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The Issues Influencing of Environmental Accounting Information Systems: An Empirical Investigation of SMEs in Indonesia

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ABSTRACT

Recognizing the limitations in corporate environmental accounting (EA) systems, the present study examines the critical issues in the usefulness of EA Information Systems (EAIS). In this regard, the study investigates the impact of perceived environmental uncertainty (PEU), sophistication of information technology (ITS) and measuring errors in environmental cost (EEC) on EAIS alignment in Indonesian SMEs. The findings of confirmatory factor analysis lead to conclude that the conceptual model fulfills the goodness of fit criteria. Furthermore, the results of Structural Equation Modeling establish that ITS, measuring EEC and PEU have significant impact in influencing the Alignment of Environment Accounting Information System in Indonesia.

Keywords: Environmental Accounting Information Systems, Environmental Cost, information technology sophistication, Environmental Uncertainty

JEL Classifications: Q34, Q56, M00

1. INTRODUCTION

The presence of increasing social costs and deteriorating environmental conditions have been identified in the past as the core cause of initiating the conception of environmental accounting (EA). The concept of EA is utilized on both national and corporate level. It is based on the notion of deliberating quality of life instead of standard of living. Before the introduction of EA, the discipline of accounting is being recognized as an assisting domain to capture the true financial and monetary assessments of the organizational resources and the operations (Fisher, 1996) (Jones & Richard, 2002). However, looking at the social responsibilities of the businesses as the organizational behavior tends to exert its influence not only within the organizational vicinity but to the entire region which is related to its operations and being affected by its existence. On the other hand, prior to EA, the measurements of accounting and its reporting systems were confined only to valuation of organizational revenues, costs, resources and obligations and lacks the measurement of the burden the businesses are exercising on the environment.

Keeping in mind the shortcoming of accounting in limiting its approach to the capitalistic assessment, the inclusion of EA has brought the systems of accounting towards the more valued functioning of measuring societal valuations (Rhee, 2001). In particular, the domain of EA is associated with the identification, measurement and reporting of the resources utilized and environmental costs incurred at both micro and macro levels. In this regard, the methodology involved in applying the concepts of EA has given the meaningful perceptions to the field of

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sustainable development (Agbejule, 2005). In its early ages, the methods of EA are confined to manual estimations. In addition to the limitation of time cost, the presence of human error was considered as the core shortcoming in the manual structures of EA. As a result, the accomplishment of fulfilling the standards of EA is complimented with the debate of incurring high levels of time cost and vulnerability to human errors. In compliance, the systems of technological innovations have been incorporated in the framework of EA to attain the desire fit between the goals of EA strategies and the benefits of information technology. With the passage of time, the inclusion of information systems in the functions of EA has led to enhance the efficiency and usefulness of the desired outcomes. The core purpose of introducing EA Information Systems (EAIS) is to offer better choices in adjusting human and ecological needs that can be empowered by having more general, reliable and incorporated natural and monetary information by means of accounting information systems (AIS) (Vardon et al., 2018).

In the practical world, the sphere of EAIS is faced with severe challenges from the process of its introduction to structuring, from allocation of IT resources to building IT infrastructure, and most importantly from the significant course of measurement to the ends of decision making. Among the various problems faced by the managers, the significant issue in the domain of EAIS lies in its reliable measurements. This is since in the absence of true figures and actual costs, the whole process of establishing EAIS lost its worthiness. The core purpose behind the emergence of EA is to provide the businesses and countries, exact quantities and social costs they are incurring in the process of fulfilling their business needs. The motive of EAIS relies in its response in adopting the eco-friendly practices and operations to ensure sustainability and social responsibilities. In the absence of measurement errors, the whole purpose of EAIS is at stake and therefore worth exploring. Therefore, the objective of the present study is to identify the influence of critical empirical issues involved in the process EAIS alignment. Many studies have been done to measure the usefulness of AIS alignment (Ismail and King, 2007; Rhee, 2001; Bolon, 1998). The concept of AIS alignment relies on the match between the requirement & purpose of the IS and the nature of IS capacity. The studies in this regard focus on the usefulness of AIS alignment in identifying the issues related with the AIS design & contingency facets (Chenhall and Langfield-Smith, 1998) and AIS alignment in the required sophistication of IT (ITS) and the exigency factors (Henderson and Venkatraman, 1993) especially in the large organizations. For small and medium enterprises (SMEs), Ismail and King (2007) examine the multilevel variables influencing the AIS alignment between requirement and capacity in SMEs. However, the limitation of these studies exists in the absence of measuring the AIS alignment in relation to the environmental aspect.

On the other hand, the existing literature of EA is confined to the practices of developed countries and abundantly discuss the features of its standardizations (Boyd and Banzhaf, 2007), threats of disclosure (Fekrat et al., 1996) and impact on economic and environmental performance (De-Beer and Friend, 2006; Kobayashi et al., 2013; Adebambo et al., 2014; Van Der Bank and Van Der Bank, 2014; Hofman, 2014; Gideon, 2014; Shahid et al., 2014; Zomorrodi and Zhou, 2017; Luong et al., 2017; Zhang, 2017; Al-Fatlawi, 2018) and insufficient in determining the conclusive outline related to the issues involved in the effective application and alignment of information systems that are announced for measuring and assessing the impact of organizational and economic burden on the environment (Jasch, 2003). In response to the shortcoming in the prevailing EAIS literature, the present study seeks to identify the potential threats that are likely to hinder the effective functioning of EAIS. Additionally, the focus of the present study is to highlight the significant empirical issues involved in the application of EAIS in the developing country of Indonesia. The selection of the country is based on Indonesian government's supreme focus in ensuring environmentally friendly corporate practices and rising national reforms on sustainable developments. Furthermore, observing the scarcity of the studies on developing countries, along with the presence of hundreds of thousand SMEs across the country, the current study will provide new insights to the existing of EA literature in providing the understandings of major challenges faced by the SMEs of the developing nation of Indonesia in aligning the features and capacity of EAIS along with the empirical challenges faced by the low budget firms (Kigpiboon, 2013; Haseeb et al., 2014; Henry, 2014; Abidin et al., 2015; Haseeb and Azam, 2015; Salem et al., 2016; Zomorrodi and Zhou, 2016; Danbaba et al., 2016; Haseeb et al., 2017; Baran and Yilmaz, 2018).

LITERATURE REVIEW

EAIS Alignment

The perception of usefulness and the alignment in the information system is initiated by Galbraith's (1973) in the renowned information processing (IP) framework. The mechanics of IP theory lies is similar to the contingency theory presented by Bolon (1998). The theoretical foundation of IP theory revolves around the fundamental facet that suggests that organizational capacity should corresponds well to the information requirements. The significance of such alignment is necessary to ensure the impact of the information system on the performance (Galbraith 1973). In this regard, the significance of ITS cannot be denied as it provides the basic features and capacity to the organizational need for EAIS. In addition, the concept of IP theory is extended to signifies the importance of measurement and therefore, establishes that companies form a multifaced system that undergone the major issue regarding the environment in its attainment and usage of information (Bolon 1998). In this regard, the importance of measuring external factors such as environmental uncertainty and related costs are crucial to be realized accurately to ensure reliability of the system results. The framework of information theory was introduced with regards to big organizations having complicated structure, however, numerous studies have found the fundamentals of IP theory can be adopted successfully in SMEs (Ismail and King, 2005; Khazanchi, 2005). The later section explains the detail review of the literature in highlighting the major issues associated with the alignment of EAIS.

Perceived Environmental Uncertainty (PEU)

The measurements of external uncertainties always among the greatest challenges faced by the managers of AIS (Gordon and

Miller, 1976). Similar in the case of EAIS, the external risks of regulations, penalties, arrival of new products and competitors, the predictability of environmental change, the environmental stability and the numerous discoveries in terms of inventions and technologies constitute enormous measurement problems (Fisher, 1996).

In the studies of contingency analysis such as, Gul and Chia (1994) and Gul (1991); the excess information of environmental uncertainties derived from formal information systems and reports are linked to improve managerial decision-making process and thus improve managerial accounting systems (MAS) performance. Similarly, Galbraith (1973) established that keeping in mind the crucial role of environmental stability in affecting accounting systems, the managers should focus on the acquisition of information at the time of task execution and encourage decentralizations. In this regard, the accounting view establishes that businesses functioning in uncertainties are likely to have greater autonomy in the process of decision making and thus need more closely executed information that can be achieved from higher co-ordinations.

In Finland, Agbejule (2005) examine the moderating role of PEU in influencing the association between MAS and managerial performance. The research utilized moderated regression analysis to analyze the responses of sixty-nine managers in investigating the contribution of environmental uncertainty in analyzing the impact of MAS in affecting managerial performance. The findings of the study concluded the significant positive role of high EU in moderating the impact of MAS on the performance whereas the low EU tends to bring negative moderating effects of MAS on managerial performance. Furthermore, the analysis stressed on the critical role of measuring environmental stability as the fundamental driver of influencing PEU. Likewise, Gordon and Narayanan (1984) establish the importance of scientific discoveries and regulations in influencing environmental uncertainty. Looking at the rapid emergence of technologies, the authors suggested that scientific discoveries have the potential to affect not only the organizational competitiveness but the overall performance including economic, social and environmental performance. In addition, the regulatory measures and the cost they bring to the organization in terms of penalties are also a major threat that enhances the environmental uncertainties among the managers of EAIS. Similar studies of Fornell and Larcker (1981) and Fisher (1996) have also highlighted the significant role of environmental uncertainties and its various antecedents in predicting EAIS alignment. Therefore, the present study hypothesizes the following:

H_1: Stability of environment (SEN) has a significant impact on PEU.

H_2 Emergence of scientific discoveries has a significant impact on PEU H-3 Regulatory concern (RCO) has a significant impact on PEUH-4 PEU has a significant impact on EAIS alignment.

ITS

The ITS is the prime indicator of organizational IT capacity. The efficiency or inefficient of IT infrastructure impact substantially to IS purpose. Therefore, the success of ITS ensures the fulfillment of system objectives and is critical to EAIS success. The measure of ITS is introduced in a detailed manner by Raymond and Pare (1992). The term ITS is defined as the aspect that procedures the nature, complication and interdependence involved in the process of utilizing information technology and its supervision within the organisation (Raymond and Pare, 1992). The concept of ITS identifies with the auxiliary parts of the data frameworks work and the execution procedure, while administrative sophistication alludes to the instruments utilized to plan, control and assess present and future applications. In Malaysia, Ismail and King (2005) investigate the contributing factors that impact the alignment of AIS in Malaysia. Focusing on SEM, the study establishes the significant influence of ITS in enhancing AIS alignment.

Among the numerous facets of ITS, Thong (2001) suggested that fundamental four facets include the sophistication in terms of technology, management, function and information, Furthermore, the practical and administrative sophistication are viewed as less pertinent in light of the fact that most organizations in developing countries don’t have isolate information technology’s capacities, and in this manner lacks in information technology’s structure and control. Moreover, Hussin et al. (2002) analyzed the effect of three measurements of ITS on IT alignment. The examination found a huge connection between information technology’s alignment and innovative sophistication however not with functional and managerial sophistication.

Therefore, the study hypothesizes the following:
H_5: ITS has a significant impact EAIS alignment.

Environmental Cost

Environmental cost is considered as the fundamental part of sustainable business practices and considered crucial to numerous related field of environmental management, EA and EAIS. However, the present literature is filled with contentious debate on the features or costs included in the sphere of measuring environmental cost (MEC) (Jasch, 2001). The review of EA literature stress on the primary issue of ambiguity involved in the standard meaning of environmental costs. Contingent upon different interests, the organizations more commonly incorporate an assortment of costs in the head of environmental cost. They include, for instance, dumping costs or security cost or external costs that is associated with the expenses incurred outside the organization on people. Obviously, this is likewise support the profits of corporate natural practices. Furthermore, a large portion of these costs are typically not followed methodically and ascribed to the dependable procedures and items, however just added up in general overheads (Jasch, 2003). These measurement errors tends to hurt the core purpose of EA and similarly form critical issue in the process of empirical measurement of EMIS results. In the study of environmental policies and its association with transaction cost, McCann et al. (2005) explored the issues convoluted in transaction cost dimension and calculation. Similar to Jasch (2003), the study after undergone the numerous typologies related to cost and diverse methods involved in the calculation, found the substantial role of related cost measurements in the domain of environmental policies. Specifically, the study recommended that strategies utilized for non-market valuation of environmental cost underlies the high prospective for the estimation of related costs.

In the light of the above, the study hypothesizes the following:
H_6: Environmental Cost has a significant impact EAIS Alignment.

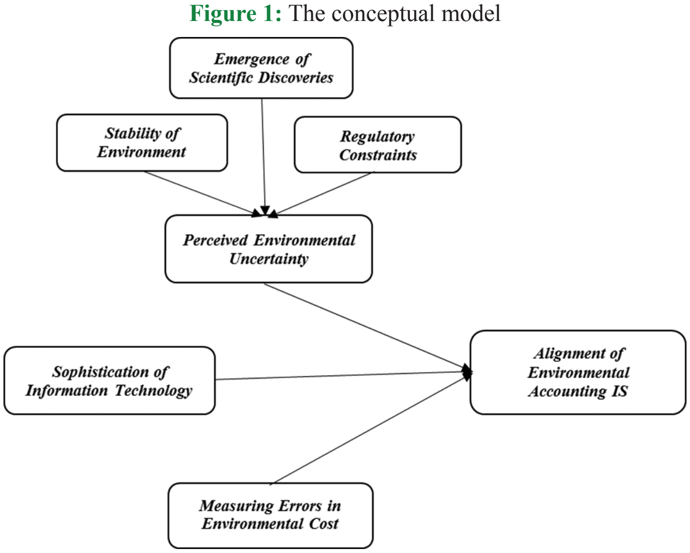
The conceptual model of the present study is demonstrated in Figure 1.

3. METHODOLOGY

The target population of the present research are the managers of small manufacturing industries of Indonesia. Keeping in mind the conceptual model demonstrated in Figure 1, a review instrument was set up by utilizing earlier studies. The traits of hypothesized variables are designed utilizing a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The measurement items of the current research consist of seven variables that include emergency of scientific discoveries (ESD), SEN, RCO, PEU, ITS, MEC and Environment AIS (EAIS). Among the variables of information and technology which includes ITS and alignment of EAIS are adopted from the study of Ismail and King (2007), whereas, the items of Perceived Environment Uncertainty are adopted from the studies of Agbejule (2005) and Gordon and Narayanan (1984). The items of Measuring Environment Cost are adopted from the study of Jasch (2003).

The data of the present research is gathered by a questionnaire transcribed in English and is collected from a total of two hundred and twenty SMEs. The SMEs include one hundred private and one hundred and twenty public sector SMEs located in Indonesia. After getting the email addresses of the managers, an online questionnaire is sent to them for their response. The process of manager selection and knowledge is crucial for data collection because researchers, when investigating creativity, stress on the centre knowledge of the employees that are relevant to the concept of AIS and thus can provide meaningful response (De Jong and Den Hartog, 2007; Dul et al., 2011). Therefore, a total of 320 questionnaires were mailed to the employees, out of which 280 managers responded. Altogether, the process of data collection has taken a period of 3 months. Finally, the current study is not funded by any association. The investigation also has followed the rules of Dillman (1978) in the considering moral and ethical measures.

Figure 1: The conceptual model



4. DATA ANALYSIS

The data analysis of the present research is completed by using the SPSS 23 and AMOS 23 statistical software's. The final valid sample of the present research is 280 after removing univariate and multivariate outliers using Z-test score and Mahalanobis distance (D2) criteria respectively. Demonstrated in Table 1 is the structure and composition of the responses of the data used in present research. Similarly, Table 2 explain the mean, standard deviation and Pearson's Correlation of the variables. Moreover, to test the problem of multicollinearity, the current research following Hair et al. (2010) found that all the values in the Pearson's Correlation Matrix are <0.90. Therefore, confirms the absence of multicollinearity among the predictors (Hair et al., 2010; Lin et al., 2004).

The study utilized highly preferred principal components type of factoring that converged a total of 28 questionnaire Likert scaled items into seven final variables. In order to examine sample adequacy, the value of Kaiser–Meyer–Olkin (0.895) suggest that data is appropriate in order to making the factors because the value of KMO is greater than the cut off value of 0.7 as suggested by (Barkus et al., 2006). Moreover, the results of Bartlet Test of Sphericity are also found significant ($P < 0.05$), thus rejecting the null hypothesis representative the nonappearance of correlation identity matrix (Afshan et al., 2018). These seven final factors successfully defined 78.6% of the total variance explained. The explanation of rotated component matrix highlights a total of twenty-eight items that showed the factor loadings more than 0.70 and are above the benchmark of 0.55 as suggested by Tabachnick and Fidell (2007).

The results of factor loading for every items of the variables are shown in Table 3. Furthermore, the collected sample is further examined for convergent validity, reliability and discriminant

Table 1: Descriptive statistics

Valid	Frequency (%)
Gender	
Male	200 (71)
Female	80 (29)
Total	280 (100)
Age	
20-30 years	140 (50)
31-40 years	108 (39)
41-50 years	20 (7)
51 and above	12 (4)
Total	280 (100)
Working experience	
1-5 years	210 (75)
6-10 years	63 (29)
11-15 years	5 (15)
More than 15 years	2 (9)
Total	280 (100)
Education	
Undergraduate	87 (31)
Graduate	143 (51)
Post graduate	45 (16)
Others	5 (2)
Total	280 (100)

validity. Convergent validity confirms that an instrument links greatly with other factors with which it should hypothetically connected. In comparison with the cronbach alpha (Cα), the composite reliability (CR) is reflected an advance measure of confirming construct validity which investigate the overall reliability of a combination of heterogeneous but same construct (Fornell and Larcker, 1981).

In the current research, we investigate all measures to check the construct validity. The results of construct and convergent validity with CR, Cα and average variance explained (AVE) is presented in Table 4. The value of CR and Cα should be >0.7 as recommended by (Afshan et al., 2018; Frooghi et al. (2015); Sharif and Raza, 2017; Afshan and Sharif, 2016; Sharif and Bukhari, 2014; Waseem et al., 2013). In our case the results of value of CR and Cα are

Table 2: Means, standard deviations, Pearson correlations

	Mean	SD	ESD	SEN	RCO	PEU	ITS	EEC	EAIS
ESD	3.12	1.08	-						
SEN	2.85	1.02	0.527**	-					
RCO	3.00	1.12	0.505**	0.376**	-				
PEU	3.00	1.17	0.455**	0.472**	0.442**	-			
ITS	3.03	1.21	0.568**	0.510**	0.461**	0.634**	-		
EEC	2.96	1.18	0.443**	0.535**	0.458**	0.514**	0.509**	-	
EAIS	2.76	1.16	0.332**	0.368**	0.411**	0.490**	0.422**	0.498**	-

n=280. **Correlation is significant at the 0.01 level (two-tailed), ESD: Emergency of scientific discoveries, SEN: Stability of environment, RCO: Regulatory concern, PEU: Perceived environmental uncertainty, ITS: Sophistication of information technology, EEC: Errors in environmental cost, EAIS: Environmental accounting information systems

Table 3: Factors loading and variance explained[a]

Items	ESD	SEN	RCO	PEU	ITS	EEC	EAIS
Eigen value	16.6	2.4	2.1	1.7	1.3	1.12	1.01
% variance	16.3	13.5	11.2	9.9	9.5	9.2	9.0
Cum. %	16.3	29.8	41.0	50.9	60.4	69.6	78.6
Emergence of scientific discoveries							
ESD2	0.825						
ESD3	0.816						
ESD4	0.814						
ESD1	0.802						
Stability of environment							
SEN3		0.773					
SEN1		0.768					
SEN2		0.759					
SEN4		0.744					
Regulatory constraints							
RCO4			0.796				
RCO1			0.786				
RCO3			0.766				
RCO2			0.754				
Environmental uncertainty							
PEU2				0.790			
PEU4				0.780			
PEU1				0.719			
PEU3				0.716			
ITS							
ITS2					0.762		
ITS4					0.761		
ITS1					0.755		
ITS3					0.733		
Measuring errors in environmental cost							
EEC3						0.780	
EEC1						0.727	
EEC4						0.721	
EEC2						0.710	
Alignment of EAIS							
EAIS1							0.862
EAIS2							0.812
EAIS4							0.782
EAIS3							0.772

Extraction method: Principal component analysis. Rotation method: Varimax with Kaiser normalization. [a]Rotation converged in 8 iterations, ESD: Emergency of scientific discoveries, SEN: Stability of environment, RCO: Regulatory concern, PEU: Perceived environmental uncertainty, ITS: Sophistication of information technology, EEC: Errors in environmental cost, EAIS: Environmental accounting information systems

>0.70. Likewise, the value of AVE is considered good if it is >0.50 as suggested by Molina et al. (2007); Arif et al. (2016). In our case the value of AVE for all the fifteen factors are >0.50 it also fits the goodness of fit criterion.

The current study performed confirmatory factor analysis (CFA) by using 28 items that describe seven factors which are ESD, SEN, RCO, PEU, TS, MEC and EAIS. The CFA measurement framework base on the valuation of its measurement model fitness. In the present study, we use four critical indices of measuring model fitness which include Chi-square minimum/degree of freedom (CMIN/DF), the root mean square error of approximation (RMSEA), comparative fit index (CFI) and the standardized root mean residual (SRMR) as suggested by Kline (2005). These all indices have an edge over rest of indices as they are the foremost impervious to the sample size, parameter estimations and misleading (Kline, 2005). Results of Table 5 explains the hypothesized model by using these four indices.

In general, the outcomes of measurement framework suggest that the discussed seven factors model fits the data very well. Also, the threshold value for CMIN/DF should be <2 as explain by Tabachnik and Fidell (2007). In our results the value of CMIN/DF is 1.212 and it fits the goodness of measurement model. Along with this, the CFI value should be >0.90 which consider as good and >0.95 which consider as excellent as suggested by Hu and Bentler (1999). In our case the value of CFI is 0.972 and it also fits the goodness of fit standard. Also, the value of RMSEA should be <0.07 as recommended by Steiger (2007). In our results the value of RMSEA is 0.038 which is <0.07. The results of RMSEA suggested that our collected data fit very well with our hypothesized framework. Finally, the standardized root mean square residual is also significant if it is smaller than 0.08 as suggested by Hu and Bentler (1999). Our results explain that the value of SRMR is 0.041 and it also fits the goodness of fit criterion. It is also reported that our ultimate framework has involved various correlated error term inside a variable.

Table 4: Cα, CR and AVE

Constructs	CA	CR	AVE
ESD	0.893	0.900	0.690
SEN	0.884	0.820	0.740
RCO	0.920	0.840	0.770
PEU	0.910	0.910	0.730
ITS	0.923	0.920	0.750
EEC	0.845	0.870	0.630
EAIS	0.790	0.801	0.692

Source: Authors' estimation

CR: Composite reliability AVE: Average variance explained, Cα: Cronbach alpha, ESD: Emergency of scientific discoveries, SEN: Stability of environment, RCO: Regulatory concern, PEU: Perceived environmental uncertainty, ITS: Sophistication of information technology, EEC: Errors in environmental cost, EAIS: Environmental accounting information systems

Table 5: CFA measurement model fit indices

Indices	Final measurement model
CMIN/Df	1.212
CFI	0.972
RMSEA (P-close)	0.038 (0.592)
SRMR	0.041

Source: Authors' estimation, CMIN/DF: Chi-square minimum/degree of freedom, SRMR: Standardized root mean residual, CFI: Comparative fit index, RMSEA: Root mean square error of approximation

Table 6 reports the results of our structural model which explain the connection between unobserved factors (Byrne, 2010). The results of our structural model using structural equation modelling (SEM) also exhibits a good fit measured by CMIN/DF = 1.323; CFI = 0.969, RMSEA (P-close) = 0.041 (0.342) and SRMR = 0.048. The explained model fitness surpasses their required suggested threshold and hold a good model fitness (Steiger, 2007; Kline, 2005).

However, in order to check the structural relationships, Table 7 explained the results of SEM regression path, standardized regression coefficient, critical ratio, significance value and remarks of the hypothesis. The results of SEM explain that emergence of scientific discoveries ($\beta = 0.399$, $P < 0.05$) and SEN ($\beta = 0.831$, $P < 0.05$) have positive and significantly impact on environmental uncertainty that confirming H_1 and H_2. Whereas, RCO has an insignificant impact on environment uncertainty. This model explains 42.3% variance of environmental uncertainty by emergence of scientific discoveries and SEN. On the other hand, the results also suggested that PEU ($\beta = -0.530$, $P < 0.05$), ITS ($\beta = 0.224$, $P < 0.05$) and measuring errors in environmental cost (EEC) ($\beta = -0.247$, $P < 0.05$) have a significant impact on alignment of EAIS in Indonesia therefore confirming H_4, H_5 and H_6. This model explains 64.12% variance of alignment of environmental EAIS by all the factors of environmental uncertainty and ITS and Cost.

5. DISCUSSION AND CONCLUSION

Acknowledging the shortcomings of the numerous EA systems, the current study seeks to identify the issues involved in the proper measurement and functioning of EAIS. The review of the earlier studies leads to highlight the potential elements that are considered noteworthy to the usefulness of EAIS. The identified issues comprise of environmental uncertainty (PEU), ITS and measuring EEC. The statistical application of Exploratory Factor Analysis lead to discover the all seven variables are described by total 28 items in which all items factor loading is >0.70. Furthermore, the results of measurement model fitness of CFA explain that all four considered model fitness explain that the collected data is fit for making the factors. Finally, the results of SEM recommended that initially, Emergence of Scientific Discoveries and SEN have a positive and significant impact on PEU. Whereas, ITS, Measuring EEC and Environmental Uncertainty have a significant impact on Alignment of EAIS in Indonesia.

Table 6: SEM measurement model fit indices

Indices	Final measurement model
CMIN/df	1.323
CFI	0.969
RMSEA (P-close)	0.041 (0.592)
SRMR	0.048

Source: Authors' estimation, CMIN/DF: Chi-square minimum/degree of freedom, SRMR: Standardized root mean residual, CFI: Comparative fit index, RMSEA: Root mean square error of approximation

Table 7: SEM hypothesis testing

Hypothesis	Hypothesized path	Path coefficient	S.E	C.R	P value	Remarks
H1	PEU←ESD	0.399	0.028	14.171	0.000	Supported
H2	PEU←ENS	0.831	0.297	2.798	0.006	Supported
H3	PEU←RCO	0.335	0.279	1.201	0.236	Not-supported
H4	EAIS←PEU	−0.530	0.123	−4.317	0.000	Supported
H5	EAIS←ITS	0.224	0.076	2.957	0.000	Supported
H6	EAIS←EEC	−0.247	0.070	−3.529	0.000	Supported

Level of significance (5% i.e., 0.050). Source: Authors' Estimation. SEM: Structural equation modeling, ESD: Emergency of scientific discoveries, SEN: Stability of environment, RCO: Regulatory concern, PEU: Perceived environmental uncertainty, ITS: Sophistication of information technology, EEC: Errors in environmental cost, EAIS: Environmental accounting information systems

6. RECOMMENDATION AND POLICY IMPLICATION

The findings of the present study have highlighted the most critical role of environmental uncertainty in affecting EAIS. This implies that the organizations should consider these uncertainties as the measure threat to EAIS success and have the potential to hinder the effectiveness of EAIS. In this regard, the present study proposes the managers and IT experts to closely assess the likelihood of external risks with the approach of diversifying the organizational reliance on limited options. Furthermore, the importance of MEC is also highlighted as the crucial driver of the useful EAIS alignment. It suggests that the presence of mistakes in understanding or measuring the environmental cost lead to decline the real purpose EA. Therefore, the managers are recommended to carefully observe the measurement process of determining the environmental cost and its related components to ensure the reliability of the data accumulated. The orderly assimilation of organizational data and ecological data is basic for achieving the efficiency and usefulness EAIS. Keeping in mind the focal point of the EAIS is on physical natural data, it should likewise consider how this data can be coordinated with corporate measurements and thus empower a more noteworthy scope of providing the benefits to organization, and government. Lastly, the present study also calls for the need of preserving the quality if information technology by ensuring sophisticated infrastructure and skilled workforce to capture the true essence of IT expertise.

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