Electronic passport system acceptance: an empirical study from Indonesia

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Abstract: The objective of the study was to evaluate the website of passport submission provided by Directorate General of Immigration (DGI), Ministry of Law and Human Right of Indonesia. For this purpose, a questionnaire was deployed to gather data required. The questionnaire was developed in closed form to measure four variables i.e., information quality, system quality, service quality and perceived easy of use. Structural equation modelling was deployed to analyse the data. Lisrel software was used in this regard. The result showed that information quality, system quality and service quality influenced perceived easy of use of online passport website. Improvement in service quality will improve perceived easy of use. In contrary, in order to improve perceived easy of use, DGI must reformulate information provided on the website. Similar evidence with system quality of website, DGI must evaluate the quality of the website in order to improve perceived easy of use.

Keywords: e-governance; e-passport; information quality; system quality; service quality; perceived easy of use.

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Introduction

The technology revolution has no doubt influences all economic sectors and life aspects. The importance of technology-based services in terms of customer value is increasingly well understood by public services in Indonesia. Online passport service has been provided by DGI Ministry of Law and Human Right of Indonesia since a decade ago to facilitate passport issuance. Unfortunately, since the date, the service hasn't been fully utilised by citizens. There are some reasons for this including not all people well informed regarding the service facility. But on another hand, many people who are well informed yet do not utilise the service facility due to reluctance attitude. There are as well many reasons for this reluctance attitude. Without regards to the advance of technology, still many consumers reluctant to use technology or facing difficulty in using it.

Along with electronic government advance and demand, it becomes an attracting topic for researchers. As mentioned above, there are many people reluctance to technology particularly to the internet, as shown on Park and Koh (2017), Kate et al. (2015), Rauschnabel et al. (2015), and Kleijnen et al. (2009). Abundant researches have been performed in evaluating unsuccessful technology implementation on varies economy aspects, public services, etc. Several issues are identified through the survey as a factor influencing people to use technology (such as Moerschell, 2009). Reluctance due to many factors such as difficulty in using (Smelcer et al., 2009), afraid will slower the work (Moore, 2006), technology is costly (Park and Koh, 2017; Bates, 2005), lack of knowledge, lack of interoperability with other systems, privacy concerns, machine and software reliable, etc.

Among various researches on this topic, Technology Acceptance Model (TAM) is the most frequently discussed by researchers and scholars. TAM is not a new topic for the researcher. Since the introduction of TAM by Davis (1989), it has been discussed and studied its implementation in various areas extensively. It can be said TAM for the researcher is as an old (if not expired) topic for certain area of implementation. But most of TAM researches focus on technology user for working purpose, such as on office works (Venkatesh and Bala, 2008; Timmor and Zif, 2010; Çelik and Yilmaz, 2011; Phan and Daim, 2011; Oye et al., 2011; Amadi-Echendu and de Wit, 2015; Sharma et al., 2016), on consumer services (Rouibah et al., 2011), cloud computing (Sharma et al., 2016; Park and Kim, 2014; Behrend et al., 2011), e-learning (Singh and Hardaker, 2014), internet banking (Sharma et al., 2015), and mobile learning (Tan et al., 2012). However, up to this date e-government evaluation from the point of view of services user is still rarely conducted. Among rare references, it can be found few references on e-government evaluation but in other countries such as e-government familiarity in Jordanian (Abu-Shanab, 2017; Al-Jamal and Abu-Shanab, 2016), e-government services adoption in Saudi Arabia (Alshehri et al., 2012; Hamner and Qahtani, 2009), in Abu Dhabi (Dahi and Ezziane, 2015) and in Kuwait (Al-Awadhi and Morris, 2009), empirical investigation on adoption of e-governance service in developing countries (Abdel-Fattah, 2015; Sharma and Qian, 2012), trust in e-government (Papadopoulou et al., 2010).

Technology acceptance just like other aspects of human life that may be different from country to country. According to Holt and Jamison (2009) and Samoilenko and Osei-Bryson (2008), the adoption of information communication technology (ICT) for instance is directly related to economic development. In addition, evaluation of technology acceptance related to online passport issuance is still rarely published in reputed journals. Thus this research will enrich references on technology acceptance on e-government case for different culture.

Among various modified TAM developed by researchers, this study adopted a model developed by Çelik and Yilmaz (2011). Çelik and Yilmaz (2011) developed TAM for the adoption of e-shopping. They investigated the relationship between variable started from information quality, service quality and system quality as exogenous variables and ended up on e-purchase. Although internal variables in the original TAM are perceived ease of use (PEU), perceived usefulness (PU), attitude toward use (A) and behavioural intention to use (BI), considering the massive use of internet and all services provided using internet, we interested only on external variables and PEU.

1.1 Objectives of the study

The objectives of the research were two folds. The first objective was to evaluate the influence of IQ and SQ towards PEU. The second objective was to evaluate the influence of Servqual towards PEU.

2 Literature review

E-government which is shortened for electronic government, is the use of information communication and technology (ICT), mobile technology and the internet to provide citizens with needed services, improve public agencies performance, and facilitate a successful public participation. Users of this technology are varied in terms of education, income, gender, technology literacy, etc. It leads to consideration that the acceptance of this technology is required to evaluate.

Acceptance of technology is influenced by various factors. This has been studied extensively by scholars since decades ago. Among factors, researchers found that acceptance of technology is influenced by perceived usefulness (Thong et al., 2004; Al-Gahtani and King, 1999; Amadi-Echendu and de Wit, 2015), perceived ease of use (Bhattacherjee, 2001; Thong et al., 2004; Al-Gahtani and King, 1999; Amadi-Echendu and de Wit, 2015), and system characteristics (Al-Gahtani and King, 1999; Amadi-Echendu and de Wit, 2015). The acceptance of technology can be also studied from user intention and behaviour aspects. Extensive researches have been done on technology acceptance based on user intention and behaviour. Among them, the most popular is Technology Acceptance Model (TAM). TAM was originated from Theory of Reason Action (Fishbein and Ajzen, 1975). TAM offers a powerful explanation for user acceptance and usage behaviour of information technology.

TAM was introduced by Davis (1989). TAM posits that individuals' acceptance or rejection of technology is influenced by determinants such as perceived usefulness and ease of use. He found that perceived usefulness is a major determinant of people's intention to use a particular technology (Davis, 1989). Since it was introduced TAM has been modified by many researchers. Just a decade after Davis (1989) introduced TAM,

Venkatesh and Davis (2000) introduced the modification to TAM. Venkatesh and Davis (2000) introduced subjective norms, image, job relevance, output quality, and result demonstrability as an antecedent of PU. They also introduced a moderating effect of experience and voluntariness on subjective norms and PU path.

Furthermore, Venkatesh and Bala (2008) introduced adjustment to external variables by adding computer self-efficacy, the perception of external control, computer anxiety, and computer playfulness, perceived enjoyment and objective usability. Rouibah et al. (2011) introduced TAM 2 by adding intention to use camera-mobile phone (CMP) prior to retail purchase. The study was performed to Kuwait customers. Their study revealed that the contribution of social norms on intention to use is weak and less than that of usefulness. Among external variables (image, job relevancy, output quality, and result demonstrability), only job relevancy exerts an indirect effect on the intention to use via the 'usefulness' component of this model.

E-government is a complex phenomenon as it evolves from a service provision channel utilising available information and communication technology (Evans and Yen, 2006; Papadopoulou et al., 2010; Sharma and Qian, 2012; Alshehri et al., 2012), to a venue for public participation, e-voting and democratic and social development driver (Abu-Shanab and Al-Jamal, 2015). The research concluded that e-government implementation lacks the required efficiency gains (Weerakkody and Dhillon, 2008) without a radical change and a significant transformation of services (Weerakkody et al., 2011).

The success of e-government implementation is different from country to country and also from service type to another service type. Scholars have been identified various factors contributed in influencing e-government implementation. Few researchers showed that the acceptance of e-government is e-government familiarity (Hamner and Al-Qahtani, 2009; Al-Awadhi and Morris, 2009), service cost, e-government readiness and trust (Abdel-Fattah, 2015), collaboration, transparency and participation (Al-Jamal and Abu-Shanab, 2016). Among those influencing variables, Alsagheir and Hussain (2012) showed the influence of e-government familiarity on e-government trust.

Further Abu-Shanab (2017) showed that privacy & security assurance (P & SA), perceived usefulness (PU) and perceived easy of use (PEU) are antecedents of e-government trust. Collaboration and transparency have a positive influence on citizen's intentions to use e-government websites, but participation in another hand shows negative influence (Al-Jamal and Abu-Shanab, 2016). For Indonesia's case, we suspect that the most important variable in acceptance of e-passport is PEU. As experienced by researchers and based on a prior interview with e-passport user, the website of e-passport is quite complicated.

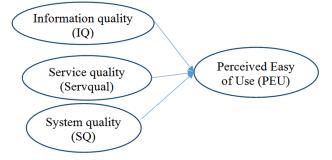
Located PEU at the end of our model, we tracked for the most important factors to be considered in influencing PEU on e-passport. Among various variables, we agreed with Dahi and Ezziane (2015) in terms of website quality. Dahi and Ezziane (2015) modified Technology acceptance model (TAM) to measure e-government adoption in Abu Dhabi. Variables added to TAM are website quality, facilitating condition and awareness. They showed that website quality, facilitating condition and awareness are important variables in e-government adoption.

Website quality can be measured using information quality (IQ), system quality (SQ), and service quality (Servqual). All those three indicators can be positively or negatively affect e-passport user behaviour (Shih, 2004; Chang et al., 2005). IQ occurs along dimensions and is defined by the needs of the customer (McGilvray, 2008).

SQ refers to the measures of the information processing by the system itself (Gable et al., 2008; Nelson et al., 2005). It is generally classified as system-related dimensions and task-related dimensions. System-related dimensions measure the characteristics that are unvaried across different uses and independent of task, context, or application, such as accessibility and reliability. Task-related dimensions measure the characteristics that depend on specific tasks and settings, such as flexibility, response time, and integration (Nelson et al., 2005). Service quality refers to the overall support offered by the service provider (DeLone and McLean, 2003).

IQ refers to the quality of information the system produces, primarily in the form of reports or screens (DeLone and McLean, 2003; Gable et al., 2008). IQ is generally classified as (1) contextual and (2) representational dimensions (Nelson et al., 2005; Wang and Strong, 1996). Considering theories developed on e-government adoption and also technology adoption, we developed research model to be verified and validated, as shown in Figure 1. The model was developed by adopting Çelik and Yılmaz (2011) model.

Figure 1 Research model (see online version for colours)



3 Research methods

3.1 Questionnaire design

The study was survey research design in which questionnaire was deployed to gather information. The questionnaire measured Servqual, PEU, IQ, and SQ. In developing a questionnaire, we adopted previous studies performed by other researchers. To measure PEU, we adopted Abu-Shanab (2017). IQ is generally classified as intrinsic (McGilvray, 2008), contextual (McGilvray, 2008; Nelson et al., 2005; Wang, 1996), representational (McGilvray, 2008; Nelson et al., 2005; Wang, 1996), and accessibility dimensions (McGilvray, 2008). Intrinsic can be measured based on accuracy, objectivity, believability and reputation. Contextual dimension is related to relevancy, value-added, timeliness, completeness and amount of information. Representational dimension is related to interpretability, ease of understanding, concise representation and consistent representation. And finally, accessibility dimension is related to accessibility and access security. Servqual refers to the overall support offered by the service provider, and we adopted DeLone and McLean (2003) to develop its dimension.

Prior to administering questionnaire, validity and reliability tests were performed. Validity test was performed using Pearson correlation and reliability test was performed using Alpha Cronbach.

Sampling 3.2

Respondent of the study was all citizen who is capable of making a decision, had an experience in applying for passport through immigration website on http://www.imigrasi. go.id/index.php/en/. So thus research population was all Indonesians who are capable of making a decision and had experience in applying for passport online. The questionnaire distribution was conducted directly in immigration office. This decision was taken considering people who filed online passport should presents to immigration office for interview and photograph purposes. Considering time frame available to complete the study and wide range of Indonesia, research area was limited to Jakarta

The sampling technique deployed in this study is convenience sampling from non-probabilistic sampling. The choice of this sampling technique is based on two considerations. The first consideration, despite the limited area of DKI Jakarta, the number of users of e-passport applications cannot be determined with certainty. It leads to the study population is not limited. The second consideration was the sample ability representing the population in consumer behaviour research is not critical. So thus sample adequacy was based on data analysis software used. Data was analysed using Lisrel 9.2 software for SEM. The number of samples required to use SEM is 5 to 10 number of indicators if the data distributed normally, or 200 respondents.

3.3 Data collection and analyses

Questionnaire distribution was performed by researcher team directly in order to control appropriateness of respondent. The questionnaire was distributed in three (3) immigration customer services offices, i.e., on head office in Kuningan Jakarta Selatan (South Jakarta), branch office in Jakarta Barat (West Jakarta) and Jakarta Pusat (Central Jakarta). Consideration given to the sampling decision was due to the fact that bigger percentage online submission among immigration offices were on those three customer services offices.

Research model demands to check direct and indirect causal among latent variables, so that structural equation modelling was deployed to analyse data collected. Considering data nature as the ordinal scale of measurement, Robust Maximum Likelihood was chosen in model validation. The hypothesis tested in this research were:

- information quality and system quality influence perceived easy of use directly
- service quality influences perceived easy of use directly.

Using Lisrel software, model validation was performed based on Table 1.

 Table 1
 Fit measurement of model

No.	Index	Acceptance level
1	Chi square (p-value)	<i>p</i> -value > 0.05
2	Root mean square error of approximation (RMSEA) – Browne and Cuddeck (1993)	0.05, 0.08, 0.1
3	Normed fit index (NFI)	0 (not fit) -1 (perfect fit)
4	Comparative fit index (CFI)	0-1, Close to 1 is a very good fit
5	Incremental fit index (IFI)	0-1, Close to 1 is a very good fit
6	Root mean square residual (RMR)	Smaller is good. 0 is perfect fit (or defined by researcher)
7	Goodness of fit index (GFI)	0 (not fit) -1 (perfect fit)
8	Adjusted goodness of fit index (AGFI)	0-1, Above 1 is a very good fit

4 Result

Validity and reliability tests were performed by distributed questionnaire to 30 respondents. On 5% alpha, with 0.381 critical values, it was found that all indicators contained on the questionnaire were valid (as shown in Table 2). The reliability test was performed using Cronbach Alpha. Cronbach Alpha based on the standardised item were 0.656, 0.747, 0.612, and 0.635 respectively for PEU, IQ, SQ and Servqual. Compared to 0.6 as standard value for reliability, we can conclude that all indicators have high reliability. Thus we concluded that questionnaire could be deployed as our research instrument to collect data. We continued to data collection with 7 indicators of SQ, five (5) indicators of IQ, and three (3) indicators for each PEU and Servqual.

Along with technology acceptance indicators measurement, we gathered information related to respondent profile. Among 320 respondents, 45.9% was male and 54.1% was female. Based on education, we differentiated respondents into three (3) categories, i.e., high school/college, bachelor, and master/doctoral degrees. Respondent of this study was 29.7% of high school/college, 64.1% of bachelor, and 6.2% of master/doctoral degrees. Age sometimes plays an important moderating effect on certain behaviour. We also recorded the age of our respondent. Among 320 respondents, 28.8% was at 21–30 years old, 50.6% was at 31–40 years old, and 20.6% was at 41–50 age range. However, we did not evaluate the moderating effect of these variables due to limited samples collected.

4.1 Model validation

Table 3 shows the result of data analysis. Confirmatory factor analysis was performed using available commercial software Lisrel 9.2. We chose this software package on account of the fact that our variables were latent variable. Hypothesis tested in this model were "IQ, SQ and Servqual influence PEU".

As shown on Table 3 and interpreted based on Table 1, we can conclude that the model is perfect fit to data collected. Chi-square (P-value), RMSEA (Brown and Cudeck, 1993; Steiger, 1990; Hu and Bentler, 1999), GFI (Hu and Bentler, 1999) and NFI (Hu and Bentler, 1999) are the most important indexes on model validation. All those

four indexes showed perfect fit on this data analysis. This fits concurs well with Çelik and Yılmaz (2011) study on adoption of e-shopping on Turkey consumer.

Table 2 Validity test

No.	Indicator	$r_{statistics}$	decision		
Perc	Perceived easy of use (PEU)				
1	It is easy to learn and operate online passport submission (PEU1)	0.508	valid		
2	It is easy to interact with online passport in computer (PEU2)	0.404	valid		
3	I understand online passport navigation (PEU3)	0.365	valid		
Info	rmation quality (IQ)				
4	Information provided on online passport is appropriate with the goal (IQ1)	0.425	Valid		
5	Online passport provide trusty information (IQ2)	0.568	valid		
6	Online passport provide information timely (IQ3)	0.418	valid		
7	Online passport provide comprehensive information and easy to understand (IQ4)	0.408	valid		
8	Information on online passport is presented clearly and completely (IQ5)	0.608	valid		
Serv	ice interaction/interaction quality (SQ)				
9	I feel comfortable with online passport because it can be accessed in long duration without disconnected (SQ1)	0.478	valid		
10	Online passport form can be filled up step by step in different days continuously (SQ2)	0.585	valid		
11	Online passport is integrated with smartphone, windows and Macintosh operating system (SQ3)	0.442	valid		
12	When accessing online passport, computer is easy to become hot (SQ4)	0.533	valid		
Ove	Overall impression/service quality (Servqual)				
13	Overall, online passport is useful to support passport application (Servqual1)	0.529	valid		
14	Overall, online passport is informative and efficient (Servqual2)	0.526	valid		
15	Overall, online passport is interactive (Servqual3)	0.652	valid		

Table 3 Goodness of fit statistics of tests

No.	Index	Value
1	P-value	1.00
2	RMSEA	0.00
3	NFI	0.991
4	CFI	1.00
5	IFI	1.01
6	RMR	0.0924
7	GFI	0.994
8	AGFI	0.992

Looking closer to the directed path from each variable as shown on Figure 2, we summarised Lisrel output for all exogenous and endogenous variables on Table 4. Factor loading indicates the impact of the variable (or indicator) located at the origin of the arrow on variable located at the end of the arrow. Standard error and *t*-statistics play similar functions that are a measurement of significant of the test. Table 4 indicates that factor loading of all indicators of PEU is statistically significant at 1% and 5% level. Indicator with the weakest factor loading is the second indicator, i.e., it is easy to interact with online passport on computer. Unexpectedly, factor loading of the third indicator shows negative direction. It means enhancing value of understanding online passport navigation will lower the values of PEU significantly.

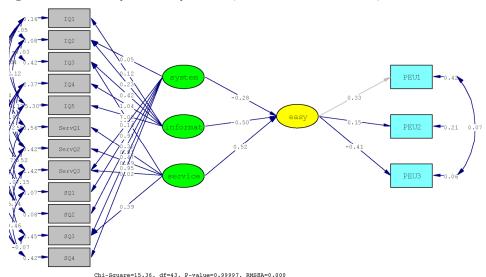


Figure 2 Confirmatory factor analysis result (see online version for colours)

 Table 4
 Lisrel estimate (Robust maximum likelihood) of endogenous variable (Lambda-Y)

LAMBDA-Y		PEU1	PEU2	PEU3
Perceived easy	Factor loading	0.327	0.147	-0.405
of use	Standard error		0.077	0.104
	T statistics		1.907	-3.905

Table 5 shows a Lisrel estimate for exogenous variables. Among IQ indicators, only the fourth indicator that is online passport provides comprehensive information and easy to understand indicated statistically significant at 1% level. Two indicators, which are online passport provide information timely and information on the online passport is presented clearly and completely showed statistically independent at 5% level. Two others indicators, which are information provide on the online passport is appropriate with the goal and online passport provide trusty information showed statistically significant at 10%.

Table 5 Lisrel estimate (Robust maximum likelihood) of exogenous variables (Lambda-X)

-	ALADD A V	101	102	102	10.4	105
LAMBDA-X		IQ1	IQ2	IQ3	IQ4	IQ5
Information	Factor loading	0.121	0.233	0.425	1.045	6.996
quality	Standard error	0.029	0.034	0.075	0.104	0.576
	T statistics	4.136	6.883	3.436	10.044	12.135
		SQ1	SQ2	SQ3	SQ4	
System	Factor loading	0.972	0.324	0.474	0.952	
quality	Standard error	0.048	0.021	0.058	0.065	
	T statistics	1.572	15.501	8.123	14.562	
		ServQ1	ServQ2	ServQ3		
Service	Factor loading	0.913	0.691	0.016		
quality	Standard error	0.071	0.122	0.095		
	T statistics	12.796	5.671	0.173		

SQ consists of four (4) indicators in which two (2) indicators were statistically significant at 5% level and other two (2) indicators were statistically significant at 10% level. Related to Servqual variable, the test revealed that all three (3) indicators were statistically significant at 5% level. Further, one indicator is significant at 1% level, i.e., an online passport is informative and efficient.

Table 6 was loaded with Lisrel estimate of latent variables. It shows strong evidence of the influence of exogenous variables on an endogenous variable. Those influences were statistically significant at 1% level. Surprisingly, IQ and SQ indicated a negative influence on perceived easy of use.

 Table 6
 Lisrel estimate (robust maximum likelihood) of latent variables

		Perceived easy of use	Information quality	System quality	Service quality
Perceived	Factor loading		-0.504	-0.275	0.522
easy of	Standard error	_	0.183	0.101	0.194
use	T statistics		-2.754	-2.737	2.687

5 Discussion

As mentioned in the previous section, SQ, IQ and Servqual influence how user perceived easy of use of online passport website (Çelik and Yılmaz, 2011). However, the influence of IQ and SQ on PEU is contrary to Çelik and Yılmaz (2011) result. But we were not the first researchers showed that SQ and IQ influence perceived easy of use negatively. As stated by Shih (2004) and Chang et al. (2005), IQ, SQ and Servqual can be positively or negatively affect passport user behaviour. So thus this result support previous studies that show negative effect of IQ and SQ on PEU. Related to Servqual, our result support previous studies that shows positive effect of Servqual on PEU.

Refer to DeLone and McLean (2003) and Gable et al. (2008) IQ is the quality of information produced by the system in the form of screen. The result point to the

likelihood that information provided on the online passport was strongly influence respondent PEU negatively. There may be many possibilities why trusty, timely, comprehensive, easy to understand, clear and complete indicators of IQ influence user PEU negatively. When you look at online passport submission, it is not easy to find online passport submission button neither the information related to it. When you browse the immigration website, it will lead you to home button with information provided as a slide show on the message box. Depends on timing, perhaps you will be shown directly to the information of possibility to submit online passport or another information.

On the webpage if you are planning to submit online passport, you will be directed to apply in seven immigration services office branches in Jakarta (*Jakarta Selatan* – South Jakarta, *Jakarta Barat* – West Jakarta, *Jakarta Pusat* – Central Jakarta, *Jakarta Timur* – East Jakarta, *Jakarta Utara* – North Jakarta, *Tanjung Priok*, and *Soekarno-Hatta*), immigration services office branch in Surabaya, and immigration services office branch in Batam. Such kind information may lead to misunderstanding because it directs people to go to physical office not towards the button on a page on the website.

In order to apply for online passport, you should carefully search on the page button and menus provided on the website. You will find passport online services button when you point out the cursor on 'Public Services' button. It is not easy either to find out online passport services because the link to that service is provided at the end of the page and separated from 'Indonesian citizen' and 'passport' information.

Related to relationship between SQ and PEU, there is a strong evidence that SQ is negatively influence PEU. SQ in this regard is a task-related dimension. The task-related dimension of immigration website measured the flexibility, response time and integration. Indicator 'the duration of website standby' represents the response time, and compatibility with different platform and hardware. Related to SQ in this study, we are talking about website quality. However, disruption resistance did not represent response time.

In line with previous studies, Servqual shows positive effect on PEU. It implies no matter how respondents perceive information quality and system quality of the website, they agree that overall online passport is useful to support passport application. Since the higher respondents perceive that the website is informative, efficient and interactive will result in higher PEU, government should design the website carefully.

6 Conclusion and suggestion

The evidence from this study suggests that information quality, system quality, and service quality is strongly influence perceived easy of use of online passport website. Not generally, system quality and information quality shows strongly negative influence on perceived easy of use of online passport website. The result obtained from this study can be used to determine factors needed to improve website of immigration-related to online passport submission, not only technically but also from the point of view of marketing.

From the first time, online passport was launched until these days, an online passport is naturally only online to fill up passport form and choosing interview date. It means online passport is only reducing one travel time to immigration office and queuing time (for current time as only few citizen submit passport application through online) in submitting passport application form. As notice, steps of passport issuance process

consists of registration by filling up and submit the form, interview, documents investigation, and photograph session, and collecting the passport.

Practical implies for this evidence probably that immigration management is important to consider in reducing steps in face to face interaction. Immigration management, for instance, may include interview, documents investigation and photograph session into online process.

Raising awareness of e-government initiatives is an important step toward the adoption of citizens, which is the ultimate goal of this project. Such goal is achieved through the improved familiarity with the phenomenon and the level of trust in e-government projects. This step is important to improve the chances of successful e-government projects. E-government familiarity can be defined as the level of citizens' awareness of the advantages, disadvantages, requirements and value of e-government projects.

From a theoretical point of view, considering above fact, probably the most important to citizen in choosing online passport is not perceived easy of use but perceived usefulness. Thus we suggest future research to perform for a similar case by including perceived usefulness to the model.

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Appendix 1: Construct measurement indicators

Information quality	Information provided on online passport is appropriate with the goal (IQ1)		
(IQ)	Online passport provide trusty information (IQ2) Online passport provide information timely (IQ3)		
	Online passport provides comprehensive information and easy to understand (IQ4)		
	Information on online passport is presented clearly and completely (IQ5)		
System quality (SQ)	I feel comfortable with online passport because it can be accessed in longer time without disconnected(SQ1)		
	Online passport form can be filled up step by step in different days continuously (SQ2)		
	Online passport is integrated with smartphone, Windows and Macintosh operating system (SQ3)		
	When accessing online passport, computer is easy to become hot (SQ4)		
Service quality (Servqual)	Overall, online passport is useful to support passport application (Servqual1)		
	Overall, online passport is informative and efficient (Servqual2)		
	Overall, online passport is interactive (Servqual3)		
Perceived easy of	It is easy to learn and operate online passport submission (PEU1)		
use (PEU)	It is easy to interact with online passport in computer (PEU2)		
	I understand online passport navigation (PEU3)		