INTEGRATING PEOPLE AND TECHNOLOGY IN ACCRUAL ACCOUNTING MANAGEMENT TO SUPPORT QUALITY FINANCIAL REPORTING

Hayat A., Akhmad B.A., Budiman A., Rajiani I.*

Abstract: The worldwide patterns in embracing a newly administration rehearses, has reformed the public accounting practices. Consequently, the utilisation of accrual-based accounting framework to improve the nature of financial announcing data and upgrade public area responsibility and straightforwardness has become the mantra in the organisation. Nevertheless, the presentation of another bookkeeping framework is not a simple and straightforward cycle. There is a considerable discrepancy between changes to the idea of formal bookkeeping practices and its final turn of events and usage. In that capacity, this investigation examines the preparation of the Indonesian public area towards the selection of accrual accounting as a component of the reformation change endeavours by investigating readiness in human resources and technology and how it impacts financial report. Structural Equation Modelling was employed to examine the relationships among constructs in samples of 200 government employees in South Kalimantan Indonesia. The findings uncover that few activities were taken to help the appropriation of the new framework. Nonetheless, it is evident that the introduction of accrual accounting keeps on confronting difficulties and significant insufficiencies including an absence of expert public sector accountants particularly at the nearby government level, proceeded with the usage of cash-based budgeting along with non-aligning information technology systems. Henceforth, these issues should be routed to guarantee public sector readiness towards actualising new model of accounting practice.

Key words: accrual accounting, public sector accounting, accounting reform.

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Introduction

Lately, Indonesian public sectors are encouraged for improving effectiveness and efficiency by innovating both in technology and management (Rajiani & Norain, 2019). The swift advance of technology has led to several implementations of effective and efficient e-based management practices (Urban and Joubert, 2017; Wróblewski et al., 2018; Ślusarczyk & Haque, 2019; Manczak et al., 2019) in public sectors. The transformations then occur in several aspects, and one of them

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is the financial administration system which unavoidably affects the employment relationship (Akhmad et al., 2020; Maric, 2020). Since the conventional cash accounting model could not give the demanded financial data quality (Stefanescu, 2020), the reformation in Indonesia public sector must amend bookkeeping rehearses. Hence, it is pronounced that the public authority both at central and local territory, must implement the accrual based in accounting model from the 2015 fiscal year.

However, the implementation is gradually to allow stakeholders some times to adjust. The accrual accounting system-accounting that records financial transactions during the transactions are made regardless to the time of the receipt or payment of cash (Weygandt et al., 2018) - is perceived to be the most sophisticated accounting model. The model is considered to facilitate greater transparency in public sector activities, reinforce the accountability of government, and enhance the quality of decision-making (Labrador & Olmo, 2019) as well improve quality financial reporting (Shakespeare, 2020; Urbańsk and Haque, 2020).

Although the utilisation of the accrual-based accounting system in most developed nations has asserted some advantages: better monetary administration: comprehensive analysis of cost drivers as well as effective cash management (de Aquino et al., 2020), implementation of a new accounting model in a government is a complicated task for there exists a wide gap between alteration to the previous widely practised accounting model and the desired outcomes (Polzer et al.,2019). Since official utilisation of the accrual model would not instantly generate ultimate yield, there is a necessity to examine the readiness of the Indonesian infrastructures in terms of human and technology in adopting accrual accounting as an element included in reformation model. Nowadays, the practice of accrual accounting in Indonesia has been for five years. However, Supreme Audit Body of Indonesia announced, only a few numbers of local governments have been successful in preparing compliant financial statements, and only a few local governments earn unqualified opinion (Fahmid et al., 2020). This opinion denotes that the financial information has been prepared in line with the typical procedures applied for government agencies (Setyawan & Gamayuni, 2020).

Indonesia, as a newly developed country, is technologically sufficient and wellprepared for adopting high technology in public and business organisations. However, many implementation of accounting technology in Indonesia has not been acknowledged to the level and effect comparable to developed countries (Winarno & Putra, 2020). This is the impact of the Indonesian public sector apparatus preferring to work conventionally instead of operating information-based technology (Sarbaini et al., 2019).

As such, we would like to examine further on how human and technology side effect accrual-based accounting and impact on financial report quality.

Literature review

Accrual accounting remains the major topic in public sector accounting up to this point since majority articles previewing public sector accounting or governmental accounting reformation usually relate it with shift on accounting method from cash to accrual basis (Schmidthuber et al.,2020). Consequently, scholars consider that the model is the trend which would be applicable all over the world in the future (de Aquino et al., 2020; Adeniran & Obembe, 2020; Beretta & Cencini, 2020).

However, some scholars, for example, Moretti (2016); Kliestikova et al., (2017); Valaskova et al., (2018) emphasise that not many countries have implemented accrual accounting. They provide information about variation implementation of governmental accounting in 34 developed countries in Europe that joined the Organization for Economic Cooperation and Development (OECD). Only Switzerland that is purely implementing full accrual, while Netherlands and Germany, are categorised as the country that remains to apply cash-based accounting with an exception for some transactions are using accrual. Even, the current finding indicates that Finland and Germany are reluctant to change toward accounting system for reasons that the model is criticised for the accrual inadequate consideration of specific sub-sectors, business-style accounting in government, and a lack of pressure to implement standards (Schmidthuber et al.,2020). As such, the mainstream accounting perspective of OECD members in Europe is still cash-based accounting. Further, although the Asian Development Bank (ADB) claimed that 33 countries in Asia and the Pacific (including Indonesia) and nine non-regional ADB member countries have adopted or are adopting, or converging their national standards to accrual-based accounting framework', empirical evidence supporting this claim is hardly proven (Polzer et al., 2019; Nadhir, & Wardhani, 2019).

In the context of Indonesia, accrual accounting is accounting that recognises operational revenue, expenses, assets, liabilities, and equity-based on accrualbased. Still, it recognises cash revenue, expenditure, and financing based on a cash basis (Yuliati et al., 2019). Under the Indonesian Central Government's regulation, the local government must present financial reports beneficial for stakeholders in assessing accountability commonly used for economic, social, and political purposes. Therefore, accounting information must be qualified as the authorised Indonesian audit agency opines based on financial disclosure reported. Qualified accounting information should be relevant, reliable, comparable, and understandable (Setyawan & Gamayuni, 2020). Relevant information is the one having feedback value, has a predictive value, on time, and complete. Reliable information is free from misleading notions and material errors, presenting every fact fairly, and verifiable. Accounting information will be more useful if it can be compared, both with the previous period and with other reporting entities in general. The accounting information presented should be understandable to users and expressed in forms and terms tailored to the limits of user's perspective.

The opinion reflects the financial reporting quality. Most of the local governments earn a qualified opinion, and some reach the adverse opinion - the firm's financial report does not comply to standards, and even, disclaimer opinion – the audit agency cannot decide the firm's financial standing (Furqan et al.,2020). This because local governments were having no strategy in implementing new accounting standards-the reforms promoted as being learnt from the 'best accounting practices' of Western countries.

Also, they do not plan for human resources training needs. Some of the training held by local governments did not improve human resource competence. There is a lack of human resources who understand and able to organise accrual-based accounting (Muda & Erlina, 2019). With particular reference to the contribution of people in accrual accounting implementation, Ability, Motivation and Opportunity (AMO) theory is applicable as this is the utmost conceptualisations that commonly applied in the HRM applies on the business narration (Mohtar & Rajiani, 2016). In the study, one of three factors AMO theory: Ability is used to analyse the impact to accrual accounting specifically as we believe within Indonesian setting the motivation and opportunity are there already to be imposed by government's rules, but without the implicit knowledge management (Arsawan et al.,2018) on how to develop this ability, the idea seems not applicable.

Many studies apply the unified theory of acceptance and use of technology (UTAUT) model as the point of departure in determining the user's acceptance of technology including accounting (Varma, 2019; Razif et al. 2019). Therefore, we employ the same model in determining the acceptance of accrual accounting model. Accordingly, the willingness of public sectors employees to use technology is influenced by performance expectancy, effort expectancy, social influence, and facilitating conditions. Performance expectancy is the level of individual confidence that utilising the framework will assist in doing the job better. is the level of straightforwardness related to the utilisation of the framework. Social influence is the level individual's perception that others consider people should utilise the new framework. Facilitating conditions is the level of an individual's belief that hierarchical and specialised foundation exists to help the utilisation of the framework (Harlie et al., 2019).

Data and Methodology

This study is a quantitative method in nature aimed at testing and identifying variable dependency (Kot & Rajiani, 2020) by analysing the interaction of human, technology upon implementation of accrual accounting toward the quality of financial reporting in Indonesia local government of South Kalimantan, Indonesia. Respondents of 200 are public sector employees in South Kalimantan Province, Indonesia. The data was collected from June 2019 until January 2020. The sample selection method is using purposive sampling, that is based on the willingness of the member joined in Whatsapp social media group to take part. This group

contains local government accounting manager and staff in South Kalimantan, Indonesia. Employees' ability was estimated utilising a 7-item test adopted from the work of Mohtar & Rajiani (2016). The items are labeled accrual accounting job descriptions (x1.1), accrual accounting job candidates (x1.2), accrual accounting awareness (x1.3), accrual accounting in socialisation processes (x1.4), training for accrual accounting (x1.5), accrual accounting knowledge management (x1.6), and using employees' tacit knowledge in accrual accounting (X1.7).

The tendency of using accrual accounting technology was measured with performance expectancy (x2.1), effort expectancy, (x2.2), social influence (x2.3) and facilitating conditions (x2.4). These items have previously used in a study within Indonesian setting (Harlie et al.,2019). Effectiveness of accrual accounting implementation is quantified with 6 indicators developed by Hidayah & Zarkasyi (2017). The indicators are productivity (y1.1), quality (y1.2), efficiency (y1.3), flexibility (y1.4), satisfaction (y1.5), and excellence (y1.6). Quality of financial reporting is measured with indicators suggested by Setyawan & Gamayuni, (2020), namely relevancy (y2.1), reliability (y2.2), comparability (y2.3), and understandability (y2.4).

Path analysis was employed to examine the relationship. In each item, respondents were set to mention their preference on a point scale from 1, strongly disagree agree, to 5, strongly agree. The theoretical model of the research is summed up as follows:

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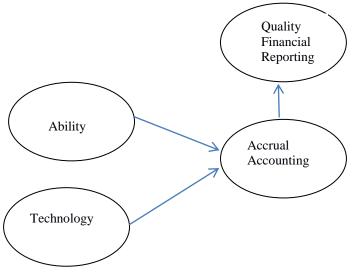


Figure 1: Theoretical Framework

Factors loading are generated to assess discriminant validity with the rule that only items with factors loading above 0.50 will use in further analysis (Hair et al., 2020). The hypotheses are:

- 1. Organizations that develop accrual accounting ability are very likely successful in implementing accrual accounting reflected in qualified financial reporting.
- 2. Organizations that apply technology in accrual accounting are very likely successful in implementing accrual accounting reflected in qualified financial reporting.
- 3. Due to still in process of developing the ability and the technology, accrual accounting will not affect the quality of financial reporting.

Results and Discussion

The summary of respondents' gender, education, age, position and years of working experience is depicted in Table 1.

Table 1. Respondents prome						
No.	Items	Frequency	Percentage			
1.	Gender					
	-Men	160	80%			
	-Women	40	20%			
2.	Educational background					
	-Undergraduate	120	60%			
	-Master	70	35%			
	-Doctorate	10	5%			
3.	Age					
	-40 up to 50 years	180	90%			
	> 50 years	20	10%			
4.	Job Positions					
	-Manager	50	25%			
	-Staff	150	75%			
5.	Tenure					
	< 5 years	50	25%			
	>5 years	150	75%			

Table 1. Respondents' profile

The average values for the variables of ability and technology to implement accrual accounting are 3.5 and 4.2 respectively. The figure of 3.5 (out of 5) indicates that to some extent respondents have acknowledged the importance of indicators for human resources to perform the accrual accounting. Besides, the relatively high average for human resources shows that the government has sufficiently provided technology for accrual accounting implementation. Further, the average values for accrual accounting and financial reporting are 3.3 and 3.4. These provide an initial assumption that accrual accounting and financial reporting are definition of the medium quality.

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Measurement model in Table 2 shows that all factors loading exceeded 0.50 confirming that the instrument had fulfilled satisfactory convergent validity criteria.

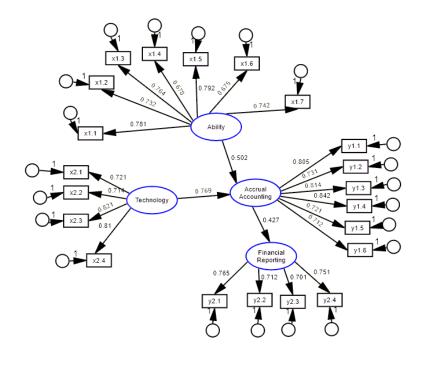
Construct	Loading
	Factors
x1.1 <ability< td=""><td>0.781</td></ability<>	0.781
x1.2 <ability< td=""><td>0.732</td></ability<>	0.732
x1.3 <ability< td=""><td>0.764</td></ability<>	0.764
x1.4 <ability< td=""><td>0.678</td></ability<>	0.678
x1.5 <ability< td=""><td>0.792</td></ability<>	0.792
x1.6 <ability< td=""><td>0.675</td></ability<>	0.675
x1.7 <ability< td=""><td>0.742</td></ability<>	0.742
x2.1 <technology< td=""><td>0.721</td></technology<>	0.721
x2.2 <technology< td=""><td>0.714</td></technology<>	0.714
x2.3 <technology< td=""><td>0.821</td></technology<>	0.821
x2.4 <technology< td=""><td>0.810</td></technology<>	0.810
y1.1 <accrual accounting<="" td=""><td>0.805</td></accrual>	0.805
y1.2 <accrual accounting<="" td=""><td>0.731</td></accrual>	0.731
y1.3 <accrual accounting<="" td=""><td>0.814</td></accrual>	0.814
y1.4 <accrual accounting<="" td=""><td>0.842</td></accrual>	0.842
y1.5 <accrual accounting<="" td=""><td>0.721</td></accrual>	0.721
y1.6 <accrual accounting<="" td=""><td>0.712</td></accrual>	0.712
	0.7.5
y2.1 <financial reporting<="" td=""><td>0.765</td></financial>	0.765
y2.2 < Financial Reporting	0.712
y2.3 < Financial Reporting	0.701
y2.4 < Financial Reporting	0.751

Table 2. Loading factors of construct

The study full model is depicted in Figure 2.

SEM requires appropriate value of Chi-square statistic ($\chi 2$) and probability (P) above 0.05 together with other complimented measurements to examine the robustness of model (Shipley & Douma, 2020). Examined from $\chi 2$ test ($\chi 2 = 12.863$) and probability (P = 0.10), the model fulfilled the criteria goodness-of-fit. Other measurements also support the model robustness as indicated with CMIN/DF = 1.387 (below 2), GFI = 0.973 (above 0.90), AGFI = 0.988 (above 0.90), CFI = 0.980 (above 0.95), TLI = 0.9727 (above 0.95), RMSEA = 0.082 (above 0.06) (Hair et al.,2020). The overall result of modelling is presented in Table 2. The table indicated that two paths are significant, and one path is not. A significant relationship is identified between ability, technology and accrual

accounting implementation, while accrual accounting is not significant to quality financial reporting.



MEASURES OF FIT RMSEA= .082 GFI = .973 AGFI = .988 CFI = .980 TLI = .977 Chi Squared / DF = 1.387 P-value = .10

Figure 2: Full model

The overall result of modelling is presented in Table 2. The table indicated that two paths are significant, and one path is not. A significant relationship is identified between ability, technology and accrual accounting implementation, while accrual accounting is not significant to quality financial reporting.

Constructs	Estimate	S.E.	C.R.	Р	Conclusion			
Ability < Accrual Accounting	0.502	0.098	3.501	***	Significant			
Technology < Accrual Accounting	0.769	0.125	4.869	***	Significant			
Accrual Accounting< Financial Reporting	0.427	0.021	-0.210	0.08	Not Significant			
Notes: *** = $p < 0.00$.								

Table 2. The overall result of modelling

The critical ratio (CR) of ability = 3.501 and significance of < 0.000 assure the first hypothesis: organisations that develop accrual accounting ability are very likely successful in implementing accrual accounting reflected in qualified financial reporting. Also, the critical ratio (CR) of technology = 4.869 and significance of < 0.000 prove the second hypothesis: organisations that apply technology in accrual accounting is very likely successful in implementing accrual accounting reflected in qualified financial reporting. Finally, the critical ratio (CR) of accrual accounting = -0.210 and significance of > 0.005 confirm the third hypothesis accrual accounting will not affect the quality of financial reporting.

Consequences of this examination demonstrate that there is no critical impact from the usage of government bookkeeping norms to the financial reporting quality. It is lining up with the aftereffects of study led by Gamayuni (2018) showing the exploration in another neighbourhood administration of Indonesia, which demonstrate that legislative bookkeeping standard usage does not impact the financial reporting quality. In light of this investigation result, accrual-based government accounting standard implementation cannot influence the nature of government financial reports as far as relevancy, reliability, comparability and understandability. This since the new accrual-based accounting just has become compulsory in 2015 that many decision-makers and operators have not possessed the capability to adapt the model as well understood this accrual-based technology application.

However, recent finding emphasises that the problems of adoption and implementation of accrual accounting in Indonesia is not only organisational but also political matters. This is because politicians and other stakeholders are either doubtful of the benefits of accrual accounting or reluctant of applying accrual information in decision-making (Harun et al.,2019). Consequently, cash accounting and accrual accounting run hand in hand (Polzer et al.,2019). Also,

Boolaky et al. (2019) investigating the speed of accrual accounting adoption in Indonesia by employing data from 205 local government show that entities auditors and representatives of opposition on the council are more influential on the speed of adoption than the councillors supporting the government.

External influences and pressures of the organisation when producing financial reporting may appear in different forms: coercive to mimetic to normative (Latif et al.,2020). Coercive pressure is related to state intervention and excess reliance on external resources. Mimetic pressure relates to duplicating other successful organisations. Normative pressures are, however, more elusive as they initiate from the profession and scholars. The dissemination of accrual accountings in developing countries is usually connected to coercive pressure (Baskerville & Grossi, 2019). One of the terms imposed by the International Monetary Fund (IMF) on Indonesia to obtain financial aids in 1998 was that the country ought to shift the government model from centralisation to decentralisation. To respond, the government allowed local governments autonomy at the provincial level and the district or municipality level. Upon the implementation of decentralisation in 1999, the central government enacted a law which the initial phase in reforming the government financial reporting system was to alter the prevailing reporting and budgetary systems of the public sector from cash into accrual base (Lewis, 2010). Thus, in the case of Indonesia, the adoption is due to coercive pressure while the implementation is reckoned to be supreme to safeguard sound governance, accountability and sustainable economic development. The dissatisfaction of many developed western countries toward the performance and outcome of accrual model must be considered by the Indonesian government in accounting obtaining the required capacity and competence to undertake a transition towards accrual accounting in the longer term.

Managerial Implication

The challenge to the accrual-based system is obstruction from the individuals who are contented with old propensities and practices. Thus, change requires substantial political assistance and leadership. If the issue of representatives preparing, human resources, professional bookkeeping, experience with innovation and change the executives' framework are not rearranged, the selection of the accrual accounting system would confront more complicated issues. There is a critical need to improve the correspondence procedure concerning the appointment of accrualbased course together with the redesign of training and workshops.

Conclusion

Indonesia introduced many public sector financial management reforms during the past decade, including the unique basis of accounting which is cash towards an accrual basis. The primary purpose was to investigate the adopted model in

improving the capacity to provide the sound financial report. However, it was found that the reform initiatives have failed to achieve the objectives of the improved transparencies and accountabilities. Most of the governmental agencies ended up with high levels of "Qualified", and "Disclaimer" audit reports as most of the people are still in the process of adopting the accrual accounting model. Therefore, to ensure the Indonesian public financial management reforms on the right track, the reformers should try to synchronise the Indonesian public sector accounting infrastructure.

One limitation of this study is that sample of this research is drawn from local government agencies adhered to those staying in one province of Indonesia making the generalizability of the results to other local government is unknown. This way, this research offers meta-analysis for different local government in Indonesia to investigate the readiness of human resources and technology toward the accrual-based accounting when wishing to produce qualified financial report.

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INTEGRACJA LUDZI I TECHNOLOGII W ZARZĄDZANIU RACHUNKOWOŚCIĄ W CELU WSPARCIA JAKOŚCI RAPORTOWANIA FINANSOWEGO

Streszczenie: Globalne trendy w przyjmowaniu nowych praktyk zarządzania publicznego doprowadziły do zreformowania praktyk rachunkowości publicznej. W konsekwencji, mantrą organizacji stało się stosowanie systemu rachunkowości memoriałowej w celu poprawy jakości informacji w sprawozdawczości finansowej oraz zwiększenia odpowiedzialności i przejrzystości sektora publicznego. Jednak wprowadzenie nowego systemu księgowego nie jest łatwym i prostym procesem. Istnieje duża rozbieżność między zmianami w koncepcji formalnych praktyk księgowych a ich ostatecznym opracowaniem i wdrożeniem. W związku z tym niniejsze badanie analizuje gotowość indonezyjskiego sektora publicznego do przyjęcia rachunkowości memoriałowej w ramach reformy sektora publicznego poprzez przegląd gotowości zasobów ludzkich i technologii oraz jej wpływu na sprawozdania finansowe. Modelowanie równań strukturalnych zastosowano do zbadania relacji między konstrukcjami w próbkach 200 pracowników rządowych w południowej Indonezji Kalimantan. Wyniki pokazują, że podjęto kilka inicjatyw wspierających przyjęcie nowego systemu. Jednak ewidentne jest, że przyjęcie rachunkowości memoriałowej nadal napotyka wyzwania i poważne niedociągnięcia, w tym brak profesjonalnych ksiegowych sektora publicznego, zwłaszcza na poziomie samorządów, dalsze wdrażanie budżetowania kasowego wraz z brakiem integracji różnych systemów informatycznych. W związku z tym należy zająć się tymi kwestiami, aby zapewnić gotowość sektora publicznego do wdrożenia rachunkowości memoriałowej w Indonezji.

Słowa kluczowe: rachunkowość memoriałowa, rachunkowość sektora publicznego, reforma rachunkowości, Indonezja.

将人员和技术集成到会计核算管理中以支持质量财务报告

摘要:采用新的公共管理惯例的全球趋势已经改革了公共会计惯例。因此,使用基于权 责发生制的会计系统来提高财务报告信息的质量并增强公共部门的问责制和透明度 已成为组织的口头禅。但是,引入新的会计系统并非易事。正式会计惯例概念的变更 与其最终发展和实施之间存在很大差距。因此,本研究通过回顾人力资源和技术的准 备情况及其对财务报告的影响,分析了印度尼西亚公共部门准备采用应计会计作为公 共部门改革工作的一部分的情况。结构方程模型被用来检验印度尼西亚南加里曼丹省 200名政府雇员的样本中的构造之间的关系。调查结果表明,已采取了一些举措来支持 新系统的采用。但是,很明显,采用权责发生制会计制仍然面临挑战和重大不足,包括 缺乏专业的公共部门会计师,尤其是在地方政府一级,继续实施现金预算,以及不整 合各种信息技术系统。因此,需要解决这些问题,以确保公共部门准备在印尼实施应 计制会计。

关键词:权责发生制会计,公共部门会计,会计改革,印度尼西亚。