good governance from local to central government (Nurdin, 2021; Rachmawati & Fitriyanti, 2021; Setyawan et al., 2019).

Recognizing the enormous benefits of ICT, the Government of the Republic of Indonesia took the initiative to build an ICT network as a solution to overcome limited access barriers between local government agencies (Demeke et al., 2022; Fjeldstad et al., 2019; Shahabuddin et al., 2020). ICT network development initiatives began with conducting research and development activities as well as Information Technology (IT) management. The goal is that the ICT infrastructure that will be built can be utilized jointly to be coordinated by all agencies, both at the central and regional levels (Nurdin, 2021; Rachmawati & Fitriyanti, 2021; Setyawan et al., 2019). The results of the development of the ICT network in every local government agency in Indonesia are carried out in stages to expedite the government system with several solutions that

will be carried out such as tactical steps in developing local e-government in every local government agency in Indonesia (Farida et al., 2020; Susanti et al., 2021). Therefore, in this era of regional autonomy, to realize good governance, one of the efforts is to utilize an electronic-based government system (Aditya, 2020; Nastiti et al., 2022; Rudy & Prasetya, 2018). All stakeholders believe that the implementation of an electronic-based government system is the key to the implementation of efficient, quality, transparent and accountable public services, based on data from the central and regional governments that are efficiently integrated (Fjeldstad et al., 2019; Mensah & Mi, 2018).

Since the Government of the Republic of Indonesia took the initiative to build an ICT network, the United Nations (UN) E-government Survey 2020 places Indonesia at 88th place in the development and implementation of e-government (Aminah & Saksono, 2021; Hidayat, 2021). Table 1.1 shows the UN E-government survey 2020 overview, Indonesia as a whole scored 0.6612 in the High e-government development index (EGDI) group in the 2020 UN E-government Survey so that it succeeded in placing Indonesia in the top 100 in the world at position 88 out of 193 countries. In addition, the UN E-government survey 2020 estimates countries to gain over 0.75 points as Very High EGDI, points from 0.50 to 0.75 as High EGDI, points from 0.25 to 0.50 as Middle EGDI, and points from 0.25 to 0.25 as Low EGDI, which includes three dimensions of UN E-government Survey 2020 performance measurement, namely online service index (OSI), telecommunication infrastructure index (TII), and human capital index (HCI).

Table 1.1: UN E-government survey 2020 overview

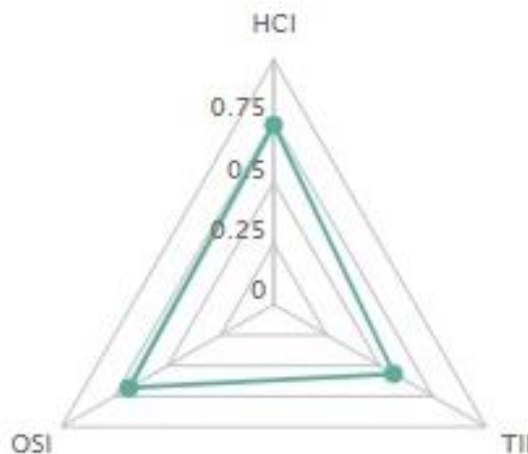
No.	Country	EDGI			EPART Index		
		Score	Rank	Group	Score	Rank	Group
1.	Singapore	0.9150	11	VHEGDI	0,9762	6	VHEGDI
2.	Malaysia	0.7892	47	VHEGDI	0,8571	29	VHEGDI

No.	Country	EDGI			EPART Index		
		Score	Rank	Group	Score	Rank	Group
3.	Thailand	0.7565	57	VHEGDI	0,7738	51	VHEGDI
4.	Philippines	0.6892	77	HEGDI	0,7500	57	HEGDI
5.	Indonesia	0.6612	88	HEGDI	0,7500	57	HEGDI
6.	Viet Nam	0.6667	86	HEGDI	0,7024	72	HEGDI
7.	Brunei Darussalam	0.7389	60	HEGDI	0,5476	100	HEGDI
8.	Timor-Leste	0.4649	134	MEGDI	0,4481	114	MEGDI
9.	Cambodia	0.5113	124	HEGDI	0,4167	127	MEGDI
10.	Myanmar	0.4316	146	MEGDI	0,2619	168	MEGDI
11.	Lao People's Democratic Republic	0.3288	167	MEGDI	0,2143	175	LEGDI

Note: EDGI = E-government Development Index; EPART = E-Participation; VHEGDI = Very High EGDI; HEGDI = High EGDI; MEGDI = Middle EGDI; LEGDI = Low EGDI.

Figure 1.1 shows that for each of these performance measurement assessments, Indonesia recorded a fairly good score, including a score of 0.6824 for OSI, a score of 0.5669 for TII, and a score of 0.7342 for HCI (Aminah & Saksono, 2021; Hidayat, 2021).

Figure 1.1: 2020 EGDI overview for e-government Indonesia



Seeing these results, in the last two years since the issuance of Presidential Regulation of the Republic of Indonesia Number 95 of 2018 concerning electronic-based government systems, with the cooperation of various parties, Indonesia has shown changes for the better. However, the National Electronic-Based Government System Coordination Team chaired by the Minister of State Apparatus Empowerment and Bureaucratic Reform needs to develop a strategy to improve the implementation

of an electronic-based government system, where one of these improvements is strengthening telecommunications infrastructure. which is one of the lowest points. in appraisal. In addition, strengthening the aspects of governance, services and human resources whose value is still slightly above average, needs to be a concern to maximize the implementation of an electronic-based government system in Indonesia (Farida et al., 2020; Kumajas, 2021; Putra & Dhanuarta, 2021). This result is certainly good news for the implementation of an electronic-based government system in Indonesia. Therefore, it is hoped that all components of the nation will continue to be fully committed to supporting digital governance and sustainable development to win global competition.

Meanwhile, ICT, which is now widely used in all sectors of society, is playing an increasingly important role in interactions between government and society (Khanna et al., 2021; Malek et al., 2021; Pereira et al., 2018). There is widespread consensus that ICT can be used to improve the quality-of-service delivery, increase the efficiency of public institutions, reach large numbers of people, promote transparency and accountability, facilitate electronic interaction and participation, and reduce corruption (Almukhlifi et al., 2019; Ismail et al., 2020; Sabani et al., 2019; Sofyani et al., 2020). Therefore, research should be carried out to generate a better and comprehensive understanding of the role of ICT in a globalized world and how Governments and public institutions can better use digital technologies to achieve their development goals. In addition, local governments are increasingly embracing digital technology for various purposes. Local governments can share details relating to their plans and objectives, operational activities, and service offerings (including mechanisms for interacting with central government).

ICT also plays an important role in facilitating communication and consultation, enabling various stakeholders to interact and participate in local governance and contribute to decision-making both directly and indirectly (Malwade et al., 2018; Sust et al., 2020). Using ICT to trigger services helps local governments streamline operations and reduce their burden, facilitate remote interaction with the public and more efficient internal communication and collaboration, as well as increase overall efficiency in an environmentally friendly manner (Almukhlifi et al., 2019; Ismail et al., 2020; Sabani et al., 2019; Sofyani et al., 2020).

On the other hand, communities tend to interact more directly with local governments — which places local governments in a unique position to respond to citizens' needs and interests (Susanti et al., 2021; Utama, 2020). Citizens are often more interested in what is happening in their local community, as local governments deal directly with issues that affect their daily lives in the areas of education, social services, and local government management (Farida et al., 2020; Utama, 2020). Communities look directly at local governments to obtain information and problem solving (Farida et al., 2020; Susanti et al., 2021; Utama, 2020). Thus, it often creates a close relationship between these three drivers; people may need information so they can become more involved and participate more directly in solving problems.

Although, there is currently an established mechanism for assessing progress in national e-government development (Budding et al., 2018; Farida et al., 2020; Wang et al., 2021), but local e-government maturity assessment is still in its infancy. and still relatively rare. A logical starting point is to assess the role of local government as a service provider and examine city portals as a key mechanism for e-government in that context (Dias, 2020; Nasirin & Ying, 2022). In addition, research efforts since 1996 have also demonstrated the importance of improving ICT at the local level (Budding

et al., 2018; Ingrams et al., 2020; Putra & Dhanuarta, 2021). Where, global e-government innovation is at the forefront of local government efforts to become more organized and more efficient in providing services and improving outcomes for the public (Ingrams et al., 2020).

Scholars argue that such innovation is embedded in institutional and environmental factors, and local e-government growth progresses through stages as a result of the influence of these factors (Budding et al., 2018; Manoharan & Ingrams, 2018). However, in the context of continuing local e-government systems, it has not achieved the desired results (Wu et al., 2020). This is due to several obstacles in the development of e-government in Indonesia, including the lack of ICT infrastructure, human resources, community readiness to use e-government services, and hostile arrangements (Farida et al., 2020; Kumajas, 2021; Putra & Dhanuarta, 2021). In addition, the development of e-government in Indonesia not only carried out in the scope of government but also includes the general public who understand digital services and the business world (Farida et al., 2020; Setyawan et al., 2019).

In particular, it is part of an ongoing effort to assess local e-government as reflected in the presence of several online services in major cities (Ingrams et al., 2020; Pereira et al., 2018). The need to improve service coverage and quality as well as optimize the integration of new technologies to achieve this goal is driving governments to increase their online presence (Dias, 2020; Pereira et al., 2018). Central and local governments are engaged in a growing effort to capitalize on the benefits that ICT offer in public service delivery, including greater social inclusion, increased efficiency and effectiveness, more personalized service delivery, and 24/7 service availability (Almukhlifi et al., 2019; Ismail et al., 2020; Sabani et al., 2019; Sofyani et al., 2020).