



International Journal of Business and Economic Sciences Applied Research

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pp. 24-30

VOLUME 11, ISSUE 3

EASTERN MACEDONIA & THRACE INSTITUTE OF TECHNOLOGY PRESS

Accrual Accounting Adoption In Java Municipalities: An Empirical Investigation

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ARTICLE INFO

Article History

Received 13 September 2018

Accepted 2 October 2018

JEL Classifications

I28, M15, M48, M53

Keywords:

Accrual Accounting, Compliance,
Government Regulations,
Explanatory Factors

ABSTRACT

Purpose

Beginning from the assumption that accrual accounting is useful in ensuring the high performance of management systems, this article investigates explanatory factors concerning the level of accrual accounting adoption in municipalities on the Indonesia island of Java.

Design/methodology/approach

Data collection in this study was based on a structured questionnaire sent to the Head of Accounting Sections of 119 Javanese municipalities. The instrument for content and construct validity and reliability was tested. Then, the hypotheses were tested using Structure Equation Modelling (SEM) by SmartPLS.

Findings

The results indicate that the variables of top management support, adequate training programs, and the quality of information technology has a significant effect on the level of accrual accounting adoption and key are factors influencing the level of accrual accounting adoption. They also indicate that organizational culture is an important moderating influence between these variables and the level of accrual accounting adoption.

Research limitations/implications

One of the limitations of this study is that data collection using a survey method through a questionnaire likely does not capture the wider knowledge of respondents; in addition, the questionnaires were distributed only to Javanese municipalities. The findings of this study and the limitations inherent in it can lead to some further research opportunities. For example, further research can examine neglected variables such as the size of the organization and its social capital and also the importance of organizational variables such as local political support and support from external auditing processes.

Originality/value

To the best of the researcher's knowledge, no study of Indonesian municipalities has tested the impact of factor such as top management support, and organizational culture as a moderating effect on the level of accrual accounting adoption.

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1. INTRODUCTION

Since the 1980, a phenomenon has occurred in regard to a change in public sector management style which is characterized by the introduction of New Public Management (NPM) – the adoption by the public sector of the management style of the private sector (Christensen & Parker, 2010; Christiaens & Rommel, 2008; Jagalla, Becker & Weber, 2011; Lapsley, Mussari, & Paulsson, 2009). In Indonesia, there was also a change in

management style when the Suharto regime collapsed in 1998. Since then Indonesia has developed a more democratic political system and improved the transparency and accountability of the government (McLeod, 2005; Harun, 2007; Harun, Van Peursem & Eggleton, 2012). The state adopted centralized elections for the national legislature and executive (president), and governors of provinces and regents or mayors were elected democratically rather than appointed by the central government (McLeod, 2005). Indonesia has also introduced accrual accounting in public institutions to

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DOI: 10.25103/ijbesar.113.03

provide more effective and efficient services. The adoption of accrual accounting was explicitly identified as a public sector financial reform in the country (Nasution, 2006; Nasution, 2008).

Financial management reform in Indonesia had been in process for more than a decade since the enactment of Law No. 17 of 2003 on State Finance and Law No. 1 of 2004 on the State Treasury. The former mentioned that cover a period of five years, starting from 2003 until 2008. Furthermore, the Indonesian government issued a regulation or "Peraturan Pemerintah" (PP) No. 24 of 2005 identifying Government Accounting Standards or "Standar Akuntansi Pemerintah" (SAP) as the basis for the migration of the government's accounting system from a cash basis towards an accrual basis. This regulation provided a transition period for the application of accrual accounting based on the SAP of not more than four years before the budgeting process of 2010. This meant that the transition period was from 2005 until 2009. In 2010, the government published regulation No. 71 mandating the SAP as the basis for accrual accounting to improve the quality and accountability of government performance to replace PP No. 24 of 2005. This regulation also included a Statement of Government Accounting Standards or "Pernyataan Standar Akuntansi Pemerintah" (PSAP) which stated that these standards and accrual accounting methods should be used for the budget process of fiscal year 2010. However, those reporting entities that had not been able to apply the accrual-based PSAP were allowed to migrate from a cash-based system towards accrual-based PSAP during a period of at least four years after 2010. By 2015, the government accounting system had to fully adopt accrual accounting.

The adoption of accrual accounting in the public sector is often accompanied by weaknesses and problems which, during the transition process, are associated with organizational and procedural factors (Cohen, Keimenakis & Zorgios, 2007). These several factors include the lack of trained human resources, motivation and incentives, information technology capabilities, and management commitment (Cohen et al., 2007; Cohen, Keimenakis & Venieris, 2012; Irvine, 2011).

In Indonesia, there are few empirical studies on the adoption of accrual accounting. For example, Marwata and Alam (2006) investigated how various drivers of reform with different interests and preferences compete and cooperate in the process of the reform of government accounting policies. They found that the accounting reform process was marked by both rivalries and alliances between the drivers of reform. Harun (2008) provided an overview of public sector reform in Indonesia. He focused on the barriers, improvements, and actions taken by Indonesia to move to accrual accounting. Harun and Kamase (2012) described the institutional capacity of provincial governments and the adoption problems in accrual accounting. Harun, Van Paursem and Eggleton (2012) evaluated the institutionalization of the accrual accounting system in Indonesian local governments using case studies to gain insights in relation to the process of

institutionalization in the public sector. McLeod and Harun (2014) described and analyzed the challenges faced in trying to reform public sector accounting in Indonesia. Additionally, previous research has been done in the public sector to look at the process of adopting accrual accounting. Simanjuntak (2010) and Bastian (2006) suggested that the adoption of accrual accounting in Indonesia requires adequate information technology and trained human resources.

This paper focuses on exploring the accrual accounting adoption with a focus on Java municipalities. There are two objectives for this study, namely: (i) to examine the relationship between explanatory factors such as top management support, adequate training programs, and the quality of information technology with the level of accrual accounting adoption in Java municipalities, and (ii) to explore whether organizational culture moderates the relationship among these factors.

2. RESEARCH QUESTIONS AND HYPOTHESES

Previous research has been done in the public sector to look at the process of adopting accrual accounting. Simanjuntak (2010) and Bastian (2006) suggested that the adoption of accrual accounting in the Indonesian government requires adequate information technology, management commitment, and human resources. Similarly, Tickell (2010) explained the most important factor in the adoption of accrual accounting is the capability of information technology. In line with this, Blondal (2003) argued that the adoption of accrual accounting must be based on information technology. McGuinness (1988) explained that the most important factors for adopting accrual accounting is management commitment. Furthermore, Ouda (2008) explained the factors that are needed for the adoption of accrual accounting, namely: adequate training programs and information technology capability. Therefore, the current study wishes to examine the relationship between the independent variables of top management support, adequate training program, and the quality of information technology and dependent variable, the level of accrual accounting adoption with moderating effect of organizational culture (see figure 1). Based on the above literature, the current research questions can be stated as follows:

What is the relationship between the explanatory factors (the independent variables) and the level of accrual accounting adoption (the dependent variable), and does organizational culture moderate the nature of this relationship?

The common interests of management who have had previous experience with reform, the reform initiative in terms of accounting practices, and the active involvement of managers are positive influences on the rate of reform adoption (Ridder & Bruns, 2006). Similarly, research conducted by Cavalluzzo and Ittner (2004) shows that top management support has a strong relationship with the adoption of the measurement system. Research by

Jackson and Lapley (2003) showed that managers sometimes resist and impede the practice of accounting. This argument leads to the following hypothesis:

H: There is a relationship between top management support and the level of accrual accounting adoption.

Currently, Indonesian municipalities continue to improve their accountability for public financial management in accordance with principles of good governance. Empirical research has found that adequate training programs have a positive and significant effect on the compliance level of accrual accounting (Christiaens & Peteghem, 2007; Christiaens, 1999; Eriotis, Stamatiadis, & Vasiliou, 2011; Windels & Christiaens, 2006). Based on the above discussion, this study would like to re-examine the relationship between the two variables and propose the following hypothesis:

H: There is a positive relationship between adequate training programs and the level of accrual accounting adoption.

Previous research revealed the importance of IT support in the creation of a new accounting system (Bloomfield & Danieli, 1995; Järvinen, 2006). As local authorities are not usually familiar with accounting applications, the application of additional IT support is assumed to be important in the new system. In line with this, studies by Eriotis et al. (2011) show a positive and significant correlation between the quality of information technology and the compliance rate of accrual accounting. Thus, high quality information systems that exist in organizations should be considered as an essential requisite for the successful adoption of NPM initiatives (Ouda, 2008). This argument leads to the following hypothesis:

H: There is a positive relationship between the quality of information technology and the level of accrual accounting adoption.

To encourage the adoption of any new and more effective system, the management team should be able to learn and be ready to accept and adapt to the tools that are new and

also accept new concepts as opposed to management teams who prefer to maintain the "status-quo" and are suspicious of progress (Dong, 2001). Leaders as well as individuals at all levels of the organization need to learn, particularly at the top level of management. A management team that is conducive to change (as in the case of an organizational culture that is open and supports reform) is more likely to convince and persuade parts of the organization to follow, and this should contribute to the successful adoption of accrual accounting. Thus, the following hypothesis is stated:

H4: Organizational culture moderates the relationship between top management support and the level of accrual accounting adoption.

Creating and influencing an adaptive culture is one of the important things for management to do through training and personnel development programs and the exploitation of opportunities (Daft, 2010). Thus, Siegal and Sussman (2003) asserted that to encourage the adoption of new knowledge and an innovative organizational culture, information exchange should be promoted through training of employees. Thus, the following hypothesis is stated:

H5: Organizational culture moderates the relationship between adequate training programs and the level of accrual accounting adoption.

Human infrastructure is determined by cultural elements such as language, customs, general practices and forms of social organization. Changes in organizational culture, in parallel with the introduction of information technology face the same constraints. The change is expected to bring success in the harmonization of technological considerations in the adoption of accrual accounting. Thus, the following hypothesis is stated:

H6: Organizational culture moderates the relationship between the quality of information technology and the level of accrual accounting adoption.

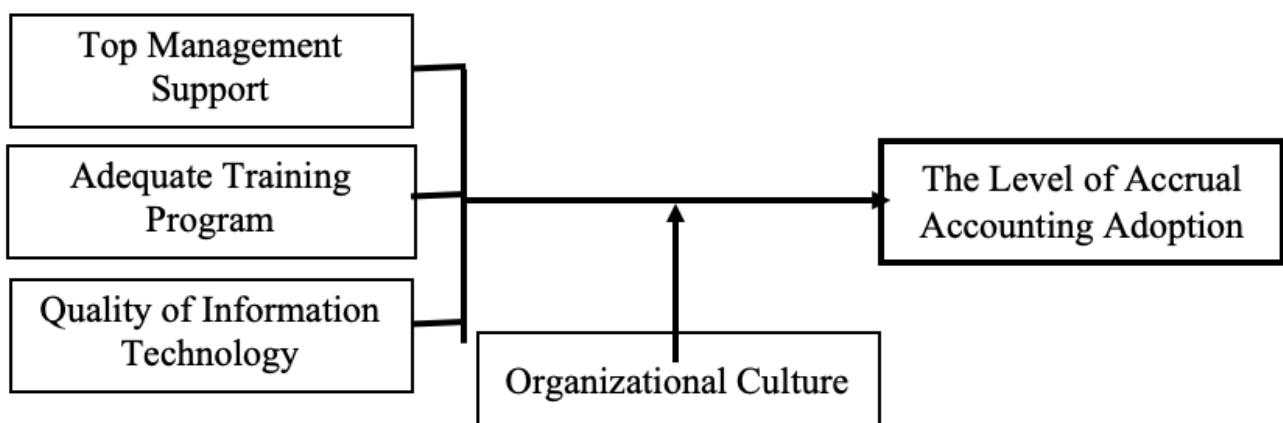


Figure 1. Research Model

3. RESEARCH METHOD

A questionnaire survey was pre-tested and then sent by e-mail or personally delivered to one hundred and nineteen heads of municipal accounting sections on the island of Java. A total of 80 questionnaires were returned. At the end, gathering 67% responses from the total questionnaires is considered more than adequate for analysis. The hypotheses were tested using structure equation modeling (SEM) by SmartPLS. The dependent variable was the level of accrual accounting adoption (LAAA). The level of accrual accounting adoption was estimated as the total number of items in the questionnaire selected by the respondents from local governments divided by the maximum applicable number of items. Respondents were asked to answer "yes" (value = 1) if the item were relevant/implemented and "no" (value = 0) if not. The overall compliance index was calculated for each local government as the sum of scores of all the dichotomous variables. The resulting local government index had a total value of 43 if all the standards were complied with in accordance to the Government Accounting Standards. This approach using an index methodology has proven to be a useful method as it allows general research on many aspects of reform and has been used in a number of previous studies (Cheng, 1992; Christiaens, 1999; Christiaens & Peteghem, 2007; Cohen & Kaimenakis, 2007; Eriotis et al, 2011; Ryan, Stanley & Nelson, 2002). The independent variables, top management support, adequate training programs, information technology, and organizational culture, use perceptive measures, and thus multi-question Likert scales (1 = strongly disagree and 5 = strongly agree) were

used to derive composite scores for each factor. All of the measures were based on the previous literature.

4. RESULTS

This study eventually reached 80 heads of accountant sections in Javanese municipalities. Respondents were asked to provide demographic information. The statistical results indicate that the gender of the sample consisted of 60% males and only 40% females. For the education level, those with a bachelor's degree represented the largest group with 76% followed by those who held a master's degree with 22% and a doctorate, 2%. A majority of the respondents (50%) have been with their organization for over fifteen years, 32% of the respondents have been with their organization for 11 to 15 years, and 18% of the respondent have been with their organization less than 5 years.

Table 1 demonstrates the validity and reliability of the test results from the instruments. The lowest reliability level that can be accepted has to equal 60% and above for testing survey instruments (Malhotra, 2004). As can be seen in table 1 below, the constructs reliability test lay within the range of 0.637 - 0.902. These results confirmed an acceptable level of validity and reliability. Structure Equation Modeling (SEM) with Partial Least Squares (PLS) techniques was used to test the hypotheses, and this requires a significance level of 0.05 or 5% for the basis of acceptance or rejection of the hypothesis.

Table 1. Validity and Reliability Test

$R^2 = 0.492$			
Variable	AVE	Composite Reliability	Cronbach's Alpha
TMS	0.543	0.870	0.834
TRAIN	0.788	0.789	0.716
ITQUAL	0.589	0.884	0.855
TMS*ORCUL	0.457	0.854	0.835
TRAIN* ORCUL	0.649	0.912	0.902
ITQUAL* ORCUL	0.317	0.846	0.637

In Table 1, it can be seen that $R^2=0.492$ indicates that the variation of the dependent variables can be explained by the independent variable at a level of 49.2%, while the remaining 50.8% is explained by other variables outside the model. Furthermore, Table 2 shows the results of PLS testing. The table shows that top management support (TMS= $t=3.276$), adequate training program (TRAIN, $t=4.074$), and the quality of information technology (ITQUAL, $t=2.529$) influence the level of accrual accounting adoption (LAAA). Meanwhile, organizational culture (ORCUL) has a moderating effect on both the relationship between top management and the level of accrual accounting adoption ($t=2.126$) and the relationship between adequate training and the level of accrual accounting adoption ($t=2.370$). However, there is no moderating effect on the relationship between the quality of information technology and the level of accrual accounting adoption ($t=0.779$).

Top management support has a very important role in achieving the goals and objective of implementation (Harun, 2007; Simanjuntak, 2010). The result of this study indicates that top management support has a significant effect on the level of accrual accounting adoption, which means H1 can be accepted. These findings are in line with other accounting implementation studies which explain top management support as the key to the successful implementation of accrual accounting (Ridder & Brun, 2006; Jackson & Lapsley, 2003). In the context of the accrual accounting adoption rate in Java municipalities, the presence of peak management support is vital because the adoption of accrual accounting is a large and complex process and requires significant resources. With the commitment and support of top management concerning the necessity of adapting accrual

accounting, vital resources will likely be made available to facilitate the adoption process.

Another significant result of the survey is that an adequate training program was proven to affect the level of accrual accounting adoption. The result of this study therefore supports H2. This finding is in line with previous research findings that reinforce the assumption that adequate training programs have a positive and significant effect on the level of adoption of accrual accounting (Christiaens, 1999; Christiaens & Peteghem, 2007; Windels & Christiaens, 2006).

Testing the influence of the quality of information technology on the level of accrual accounting adoption obtained a p-value of 0.012, smaller than the level of significance 0.05. This shows that the quality of information technology is positively and significantly related to the level of accrual accounting adoption. The result of this study therefore confirms H3 – that in Javanese municipalities, the quality of information technology has a positive and significant effect on the level of accrual accounting adoption. These findings are in line with research by Järvinen (2006) and Eriotis, et al (2011).

Table 2. Results of Hypothesis Testing Using Structural Equation Modeling

Hypothesis Number	Relationship	Path Coefficient	t-value	p-value
H1	TMS -> LAAA	0.112	3.276**	0.001
H2	TRAIN -> LAAA	-0.612	4.074**	0.000
H3	ITQUAL -> LAAA	0.163	2.529**	0.012
H4	TMS * ORCUL -> LAAA	-0.070	2.126**	0.041
H5	TRAIN * ORCUL -> LAAA	-0.050	2.370**	0.019
H6	ITQUAL * ORCUL -> LAAA	-0.023	0.779	0.437

** Sig. if the t-value ≥ 1.96 two tail t-test. $p \leq 0.05$.

The relationship between top management support and the level of accrual accounting adoption is significantly moderated by the presence of a supportive organizational culture. The presence of such a culture has an effect on the relationship among the top management support and the level of accrual accounting adoption. Top management support should carefully consider the behaviour, working styles, and habits of employees to avoid rejection of a new system. The relationship between adequate training programs and the level of accrual accounting adoption is also significantly moderated by the existence of an open organizational culture. The presence of such a culture can be very important in the development of adequate training programs (Siegal & Sussman, 2003).

5. CONCLUSION

The empirical findings of this study are potentially important for regulatory bodies, municipalities, the central government, and users of local government financial reports. These findings can be applied to developing and improving public sector governance. In particular, these findings may serve as input for public policy making in the implementation of PP No. 71 of 2010 in order to ensure its full implementation in all Indonesian government institutions. Given the results of the hypotheses testing, it can be concluded that there is a relationship between top management support, adequate

training programs, the quality of information technology and the level of accrual accounting adoption. One of the limitations of this study is that data collection using a survey method through a questionnaire does not likely capture the wider knowledge of respondents; in addition, the questionnaires were distributed only to Javanese municipalities. The findings of this study and the limitations inherent in it can lead to some further research opportunities. For example, further research can examine neglected variables such as the size of the organization and its social capital and also the importance of organizational variables such as local political support and support from external auditing processes. This study focuses solely on the perceptions of heads of municipal audit units to investigate the problem of accrual accounting adoption practices in the preparation of financial statements. However, there are other communication media through which municipalities can transmit financial information. Therefore, it is suggested that in the future, additional studies may explore other disclosure channels such as website data or press releases, although the latter is not a common form of communication in Indonesia.

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