Technology acceptance model of the Indonesian government financial reporting information systems

Wahyu Agus Winarno* and Hendrawan Santosa Putra

Accounting Department,
Faculty of Economics and Business,
University of Jember,
Jalan Kalimantan No. 37, Kampus Tegalboto,
Jember, Jawa Timur, 68121, Indonesia
Email: wahyuaw@unej.ac.id
Email: hendrawan@unej.ac.id
*Corresponding author

Abstract: This study applies the technology acceptance model to explore the government financial reporting information systems (GFRIS) in Indonesia. The model empirically tested using data gathered from 73 respondents of chief finance administration officer, revenue treasurer and expenditure treasurer in Surabaya City Government of Indonesia. Sampling technique used in this research is clustered sampling. The research model was tested by using the partial least squares structural equation modelling (PLS-SEM) approach. The results showed that all constructs in the TAM model were statistically significant. The findings suggest that experience has a positive impact on ease of use and usefulness. Conversely, gender as external variables has no effect on the ease of use and the usefulness of GFRIS. Findings from this study contribute to the literature on user acceptance of information systems and provide insights to assess the user acceptance by focusing on user experience in the government and financial context.

Keywords: technology acceptance model; TAM; GFRIS; experience; gender.

Biographical notes: Wahyu Agus Winarno is an Assistant Professor of Accounting Information Systems in the Accounting Department, Faculty of Economics and Business, University of Jember. The major areas of his research interest include behavioural information systems, ERP systems, IT investment and IT strategic as well as public sector information systems. He regularly serves as an Associate Editor, and as a reviewer in several journals in accounting, and information systems.

Hendrawan Santosa Putra is an Assistant Professor of Public Sector Accounting in the Accounting Department, Faculty of Economics and Business, University of Jember. His research interests include the public sector accounting, performance budgeting as well as public financial and performance management.

1   Introduction

Public finance reforms contained in the Act UU No. 17, 2003 which mandated that the basis of accounting recognition of the government reporting entity should be changed from the cash basis to the accrual basis. The strategy of Indonesian Government in implementing accrual basis recognition was done gradually. The first phase, in 2005 issued Government Regulation PP No. 24, 2005 concerning the government accounting standards (GAS)-based cash towards accrual for entities reporting in both the central government and local government. Five years later, the Indonesian Government issued Government Regulation PP No. 71, 2010 as a replacement for PP No. 24, 2005 which contains the accrual-based GAS. The advantage of using the accrual basis are to improve the compliance of the contractual relationship, encourages the more efficient use of resources, cash management, the ability to meet its obligations and commitments, its ability to determine changes in financial condition and monitoring financial performance related to costs in the decision (Saleh and Pendlebury, 2006). Changing accounting-bases in several countries shows different results, for example New Zealand, Australia, England, Spain, Sweden, Canada, France, Belgium and Ireland have enjoyed the benefits on an accrual basis (Nasi and Steccolini, 2008).

Implementation of the accrual basis in the context of government still has obstacles, in addition also provide benefits for the government. In fact, whichever basis is used for preparing the ex-post financial accounts of governments and local governments, there is little evidence that these highly aggregated accounting statements are actually used by any of the potential external user groups for accountability and performance evaluation purposes or even for any purpose (Saleh and Pendlebury, 2006). For internal parties, the accrual information is generally not used to support the internal activities and decision-making (Nasi and Steccolini, 2008).

Understanding of personnel about the concept of accrual accounting is still inadequate (Jorge et al., 2007). Lack of understanding, making perceptions of the benefits of information accrual owned by the information maker is higher than the user information. The key alignment between information makers and users of accrual accounting information cannot be separated from the role of information systems and information technology (Saleh and Pendlebury, 2006).

According to the previous explanations, a change in the basis of accounting recognition from the cash toward accruals to accrual basis of the Indonesia Government is an interesting phenomenon to be studied. These changes have an impact on the formulation of accounting policies, standard operating procedures, up to the financial administration. From the aspects of information systems, it will also affect on the design and feature of the previous government financial reporting information systems (GFRIS). The information systems that have been developed and implemented using the cash modified concept, should be changed using the accrual basic concept. This will have an impact on the operation of the system users.

GFRIS implementation of accrual is mandatory on the Indonesian government. Based on Government Regulation PP. 71, 2010, every entity, work unit and organisation in the Indonesian Government environment, started in 2015 must implement an accrual-based accounting system with GFRIS application. However, seen from the user's perspective, the GFRIS applications gave the impact on the system behaviour changes differently. Some users find it easier with the older system (resistance to change); on the other hand,

there are also users who find the new system is more useful than the previous system. A critical factor in the development until the implementation is the low perception of ease of use and usefulness among end users (Conklin, 2007). Perceived ease of use (PEU) and perceived usefulness (PU) in the knowledge sharing in the context of government influence on the attitude and behaviour intention (BI) to use the information system (Park et al., 2012b; Cakmak et al., 2011; Lin et al., 2011).

Wangpipatwong et al. (2008) found that the behavioural intention in using the system for the generated information, are influenced by the ease of use and usefulness to the system and the information (Schepers and Wetzels, 2007; Lin, 2013; Sipior et al., 2011; Turner et al., 2010; Padilla-MeléNdez et al., 2013). On the other hand, several studies have shown that the ease of use does not effect on PU (Tarhini et al., 2015) and the BI to use the system (King and He, 2006; Yousafzai et al., 2007). The inconsistency/gap of these results, is giving the consequences to explore the relationship of the variables in the technology acceptance model (TAM) model. It is necessary to analyse in detail what are the determinants of intention to use of the system. In the government context, prior experience can determine the success of the IT usage/implementation (Taylor and Todd, 1995; Venkatesh and Bala, 2008). From a gender perspective, there are significant differences between males and females regarding attitude and intention to use the system (Yadav and Mahara, 2017). In some case, many results so far seem to be contradictory (Padilla-MeléNdez et al., 2013). Thus, the objectives of this study are twofold. Firstly, to examine an originally TAM model and secondly, to examine TAM-based extended model including gender and experience as an external variable of the TAM model.

The rest of this study is organised as follows: Section 2 illustrates the literature review and hypotheses development, Section 3 shows the research methods, Section 4 presents the empirical results, Section 5 presents the discussions and implications, and finally, Section 6 concludes and limitations of the study.

2   Literature review and hypotheses development

2.1   Accrual accounting

The reform of public sector organisations known as new public management (NPM) has sparked an innovation of public organisation change management by taking the concept of the business sector (Aucoin, 1990; Hood, 1995). Accrual accounting is one of the innovations of NPM which is expected to improve the efficiency, effectiveness, transparency and accountability (Lye et al., 2005).

Changes in the cash basis accounting to accrual accounting started in Australia and New Zealand in the 1980s (Pallot, 2002). The previous studies recommend two main advantages of accrual accounting. First, increase transparency and accountability to external stakeholders by providing a comprehensive picture for stakeholders such as resources, revenues, expenses and the information the public needs (Wong, 1998). Second, accrual accounting can provide the full information needed for internal management decisions such as budgeting, resource allocation, cost evaluation and internal accountability (Likierman, 2000).

Although it has advantages as explained above, the success of the implementation of accrual accounting is yet still questionable. First, the narrow view of neoclassical economists about the organisation's performance only seen from representation a number

of monetary units (Guthrie, 1998). Furthermore, when we see several cases of failures and scandals in the business sector, there is no doubt that accrual accounting can guarantee the achievement of better financial performance (Guthrie et al., 1999).

Simanjuntak (2010) stated that there are several challenges for the implementation of the accrual-based accounting in Indonesia Government. First, the complexity of accrual accounting implementation in government requires more complex accounting systems and high IT-based systems. Second, the need to build an adequate system of internal controls to provide reasonable assurance on the achievement of organisational goals through effective and efficient, the reliability of financial reporting, the safeguarding of state assets and compliance with laws and regulations. Third, the commitment of the leadership and the strong support from the leadership is the key to the success of a change. Fourth, the availability of competent human resources to prepare and preparing accrual-based financial statements require qualified human resources for government accounting. Fifth, the potential for resistance to changes experienced by internal parties, because they are already familiar with the old system and are reluctant to follow the new system changes.

2.2 Technology acceptance model

The basic theory of TAM states that belief-attitude-intention-behaviour is a causal relationship to explain and predict the acceptance of a new system (Sipior et al., 2011). Venkatesh et al. (2003) stated that TAM model was developed in the context of information systems and it is designed to predict the acceptance and use of information technology in the assignments. TAM was developed by Davis et al. (1989) based on the model theory of reasoned action (TRA) (Fishbein and Ajzen, 1975). The objective of the TAM model is to provide an explanation of the determinants of acceptance of computers in general, the ability to explain the behaviour of end-users of technology (Davis et al., 1989). TAM proposes that the two specific beliefs: the PU and PEU is the relevance to the primary to the behaviour of the computer acceptance. PU is defined as the extent to which a person believes that using a technology will enhance their performance. PEU is defined as the extent to which a person believes that using a technology will be free of effort (Davis et al., 1989).

Attitude towards behaviour is defined by Davis et al. (1989) as an individual's positive or negative feelings about performing the target behaviour. Attitude towards behaviour is also defined by Mathieson (1991) as the user's evaluation of the desirability of his or her using system. BI defined by Davis et al. (1989) as a desire (intention) a person to perform a specific behaviour. In other words, someone will perform a behaviour if it has a behavioural intention for action.

2.3 Hypotheses development

Previous research on TAM has focused on utilising it for the private sector, such as online purchases, e-banking services and others (Kamel and Hassan, 2003; Harn et al., 2014; Kurniawati et al., 2017; Yadav and Mahara, 2017). Some studies use TAMs in the government sector to predict acceptance of e-government models (Wangpipatwong et al., 2008; Lin et al., 2011; Sipior et al., 2011) and are still rarely used to predict acceptance of GFRIS. Therefore, the focus of this study is to apply TAM to a new application of GFRIS usage for government financial reporting. This study adds an external variable of gender

and experience as a predictor of the GFRIS acceptance model. The proposed research model is illustrated in Figure 1. The next subsection describes the various constructs and relationships in the model.

Figure 1   Research model
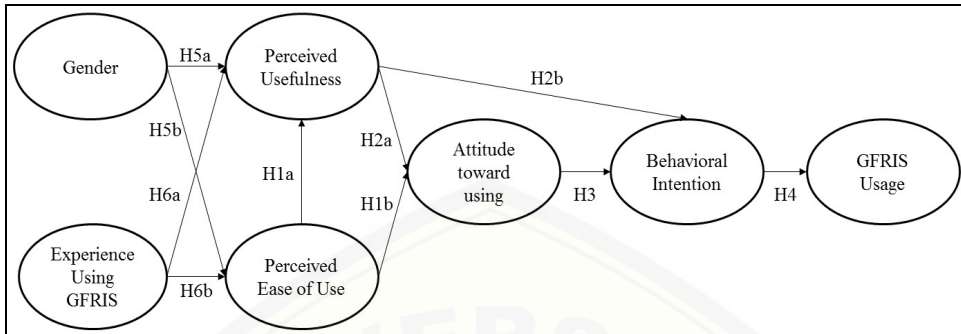
2.3.1   *Original TAM variables*

2.3.1.1   *PEU and PU*

Changes in information systems design of GFRIS caused by changes from cash-based then modified into the accrual-based concept in government will have an impact on changing the behaviour of the system users. Behavioural problems that arise usually in the form of low usage (underused) on the system. To overcome this, GFRIS needs to be designed so it is easy to learn how to use. Ease of use/operation GFRIS will render the system useless. TAM model (Davis et al., 1989) stated that the PEU has a direct influence on the PU. Cakmak et al. (2011) stated that the ease of use is a significant predictor on the usefulness of the system. Based on these explanations, the hypothesis can be formulated as follows:

H_{1a} PEU on the GFRIS is significantly associated with a user PU in using GFRIS.

The accrual GFRIS implementation is mandatory of the Indonesian Government. However, intention to use an information system depends on the PEU (Venkatesh et al., 2003). Someone would like to use a system if the system seems easy to use. The attitude of a person to use GFRIS also driven by their perception of facilities and the benefits received from the use on the system. If users know that GFRIS has benefits and not difficult to use, so the intention to use of GFRIS to help accomplish the tasks they will be high. Results of research conducted by Hong (2002), Kamel and Hassan (2003) and Chan and Lu (2004) proved that there was a significant relationship between PEU with an attitude toward using (ATU) and an intention to use the system. In order to prevent inefficient investment in information technology in the form GFRIS, the design and concept of the new systems needed to be easy to learn how to use it. If the user has to use a high attitude, then it behaves interest to use the new system will be higher as well. Otherwise, the lower the attitude of users on GFRIS, the lower the interest to use GFRIS behaves. Based on these explanations, the hypothesis can be formulated as follows:

H_{1b} PEU on the GFRIS is significantly associated with a user ATU on the GFRIS.

H_{2a} PU on the GFRIS is significantly associated with a user ATU on the GFRIS.

BI to use an information systems is also driven by their perception of the benefits of such a system (Davis et al., 1989). Someone who considers GFRIS has merit; it will tend to use the system to expedite the work. This is in accordance with the model developed by TAM (Davis et al., 1989) that PU affects the user intention to utilise the system. The higher the usefulness of which is raised on the changes of accounting systems in GFRIS, the higher the possibility of the user to utilise the GFRIS. Wixom and Todd (2005) stated that the PU affects the BI to use on the system. There is a positive effect on PU when users trust the information provided; implying that users are likely to the system when the information is useful for decision making process (Harn et al., 2014). Based on these explanations, the hypothesis can be formulated as follows:

H_{2b} PU on the GFRIS is significantly associated with a user BI in using GFRIS.

2.3.1.2   ATU and BI

User attitude toward various features of the information system is always associated with user behaviour (Robey, 1979). A person's performance with regard to the information system is determined by the BI on the system and it is determined by the attitudes (Davis et al., 1989). Changes in cash modified basis becoming the accrual basis in GFRIS have an impact on the attitude toward the change in information systems design. So, the higher the ATU GFRIS, the greater the behaviour of intention to utilise the GFRIS will be, vice versa. Bhattacherjee and Sanford (2006) stated that the user attitude has significantly influence on the intention to use of technology. Based on these explanations, the hypothesis can be formulated as follows:

H_3 ATU on the GFRIS is significantly associated with a user BI in using GFRIS.

Using an information system, will help the work to be done more effectively and efficiently and will increase productivity. However, using GFRIS influenced by user's BI to use this system. When the user's perception of the easy to use in using GFRIS is higher and the resulting information can provide benefits for decision-making, then someone would have an interest to use the GFRIS. Having had an interest to use, then he will try to operate GFRIS and study it in order to assist its work. The research results (Schepers and Wetzels, 2007) which were done by using meta-analysis also showed that BI to use a system affects the actual system usage. Based on these explanations, the hypothesis can be formulated as follows:

H_4 BI on the GFRIS is significantly associated with their actual usage of GFRIS.

2.3.2   External variables of TAM

2.3.2.1   Gender, PEU and PU

Gender differences exist in several disciplines, including information system and technology. Gender differences become an important predictor for the variable PEU and PU (Gardner and Amoroso, 2004). Gefen and Straub (1997) found that the perception of men and women for technology have a difference. Women look at technology to have a higher social impact than men and women also put a higher value of the usefulness of the technology than men.

Gender has an impact on the use of information systems in both the condition of mandatory or voluntary (Venkatesh and Morris, 2000). Empirical evidence shows that

usefulness is more important for men, whereas women tend to be more focused on the ease of use on a system (Venkatesh et al., 2003). The study also explains that the use of an information system, women tend to have higher computer anxiety than men. Furthermore, the level of PEU and PU of information systems will decrease when a person has a high level of anxiety. Based on these explanations, the hypothesis can be formulated as follows:

H_{5a} Women's rating of PEU of GFRIS will be higher than men's.

H_{5b} Women's rating of PU of GFRIS will be higher than men's.

2.3.2.2 *Experience, PEU and PU*

Several previous studies have shown that the experience of previous users has an impact upon the behaviour of system usage. Igbaria and Livari (1995) found that the experience of using computers directly affects the PEU and PU. Kurniawati et al. (2017) state that there is a significant difference between experienced users and those who are not experienced in a system. For experienced users, there is a strong relationship between intention and use on the system (Taylor and Todd, 1995; Dishaw and Strong, 1999; Jackson et al., 1997).

In the process of system migration from cash basis to accrual basis, the experience becomes the main asset for the user to be able to easily make adaptation to the new system. The experience gained both in government and the financial sector in the local government, will facilitate the user in adjusting the new system. User convenience in adjusting to the new system will make the user immediately understand the usefulness of accrual-based in the GFRIS. Based on these explanations, the hypothesis can be formulated as follows:

H_{6a} Experience has a significantly associated with a user PEU in using GFRIS.

H_{6b} Experience has a significantly associated with a user PU in using GFRIS.

3   Research methods

3.1   *Sample and data collections*

Researchers collected data by questionnaire survey to capture the construct in the TAM model. The sampling technique used in this research is cluster sampling method. Respondents were classified in three groups: chief finance administration officer, revenue treasurer and expenditure treasurer. This group selected because of the position always used to the GFRIS to process the transaction in daily operation. Work Unit of Surabaya's Government selected because it is one of the five major cities in Indonesia, which is become a pilot project on the application of accrual-based GFRIS.

3.2   *Measurements*

Constructs were measured using multiple-item scales, based on validated measures from previous research. In this study, there are six latent variables consist of experience, PEU, PU, ATU, behavioural intention and actual usage. On the research model, the experience

constructs and gender, as exogenous variables that influence endogenous variables in the TAM model (Park et al., 2012a). To measure the construct in the model, the researchers adopted the instruments derived from previous research (Davis, 1989; Davis et al., 1989; Venkatesh et al., 2003; Göğüş and Özer, 2014), with using *Likert* scale ranged from strongly disagree (1) to strongly agree (5). Research instruments are presented in Table 1.

Table 1   Measurement of research variables

Variables	*Operational definition*	*Item*	*Measurement items*
Perceived usefulness (Davis, 1989; Chau, 1996)	The degree to which a person believes that using a particular system would enhance his or her job performance.	PU1	Using GFRIS in my job would enable me to accomplish tasks more quickly.
		PU2	Using GFRIS would improve my job performance.
		PU3	Using GFRIS in my job would increase my productivity.
		PU4	Using GFRIS would enhance my effectiveness on the job.
		PU5	Using GFRIS would make it easier to do my job.
		PU6	I would find GFRIS useful in my job.
Perceived ease of use (Davis, 1989; Chau, 1996)	The extent to which a person believes that using a technology will be free of effort.	PEU1	Learning to operate GFRIS would be easy for me.
		PEU2	I would find it easy to get GFRIS to do what I want it to do.
		PEU3	My interaction with GFRIS would be clear and understandable.
		PEU4	I would find GFRIS to be flexible to interact with.
		PEU5	It would be easy for me to become skilful at using GFRIS.
		PEU6	I would find GFRIS easy to use.
Attitude toward using (Venkatesh et al., 2003; Gardner and Amoroso, 2004)	An individual's positive or negative feelings about performing the target behaviour.	ATU1	Using the GFRIS system is a bad/good idea.
		ATU2	The GFRIS system makes work more interesting.
		ATU3	Working with the GFRIS system is fun.
Behavioural intention (Davis et al., 1989; Göğüş and Özer, 2014)	Intention a person to perform a specific behaviour.	BI1	I intend to use this GFRIS for my accounting needs.
		BI2	Using the GFRIS for handling my transactions is something I would do.
		BI3	I intend to use this GFRIS frequently nowadays.
		BI4	I would see my self using this GFRIS to accomplish my accounting duties.
Actual usage (Igbaria et al., 1997; Chin et al., 2008)	The actual amount of time spent and frequency of use on system per day.	AU1	I use GFRIS application in all work related to accrual accounting.
		AU2	I use an application GFRIS every day.
		AU3	I use GFRIS application during the time I worked.
		AU4	Overall, I was satisfied with the performance GFRIS applied in the workplace.

4   Analysis and results

4.1   Demographic characteristics

The data were collected from structured questionnaires were used to test the hypothesis. From the 90 distributed questionnaires, 73 questionnaires were returned and valid/completed. It showed a response rate of 81.11% of respondents. According to the questionnaire results, 38% of the respondents were male and 62% were female. Most of the respondents (or about 71% of the respondents) were from 30 to 50 years old. Approximately, more than 50% respondents who had working experience in government over 15 years. The latter, 49% of respondents have experience in accounting between 1–5 years.

Table 2   Demographic information of respondents

Classification		Frequency	Percent (%)
Gender	M	28	38
	F	45	62
Age	21–30 years	6	8
	31–40 years	22	30
	41–50 years	30	41
	> 50 years	15	21
Work experience in government	1–5 years	7	10
	6–10 years	10	14
	11–15 years	16	22
	16–20 years	20	27
	> 20 years	20	27
Work experience in accounting	1–5 years	36	49
	6–10 years	27	37
	11–15 years	9	12
	16–20 years	1	1
	> 20 years	0	0

Table 2 summarises the demographic characteristics of survey respondents that contain the frequency of gender, age, experience in government and experience in the field of finance.

4.2   Analyses of measures (measurement model)

The models for this study was tested using partial least squares (PLS), the structural equation modelling techniques that have been designed for a predictive model with a high level of complexity (Chin et al., 1996; Chin, 1998). PLS is used in the research because it can be a powerful method of analysis because of the minimal demands on measurement scales, sample size and residual distributions. SmartPLS v.3.2.1 used for analysis and bootstrap resampling method (100 resamples) is used to determine the significance of the structural model for the study. Table 3 and Table 4 shows the results from the test

measurement model which contains the mean, standard deviation, Cronbach alpha, loading factor, composite reliability and average variance extracted (AVE).

Table 3 Analysis of measurement reliability: descriptive statistics and Cronbach's alphas

Variables	Mean	SD	Cronbach's α
Perceived usefulness			
PU1	6.123	0.971	0.913
PU2	6.110	0.875	
PU3	6.178	0.752	
PU4	6.164	0.800	
PU5	6.151	0.681	
PU6	6.205	0.706	
Perceived ease of use			
PEU1	5.370	1.007	0.878
PEU2	5.233	1.196	
PEU3	5.644	0.977	
PEU4	5.425	1.154	
PEU5	5.699	0.983	
PEU6	5.685	1.012	
Attitude toward using			
ATU1	6.205	0.726	0.788
ATU2	5.877	0.927	
ATU3	5.904	0.785	
Behavioural intention to use			
BI1	5.890	0.678	0.781
BI2	5.548	1.041	
BI3	5.836	0.764	
BI4	5.918	0.894	
GFRIS usage			
GU1	5.959	0.824	0.835
GU2	5.808	0.967	
GU3	5.753	0.954	
GU4	5.945	0.815	
Experience			
EXP1	5.986	0.825	0.638
EXP2	5.959	0.753	

The reliability in this study was evaluated using Cronbach alpha. As shown in Table 2, Cronbach alpha value of each construct research > 0.6. Test the validity of this research using convergent validity is tested with three criteria as stated (Fornell and Larcker, 1981):

1   all constructs each item must have a loading factor > 0.7

2   the value of composite reliability must be > 0.8

3   AVE for each construct > 0.5.

Table 4 shows the confirmatory factor analysis. The value of loading factor of each item is greater than the minimum threshold (loading factor > 0.7). In the composite reliability value of each construct for the study is also greater than 0.8. Finally, value AVE of each constructs is greater than 0.5. Based on the three criteria, convergent validity can be all fulfilled.

Table 4   Confirmatory factor analysis of each variable

| Variables	Items	Factor loading	Composite reliability	AVE
Perceived usefulness	PU1	0.781	0.933	0.702
	PU2	0.892		
	PU3	0.884		
	PU4	0.905		
	PU5	0.862		
	PU6	0.783		
Perceived ease of use	PEU1	0.814	0.907	0.621
	PEU2	0.767		
	PEU3	0.839		
	PEU4	0.711		
	PEU5	0.793		
	PEU6	0.800		
Attitude toward using	ATU1	0.766	0.879	0.713
	ATU2	0.957		
	ATU3	0.883		
Behavioural intention to use	BI1	0.834	0.855	0.599
	BI2	0.749		
	BI3	0.748		
	BI4	0.848		
GFRIS usage	GU1	0.744	0.889	0.667
	GU2	0.824		
	GU3	0.854		
	GU4	0.842		
Experience	EXP1	0.791	0.842	0.728
	EXP2	0.911		

4.3   Hypothesis testing and structural models

The next stage in data analysis research was to examine the significance and strength of each construct hypothesised impact. Structural testing is used to determine the estimation of the path coefficient, which indicates the strength to the relationship of each

hypothesised variables. R^2 value is used to indicate that the model variance can be explained by exogenous variables.

Figure 2 shows the results of hypothesis testing structural model. Path coefficient in TAM model shows all significant constructs except the influences of the usefulness of the BI using GFRIS were not statistically significant with 37% of variance models. Hypothesis 1, which states that the PEU GRFIS ($\beta = 0.314$) were statistically significant associated on the PU GFRIS. Hypotheses 2a and 2b which states that the PU ($\beta = 0.570$) and PEU GFIRS ($\beta = 0.312$) associated with a user attitude to use GFRIS significant influence with 60% of variance models. This result shows that the attitude towards the new system changes can be explained or predicted by the level of user perceptions on the PEU and PU of the system (Lin, 2013; Venkatesh and Bala, 2008). In other words, if the PU and PEU by the user on a new system are high, then the user will show a positive attitude towards these changes. Conversely, if the user perception of the usefulness and ease of use the system is low, the attitude towards the system users is low, or even appears user resistance.

Figure 2 Research model results
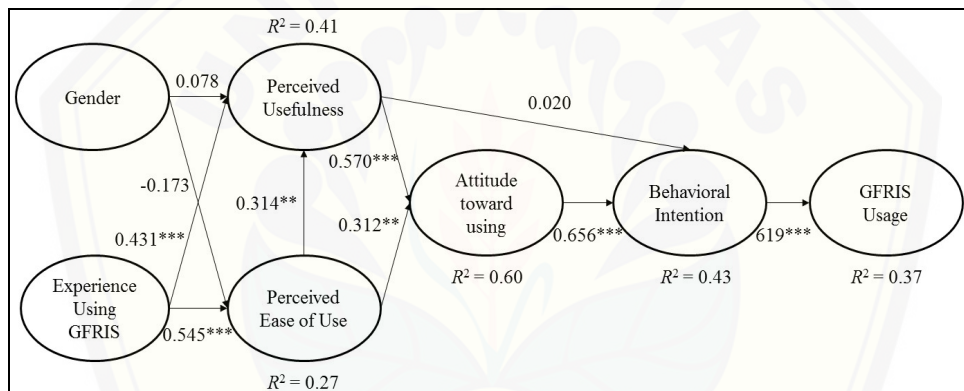
Note: *p < 0.05; **p < 0.01; ***p < 0.001.

Hypothesis 3 assesses the significance of ATU on BI in using GFRIS. ATU GFRIS have a positive associated within user BI in using GFRIS ($\beta = 0.656$, $R^2 = 43\%$). This result shows that the Hypothesis 3 is supported. As expected in this study, when ATU a system is high, it will increase the BI for users of the system. Furthermore, when the BI of the user increasingly high, the actual use of the system GFRIS also high ($\beta = 0.619$; $R^2 = 37\%$). These results show that ATU GFRIS is driven by the perceptions of the usability and ease of use of high systems, it will increase BI and actual use of GFRIS (Schepers and Wetzels, 2007; Bhattacherjee and Sanford, 2006), thus Hypothesis 4 was also supported.

The original TAM models have external variables that can be a predictor of the model. In this study, gender and experience are included as a predictor model of TAM. Results of Hypotheses testing 5a and 5b stated that gender does not affect the usefulness ($\beta = 0.078$) and ease of use GFRIS (–0.173). This result shows that the gender differences of men and women in the implementation of GFRIS not affect user perceptions of usefulness and ease of use GFRIS. That could mean the GFRIS was perceived easy to use and PU to improve the performance in the work for both genders (Padilla-MeléNdez

et al., 2013). Furthermore, the results of Hypotheses testing 6a and 6b state that experience has positive associated on the PU ($\beta = 0.431$) and PEU GFRIS ($\beta = 0.545$).

5   Discussions and implications

In this study, results show that both PU and PEU play an important role in affecting attitude and intention of chief finance administration officer, revenue treasurer and expenditure treasurer to use GFRIS. The result indicated that the PU variable has a beta coefficient greater than the PEU variable in predicting the attitude towards using GFRIS. This means that in the information systems developed by the government, in order to have a high level of acceptance for the user must prioritise the usefulness of the system that has been developed from the previous systems (Lin et al., 2011; Sipior et al., 2011).

As indicated in the present research, users experience is the one of the main effective factor for GFRIS acceptance model. Users experience with a technology or context can change an individual's beliefs about specific technology design and features (Hess et al., 2014). Prior experience will make the user can immediately understand and know the ease of use and usefulness about the new system and IT usage (Taylor and Todd, 1995; Kurniawati et al., 2017). In the government context, the experience will determine whether a person is already feeling the benefits of the output from the GFRIS or not. In terms of ease of use, the experience of interacting with the old system also determines a person's behaviour when interacting with the new system. Surprisingly, gender did not posit a direct impact on PEU and PU in the case of GFRIS. This results show that there is no significant difference between men and women in PU and ease of use in the implementation of GFRIS in Indonesia.

The findings reported in this research have important contribution for government information systems research in a number of ways. The first, contribution of this research is to enhance our understanding of the factors associated with the usage of GFRIS services among the managers of government finances. Second, in this study found that PU was more influential than PEU in explaining acceptance of GFRIS. Third, the current study extended TAM and previous research by incorporating gender and users experience as external factors affecting GFRIS acceptance through TAM's core constructs. Finally, the developed model gives results about user acceptance of information system and provide insights to assess the user acceptance by focusing on user experience in the government and financial, especially user acceptance of GFRIS in developing countries.

This research has significant implications in technology-based financial reporting practices in government entities. First, provide practitioners some guidelines on the design and implementation of the GFRIS. Developer GFRIS will now have a framework to decide what interventions to apply during development and implementation of new systems. For instance, Venkatesh and Bala (2008) stated that collaborations and participations of user will create favourable ease of use perceptions, e.g., design characteristics, user participation, training and so on. Second, managers do not have to consider gender as the basis for personnel placement in the financial reporting department. Third, users experience in finance and accounting becomes a key consideration in selecting personnel, because users experience predominantly influences PEU and PU of the GFRIS. Fourth, government needs to design appropriate and systematic training or technical guidance to improve PEU and PU of the GFRIS.

6   Conclusions, limitations and suggestions

TAM of Davis (1989) is a theory that can explain the adoption and diffusion of technology within an organisation. By using this theory, the researchers tried to examine systems adoption in the government context (GFRIS). The basic construct of TAM: PEU, PU, attitudes toward using, intentions to use and actual use systems included within this study. Gender and experience included in this research as an external variable.

Consistent with the original TAM, the analysis shows that the higher PU and ease of use GFRIS; it will directly improve the attitude and intention in the using GFRIS. These results may have implications for the government that when developing a new system is needed customisations that can give enhancement to the perception of convenience and usefulness are higher than the previous system. In other words, the development/implementation of the new system expected to bring the perception that is easy for users to be able to understand the usefulness of existing on the system.

Gender as external variables for this study had no effect on the PEU and PU of GFRIS (Padilla-MeléNdez et al., 2013). What this means is that the PEU and PU of the system of government cannot be a predictor of gender/sex. Although Venkatesh et al. (2003) stated that PU is more important for men, while women tend to be more focused on the PEU on a system. This may not apply to users in the government system. Because of the tendency of being a good predictor in this study is an experience. Furthermore, the experience was statistically significantly associated with PEU in using GFRIS. This suggests that in the context of governance, better user experience on the field of administration in general and the financial sector, will determine their perceptions on the PU and PEU of the new system (GFRIS).

This study has several limitations. First, in measuring the usefulness to the system and the use of output GFRIS not distinguish each group of respondents. That is to say, in the three groups of respondents, the researchers did not make the list of detail in the questionnaire about the usefulness of each module in GFRIS associated with any part or group of respondents respectively. Grouping is necessary because the user has a usage rate of output/information produced GFRIS differently. So, for the next studies, the different groups of respondents need to be explored. Second, each work unit has the complexity and volume of transactions is different, so it would be better if further research more closely in determining the proportion of respondents with such variability level. Lastly, the researchers did not consider other factors that can be a predictor of TAM associated with the system in government context.

Acknowledgements

References

Aucoin, P. (1990) 'Administrative reform in public management: paradigms, principles, paradoxes and pendulums', *Governance*, Vol. 3, No. 2, pp.115–137.

Bhattacherjee, A. and Sanford, C. (2006) 'Influence processes for information technology acceptance: an elaboration likelihood model', *MIS Quarterly*, Vol. 30, No. 4, pp.805–825.

Cakmak, A.F., Benk, S. and Budak, T. (2011) 'The acceptance of tax office automation system (VEDOP) by employees: factorial validation of Turkish adapted technology acceptance model (TAM)', *International Journal of Economics and Finance*, Vol. 3, No. 6, p.107.

Chan, S.C. and Lu, M. (2004) 'Understanding internet banking adoption and use behavior: a Hong Kong perspective', *Journal of Global Information Management*, Vol. 12, No. 3, pp.21–43.

Chau, P.Y. (1996) 'An empirical assessment of a modified technology acceptance model', *Journal of Management Information Systems*, Vol. 13, No. 2, pp.185–204.

Chin, W.W. (1998) 'Commentary: issues and opinion on structural equation modeling', *MIS Quarterly*, Vol. 22, No. 1, pp.7–16.

Chin, W.W., Johnson, N. and Schwarz, A. (2008) 'A fast form approach to measuring technology acceptance and other constructs', *MIS Quarterly*, Vol. 32, No. 4, pp.687–703.

Chin, W.W., Marcolin, B.L. and Newsted, P.R. (1996) 'A partial least squares latent variable modeling approach for measuring interaction effects: results from a Monte Carlo simulation study and voice mail emotion/adoption study', *Information Systems Research*, Vol. 14, No. 2, pp.189–217.

Conklin, W.A. (2007) 'Barriers to adoption of e-government', *Proceedings of the 40th Hawaii International Conference on System Sciences, 2007*, IEEE, p.98.

Davis, F.D. (1989) 'Perceived usefulness, perceived ease of use, and user acceptance of information technology', *MIS Quarterly*, Vol. 13, No. 3, pp.319–340.

Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. (1989) 'User acceptance of computer technology: a comparison of two theoretical models', *Management Science*, Vol. 35, No. 8, pp.982–1003.

Dishaw, M.T. and Strong, D.M. (1999) 'Extending the technology acceptance model with task-technology fit constructs', *Information & Management*, Vol. 36, No. 1, pp.9–21.

Fishbein, M. and Ajzen, I. (1975) *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*, Addison-Wesley, MA.

Fornell, C. and Larcker, D.F. (1981) 'Evaluating structural equation models with unobservable variables and measurement error', *Journal of Marketing Research*, Vol. 18, No. 1, pp.39–50.

Gardner, C. and Amoroso, D.L. (2004) 'Development of an instrument to measure the acceptance of internet technology by consumers', *Proceedings of the 37th Annual Hawaii International Conference on System Sciences, 2004*, IEEE, p.10.

Gefen, D. and Straub, D.W. (1997) 'Gender differences in the perception and use of e-mail: an extension to the technology acceptance model', *MIS Quarterly*, Vol. 21, No. 4, pp.389–400.

Göğüş, Ç.G. and Özer, G. (2014) 'The roles of technology acceptance model antecedents and switching cost on accounting software use', *Academy of Information & Management Sciences Journal*, Vol. 17, No. 1, pp.1–24.

Guthrie, J. (1998) 'Application of accrual accounting in the Australian public sector – rhetoric or reality', *Financial Accountability & Management*, Vol. 14, No. 1, pp.1–19.

Guthrie, J., Olson, O. and Humphrey, C. (1999) 'Debating developments in new public financial management: the limits of global theorising and some new ways forward', *Financial Accountability & Management*, Vol. 15, Nos. 3–4, pp.209–228.

Harn, T.C.S. et al. (2014) 'Determinants of online group buying behaviour: the moderating role of informational social influence', *Jurnal Pengurusan (UKM Journal of Management)*, Vol. 41, No. 1, pp.133–143.

Hess, T.J., McNab, A.L. and Basoglu, K.A. (2014) 'Reliability generalization of perceived ease of use, perceived usefulness, and behavioral intentions', *MIS Quarterly*, Vol. 38, No. 1, pp.1–A29.

Hong, K.S. (2002) 'Relationships between students' and instructional variables with satisfaction and learning from a web-based course', *The Internet & Higher Education*, Vol. 5, No. 3, pp.267–281.

Hood, C. (1995) 'The 'new public management' in the 1980s: variations on a theme', *Accounting, Organizations and Society*, Vol. 20, No. 2, pp.93–109.

Igbaria, M. and Livari, J. (1995) 'The effects of self-efficacy on computer usage', *OMEGA – The International Journal of Management Science*, Vol. 23, No. 8, pp.587–605.

Igbaria, M. et al. (1997) 'Personal computing acceptance factors in small firms: a structural equation model', *MIS Quarterly*, Vol. 21, No. 3, pp.279–305.

Jackson, C.M., Chow, S. and Leitch, R.A. (1997) 'Toward an understanding of the behavioral intention to use an information system', *Decision Sciences*, Vol. 28, No. 2, pp.357–389.

Jorge, S.M., da Costa Carvalho, J.B. and Fernandes, M.J. (2007) 'Governmental accounting in Portugal: why accrual basis is a problem', *Journal of Public Budgeting, Accounting & Financial Management*, Vol. 19, No. 4, pp.411–446.

Kamel, S. and Hassan, A. (2003) 'Assessing the introduction of electronic banking in Egypt using the technology acceptance model', in *Annals of Cases on Information Technology*, Vol. 5, pp.1–25, Idea Group Publishing, Hershey, PA.

King, W.R. and He, J. (2006) 'A meta-analysis of the technology acceptance model', *Information & Management*, Vol. 43, No. 6, pp.740–755.

Kurniawati, H.A., Winarno, W.A. and Arif, A. (2017) 'Analisis minat penggunaan mobile banking dengan pendekatan technology acceptance model (TAM) yang telah dimodifikasi', *e-Journal Ekonomi Bisnis dan Akuntansi*, Vol. 4, No. 1, pp.24–29.

Likierman, A. (2000) 'Changes to managerial decision-taking in UK central government', *Management Accounting Research*, Vol. 11, No. 2, pp.253–261.

Lin, C-c. (2013) 'Exploring the relationship between technology acceptance model and usability test', *Information Technology and Management*, Vol. 14, No. 3, pp.243–255.

Lin, F., Fofanah, S.S. and Liang, D. (2011) 'Assessing citizen adoption of e-government initiatives in Gambia: a validation of the technology acceptance model in information systems success', *Government Information Quarterly*, Vol. 28, No. 2, pp.271–279.

Lye, J., Perera, H. and Rahman, A. (2005) 'The evolution of accruals-based crown (government) financial statements in New Zealand', *Accounting, Auditing & Accountability Journal*, Vol. 18, No. 6, pp.784–815.

Mathieson, K. (1991) 'Predicting user intentions: comparing the technology acceptance model with the theory of planned behavior', *Information Systems Research*, Vol. 2, No. 3, pp.173–191.

Nasi, G. and Steccolini, I. (2008) 'Implementation of accounting reforms: an empirical investigation into Italian local governments', *Public Management Review*, Vol. 10, No. 2, pp.175–196.

Padilla-MeléNdez, A., Del Aguila-Obra, A.R. and Garrido-Moreno, A. (2013) 'Perceived playfulness, gender differences and technology acceptance model in a blended learning scenario', *Computers & Education*, Vol. 63, No. 4, pp.306–317.

Pallot, J. (2002) 'Government accounting and budgeting reform in New Zealand', *Models of Public Budgeting and Accounting Reform*, pp.163–186, Organization for Economic Co-operation and Development.

Park, S.Y., Nam, M.W. and Cha, S.B. (2012a) 'University students' behavioral intention to use mobile learning: evaluating the technology acceptance model', *British Journal of Educational Technology*, Vol. 43, No. 4, pp.592–605.

Park, T., Joy Saplan-Catchapero, V. and Jaegal, D. (2012b) 'Predicting knowledge sharing intentions in the public sector: comparing TAM with TPB', *International Review of Public Administration*, Vol. 17, No. 2, pp.93–120.

Robey, D. (1979) 'User attitudes and management information system use', *Academy of Management Journal*, Vol. 22, No. 3, pp.527–538.

Saleh, Z. and Pendlebury, M.W. (2006) 'Accruals accounting in government – developments in Malaysia', *Asia Pacific Business Review*, Vol. 12, No. 4, pp.421–435.

Schepers, J. and Wetzels, M. (2007) 'A meta-analysis of the technology acceptance model: investigating subjective norm and moderation effects', *Information & Management*, Vol. 44, No. 1, pp.90–103.

Simanjuntak, B.H. (2010) 'Penerapan Akuntansi Berbasis Akrual di Sektor Pemerintahan di Indonesia', Presented at *IAI Congres XI*.

Sipior, J.C., Ward, B.T. and Connolly, R. (2011) 'The digital divide and t-government in the United States: using the technology acceptance model to understand usage', *European Journal of Information Systems*, Vol. 20, No. 3, pp.308–328.

Tarhini, A. et al. (2015) 'Towards the acceptance of RSS to support learning: an empirical study to validate the technology acceptance model in Lebanon', *Electronic Journal of e-Learning*, Vol. 13, No. 1, pp.30–41.

Taylor, S. and Todd, P. (1995) 'Assessing IT usage: the role of prior experience', *MIS Quarterly*, Vol. 19, No. 4, pp.561–570.

Turner, M. et al. (2010) 'Does the technology acceptance model predict actual use? A systematic literature review', *Information and Software Technology*, Vol. 52, No. 5, pp.463–479.

Venkatesh, V. and Bala, H. (2008) 'Technology acceptance model 3 and a research agenda on interventions', *Decision Sciences*, Vol. 39, No. 2, pp.273–315.

Venkatesh, V. and Morris, M.G. (2000) 'Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior', *MIS Quarterly*, Vol. 24, No. 1, pp.115–139.

Venkatesh, V. et al. (2003) 'User acceptance of information technology: toward a unified view', *MIS Quarterly*, Vol. 27, No. 3, pp.425–478.

Wangpipatwong, S., Chutimaskul, W. and Papasratorn, B. (2008) 'Understanding citizen's continuance intention to use e-government website: a composite view of technology acceptance model and computer self-efficacy', *The Electronic Journal of E-government*, Vol. 6, No. 1, pp.55–64.

Wixom, B.H. and Todd, P.A. (2005) 'A theoretical integration of user satisfaction and technology acceptance', *Information Systems Research*, Vol. 16, No. 1, pp.85–102.

Wong, S. (1998) 'Full speed ahead – how to move forward full accrual accounting for capital assets', *CMA Magazine*, Vol. 72, No. 8, pp.18–22.

Yadav, R. and Mahara, T. (2017) 'An empirical study of consumers intention to purchase wooden handicraft items online: using extended technology acceptance model', *Global Business Review*, Vol. 20, No. 2, pp.1–19.

Yousafzai, S.Y., Foxall, G.R. and Pallister, J.G. (2007) 'Technology acceptance: a meta-analysis of the TAM: part 2', *Journal of Modelling in Management*, Vol. 2, No. 3, pp.281–304.