

USABILITY CONCEPTUAL MODEL OF DIGITAL GOVERNMENT IN MALAYSIA ENVIRONMENT



Prepared by:
RINI YUDESIA NASWIR

5 September 2019



01

INTRODUCTION

02

LITERATURE REVIEW

03

RESEARCH
METHODOLOGY

04

FINDINGS & ANALYSIS

05

DISCUSSION &
CONCLUSIONS





01

INTRODUCTION



PROBLEM BACKGROUND



INFORMATION
Government websites for accessing information.



TRANSACTION
Government online services for transacting.



TRANSFORMATION
Government online information services for generating opportunities & innovations through citizen participation.

STATIC

199
5

E-GOVERNMENT 1.0
e-Government

FLUID

200
7

E-GOVERNMENT 2.0
Connected Government

FLUID

201
5

E-GOVERNMENT 3.0
Digital Government

PROBLEM BACKGROUND



1

NKEA CCI EPP6: Deepening E-Government

10% increment of government online services usage.

Achievement on 2015

7.28% increment usage of the government online services.

2

United Nations E-Government Survey

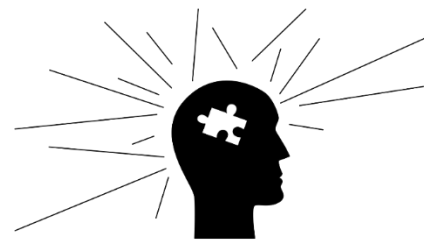
Year	E-Government Development Index (EGDI)		Online Service Index (OSI)		E-Participation Index (EPI)	
	Ranking	EGDI	Ranking	OSI	Ranking	EPI
2010	32	0.6101	16	0.6317	12	0.6571
2012	40	0.6703	20	0.7908	14	0.5000
2014	52	0.6115	31	0.6772	59	0.5294
2016	60	0.6175	N/A	0.7174	47	0.6780

3

Digital Government Satisfaction Survey 2014

by The Boston Consulting Group

- Just **30% of respondents** are satisfied with the Malaysian government services that are provided through Internet.
- **56% of the respondents** rated the quality of the government online services are worse than the private sector.



PROBLEM STATEMENT

- ✿ Usability is an **important factor** in information system and regards to the provision of digital government.
- ✿ Studies related to usability factors become vital as it **reflects to easy to use of service or system.**
- ✿ The high usability of the digital government services will **encourage usage, loyal, and trust from the citizen.**
- ✿ Currently, there are **lack of study or research involves evaluating usability factors on Malaysian digital government services.**
- ✿ This research is designed to **identify factors that influence perceived usability of digital government in Malaysia environment** and then, **develop and examine the usability conceptual model.**
- ✿ The perceived usability of the digital government will **leads to provide comprehensive digital government services that meet the citizen needs, and increase their usage and satisfaction.**

RESEARCH QUESTION & OBJECTIVE



Research Question	Research Objective
Research Question 1: What are the usability factors that affect perceived usability of the digital government in Malaysia environment?	Research Objective 1: To identify the usability factors that affect perceived usability of the digital government in Malaysia environment.
Research Question 2: How to develop a usability conceptual model of the digital government in Malaysia environment?	Research Objective 2: To develop a usability conceptual model of the digital government in Malaysia environment.
Research Question 3: How to examine the usability conceptual model of the digital government in Malaysia environment?	Research Objective 3: To examine the usability conceptual model of the digital government in Malaysia environment.



SCOPE OF RESEARCH



This research focuses in **developing and examining a usability conceptual model of the digital government in Malaysia environment.**



Quantitative method approach through survey is applied in this research.



The survey assessed **significant factors that affect citizen's perspective on perceived usability of Malaysian digital government services that provided through MyGovernment Portal (www.malaysia.gov.my).**



Data analysis is conducted through **partial least squares structural equation modeling (PLS-SEM) approach by using SmartPLS 3 and Microsoft Excel.**





02

LITERATURE REVIEW



DEFINITION



Government digitalising their services to improve service delivery system in the efficient and effective way to maintain relationship with the citizen.

**DIGITAL
GOVERNMENT**

Efficiency and effectiveness of system that meet user needs and expectations, and the system able to satisfy the user to perform and complete their task.

USABILITY

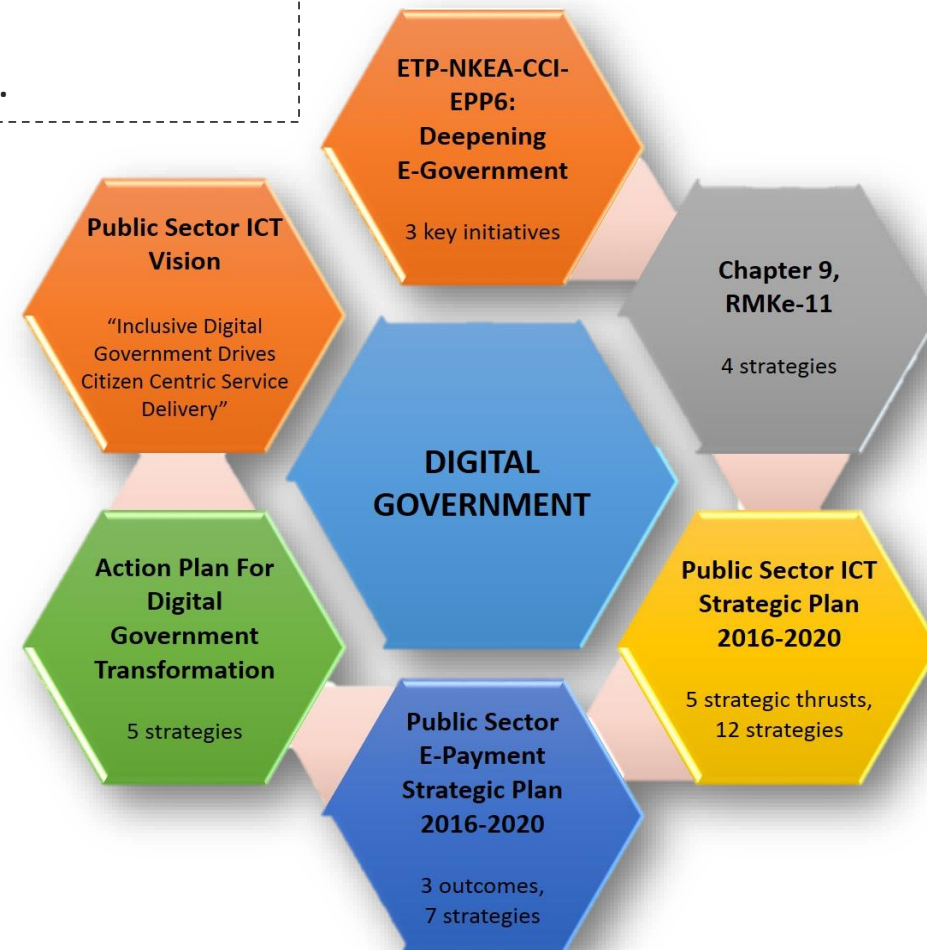
In this context of research, citizen are referred to the public who use digital government services provided through MyGovernment Portal.

CITIZEN

DIGITAL GOVERNMENT

BENEFITS

- **Improvement of government function, services, and works** to provide comprehensive service delivery that will **satisfy the citizen.**
- Enables **low cost of communication** between government and citizen.
- **Improvement of citizens' views** on governments.



Public Sector ICT Vision

"Inclusive Digital Government Drives Citizen Centric Service Delivery"

ETP-NKEA-CCI-EPP6:
Deepening E-Government

3 key initiatives

Chapter 9, RMKe-11

4 strategies

DIGITAL GOVERNMENT

Action Plan For Digital Government Transformation

5 strategies

Public Sector E-Payment Strategic Plan 2016-2020

3 outcomes, 7 strategies

Public Sector ICT Strategic Plan 2016-2020

5 strategic thrusts, 12 strategies

USABILITY THEORIES



AUTHOR	ATTRIBUTES
McCall et al. (1977)	operability, training, communicativeness
Shackel (1981)	ease of use, effectiveness
Butler (1985)	user performance
Mills et al. (1986)	speed and accuracy of task execution
Gould (1988)	system performance, system functions, user interface, outreach program, modifiability, language translation
Booth (1989)	usefulness, effectiveness, learnability, attitude
IEEE 1061 (1990)	comprehensibility, learnability, communicativeness
Shackel (1991)	effectiveness, learnability, flexibility, attitude
Grady (1992)	human factors, aesthetics, online and context sensitive help, wizards and agents, consistency, user documentation, training materials
Dumas & Redish (1993)	perform tasks quickly and easily
Hix & Hartson (1993)	initial performance, long-term performance, learnability, retainability, advanced feature usage, first impression, long-term user satisfaction
Nielsen (1994)	learnability, efficiency, memorability, errors, satisfaction
Preece et al. (1994)	learnability, efficiency, throughput, flexibility, attitude
Rubin (1994)	learnability, effectiveness, usefulness, attitude
Guillemette (1995)	effectively used by target users to perform tasks
Gluck (1997)	useableness, usefulness
ISO 9241-11 Standard (1998)	effectiveness, efficiency, satisfaction

AUTHOR	ATTRIBUTES
Lecerof & Paternò (1998)	efficiency, learnability, safety, flexibility, users subjective preference or degree of satisfaction
Clairmont et al. (1999)	successfully learn and use a product to achieve a goal
Kengeri et al. (1999)	effectiveness, likeability, learnability, usefulness
Donyaee & Seffah (2001)	effectiveness, efficiency, satisfaction, productivity, safety, internationality, accessibility
Brinck et al. (2002)	functionally correct, efficient to use, easy to learn, easy to remember, error tolerant, subjectively pleasing
Kim (2002)	interface effectiveness
Oulanov & Pajarillo (2002)	affect, efficiency, control, helpfulness, adaptability
Furtado et al. (2003)	ease of use, learning
Quesenbery (2003)	effective, efficient, engaging, error tolerance, easy to learn
Shneiderman & Plaisant (2005)	time to learn, speed of performance, rate of errors by users, retention over time, subjective satisfaction
Rubin & Chisnell (2008)	usefulness, efficiency, effectiveness, learnability, satisfaction, accessibility
ISO/IEC 25010:2011 Standard (2011)	effectiveness, efficiency, satisfaction, freedom from risk, context coverage

USABILITY THEORIES

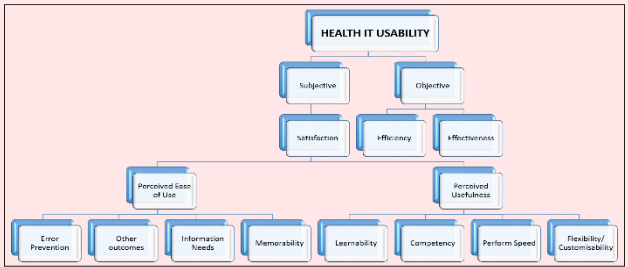
Findings from Previous Researchers Related to Usability of Digital Government

Usability Factors	A	B	C	D	E	F	G	H	I	J	Total
Effectiveness		√		√		√				√	4
Efficiency		√				√			√	√	4
Learnability		√		√		√					3
Satisfaction		√				√				√	3
Findability							√	√			2
Navigational Standards							√	√			2
Overall Design Standards							√	√			2
Readability							√	√			2
Usefulness / Useful Information			√			√					2
Accessibility						√					1
Additional Entry									√		1
Aesthetic and Minimal Design					√						1
Attitude				√							1
Broken Link	√										1
Competency Index	√								√		1
Consistency and Standards					√						1
Conventions for Hyperlinked Text in Main Text								√			1
Error Prevention					√						1
Error Recovery			√								1
Flexibility				√							1
Flexibility and Efficiency of Use					√						1
Help and Documentation					√						1
Help User Recognise, Diagnose, and Recover from Errors					√						1
Hypertext							√				1
Interface Design			√								1
Interoperability					√						1
Language Option							√				1
Match between System and the Real world					√						1
Page Size	√										1
Pleasurable and Respectful Interaction					√						1
Proficiency									√		1
Recognition Rather than Recall					√						1
Speed	√										1
Support and Develop Users					√						1
Time Consumed									√		1
Timely Access			√								1
User control and freedom					√						1
Visibility of System Status					√						1
Total	1	4	3	4	13	6	6	5	3	3	

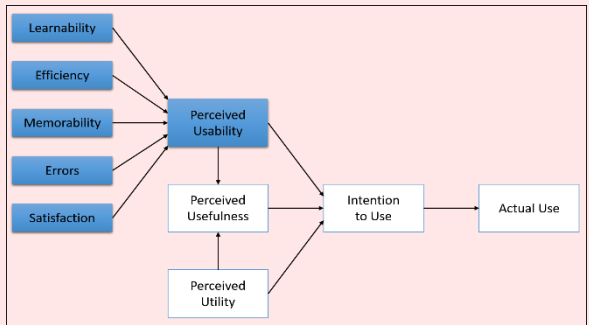
- A- Aziz *et al.* (2010)
- B- Joo and Yeon Lee (2011)
- C- Rusli *et al.* (2013)
- D- Thowfeek and Salam (2014)
- E- Huang and Benyoucef (2014)

- F- Pant (2015)
- G- King and Youngblood (2016)
- H- Galvez and Youngblood (2016)
- I- Cho *et al.* (2016)
- J- Rodriguez *et al.* (2017)

Usability Models



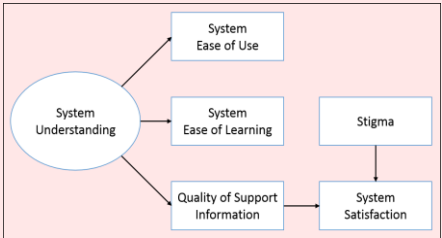
Usability Evaluation Model for Evaluating Mobile Health Technology (Brown et al., 2013)



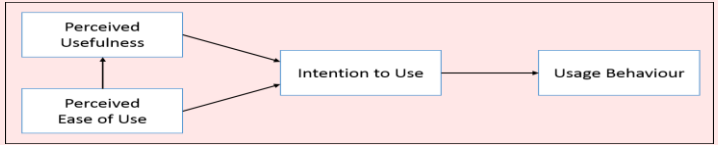
Research Framework for Usability Perspective on Social Media Sites' Adoption in B2B Context (Lacka and Chong, 2016)

overall satisfaction, system usefulness, information quality, interface quality

Usability Assessment of Home-Based Telemedicine Systems (Agnisarman et al., 2017)



Usability and Satisfaction Model of Smartphone Application Targeting Youth Anxiety (Stoll et al., 2017)



Usability Evaluation Model of Health Teens Program (Park et al., 2017)

KNOWLEDGE GAPS



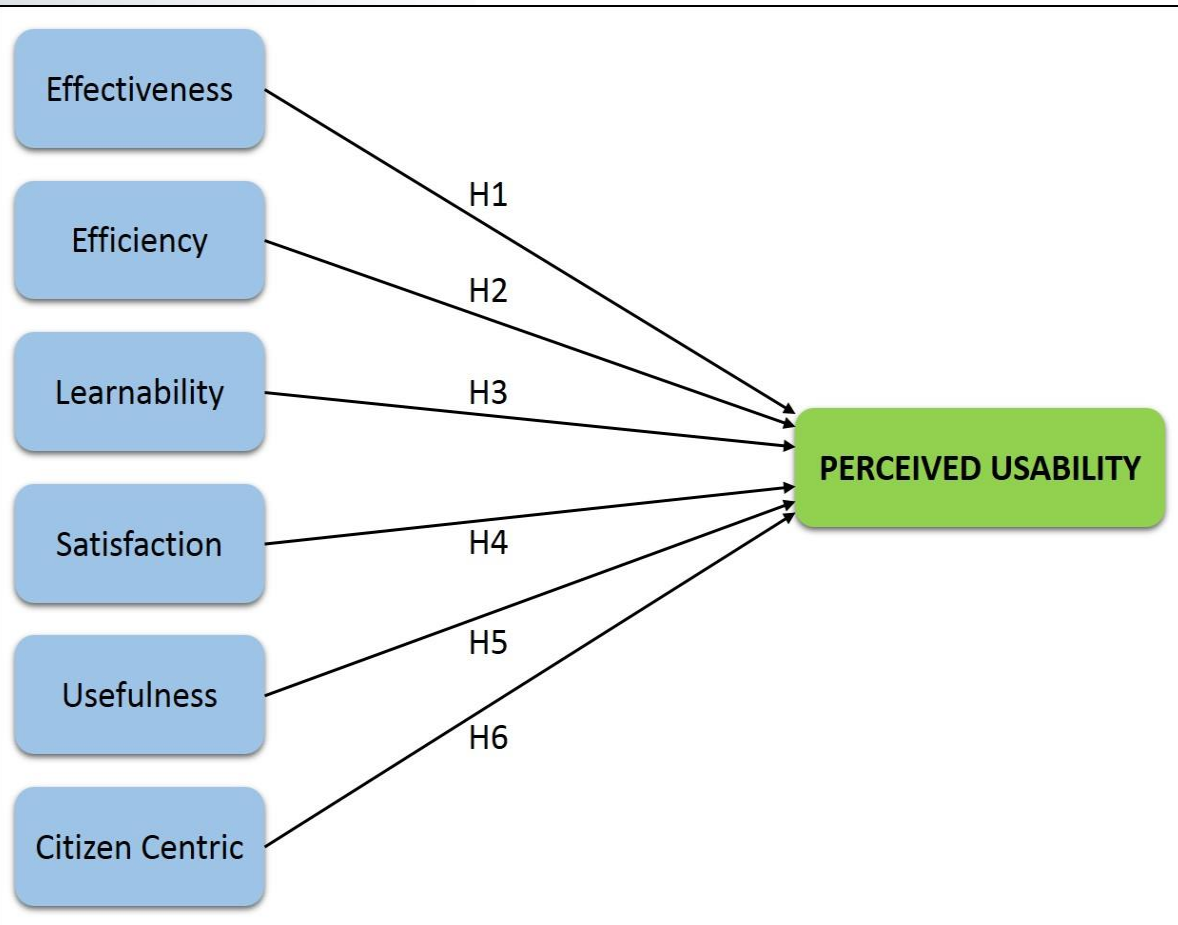
No.	Common Usability Attribute	Frequency (Original Theories)	Frequency (Usability Models)	Frequency (Findings from Researchers)
1	Learnability	14	3	3
2	Effectiveness	12	1	4
3	Efficiency	10	2	4
4	Satisfaction	9	4	3
5	Usefulness	5	3	2
6	Attitude	4	-	1
7	Errors/ Error Recovery	4	1	1
8	Flexibility	3	1	1

- Studies on usability in the e-government or digital government context **mostly involved websites or portals, e-learning, and digital library.**
- There are **lack of study or research involves evaluating usability factors on the Malaysian digital government services.**

CITIZEN CENTRIC

- Citizen centric is **added as one of the factor** for the proposed conceptual model.
- The digital government services **have transformed from government-centric approach to citizen centric approach.**
- Citizen centric evaluation is **necessary to improve usability of digital government services.**
- The citizen centric approach **is essential in development of sustainable digital government to improve the service delivery.**

CONCEPTUAL FRAMEWORK



NO.	HYPOTHESIS
H1	Effectiveness will have a positive influence on perceived usability of digital government in Malaysia environment.
H2	Efficiency will have a positive influence on perceived usability of digital government in Malaysia environment.
H3	Learnability will have a positive influence on perceived usability of digital government in Malaysia environment.
H4	Satisfaction will have a positive influence on perceived usability of digital government in Malaysia environment.
H5	Usefulness will have a positive influence on perceived usability of digital government in Malaysia environment.
H6	Citizen Centric will have a positive influence on perceived usability of digital government in Malaysia environment.

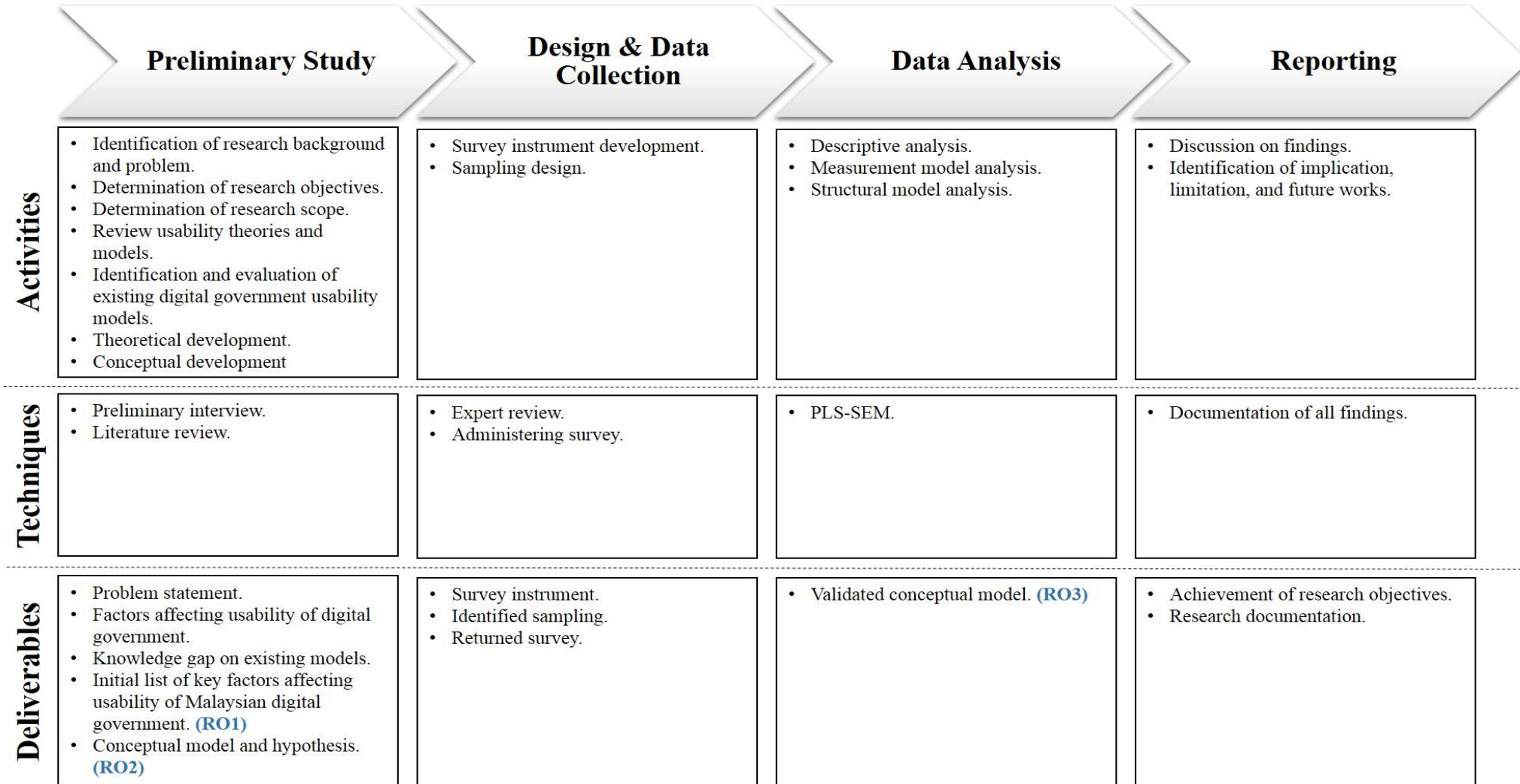


03

RESEARCH METHODOLOGY



OPERATIONAL FRAMEWORK



INSTRUMENT DESIGN

INITIAL INSTRUMENT DESIGN

39 ITEMS OR QUESTIONS

- **Section A: Demographic Information**
8 items using Scale and Category.
- **Section B: Usability Measures**
31 questions using Likert Scale with rating from Strongly Disagree (1), Disagree (2), Neutral – Neither Agree nor Disagree (3), Agree (4), and Strongly Agree (5).



CONTENT VALIDITY

Reviewed by 3 experts between 9 to 16 October 2017

- Used 4-point scale which are Not Relevant (1), Somewhat Relevant (2), Quite Relevant (3), and Highly Relevant (4).
- All experts rating **26 items are relevant**. Other **13 items are judged not relevant** by the same expert.
- Mean of Item CVI and Mean of Expert Proportion is **0.89**.
- Scale-level CVI is **0.67** which means 67% of the items are received relevance ratings.



STRUCTURE OF ACTUAL SURVEY

37 ITEMS OR QUESTIONS

- **Section A: Demographic Information**
8 items using Scale and Category.
- **Section B: Usability Measures**
29 questions using Likert Scale with rating from Strongly Disagree (1), Disagree (2), Neutral – Neither Agree nor Disagree (3), Agree (4), and Strongly Agree (5).

DATA COLLECTION METHOD



Sampling Type	Probability or random sampling
Sampling Size	Minimum sample size is 48 respondents
Data Collection Procedure	Online survey using Google Forms
Target Population	Citizen
Unit of Analysis	Individual perspective on perceived usability of Malaysian digital government

Maximum Number of Arrows Pointing at a Construct	Significance Level											
	1%				5%				10%			
	Minimum R ²				Minimum R ²				Minimum R ²			
	0.10	0.25	0.50	0.75	0.10	0.25	0.50	0.75	0.10	0.25	0.50	0.75
2	158	75	47	38	110	52	33	26	88	41	26	21
3	176	84	53	42	124	59	38	30	100	48	30	25
4	191	91	58	46	137	65	42	33	111	53	34	27
5	205	98	62	50	147	70	45	36	120	58	37	30
6	217	103	66	53	157	75	48	39	128	62	40	32
7	228	109	69	56	166	80	51	41	136	66	42	35
8	238	114	73	59	174	84	54	44	143	69	45	37
9	247	119	76	62	181	88	57	46	150	73	47	39
10	256	123	79	64	189	91	59	48	156	76	49	41

Sample Size Recommendation by Cohen (1992)



04

FINDINGS & ANALYSIS

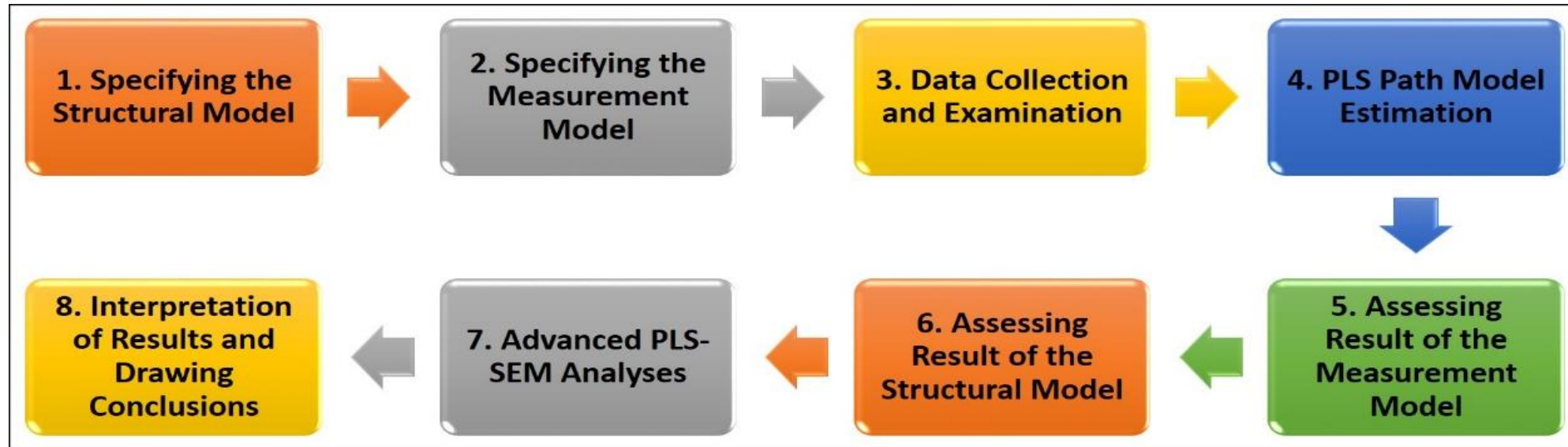


DEMOGRAPHIC ANALYSIS

Online survey: 7 until 17 November 2017

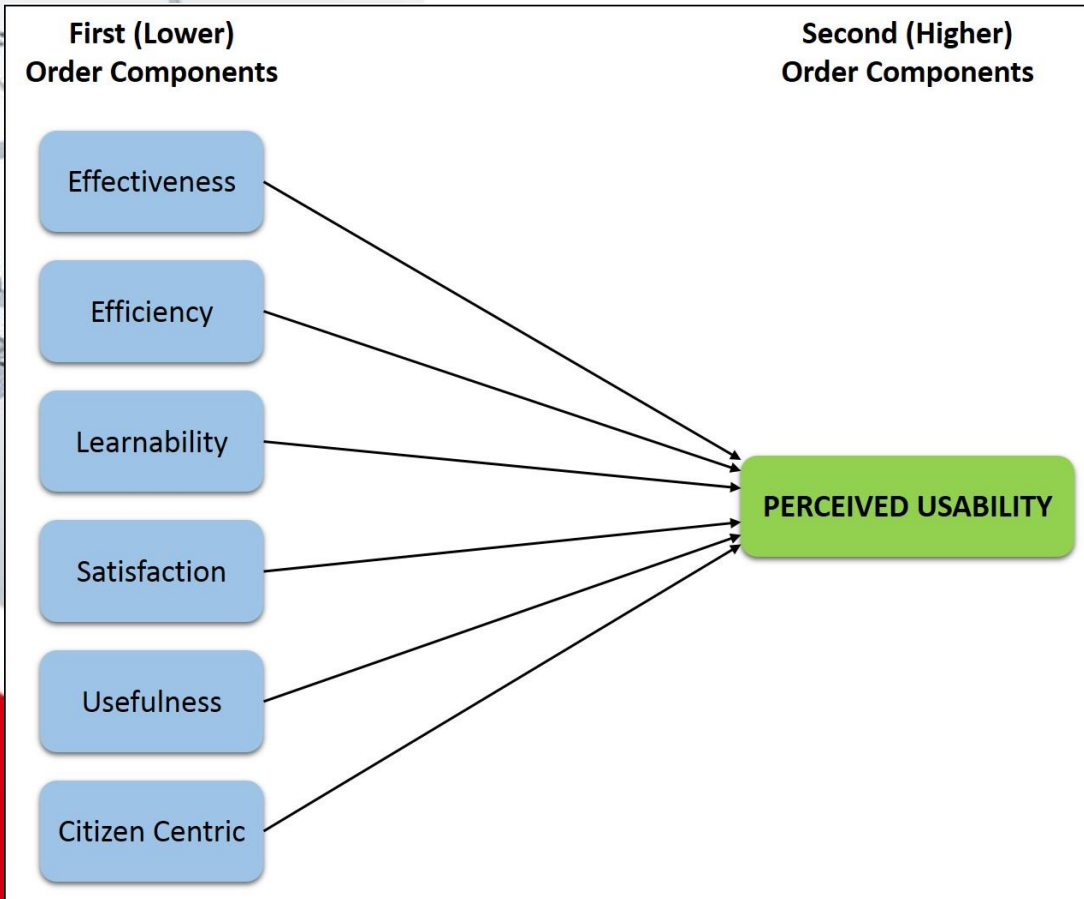
Total of respondents: 65

- ▶ 22 (33.8%) of the respondents are male and **43 (66.2%)** respondents are female.
- ▶ The big percentage of respondents' age is ranged between 31 to 40 years old which is total of **52 (80.0%)** respondents.
- ▶ **31 (47.7%)** respondents have Bachelor Degree as a highest academic level, while 20 (30.8%) respondents have Master Degree.
- ▶ **46 (70.8%)** respondents are from IT field, and seven (10.8%) respondents are from business field.
- ▶ **60 (92.3%)** respondents have experience of using internet more than five years and spending more than three hours using internet per day.
- ▶ **41 (63.1%)** respondents have experience of using digital government more than five years and **31 (47.7%)** respondents are using digital government daily or almost daily.

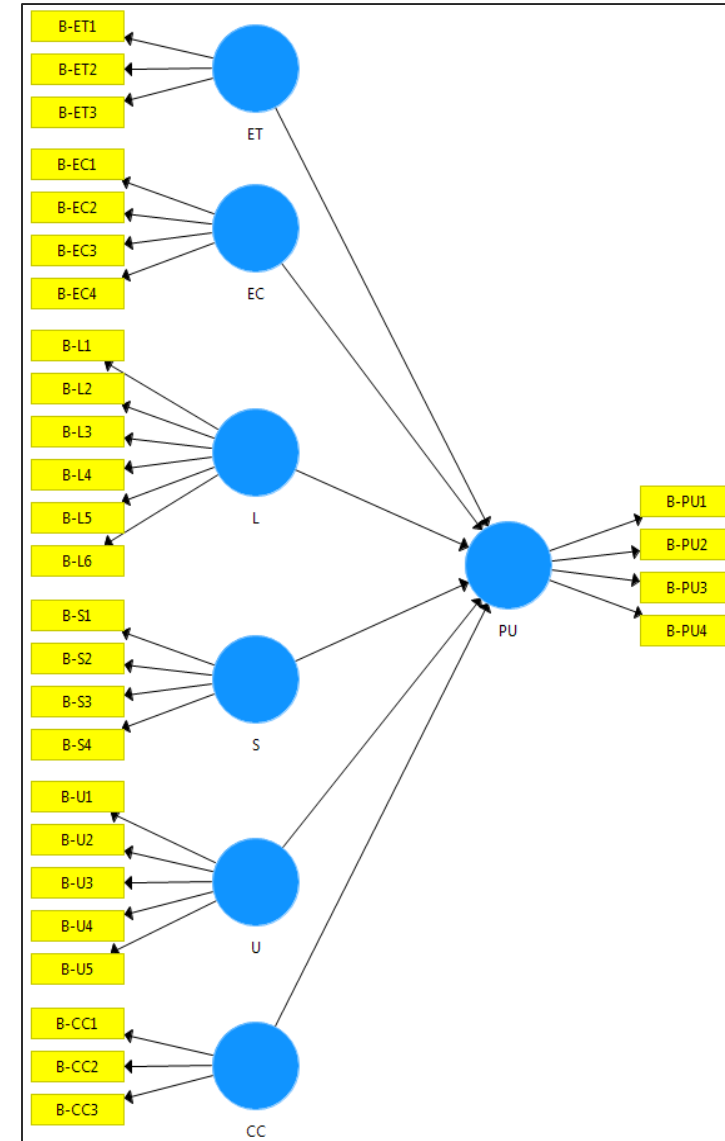


PLS-SEM technique is chosen for this research with some considerations:

1. Development, exploration, and testing of theory.
2. Small sample size with minimum size is 30.
3. Highly robust as long as missing values are below a reasonable level.
4. Easily incorporates reflective and formative measurement models.

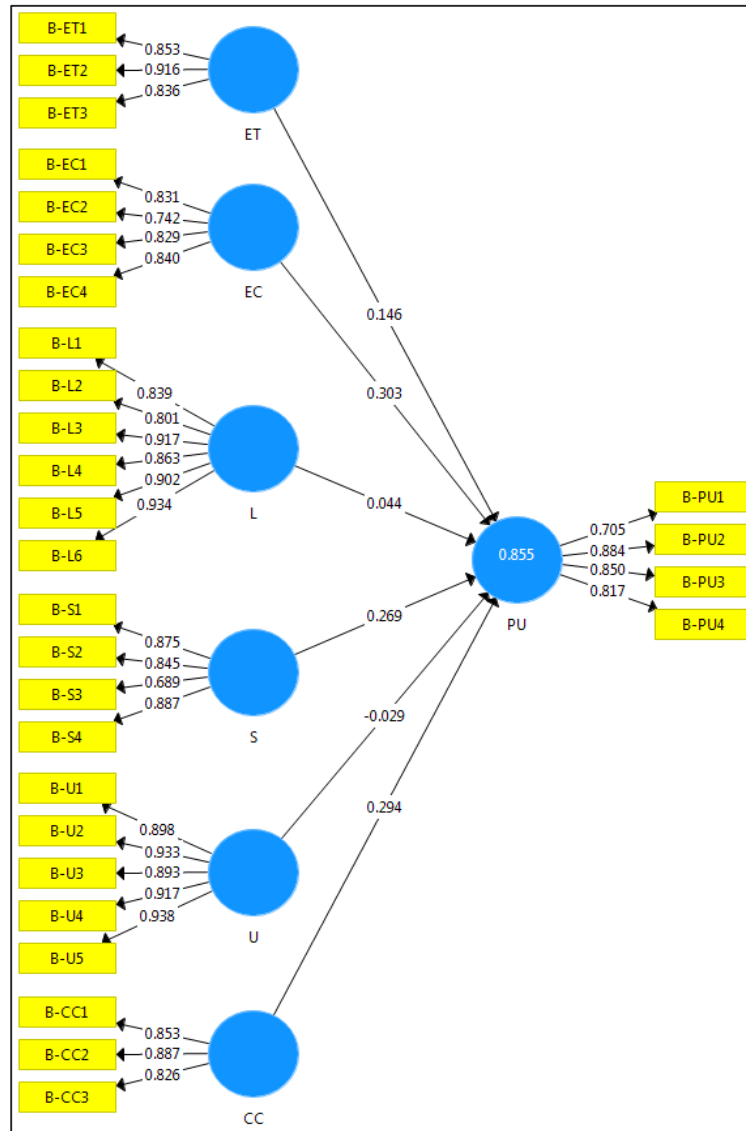


Structural Model: Hierarchical Components Models



Reflective Measurement Model

ET- Effectiveness
 EC- Efficiency
 L- Learnability
 S- Satisfaction
 U- Usefulness
 CC- Citizen Centric
 PU- Perceived Usability



Result of Path Model Estimation

EC (0.303) has the strongest effect on PU, followed by CC (0.294), S (0.269), ET (0.146), L (0.044), and U (-0.029)

SUMMARY OF REFLECTIVE MEASUREMENT MODEL ASSESSMENT

NO.	RULES OF THUMB (HAIR et al., 2016)	RESULT	DESCRIPTION
1	Composite reliability value > 0.708	All constructs are met the criteria.	The constructs are high levels of reliability .
2	Outer loadings value > 0.708	All indicators (except B-S3 and B-PU1) are met the criteria.	The indicators (except B-S3 and B-PU1) have much in common .
3	AVE > 0.50	All constructs are met the criteria.	The constructs explain more than half of the variance of its indicators.
4	Square root of the AVE of each of the construct should be higher than its correlation with any other construct	ET, L, U, and CC are met the criteria.	The constructs share more variance with its associated indicators than with any other constructs.
5	Indicator's outer loadings on a construct should be higher than all its cross loadings with the other constructs	All indicators are met the criteria.	The constructs have dicriminant validity .



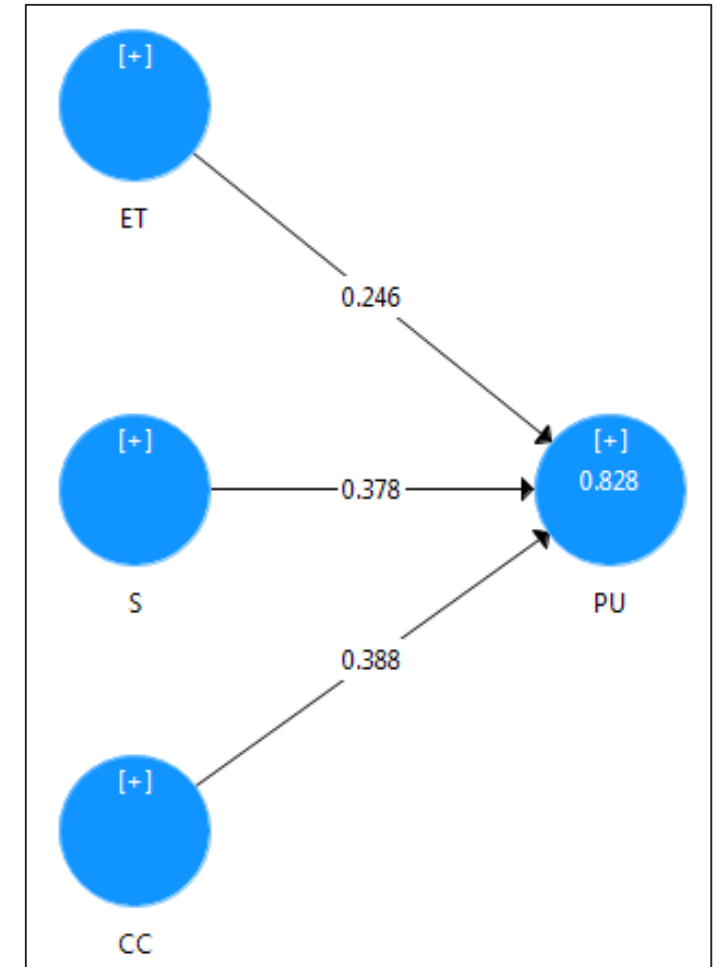
SUMMARY OF STRUCTURAL MODEL ASSESSMENT



NO.	RULES OF THUMB (HAIR et al., 2016)	RESULT	DESCRIPTION
1	VIF value should be between 0.20 and 5.00	Five constructs (ET, L, S, U, and CC) are met the criteria. VIF value of EC is 5.148.	The five constructs have less of collinearity problem . While, EC is eliminated for the next assessment.
2	$p < 0.05$	ET (0.029), S (0.001), and CC (0.000) are significant. L (0.116) and U (0.718) are not significant.	The three constructs are significant .
3	$R^2 > 0.75$: Substantial $0.75 > R^2 > 0.50$: Moderate $0.50 > R^2 > 0.25$: Weak	$R^2 = 0.828$.	The exogenous constructs (ET, S, and CC) are substantial of the endogenous construct.
4	$f^2 > 0.35$: Large $0.35 > f^2 > 0.15$: Medium $0.15 > f^2 > 0.02$: Small $f^2 < 0.02$: No effect	CC have f^2 value higher than 0.35.	CC has large effect on endogenous construct.
5	Q^2 value should be higher than 0.00	$Q^2 = 0.477$	The exogenous constructs have predictive relevance for the endogenous construct.
6	$q^2 > 0.35$: Large $0.35 > q^2 > 0.15$: Medium $0.15 > q^2 > 0.02$: Small $q^2 < 0.02$: No effect	$q^2 = 0.912$	The exogenous constructs have large predictive relevance for the endogenous construct.



NO.	HYPOTHESIS
H1	Effectiveness has a significant positive influence on perceived usability of digital government in Malaysia environment.
H2	Efficiency is not significant on perceived usability of digital government in Malaysia environment.
H3	Learnability is not significant on perceived usability of digital government in Malaysia environment.
H4	Satisfaction has a significant positive influence on perceived usability of digital government in Malaysia environment.
H5	Usefulness is not significant on perceived usability of digital government in Malaysia environment.
H6	Citizen Centric has a significant positive influence on perceived usability of digital government in Malaysia environment.



Validated Usability Conceptual Model of Digital Government in Malaysia Environment



05

DISCUSSION & CONCLUSIONS



CONTRIBUTION OF RESEARCH



- **Integration of existing key elements** of usability theories and models, and digital government services to propose usability conceptual model of digital government in Malaysia environment.
- **Validation of usability conceptual model of digital government in Malaysia environment** where 3 of 6 factors which are Effectiveness, Satisfaction, and Citizen Centric are relevant and significant on the perceived usability of digital government in Malaysia environment.

- Findings of this research could **become a basis for future research** on sustainable digital government and also development of usability conceptual model.



- The model **could become a guidance for the Malaysian government** to revise and develop strategy for the sustainable digital government.
- The model **may be useful also for industries** who involves in development of digital services

LIMITATIONS & RECOMMENDATIONS

Limitations

- Survey instrument design of this research **only involved content validation through expert review**. It is **better if pilot test is also conducted** in survey instrument design process.
- **Data collection process which is conducted at one time only** due to time and cost constraints.
- **Majority of the respondents are from IT field**. The survey questionnaire should be spread widely and in a longer time to get more variety of respondents' background.
- The research is **conducted on citizen perspective** on perceived usability of digital government in Malaysia environment which **more on non-functionality of system usability**.

Recommendations

- The conceptual model was designed based on usability factors which considered as comprehensive as possible. There are **other potential factor/factors that may have significant positive influence** to perceived usability of digital government.
- This research is **based on citizen perspective of digital government services that provided through MyGovernment Portal**. Therefore, it is advisable to **conduct future works on other digital government services** which may involved online payment, mobile application, or life event approach.



Towards a Conceptual Model to Evaluate Usability of Digital Government Services in Malaysia

Rini Yudesia Naswir¹
Malaysia Administrative
Modernisation and Management
Planning Unit (MAMMPU)
Putrajaya, Malaysia

Nurazean Maarop²
Razak Faculty of Technology and
Informatics, Universiti Teknologi
Malaysia, Kuala Lumpur, Malaysia

Mahmudul Hasan¹
Department of Information Systems
and Operations Management
The University of Auckland
Auckland, New Zealand

Salwani Daud²
Razak Faculty of Technology and
Informatics, Universiti Teknologi
Malaysia, Kuala Lumpur, Malaysia

Ganthon Narayana Samy²
Razak Faculty of Technology and
Informatics,
Universiti Teknologi Malaysia
Kuala Lumpur, Malaysia

Pritheega Magalingam²
Razak Faculty of Technology and
Informatics, Universiti Teknologi
Malaysia, Kuala Lumpur, Malaysia

Abstract—The Malaysian government is committed to provide comprehensive digital government services and it is reflected in some policies and strategic plans such as 11th Malaysia Plan 2016-2020 (RMKe-11) for digital government transformation. However, though most of the Malaysia government services are online yet they are still inadequate and the majority of users are unhappy with the current services. Usability is a critical aspect in the success of digital government. Thus, this research aims to develop and validate a usability conceptual model of digital government services in Malaysia context to identify key factors that influence the perceived usability that assists to encourage usage and satisfaction of digital government services. This research has applied quantitative-empirical approach and employed PLS-SEM analysis. Empirical results indicate that Effectiveness, Efficiency, Learnability, deductive approach and Citizen Centric are key factors of digital government services. The evaluation of the proposed conceptual model yielded that three of the six perceived usability of digital government services. The evaluation factors which are Effectiveness, Satisfaction, and Citizen Centric have significant positive influence on perceived usability of digital government in Malaysia context.

Keywords—Digital government; citizen-centric; quantitative; usability

1. INTRODUCTION

Technology can be used by the organization to permit faster response to customer enquiries and problems, to reduce labour costs, to improve internal efficiency and productivity, and to gain distinctive and differentiating competitive advantages [1, 2]. Digital government generally refers to the use of information and communication technologies (ICTs) in government to improve service delivery and improve relationships with citizens, civil society, and private sector [3]. Digital government services consists of online services, mobile applications, big data, open data, social media, digital media, and cloud computing [4]. Malaysian e-government services have been revolutionised from e-government 1.0 in 1995 with static government websites for accessing information to e-government 2.0 in 2007 where online services are provided for relevant public services transaction among the citizen. In

2015, e-government 3.0 also known as digital government was introduced [5] with dynamic service delivery where government online information services are generating opportunities and innovations through the citizens participation. The new digital government strategies are stated in the Malaysian Public Sector ICT Strategic Plan (PSISP) 2016-2020 with theme "Citizen Centric Digital Services" and vision "Inclusive Digital Government Drives Citizen Centric Service Delivery". However, Digital Government Satisfaction Survey 2014 by The Boston Consulting Group has reported that only 30% of respondents are satisfied with the Malaysian government services that are provided through Internet and 36% of the respondents rated the quality of the government online services are worse than the private sector and only 4% said that the government online services are much better than private sector [6].

Usability is a critical factor in the success of digital government [7]. Usability is one of the challenges in developing digital government services because usability affects citizens' usage and acceptance of the digital government [8] and may influence their electronic interaction with the government [7]. Usability can improve users' trust in digital government services [9]. Trust in digital government websites is associated with perceived website quality [10] which means the websites are technically reliable and easy to use. The government needs to concern about usability because it will affect the user experience and users' trust in the digital government services [11]. The digital government services through websites represent their physical office of government agencies. High usability of the digital government services shows that the government is committed to deliver their services to fulfil the citizens' needs and demands. There are some studies have been conducted regarding usability factors of the e-government or digital government where the majority of these services are about election and voting website, local government website [7, 9, 12-13], e-learning [14], and digital library [15-16]. Besides, to our best knowledge, there are only a few studies in Malaysia context reporting on the usability of

A PROPOSED CONCEPTUAL SUCCESS MODEL OF CITIZEN-CENTRIC DIGITAL GOVERNMENT IN MALAYSIA

M. Hasan^{1*}, N. Maarop¹, R. Y. Naswir², G. N. Samy¹, P. Magalingam¹, S. Yaacob¹, S. M. Daud¹

¹Advanced Informatics School, Universiti Teknologi Malaysia
²Malaysia Administrative Modernisation and Management Planning Unit

Published online: 01 February 2018

ABSTRACT

The emergence of Digital Government throughout the world is reflecting how governments are trying to find innovative digital solutions towards empowering social, economic and political advantage. Effective service delivery to citizens through Information Communication Technology application such as integrated citizen service information systems is a prerequisite to achieve citizen-centric digital government. Measuring success of such systems is a growing concern. However, very few studies have attempted to find success factors using Information Systems theoretical approach in the context of digital government, particularly in Malaysia. Therefore, this study is designed to bridge the gap by identifying such factors and propose a conceptual model. This study addresses success factors from system and personal perspectives, behavioral intention, satisfaction, trust and citizen empowerment as antecedents of digital government success.

INTRODUCTION

Digital government; e-government; trust; digital services; information systems
Government-centered services are passé so new approaches are required to improve service delivery modes by integrating digital technologies into public sector efforts or digital government [1].

*Correspondence, e-mail: mhasamuksi@gmail.com
<http://dx.doi.org/10.4314/jfas.v10i2s.4>



Th**a**n**k**
Yo**u**

Rini Yudesia Naswir

rini.yudesia@gmail.com
riniyudesia@islam.gov.my

5 September 2019

