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Improving the quality of the financial accounting information through strengthening of the financial autonomy at public organizations

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Abstract

Purpose – The purpose of this study is to examine the financial autonomy that affects the financial accounting information quality of public organizations. This study also tests the impact of the financial autonomy on support from leadership. How this impact has affected elements of accounting information systems such as hardware, software, communications technology and chief accountant to support providing the quality of the financial accounting information.

Design/methodology/approach – The research model is in the SEM form and measurement models are reflective scales so this study applies the PLS-SEM analysis technique on the Smart PLS 3.2.7 software to test the research hypotheses. Analytical data is collected through survey questionnaires with observed variables measured using the typical 7-point Likert scales. The result obtained after cleaning the data includes 164 Vietnamese public organizations with the different levels of the financial autonomy.

Findings – This research has three primary findings: firstly, FA has a positive direct effect on FAIQ and SL. Secondly, SL influences FAIQ through four mediate variables including AM, HW, SW and CN. Finally, SL also acts as a mediate variable in the relationship of FA and FAIQ.

Originality/value – This is one of the first empirical studies to examine the role of financial autonomy in leadership support to improve the quality of the accounting information in the public sector in the context of the Vietnamese government is promoting the financial autonomy of public organizations.

Keywords Quality, Financial accounting information, Public sector accounting, Support from leadership, Financial autonomy

Paper type Research paper

1. Introduction

In the public sector, accounting information quality affects the development of the national economy and enhances citizens' trust (Beshi and Kaur, 2020). There are many reasons for this assertion. First, public organisations use the state budget to manage or provide public services to society, so the government, citizens, donors and investors have the right to control whether these entities use the state budget properly and effectively by analysing quality accounting information (Bakar *et al.*, 2011). The government can, on that basis, allocate the national resource effectively. Second, public organisations can demonstrate their responsiveness, accountability and transparency by providing quality accounting

JEL Classification — G30, M40, M41

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information, which has a significant effect on reducing corruption in the public sector and increasing citizens' trust in the public sector (Beshi and Kaur, 2020). Third, people use this information to monitor the public sector's activities, thereby making these organisations more accountable and aware of their responsibilities. Ultimately this improves the quality of public services (Rocha Menocal and Sharma, 2008). Finally, providing quality accounting information is considered a good national strategy for attracting both domestic and international investment, sponsorship, donation and aid given the current robust world economic integration trend (Coronel, 2001). However, the quality of accounting information of public organisations, especially in developing countries, is poor (Susanto, 2017). Vietnam is a particular example of this situation. One of the most serious problems is corruption in the Vietnamese public sector. The Vietnamese open budget index is much lower than the world average index, which was announced in 2018. The Vietnamese public sector corruption index published in 2018 ranked 107 out of 180 on the global ranking and shows Vietnam to be one of the most corrupted countries in the world (Tu, 2018). These reasons explain why Vietnamese public organisations must provide quality accounting information.

Accounting information quality is generated by an effective and quality accounting information system (Fitrios, 2016). Several notable previous works in relevant literature also specify that there is a strong relationship between the two variables (e.g. Kanakriyah, 2016). Accounting information users believe that quality accounting information system affects the quality of accounting information and as a result, it considerably improves entities' profitability and managerial efficiency (Kanakriyah, 2016). However, various papers concern that accounting information system for any entity does not exist by itself, therefore, studying number of key factors associated with the success of this system is of interest to the researchers (Mkonya *et al.*, 2018). Mkonya *et al.* (2018) and Susanto (2017), based on the contingency theory, claim that the accounting information system design significantly depends on the organisation's internal factors. Accounting information systems are a set of resources, including humans and equipment, which interact with each other to transform financial and non-financial data into accounting information (Fitrios, 2016). As we know, although financial statements are displayed and disclosed in accordance with the standards and regulations, accounting information quality is affected by infrastructure factors, knowledge of accountant managers and support from leadership. Efforts to produce unqualified financial statements may require support from the leadership of public organisations (Fitrios, 2016). Fitrios (2016), in addition, discovered that what factors affecting accounting information system quality also have an impact on the quality of accounting information. In the Vietnamese public sector, there are a few works regarding to this research trend with prominent studies such as Dau and Phan (2015) and To (2017). They also explored some essential factors like the above results.

In recent context, governments of many countries participate in public sector reform, especially promoting privatisation of the public sector through improving the financial autonomy mechanism. Financial autonomy will help public organisations improve the quality of public services, financial responsibility and sustainability (Hartley *et al.*, 2015). In Vietnam, the autonomy mechanism was issued through Decree 16/2015/Decree-Government. This policy empowers the leadership of public organisations in making decisions related to their organisational operations, structure, personnel and finance. Many studies around the world pay special attention to the role of autonomy in the public sector in the context of accountability (Han and Hong, 2019; Nurgaliyeva *et al.*, 2018). Several studies show that the degree of autonomy of public entities has an important influence on which public employees are held accountable on organizational performance and it can also make major changes in the implementation of accountability, which is one of the most important centralized reforms in public organizations (Han and Hong, 2019). As mentioned above, the leadership of public organisations plays a key role in providing quality accounting information. This is facilitated

by their commitment to support the necessary human and financial resources to establish suitable accounting information systems (Coronel, 2001). Research of Hall *et al.* (2003) indicates that when the level of financial autonomy is higher, public leaderships have more freedom to manage to achieve desired outcome and, in return, they have more accountability for their performance. Therefore, there is a relationship between financial autonomy, leadership and financial accounting information quality. However, this link has not received the attention of researchers, and there have been no experimental studies on this issue (so far) in Vietnam. Based on the research gap identified above, it is necessary to investigate whether there are relationships between financial autonomy, key factors of accounting information system and the quality of accounting information in the context of the Vietnamese public sector.

The next section presents the theoretical basis for the suggested research hypotheses and the research model. This followed by the research methodology, research results and discussion. The final section presents the implications and conclusions of the research.

2. Theoretical background

2.1 The financial accounting information quality

In the public sector, there are complex relationships between the government, donors, leadership and citizens. The people benefit directly from public services while public leadership is constantly looking to maximise their own interests, not those of the people (Guillamón *et al.*, 2011). Therefore, to minimise asymmetric information, public leadership is responsible for signalling and providing useful accounting information to relevant users by publishing quality financial accounting information. Relevant users can assess the effectiveness and efficiency of leadership decisions in using public resources through this information. However, the quality of financial accounting information is a complicated concept; therefore, its definition and measurement are not simple (Komala, 2012). Until now, the criteria for measuring the quality of financial accounting information have not been agreed upon. It can be misrepresented due to the intentional or unintentional impact of people or other factors, so the quality of financial accounting information is often considered subjective and is judged from different user viewpoints. Although the concept of financial accounting information quality is quite diverse and is measured from many different perspectives, there are many criteria that overlap among the views. General requirements of financial accounting information quality are identified in the study of Lee *et al.* (2002). These fully cover the criteria of the financial accounting information quality captured in previous studies and later confirmed. Lee *et al.* (2002), based on a review of many previous studies, generalises the information quality into four properties: the intrinsic nature of the information, the context of the information, the form of information and the accessibility of the information, and following this classification, 15 criteria for information quality are identified.

2.2 Financial autonomy level

Han and Hong (2019, p. 4) define autonomy as "public employees' freedom to manage and achieve desired outcomes". Public organisations in Vietnam have many unique features compared to the private sector as well as public organisations all over the world. This difference is due to regulations on the public organisational structure and financial management mechanisms. The financial autonomy levels of the Vietnamese public organisations as per Decree 16/2015/Decree-Government are classified into four categories.

In recent years, both contingency and institutional theories have been frequently applied by various researchers who explore internal and external factors determine changes and reforms adopted at public organizations (Nogueira and Jorge, 2016). More precisely, the above referred theories and traditional literature on public sector accounting support that

institutional and legal pressures, namely financial autonomy policy, can play a prominent role in public accounting and management system changes, hence affecting the quality of accounting information (Nogueira and Jorge, 2016). When a public organisation has a higher level of financial autonomy, its operational scope is often larger, and it has a better financial capacity. As a result, it faces with the increasingly diverse population of prospective users of financial information and has a higher pressure to disclose and respond to its financial statements (Guillamón *et al.*, 2011). The institutional theory also supports that an organization acquires legitimacy if it adapts to society's expectations, i.e. there is requirement to disclose quality accounting information without considering its benefit (Nogueira and Jorge, 2016). Following contingency theory, organizations will seek a better adjustment between a new accounting system and contingency factors which is significantly depend on the organization's capacity (Nogueira and Jorge, 2016). According to Han and Hong (2019) and Hartley *et al.* (2015), financial autonomy helps enhance the accountability and responsibility of public employees. When an entity is operating effectively and is in a good financial situation, it will be willing to provide better financial accounting information to build belief and reputation, or to attract more grants, aid and investment. Moreover, when a public organisation has high financial autonomy, leadership is more proactive in financial support and in the establishment of a better accounting information system to provide more quality financial accounting information (García and Garcí). Accordingly, the first hypothesis is proposed as follows:

H1. The financial autonomy level has a positive impact on financial information quality of public organisations.

2.3 Support from leadership

Many previous researchers have used agency theory, asymmetric information theory and signal theory to explain leadership's role in deciding the quality of published financial information (Coronel, 2001). In addition, contingency theory has been widely applied to explain contingency variables, namely organizational factors, that affect development and implementation of a successful accounting information system (Mkonya *et al.*, 2018). Various researchers claim that top management support is one of the most important organizational characteristics to produce effective system implementation (Mkonya *et al.*, 2018). Based on these background theories, previous studies have argued that public leadership has the power to decide the use of the state budget in providing services to society. However, the argument goes on to state that since they do not have the same benefits as those who enjoy public services directly, they can make decisions that are most beneficial to themselves. This is because leadership needs to show accountability to prove that they make decisions in a responsible manner to reduce the conflict of interest between the principles and agents (Fama and Jensen, 1983). According to signalling theory, financial statements are a useful tool to inform the public leadership's actions to relevant financial information users so that they can monitor the public leadership's decisions (Rodríguez Bolívar *et al.*, 2013). The role of the leader is often demonstrated by supporting sufficient human and financial resources to organise the accounting information system, encourage participation and develop positive attitudes of the staff in providing quality financial accounting information (Fitrios, 2016). From the above analysis, the following hypothesis is proposed:

H2. Support from leadership has a positive impact on financial accounting information quality of public organisations.

2.4 Accounting information system factors that affect financial accounting information quality

According to contingent theory and institutional theory, external environmental factors pressure an organisation, which leads to organisational change and reorganisation, and the provision of quality financial accounting information that meets social requirements (Coronel, 2001). In particular, creating quality financial accounting information requires a high-quality accounting information system. Research results of Susanto (2017) and Komala (2012) show that there is a positive relationship between accounting information system quality and financial accounting information quality. However, each organisation has a unique accounting information system that totally depends on the organisation's characteristics (Otley, 1980). Organisations that want to change their accounting information system must have enough personnel and material resources to do so (Coronel, 2001). Laudon and Laudon (2005), Fitrios (2016) and Xu *et al.* (2003) confirm that an accounting information system consists of physical and non-physical components that work together to collect, process and provide accounting information. More specifically, the elements of an accounting information system include human resources and technical systems (hardware, software and communication technology). Regarding the human factor, the knowledge of the chief accountant plays a decisive role in providing quality financial accounting information because the chief accountant is the person who directly participates in the organisation of the accounting information system. A chief accountant is also a member of the board of directors who directly responds to organising and operating the accounting field and assisting leadership in planning and controlling financial activities (Rodríguez Bolívar *et al.*, 2013).

The application of hardware and software equipment to accounting helps to improve the ability to collect, process and store data more effectively, which improves the quality of financial accounting information (Xu *et al.*, 2003). Communication network systems, such as the Internet, are useful for the process of exchanging and connecting information and data of departments of an organisation. Communication network also enhances the interaction and participation of individuals and departments in the management activities of an organisation (Taylor *et al.*, 2007). Moreover, it also increases the ease of access to information and the public services to relevant users (Chan and Chow, 2007). From the above analysis, the following four hypotheses are proposed:

H3. The knowledge of chief accountants has a positive impact on financial accounting information quality of public organisations.

H4. The availability and function of hardware devices has a positive impact on financial accounting information quality of public organisations.

H5. The software availability and function have a positive impact on financial accounting information quality of public organisations.

H6. The availability and function of a communication network has a positive impact on financial accounting information quality of public organisations.

However, the level of investment in accounting infrastructure depends significantly on support from leadership (Fitrios, 2016). Support is demonstrated by the involvement of leadership in the process of developing strategies and organising the implementation of the accounting information system (Komala, 2012). In addition, leadership refers to person or persons who clearly understand the operations of the organisation, know what accounting information is needed for decision making (Ismail, 2009), and which information will be provided to external users (because they have the power to govern the accounting information to be published). On that basis and their knowledge about the accounting

information system, leaderships clearly know the need to establish an accounting information system in accordance with the strategy and operational goals of their organisation (Ismail, 2009). At the same time, leadership will also be directly involved in the promotion of policies related to the internal control system in the accounting information system to ensure that the published accounting information is of high quality. From here, the following hypotheses are proposed:

H7. Support from leadership has a positive impact on the chief accountant's knowledge.

H8. Support from leadership has a positive impact on the availability and function of hardware devices.

H9. Support from leadership has a positive impact on the availability and function of software.

H10. Support from leadership has a positive impact on the availability and function of the communication network.

In the public sector, the power of leadership is entirely governed by public organisation' s level of financial autonomy. The financial autonomy policy aims to provide self-liberty and self-responsibility for public organisations (Han and Hong, 2019) as well as to improve the attitudes and behaviours of public employees. Thus, the accountability and performance of public organisations can be enhanced if the government gives them sufficient autonomy (Han and Hong, 2019). Therefore, the greater the level of financial autonomy, the greater the authority and responsibilities of leadership (Han and Hong, 2019). Leadership will be more proactive in deciding resource usage to invest in the development of accounting infrastructure that is appropriate and timely in supporting the supply of quality financial accounting information (Williams, 2015). García and García-García (2010) also affirmed that organisations with high financial capacity will be more able and proactive in recruiting the required number of accountants both, in terms of quantity and quality, and investing in a suitable accounting infrastructure. Based on this argument, the following final hypothesis is added:

H11. The level of financial autonomy has a positive impact on support from leadership.

2.5 Control variable

The external users can assess accounting information anywhere and anytime they may be if it is widely disclosed (García and Garcí). In contrast, accessibility to financial information is a considerable problem in the public sector, where public sector users have a greater number of obstacles than private sector users (García and Garcí). Meanwhile, contributors and government and citizens claim their legitimate right to completely receive information about using of the state resources. Thus, various researchers and practitioners have a serious attempt to explore that disclosure of financial information on the Internet has a critical role in producing the availability and flexibility of information, reducing communication costs and improving accountability of public entities (Lourenço, 2015; IFAC, 1998). These works applied the agency theory to explain the relationship between voluntary report of financial information online with financial information quality (García and Garcí). Despite all these benefits, few public organizations have adopted this strategy. In a comparison with the rest of the world, in Vietnamese public sector, there exists no regulation on the issue so online disclosing financial information on the Internet is still voluntary and the number of public organizations that have adopted and used of this report approach are quite low. Following this practice, this research trend has not been studied in Vietnam so far. From our above analysis, we suggest that form of disclosure (on the Internet or traditional print financial

statements) is as a control variable to determine whether online reporting financial information on the Internet improving accounting information quality of public organizations or not.

Based on the above analysis and hypotheses, the proposed research model with 11 hypotheses is presented in Figure 1.

3. Research methodology

3.1 The scale of research concepts

The scale of the concept of financial accounting information quality (FAIQ) is inherited from the scale of Lee *et al.* (2002) and is a quadratic scale of 15 components with 65 observation variables, including: appropriate amount (AA), accessibility (ACC), believability (BEL), completeness (COM), relevancy (REL), concise representation (CR), consistent representation (COR), ease of operation (EO), free from error (FFE), interpretability (INP), objectivity (OB), reputation (REP), security (SEC), timeliness (TIM) and understandability (UND).

The scales of the support from leadership, the knowledge of the chief accountant, the availability and function of hardware devices, the availability and function of software and the availability and function of the communication network employ the scales of Komala's research (2012). In more detail, the concept of support from leadership (SL) consists of seven observation variables focusing on three main contents: (1) deciding the quality of financial accounting information to be provided; (2) participation in organising and operating the accounting information system; and (3) commitment and support to ensure resources for the implementation of the accounting information system. The concept of knowledge of the chief accountant (KCA) consists of six observed variables expressing the requirements that a chief accountant must have, including knowledge, experience in accounting and the accounting information system as well as management skills. The scales of the availability and function of hardware devices (HW), the availability and function of software (SW) and the availability and function of the communications network (CN) all have 04 observed variables. These are critical in collecting, processing and storing data while creating and providing quality financial accounting information.

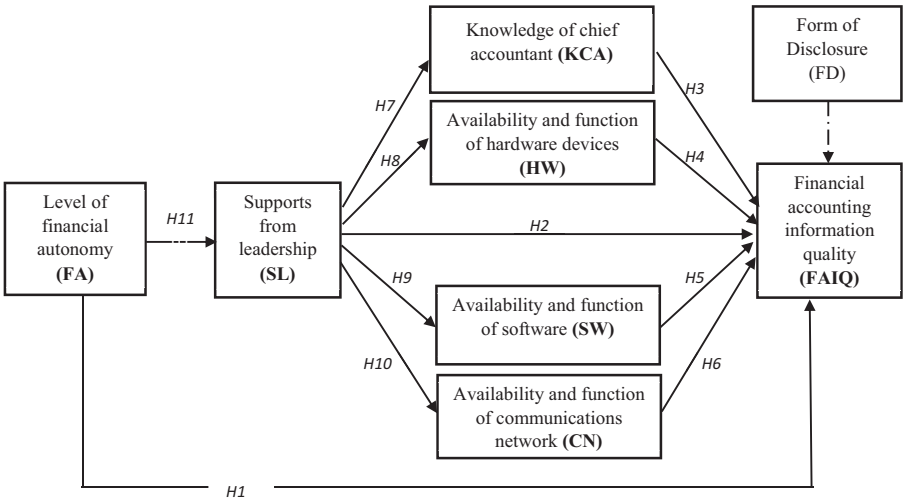

Figure 1.
The research model

Two observable variables are the level of financial autonomy (FA) and the form of disclosure (FD). The FA's measurement scale is nominal scale through four numbers (1–4) to identify and classify four levels of financial autonomy as per the provisions of Decree 16/2015/Decree-Government, including: 1 - Financial autonomy with complete spending and investment; 2 - Financial autonomy with complete spending; 3 - Financial autonomy with partial spending; and 4 - Complete government-support spending. FD variable is measured by numbers 1 and 2 that show disclosing financial information on the Internet (1) and traditional print financial statements (2).

3.2 Data collection

The research model takes the form of structural equation modelling (SEM) and the scales of the concepts are in the form of result-oriented measurements, so Partial Least Squares (PLS-SEM) with the support of Smart PLS 3.2.7 software is used in data analysis. The application of the PLS-SEM analysis technique offers many advantages in processing data compared to traditional analysis methods. First, it is more efficient in evaluating causal relationships among variables in a complex model. Second, the PLS treatment tends to achieve a higher level of statistics than the traditional covariance method. Third, this method simultaneously tests the relationships between many endogenous and exogenous variables at the same time instead of estimating the partial relationship of each pair of elements in the research model. Next, PLS-SEM can accurately estimate the parameters with a minimum sample size. Finally, PLS-SEM allows simultaneous processing of elements in the whole model at the same time. Research model is processed through two separate steps as proposed by Hair *et al.* (2016) including first, testing the measurement model and then testing the structural model. This procedure avoids interpretation of the error that is easily encountered during estimation.

The sample frame of this research also applies to Vietnamese public organisations. According to the statistics of the Vietnamese General Statistics Office published in September 2018, Vietnam has nearly 70,700 public organisations. The education sector accounts for the largest proportion in terms of number, with 61.7% of the total sample, the health sector ranks second with 19.3% and the rest is other fields. The objective of the study is to assess the impact of the level of financial autonomy and the support from leadership on the financial accounting information quality of public organisations in Vietnam. Survey subjects are those who have a good understanding of public sector accounting and are working in public organisations with at least two years of experience to ensure that they have a full understanding of the research issue and the actual situation to fully understand the meaning of the questionnaire (Onwuegbuzie and Leech, 2007). The survey subjects identified in this study include senior managers of public organisations (Chairman and Vice Chairman), chief accountants and accountants working in public organisations.

This study applies the measurement scales of latent variables from previous works around the world; therefore, the process of translating the original survey indicators in English into Vietnamese research context includes three steps as proposed by Brislin (1970). Firstly, this original questionnaire in English is presented to three academics who are good at English and Vietnamese with accounting background to translate into Vietnamese. After that, it is sent to both academics and key survey informants to verify the validity of survey items about meaning, relevance, wording and comprehension. In this step, according to the professional's ideas, some indicators with the same meaning are removed and some explanations are added to help the questions easier to understand. Following step is that the back-translation into English from Vietnamese version is conducted by three academics to ensure that original meaning is consistent. Final version in Vietnamese is circulated to potential subjects.

The proposed research model includes 11 paths, so the minimum number of samples is 110 (Hair *et al.*, 2016). We sent 570 survey questionnaires directly and via Google to the survey

subjects with using a combination of convenient sampling and snowball sampling methods. The data collection tool is a detailed questionnaire with closed questions that are measured on a 7-point Likert scale.

The results consist of 287 answer sheets with the majority being print papers. To ensure the quality of data, we removed the answer sheets if one of the following cases was violated: (1) the survey questions had not been fully answered; (2) the survey subject had the same bias responses to the questions; (3) respondents did not recognise the reverse question; (4) survey subjects were not suitable (e.g. they were working in the enterprise or their position was not suitable); (5) we chose only one answer sheet with the highest quality if the survey subjects were working in the same organisation. After that, the data of satisfactory survey sheets of 164 were used for the analysis. These respondents had two or more years of experience working in public units in 17 provinces and cities in Vietnam. The units operate in various fields in which education and health account for the majority of the sample research, reflecting the fact that these two occupational groups dominate the public sector (General Statistics Office, 2018). The organisational types in the research sample included four groups with different levels of financial autonomy. The large number of research samples can help test whether the proposed research model is applied in many different types of organisations and industries, and it is representative of the whole (Onwuegbuzie and Leech, 2007). Consequently, it helps improve the value of the research results. The statistical results of the sample research are presented in Table 1.

4. Research results

4.1 Testing the measurement model

The test measurement model aims to evaluate the value of the scales using three values: reliability, convergence value and discriminant value. After two measurement model assessments, the scales of the research concepts reached a high value. The evaluation results of the measurement model are listed in Table 2. Specifically, the reliability of the scales reached a high value when both Cronbach's alpha (0.731; 1) and composite reliability (0.880; 1) agreed with high acceptance ($\geq$0.7). The outer loadings of all observed variables are in range (0.747; 1), which is much greater than the threshold of elimination of 0.5 (Online Appendix). The AVE index is well accepted when all values are greater than 0.674 and satisfies the acceptable threshold of 0.5. The values of the two above indicators show that the scales of the research concepts reach a high convergence value. The discriminant values of the underlying concepts are also satisfactory when the heterotrait–monotrait ratio (HTMT) is less than 0.9. FA and FD have all criteria (Cronbach alpha, composite reliability, AVE and outer loading) at 1.000, however, they do not affect the other results of testing the measurement model values because these two variables are measured by an observable variable and are in form of nominal scale (Hair *et al.*, 2016). From the above results, it can be concluded that the scales of the research concepts have high values and can be used to test the structural model in the next step. The measurement results of the research definitions are presented in Appendix.

4.2 Testing the structure model

Structural modelling assessment is aimed at testing the predictability of the research model and testing the research hypotheses. The results of testing the direct relationships between the structures are presented in Table 3. The data shows that FAIQ is significantly affected by five exogenous variables with significance less than 10% as follows: KCA ($\beta = 0.288$; $p = 0.000$), HW ($\beta = 0.267$; $p = 0.000$), FA ($\beta = 0.230$; $p = 0.000$), CN ($\beta = 0.200$; $p = 0.007$) and SW ($\beta = 0.1122$; $p = 0.098$) through the accepted hypotheses including H1, H3, H4, H5 and H6. The only exogenous variable that does not directly affect FAIQ is SL with $p = 0.476$. The factors in the research model explain up to 57.9% of the variation in the FAIQ endogenous variable. In addition, the results from Table 4 also show that the remaining endogenous

Demographic information (sample size: 164)	Quantity	Percentage
Industry		
Training and education	96	58.5
Medical	28	17.1
Culture, sport, and tourism	17	10.4
Journalism	2	1.2
Transportation	3	1.8
Science and technology	3	1.8
Agriculture	5	3.0
Construction	7	4.4
Environment and resource	2	1.2
Trading	1	0.6
Levels of financial autonomy		
Often self-financing and investing	8	4.9
Often self-financing	43	26.2
Often partial self-financing	46	28.0
Often government-financing	67	40.9
Forms of disclosure		
Disclosing financial information on the Internet	20	12.2
Traditional print financial statements	144	87.8
Position		
Head of organization	13	7.9
Vice head of organization	28	17.1
Chief accountant	48	29.3
Accountant	75	45.7
Year of experience		
>10 years	75	45.7
5–10 years	56	34.2
2–5 years	33	20.1

Table 1.
Statistical results of the sample research

variables, including KCA, HW, SW and CN, are directly affected by SL with corresponding impact levels of 0.068, 0.065, 0.051 and 0.069 respectively. However, the empirical test indicates that FD control variable does not affect FAIQ with p-value of 0.121.

Results of testing the five models containing mediating variables are presented in Table 4. SL has no direct impact on FAIQ and the significance of the indirect effects from SL to FAIQ through KCA and HW. Thus, it can be concluded that KCA and HW are mediating variables in the full mediating form in the relationship between SL and FAIQ (Hair *et al.*, 2016). While the relationship from SL to FAIQ through CN and SW is weak and nonsignificant with p-value of 0.160 and 0.348, respectively. We therefore conducted that CN and SW do not represent mediating variable of the relationship between SL and FAIQ. Next, FA indirectly affects FAIQ through a partial mediating variable, SL.

The predictability of the model is also tested using the Q^2 index. All cases of $Q^2 > 0$ show high predictability of the exogenous variables for the endogenous variables in the suggested research model. The value of the results obtained in this study can be reliable when the Variance Inflation Factor (VIF) of each independent variable has values ranging from 1.000 to 2.165, which are much smaller than the exclusion threshold of 5. This result confirms that no collinearity occurred in the research model.

In addition, the number of robustness tests are also conducted to increase methodological rigor and results' validity in both the measurement method and constructs. Firstly, common method variance (CMV) is applied through the use of an additional marker variable as

	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
AA	0.866	0.937	0.882
ACC	0.925	0.947	0.817
KCA	0.903	0.925	0.674
BEL	1.000	1.000	1.000
SL	0.950	0.962	0.834
CN	0.877	0.915	0.730
COM	0.868	0.910	0.718
COR	0.903	0.939	0.838
CR	0.866	0.909	0.714
EO	0.860	0.915	0.782
FFE	1.000	1.000	1.000
HW	0.935	0.954	0.837
INP	0.829	0.898	0.745
OB	0.879	0.918	0.738
QA	0.967	0.969	0.421
REL	0.885	0.921	0.744
REP	0.917	0.948	0.858
SEC	0.731	0.881	0.787
SF	1.000	1.000	1.000
SW	0.927	0.948	0.821
TIM	0.795	0.880	0.710
UND	0.815	0.915	0.844

Table 2.
The evaluation results of the measurement model

Hypothesis	Direct relationship	R^2	Path coefficient (β)	Standard Deviation	p values
	FAIQ	*0.579*			
H1	FA - > FAIQ		0.230	0.052	0.000*
H2	SL - > FAIQ		0.036	0.050	0.476
H3	KCA - > FAIQ		0.288	0.069	0.000*
H4	HW - > FAIQ		0.267	0.069	0.000*
H5	SW - > FAIQ		0.122	0.073	0.098***
H6	CN - > FAIQ		0.200	0.074	0.007**
	KCA	*0.068*			
H7	SL - > KCA		0.261	0.067	0.000*
	HW	*0.065*			
H8	SL - > HW		0.255	0.071	0.000*
	SW	*0.051*			
H9	SL - > SW		0.225	0.079	0.004**
	CN	*0.069*			
H10	SL - > CN		0.262	0.074	0.000*
	SL	*0.029*			
H11	FA - > SL		0.169	0.080	0.034**
Control variable	FD - > FAIQ		0.008	0.052	0.121

Note(s): *, **, **** with significance, of 0.00%, 0.5% and 10% respectively

Table 3.
Test results of direct relationship between the structures

proposed by Lindell and Whitney (2001). It results in no measurement deviations due to the measurement method when the marker coefficients of the marker variables to the potential variables are in the very low range (−0.006; 0.204) compared to the acceptance threshold ($\beta < 1$). Next, this research uses the finite mixture PLS (FIMIX-PLS) method to test whether or not unobserved heterogeneity influences the structural model following procedure of Hair *et al.* (2017). After running FIMIX-PLS, we extract a maximum of four segments as in Table 5.

Mediation models	Direct effects Path coefficient	*P* values	Significance	Indirect effects Path coefficient	*P* values	Significance	Conclusion
SL - > KCA - > FAIQ	0.036	0.476	No	0.090	0.007	Yes	Full mediation
SL - > CN - > FAIQ	0.036	0.476	No	0.061	0.160	No	No mediation
SL - > HW - > FAIQ	0.036	0.476	No	0.066	0.033	Yes	Full mediation
SL- > SW - > FAIQ	0.036	0.476	No	0.029	0.348	No	No mediation
FA - > SL - > FAIQ	0.230	0.000	Yes	0.045	0.077	Yes	Partial mediation (Complementary)

Table 4. The result of testing mediate variable

	Number of segments Segment 1	Segment 2	Segment 3	Segment 4
AIC (Akaike's Information Criterion)	7849.088	7211.777	7063.812	*7039.849*
AIC3 (Modified AIC with Factor 3)	7895.088	7304.777	*7203.812*	7226.849
AIC4 (Modified AIC with Factor 4)	7941.088	7397.777	*7343.812*	7413.849
BIC (Bayesian Information Criteria)	7991.682	7500.065	*7497.793*	7619.524
CAIC (Consistent AIC)	8037.682	*7593.065*	7637.793	7806.524
HQ (Hannan–Quinn Criterion)	7906.976	7328.811	*7239.992*	7275.175
MDL5 (Minimum Description Length with Factor 5)	*8930.058*	9397.215	10353.718	11434.224
EN (Entropy Statistic)	0	0.938	0.935	*0.916*

Table 5. Results of robustness test

In our analysis, both criterions of AIC4 and BIC point to a three-segment solution and the EN value of this segment satisfies the threshold of 0.5, so it notes that a three-segment solution performs well. However, segment size results indicate that the breakdown of sample size of segment 3 is at 23.2%, so it is too small for a segment specific analysis and lower than the threshold of minimum size for each segment (25%). Jointly, the results do not point to a specific segment solution. Furthermore, the R^2 values of the full set of data are smaller than the weighted average R^2 values of the FIMIX-PLS two-segment solution. It substantiates that an unobserved heterogeneity on this data is not at a critical level. Based on these results, we consequently conclude that measurement and structural model results are tested robustness.

5. Discussion

The research results show that the degree of variation in financial accounting information quality in Vietnamese public organisations is significantly explained by factors in the research model (57.9%), including knowledge of the chief accountant, availability and function of hardware devices, level of financial autonomy, availability and function of communication network, and availability and function of software. The results of this study provide additional evidence that support research in developed countries (Xu *et al.*, 2003; Ang *et al.*, 2001) and developing countries (Syaifulla, 2014; Komala, 2012). However, the R^2 of four factors regarding equipment (hardware devices, communication network, software) and the knowledge of the chief accountant are low. The findings can be explained by the fact that these factors have been sufficiently equipped and significantly enhanced because leadership

has been recognised as playing a key role in providing quality accounting information. Recruitment of the chief accountant is also in accordance with the process, regulations, transparency and individual qualifications. Therefore, the variance of these factors seems to reduce the dependence on leadership. Support from leadership does not directly affect the quality of financial accounting information. This result contrasts with those of previous studies such as Fitrios (2016) and Syaifulla (2014). However, support from leadership has a significant indirect effect on financial accounting information quality. This result is shown by the direct impact of the support from leadership on four factors, including the knowledge of the chief accountant, the availability and function of hardware devices, the availability and function of software, and the availability and function of communication network. Two of four these variables, namely the knowledge of the chief accountant and the availability and function of hardware devices are completely mediating variables in the relationship between financial accounting information quality and support from leadership. From this result, it can be affirmed that support from leadership still plays an important role in affecting success when developing and implementing the accounting information system to provide quality financial accounting information.

In particular, the direct influence of the level of financial autonomy on financial accounting information quality of Vietnamese public organisations with an impact level of 23%. This factor also indirectly affects financial accounting information quality through a mediating variable, which is supported by leadership. This result is consistent with the current context of public organisations in Vietnam, which are increasingly being promoted by the government to improve financial autonomy. This perception was tested in the public sector through works such as Rodríguez Bolívar *et al.* (2013) and Guillamón *et al.* (2011).

As the level of financial autonomy improves, leadership is given more autonomy and self-responsibility for the organisation, operation and finance of the unit. Therefore, this result shows that although leadership is not directly involved in accounting work, active support from leadership (for accounting system improvement), such as recruiting a highly knowledgeable chief accountant and appropriate budget investments for accounting infrastructure, will significantly contribute to improving financial accounting information quality. This conclusion is similar to the findings of Fitrios (2016) and Komala (2012) who state that once leadership pays attention to financial accounting information quality and there is active support from human and material resources to organise the implementation of the accounting information system, it will help improve the financial accounting information quality in the public sector.

However, the financial autonomy of public organisations in Vietnam is quite low. The number of public organisations in Vietnam that can reach financial autonomy with complete spending and investment is limited. The statistics of General Statistics Office (2018) show that the number of public organisations that depend on government budgets to operate accounts for 70.2%. This has led to organisational leadership lacking the power to make decisions in investing and developing accounting infrastructure in accordance with the needs of their units. Additional evidence shows that the support from leadership for accounting information systems in public organisations is not high (average score of 4.85/7). The availability and function of hardware devices, the availability and function of software, and the availability and function of communication network are only assessed at a fairly average level with scores of 5.89, 5.841 and 5.52, respectively, on a 7-point scale. The standard deviations of three factors, including the availability and function of hardware devices, the availability and function of software, and the availability and function of communication network, are also quite high (>1). They show that the investment level in accounting infrastructure is not equal among public organisations in Vietnam. Organisations with higher financial autonomy have better conditions, initiative to invest in accounting infrastructure, and vice versa.

The quality of accounting information is not affected by the form of financial accounting disclosure and this conclusion contradicts the findings of many previous works

(e.g. Lourenço, 2015; Bolívar *et al.*, 2006). However, it is similar to the research results of García and García-García (2010) and Taylor (2006) which confirm that the development of the Website of public entities is still limited, especially in developing countries.

6. Implication and conclusion

The exploration in this research has made both theoretical and practical contributions. First, in practical terms, the study results are the basis for public organisations and the government to formulate policies to enhance accounting information quality in the Vietnamese public sector. Public organisations' leadership needs to focus on investing in higher quality equipment. Equipment should be checked and upgraded regularly to ensure the stability, continuity and safety of accounting work. The recruitment and appointment of the chief accountant must be based on their professional capacity and managerial capacity to ensure the post is held by a capable individual. However, these factors are governed by the level of financial autonomy of public organisations. To improve the quality of financial accounting information, public organisations need to be more proactive in improving their financial autonomy. The government also needs to have policies to encourage and actively support public organisations to enhance their financial autonomy.

From a theoretical perspective, the discovery of the relationships between these factors in this paper significantly contributes to the limited literature on the key factors determine the quality of accounting information, particularly that research in the Vietnamese public sector context. Additionally, this result explores the role of financial autonomy in accounting information quality through factors relating to accounting system, which has never been examined before. Hence, this study has narrowed the current research gap in the Vietnamese public sector and is intended to stimulate interest for future researchers in discovering financial autonomy that possibly impacts accounting system, accounting information quality, accountability and transparency in public sector. Moreover, these findings are also a useful document for graduate and postgraduate students in researching on the topics regarding public sector accounting.

This study has some limitations. Although the data are quite diverse, the sample size is still quite small compared to the sample frame. We suggest that future studies should expand the sample size and increase the number of public organisations with autonomy levels in complete spending and investing. Next, factors in the research model only explain 57.9% of the variation in the quality of the financial accounting information. Factors like organisational size, budget size, sources of budget and so on are yet to be considered and studied.

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Further reading

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Appendix
The Appendix are available online for this article: https://doi.org/10.6084/m9.figshare.14337365

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