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## Article

The impact of environmental accounting information system alignment on firm performance and environmental performance : a case of small and medium enterprises s of Indonesia

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# The impact of Environmental Accounting Information System Alignment on Firm Performance and Environmental Performance: A case of Small and Medium Enterprises of Indonesia

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## ABSTRACT

The current research investigates the empirical debate that impact of alignment (ALI) environmental accounting information system (EAIS) on firm performance (PER) and environmental PER. For doing this purpose, the current study examines the impact of environmental requirement (REQ) and environmental capability on ALI of AIS. Furthermore, the study investigates the effect of environmental ALI on firm PER and environmental PER. The current study is conducted in the small-medium enterprises in Indonesia. The results of structural equation modeling confirm that EAIS REQ and EAIS capability have a positive and significant impact on EAIS ALI. Moreover, the results also confirm that EAIS ALI has a positive and significant impact on firm PER and environmental PER in Indonesia. Alongside, the study also implies that the responsiveness of the organization towards environmental needs is critical not only to the nature but to the organization itself in building corporate image, sustainable practices and certifications that enhance organization reputé and managers understanding of the environmental need along with improved societal commitments.

**Keywords:** Environmental Accounting Information System, Firm Performance, Environmental Performance, Indonesia

**JEL Classifications:** E01, L25, Q01

## 1. INTRODUCTION

Corporate world is based on numerous functions and departments that underlie the potential to determine the future of organization. In this regard, the contribution of accounting in the success of business is worth mentioning. The importance of accounting rests in its worth to both internal and external users. In other words, the vitality of accounting information is not only substantial for proprietors, vendors, managers and employees but also to the investors, financiers and government and regulatory institutions. Inside the vicinity of the enterprise, the accounting information assists managers in the process of decision making (Fekrat et al., 1996; Meiryani and Azhar Susanto, 2018). However, the outside

users of accounting information strive to utilize the information to fulfill their specific objectives. By definition accounting is discussed as the course of a methodical and extensive reporting of monetary exchanges identifying with any business. It alludes to as a procedure of breaking down, outlining and detailing such exchanges to the investors, tax assembling organizations and oversight interventions Adebambo et al. (2014); Kigpiboon, (2014); Kigpiboon, (2013).

The conventional mode of business functioning has witnessed vast transformation with the progression of technologies (Boyd and Banzhaf, 2007; Gideon, 2014; Luong et al., 2017; Zhang, 2017; Al-Fatlawi, 2018; Baran and Yilmaz, 2018; Meiryani and Azhar Susanto, 2018). Businesses in past were based on manual

methods of entity operations and thus prone to vulnerabilities. The drawbacks of manual accounting involve extensive time cost in utilizing paper based recordings and reporting of accounting cycle information. In addition, such usage is inclined to frequent based errors and mistakes in the process of task accomplishment. Furthermore, the presence of security and fraud hazards were also the common part of manual accounting methods. However, the beginning of 20<sup>st</sup> century has opened several closed egresses that human kind never imaged to conquer soon. In this regard, the contribution of information technology is vital to acknowledge. Assimilating the objectives of accounting with the usage of IT expertise initiated the encounter of accounting information systems (AIS) (Ekpung, 2014; Chidoko, 2014; Zomorodi and Zhou, 2016; Danbaba et al., 2016; Marshal, 2017; Marshal, 2017; Mušić, 2017; Chen et al., 2018; Al-Fatlawi, 2018).

The invention of AIS is based on the arrangement of gathering, putting away and handling money related accounting information that are utilized by corporate managers. An accounting data framework is an IS based invention of processing accounting measures assimilated with the utilization of IT resources. The objectives of AIS is similar to the needs of accounting process. It aims to gather, store, and process transactional and resources information of the organization and deliver accounting reports to the managers and other invested individuals who can use such information to settle on business future and supplement their decision making on the basis of the gathered information (Fekrat et al., 1996; Meiryani and Azhar Susanto, 2018). Similar to accounting, the major doctrines of AIS are confined to fulfilling the principles of revenue, expense principle, matching need, principle of cost and the principle of objectivity. Accounting data frameworks for the most part comprise of six essential segments. They include individuals, systems and guidelines, information, programming, IT foundation and inward controls (De-Beer and Friend, 2006; Meiryani and Azhar Susanto, 2018).

Emergence of AIS assisted the modern business in solving the issues of excessive time dependence, human error and security threats. In addition, the discoveries of AIS improves organizational efficiency of accounting management and reporting techniques. The role of AIS is vital in aiding managers with improved decision making and financing.

However, the noteworthy contribution of AIS lies in assisting organization in dealing the short-term issues of costing, inflows and outflows through offering information to aid monitoring and control (Ismail and King, 2005; Meiryani and Azhar Susanto, 2018). For a longer-term perspective, AIS are valuable in achieving effective functionality of the enterprises under the dynamic and aggressive conditions to incorporate strategic operational strategies.

Tragically, AIS have customarily been seen as having a restricted sphere and concentrating on occasions inside associations, giving just money related data and underlying traditional positioning (Mia, 1993). This is to some extent is justified as AIS is initially applied for bookkeeping operations which was inclined to overcome the issues of manual bookkeeping

(Mauldin and Ruchala, 1999). However, AIS have witnessed several major transformations in recent times to improve the general horizon and overview of conventional AIS. For instance, the advancement of database innovation has empowered the usage of new bookkeeping models, for example, Resources-Events-Agents and Enterprise Resource Planning, which makes it workable for AIS to apprehend the facts superior to traditional outlooks of financial information (Mauldin and Ruchala, 1999; Meiryani and Azhar Susanto, 2018). In this way, modern AIS are considered efficient in offering wider perceptions by incorporating non-monetarist, exterior and future concerned information through supplementing the focus over the economies of organizational performance (PER) and environmental management (Melnik et al., 2003; Meiryani, 2016). In similar perspective, Gordon and Miller, 1976) have also stressed on the contingency method of utilizing AIS by undermining the traditional mindset and including the doctrines of environmental and organizational attributes.

In modern businesses, the emergence of Environmental AIS (EAIS) is an outcome of countries focus on having environment friendly business operations. The adverse effects of energy dependence in businesses, transportations, households and high-tech creations have created the clusters of brown economies that causes environmental degradation. In compliance, the notion of green economy in such context is encouraged to ensure environmental sustainability. For such vision, the role of information technologies is enormously beneficial in order to fulfil the purposes of sustainable development in establishing norms of achieving economic development aims along with sustaining the capacity (CAP) of natural systems. The goal of EAIS is to measure the adverse effects of environment that burdened the organization and economies (De-Beer and Friend, 2006; Meiryani, 2017). There exist numerous points of interest that EAIS conveys to business; especially, the entire cost, including nature's remediation along with the long-term ecological consequences that it offers to measure and report. The invention of EAIS not only helped to identify environmental burden but also help the organization and economies to strategically plan the future guidelines to overcome the adverse consequences of the environment and in doing so improves PER.

However, the triumph of an EAIS largely depends on its efficient alignment (ALI). In the absence of proper EAIS ALI, the vision of EAIS lost its vitality and enhanced the cost of organization in maintain the systems without attaining the anticipated benefits. Therefore, the ALI of EAIS with organizational CAP and intended goals, is crucial to determine the success of EAIS in ensuring organizational and environmental PER. Acknowledging the benefits of EAIS in enhancing business growth by improving the process of decision making, the present study tends to empirically examine the association of factors affecting EAIS ALI to influence organizational and environmental PER. The benefits of the present study rely not only in analyzing the crucial connection of factors affecting EAIS ALI and its subsequent impact on PER, but also in applying the sophisticated method of structural equation modeling (SEM) in investigating the vital relationship of influencers of EAIS ALI and PER of both business and environment.

The rest of the analysis is outlined ahead: Discussed in section two is the theoretical foundation and significant studies related to ALI of environmental accounting systems and PER. Section three provides the methodological details of the variables, instrument and responses, followed by section four that represent research findings. Finally, section five of the study concludes the empirical outcomes and presents future recommendations and implication.

## 2. THEORETICAL FOUNDATION AND HYPOTHESIS DEVELOPMENT

The literature on environmental accounting is filled with the examinations of the measurement difficulties involved in the utilization of information systems and hardly identifies the connection of EAIS ALI with the usefulness of systems in improving environmental and firm PER. Furthermore, the current academia of ecological accounting systems is limited to advanced nations and adequately examine the highlights of its institutionalizations (Boyd and Banzhaf, 2007; Meiryani et al., 2017), dangers of exposure (Fekrat et al., 1996), effect on financial and natural execution (De-Beer and Friend, 2006) and deficient in identifying the effective framework that can resolve the issue related to ALI of EAIS. Even among the ALI studies, the majority of the literature in this regard is inclined in assessing the positioning of AIS (Ismail and King, 2014) and lacks in investigating the determinants of EAIS ALI and its succeeding impact on PER.

### 2.1. ALI of EAIS

The seminal discussion on the positioning and arrangement of information systems in the environmental accounting management is started by Galbraith's, 1974, Meiryani, 2018 in the eminent theory of information processing. The mechanics of Galbraith's theoretical foundation is further extended by Bolon, 1998. The theoretical establishment on how the information should be handled is focused on the major feature that pronounce the significance of business capabilities, resources and infrastructure that can correspond to the need of IS. The ALI of information systems largely relies on the internal and external factors that ensures the usability of information technology in delivering the anticipated results. In this regards, the tasks essential to be monitored, measurement information, IT infrastructure constitute the necessary requirements (REQs) of information systems. Similarly, the expertise of IT staffs, related resources, innovation efficiency define the CAP of IS in assimilating the goals of system to the intended results. Discussing the importance of IS systems ALI Ismail and King (2005) examine the role of AIS and the fit between AIS REQ and AIS CAP in attaining AIS ALI. The study further aims to investigate the efficient firm of AIS ALI on organizational PER. Investigating small and medium enterprises (SMEs) of Indonesia, the results of the study confirm the significance of AIS ALI and AIS CAP in influencing AIS ALI of the sampled SMEs. Moreover, Wu et al. (2015) also documented the significance of strategic AIS ALI in enhancing PER. Likewise, Galbraith, 1974; Meiryani and Lusianah, 2018, in this regard stated that essentialness of IS ALI is critical to guarantee the effect of the information management on the overall usability

and efficiency of systems that is resulted from the better fit of IS capability and REQs.

Therefore, connoting from the theoretical bases and inspecting prevailing literature, the present study hypothesizes the following:

- Hypothesis 1: EAIS REQs has positive significant effect on EAIS ALI.
- Hypothesis 2: EAIS Capacity has positive significant effect on EAIS ALI.

### 2.2. Firm PER

The link between information systems and organizational PER is extensively administered in the literature (Zomorodi and Zhou, (2016). In this regard, the studies of information system management have writhed to display the IS efficiency on organization PER without the proper ALI of IS with the desired outcomes. As reported by Ismail and King (2005), AIS ALI have significant positive influence in improving firm PER. This suggests that organizations having effective IS ALI accomplish enhanced PER as compare to firms that exhibit lower level of IS ALI. The notion further stresses the need of better fit between IS REQ and CAP to ensure organizational PER. Similarly, Wu et al. (2015) when analyze the impact of governance related to IS, find that strategic ALI is crucial to determine PER. Utilizing the responses of 131 Taiwanese companies, the results of the study establish that strategic ALI have significant positive influence on Firm PER. Therefore, the present study hypothesizes the following:

- Hypothesis 3: ALI of EAIS has positive significant effect on Firm PER.

### 2.3. Environmental PER

The prevailing literature of environmental management has witnessed the contentious debate regarding the practices of the organizations that entitled them to gain the notion of "green enterprises." However, to date, there exist ambiguity in the specific description of organizational practices that ensures the improvement of environmental PER (Lober, 1996). Among the reasonable consensus on the agreed domain of environmental PER constitute the operations of eco-friendly practices. They comprise the maneuvers of enterprises that are analyzed in the form of generating environmental influence as the outcome of business activities. Such activities are allied to effort of organization attributed to deal with perilous waste reprocessed (Al-Tuwaijri et al., 2004; Muñoz, 2017), contaminated emissions (Patten, 2002), water pollution (Cormier and Megnan, 1997), environmental certification and ratings from external bodies (Mobus, 2005) and improvement of corporate image (Gholami et al., 2013).

Hence, the definition of environmental PER with respect to present study involves the effective eco-friendly operation that resulted in providing advance ecological perspective of the company. It involves the dimensions of following:

1. Environmental compliance improvement, that defines the assimilation of dealing with the ecological problems involved in the business activities through value-added quality, amplified productivity and upgraded innovation.
2. Improved corporate image, which constitutes organization's



overall practices that supplement its goal of environmental conservation and build the reputé in meeting the environmental objectives.

3. Environmental certification, which defines the accreditations of external bodies by ensuring enterprise's practices in meeting standards mandatory regulations associated with environmental conservation.
4. Reduction of emission and waste, which contemplate organization's efforts in minimizing toxic emissions and discharges that underlie the tendency to cause environmental deterioration.
5. Recycling PER, which refers to firms' initiatives in eliminating permanent burdens resulted from undissolved bi-products through establishing machineries and plants for reutilizing or offering them to second parties to reprocess.

As stated by Burritt (2004), experimental examinations in environmental systems are limited and converged to legal status, measuring costs, management styles and IT technicalities of the systems. Among them, Gholami et al. (2013) investigates the managers' perception of information systems and analyze its effects on environmental PER. The study applied the theoretical foundations of Belief-Action-Outcome model to capture the impact of Green system adoption by the organization in enhancing environmental PER. The outcomes of the study suggest that coercive pressure exercise the significant impact on green information systems, however, the study failed to find the contribution of mimetic pressure in influencing IS adoption.

On the other hand, the empirical investigation concludes the significance of Green IS adoption in influencing environmental PER suggesting that embracing green IS brings positive effects in the improvement of environmental PER of the organization. Likewise, Henri and Journeault (2010) examine the role of monetary and strategic controls in enhancing environmental and economic PER of the organizations. Referring both measures as eco-control, the results of the study find the insignificant impact of eco-control in influencing environmental PER. However, in establishing the relationship between eco-control and economic PER, the study concludes that environmental PER mediates the influence of eco-control on economic PER of the Canadian manufacturing firms. Hence, in response to the potential link of IS with environmental PER, the current study hypothesizes the following:

- Hypothesis 4: ALI of EAIS has positive significant effect on Environmental PER.

Exhibited in Figure 1 is the research model of the existing investigation

### 3. METHODOLOGY

The target population of the current study are the lower and middle level managers of SMEs of Indonesia. Focusing on the current objective the conceptual framework displayed in Figure 1, a research questionnaire was designed by focusing on past researches. The items of hypothesized variables are adopted by

Figure 1: Research model



utilizing a seven-point Likert scale from 1 (Strongly Disagree) to 7 (strongly agree). The measurement items of the present study comprise of five variables that include EASI REQ, EAIS CAP, EAIS ALI, Firm PER and Environmental PER (EPR). Among the variables of Environmental PER adopted from the study Melnyk et al. (2003) and Gholami et al. (2013) whereas, the items of EASI REQ, EAIS CAP, EAIS ALI and Firm PER are adopted from Ismail and King, (2007).

The sample of the current study is collected by a questionnaire recorded in English language and is gathered from a total of two hundred and seventy-nine SMEs of Indonesia. The SMEs comprise fifty private and two hundred and twenty-nine public sector SMEs operating in Indonesia. After getting their email address, an online questionnaire is sent to the lower and middle managers for their response. The procedure of lower and middle manager knowledge and selection is important for collected sample because researchers, when examining creativity, stress on the center knowledge of the employees that are pertinent to the perception of AIS and therefore can deliver expressive feedback (De Jong and Den Hartog, 2007; Dul et al., 2011). Therefore, a total of 465 sample were e-mailed to the employees, out of which 391 lower and middle managers responded. Overall, the procedure of sample gathering has taken a period of four and half months. Lastly, the recent research has followed the rules of Dillman (1978) in the considering moral and ethical measures.

### 4. DATA ANALYSIS

The data analysis and results of the current study is done by utilizing the SPSS 23 and AMOS 23 statistical software's. The final valid sample of the current study is 345 after removing univariate and multivariate outliers using Z-test score and Mahalanobis distance (D2) criteria respectively. Table 1 explains 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 current study applied extremely favored principal components kind of factoring that joined a total of 30 questionnaire Likert scaled items into five concluding variables. In order to examine sample adequacy, the value of Kaiser-Meyer-Olkin (0.895) explain 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 Bartlett Test of Sphericity are also found significant

**Table 1: Means, SD, Pearson correlations**

Variables	Mean±SD	REQ	CAP	ALI	PER	EPR
REQ	6.324±1.032	-				
CAP	5.796±1.128	0.438**	-			
ALI	6.129±1.003	0.421**	0.401**	-		
PER	5.952±1.284	0.573**	0.449**	0.448**	-	
EPR	5.674±1.120	0.397**	0.391**	0.402**	0.328**	0.338**

N=345, \*\*Correlation is significant at the 0.01 level (2-tailed), REQ: Requirement, CAP: Capacity, ALI: Alignment, PER: Performance, SD: Standard deviations

**Table 2: Factors loading and variance explained<sup>a</sup>**

Items	REQ	CAP	ALI	PER	EPR
Eigen value	16.640	2.449	2.121	1.738	1.012
% variance	23.292	20.435	15.220	8.324	4.524
Cum. %	23.292	43.727	58.947	67.271	71.795
Environmental REQ					
REQ1	0.923				
REQ2	0.910				
REQ3	0.904				
REQ4	0.891				
REQ5	0.850				
Environmental capability					
CAP1		0.901			
CAP2		0.890			
CAP3		0.892			
CAP4		0.882			
CAP5		0.845			
Environmental ALI					
ALI1			0.879		
ALI2			0.864		
ALI3			0.841		
ALI4			0.801		
ALI5			0.800		
Firm PER					
PER1				0.884	
PER2				0.832	
PER3				0.812	
PER4				0.806	
PER5				0.775	
Environmental PER					
EPR1					0.810
EPR2					0.800
EPR3					0.789
EPR4					0.772
EPR5					0.702

Extraction method: Principal component analysis Rotation method: Varimax with Kaiser normalization Rotation converged in 6 iterations, REQ: Requirement, CAP: Capacity, ALI: Alignment, PER: Performance

**Table 3:  $C\alpha$  (Carolina and Susanto, 2017), CR and AVE**

Constructs	CA	CR	AVE
REQ	0.952	0.883	0.633
CAP	0.901	0.873	0.682
ALI	0.892	0.805	0.605
PER	0.900	0.830	0.584
EPR	0.934	0.890	0.619

Source: Authors' estimation, CR: Composite reliability, AVE: Average variance explained, REQ: Requirement, CAP: Capacity, ALI: Alignment, PER: Performance,  $C\alpha$ : Cronbach alpha

**Table 4: CFA measurement model fit indices**

Indices	Final measurement model
CMIN/DF	1.495
CFI	0.952
RMSEA (P-close)	0.040 (0.674)
SRMR	0.038

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

grouping of heterogeneous but similar construct (Fornell and Larcker, 1981).

We examine all measures to endorse the construct validity. The results of construct and convergent validity with CR, Cronbach Alpha ( $C\alpha$ ) and average variance explained (AVE) is presented in Table 3. The value of CR and  $C\alpha$  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  $C\alpha$  are  $>0.70$ . Likewise, the value of AVE is considered good if it is  $>0.50$  as suggested by Moline 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 applied confirmatory factor analysis (CFA) by using thirty items that describe five final factors which are Environmental REQ, Environmental CAP, Environmental ALI, Firm PER and Environmental PER (EPR). 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 upper hand upon remaining of indices as they are the leading invulnerable to the collected data, parameter estimations and misleading (Kline, 2005). Results of Table 4 explains the hypothesized model by using these four indices.

Overall, the results of CFA measurement model recommend that the above-mentioned five factors model fits the data very well. Also, the threshold value for CMIN/DF is 1.495 which is less than the suggested value i.e., 2. Along with this, the CFI value is 0.952 which is higher than the suggested value i.e., 0.95. Also, the value of Root Mean Square Error of Approximation 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 SRMR

( $P < 0.05$ ), thus rejecting the null hypothesis representative the nonappearance of correlation identity matrix (Afshan et al., 2018). These five factors effectively defined 72.6% of the total variance explained. The description of rotated component matrix climaxes a total of thirty items that displayed the factor loadings  $>0.70$  and are above the benchmark of 0.55 as recommended by Tabachnick and Fidell, (2007). The results of factor loading for each items of the variables are shown in Table 2. Moreover, the gathered data is further investigating for convergent discriminant, reliability and convergent validity. Convergent validity endorse that the items are highly connected with which it should be connected hypothetically whereas, composite reliability (CR) and Cronbach alpha is highlighted a progressive degree of endorsing construct validity which examine the collective reliability of a

**Table 5: SEM hypothesis testing**

Hypothesis	Hypothesized path	Path coefficient	CR	P-value	remarks
H1	ALI←REQ	0.372	7.382	0.000	Supported
H2	ALI←CAP	0.746	4.592	0.006	Supported
H3	PER←ALI	0.483	3.982	0.000	Supported
H4	EPR←ALI	0.574	5.493	0.000	Supported

Level of Significance (5% i.e., 0.050), Source: Authors' Estimation, REQ: Requirement, CAP: Capacity, ALI: Alignment, PER: Performance, CR: Composite reliability, SEM: Structural equation modeling

is also significant as it 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.

In order to confirm the structural relationships between the predictor and criterion, Table 5 specified the outcomes of SEM regression path, standardized regression coefficient, critical ratio, significance value and remarks of the hypothesis. The results of SEM explain that Environmental REQ ( $\beta = 0.372$ ,  $P < 0.05$ ) and environmental capability ( $\beta = 0.746$ ,  $P < 0.05$ ) have positive and significantly impact on Environmental ALI that confirming H1 and H2. This model explains 37.3% variance of Environmental ALI by Environmental REQ and environmental capability. On the other hand, the results also suggested that environmental PER ( $\beta = 0.574$ ,  $P < 0.05$ ) and Firm PER ( $\beta = 0.483$ ,  $P < 0.05$ ) are significantly and positively influenced by environmental ALI in Indonesia and therefore confirming H3 and H4. This model explains 62.89% variance of Firm PER ALI and 68.21% variance of Environmental PER by Environmental ALI.

## 5. CONCLUSION AND DISCUSSION

The current research investigates the empirical debate that impact of ALI EAIS on firm PER and environmental PER. For doing this purpose, the current study examines the impact of environmental REQ and environmental capability on ALI of AIS. Furthermore, the study investigates the effect of environmental ALI on firm PER and environmental PER. The current study is conducted in the small-medium enterprises in Indonesia. The results of SEM confirm that EAIS REQ and EAIS capability have a positive and significant impact on EAIS ALI. Moreover, the results also confirm that EAIS ALI has a positive and significant impact on firm PER and environmental PER in Indonesia.

The ALI between tasks of IS and its capabilities are critical to determine the usability and efficiency of information systems. The improved ALI is vital to ensure the availability of the desired benefits of the information technology. Applying the stated significance to the field of environmental accounting, the present study empirically examined the influence of EAIS REQ and CAP to ensure efficiency of EAIS ALI and its subsequent impact in determining environmental and organizational PER. The findings of the study resulted from SEM confirm the significance of REQ (weight = 0.372) and CAP (weight = 0.746) in attaining strategic EAIS ALI. Furthermore, the empirical evidence of the study also establishes the positive significant relationship between EAIS ALI in influencing PER (weight = 0.483) and EPR (weight = 0.574) of the sampled organizations.

Our study contributed to the theoretical literature and also add value in terms of offering practical implications. The theoretical contribution of our study is associated in presenting greater insights and the validity of the model describing the need of fit between is REQ and CAP to sustain strategic ALI in the context of environmental accounting. It merges the contribution of accounting in the domain of sustainable progress to ensure transparency and culpability (Gray, 1992). Furthermore, our research model empirically validates the proposition of Mathews (1997) in suggesting that the domain of AIS should direct the necessary change not only to make certain the benefits they provide to business and stakeholders but to the society and the environment. In addition, the current investigation has offered the holistic approach of environmental accounting by assimilating the significant role of strategic ALI of EAIS in improving organizational PER in terms of offering economic benefits through enhanced managerial responsiveness, improved operations to meet organizational need generated by customer demands. Alongside, the study also implies that the responsiveness of the organization towards environmental needs is critical not only to the nature but to the organization itself in building corporate image, sustainable practices and certifications that enhance organization reputé and managers understanding of the environmental need along with improved societal commitments.

## REFERENCES

- Adebambo, H.O., Ashari, H., Nordin, N. (2014), Antecedents and outcome of sustainable environmental manufacturing practices. *International Journal of Management and Sustainability*, 3(3), 147-159.
- Afshan, S., Sharif, A. (2016), Acceptance of mobile banking framework in Pakistan. *Telematics and Informatics*, 33(2), 370-387.
- Afshan, S., Sharif, A., Waseem, N., Frooghi, R. (2018), Internet banking in Pakistan: An extended technology acceptance perspective. *International Journal of Business Information Systems*, 27(3), 383-410.
- Al-Fatlawi, S.H. (2018), Nationalists and environmentalists which are anti-globalization and the WTO. *International Journal of Asian Social Science*, 8(5), 256-264.
- Al-Tuwaijri, S.A., Christensen, T.E., Hughes Ii, K.E. (2004), The relations among environmental disclosure, environmental performance, and economic performance: A simultaneous equations approach. *Accounting, Organizations and Society*, 29(5-6), 447-471.
- Arif, I., Afshan, S., Sharif, A. (2016), Resistance to mobile banking adoption in a developing country: Evidence from modified TAM. *Journal of Finance and Economics Research*, 1(1), 25-42.
- Baran, M., Yilmaz, A. (2018), A study of local environment of harran historical domed houses in terms of environmental sustainability. *Journal of Asian Scientific Research*, 8(6), 211-220.
- Barkus, E., Yavorsky, C., Foster, J. (2006), Understanding and Using Advanced Statistics. Faculty of Health and Behavioural Sciences-



- Papers, No. 393.
- Bolon, D.S. (1998), Information processing theory: Implications for health care organizations. *International Journal of Technology Management*, 15, 211-221.
- Boyd, J., Banzhaf, S. (2007), What are ecosystem services? The need for standardized environmental accounting units. *Ecological Economics*, 63(2-3), 616-626.
- Burritt, R.L. (2004), Environmental management accounting: Roadblocks on the way to the green and pleasant land. *Business Strategy and the Environment*, 13(1), 13-32.
- Carolina, Y., Susanto, A. (2017), Analyzing the effect of top management support on accounting information system (AIS) success. *Advanced Science Letters*, 23, 11625-11628.
- Chen, Z., Hossen, M.M., Muzafary, S.S., Begum, M. (2018), Green banking for environmental sustainability-present status and future agenda: Experience from Bangladesh. *Asian Economic and Financial Review*, 8(5), 571-580.
- Chidoko, C. (2014), Labor and economic growth in Zimbabwe. *The Economics and Finance Letters*, 1(4), 24-29.
- Cormier, D., Magnan, M. (1997), Investors' assessment of implicit environmental liabilities: An empirical investigation. *Journal of Accounting and Public Policy*, 16(2), 215-241.
- Danbaba, G., Nabegu, A.B., Binta, A., Mustapha, A. (2016), Assessment of implementation of the environmental sanitation policy in the federal capital territory (FCT) Abuja, Nigeria. *Global Journal of Social Sciences Studies*, 2(1), 1-13.
- De Jong, J.P., Den Hartog, D.N. (2007), How leaders influence employees' innovative behaviour. *European Journal of Innovation Management*, 10(1), 41-64.
- De-Beer, P., Friend, F. (2006), Environmental accounting: A management tool for enhancing corporate environmental and economic performance. *Ecological Economics*, 58(3), 548-560.
- Dillman, D.A. (1978), *Mail and Telephone Surveys: The Total Design Method*. Vol. 19. New York: Wiley.
- Dul, J., Ceylan, C., Jaspers, F. (2011), Knowledge workers' creativity and the role of the physical work environment. *Human Resource Management*, 50(6), 715-734.
- Ekpong, E.G. (2014), Public infrastructure spending and economic growth in Nigeria: An error correction mechanism (ECM) approach. *Journal of Social Economics Research*, 1(7), 129-140.
- Elshamy, H.M., Ahmed, K.I.S. (2017), Green fiscal reforms, environment and sustainable development. *International Journal of Applied Economics, Finance and Accounting*, 1(1), 48-52.
- Fekrat, M.A., Inclan, C., Petroni, D. (1996), Corporate environmental disclosures: Competitive disclosure hypothesis using 1991 annual report data. *The International Journal of Accounting*, 31(2), 175-195.
- Fornell, C., Larcker, D.F. (1981), Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 34(1), 382-388.
- Frooghi, R., Waseem, S.N., Afshan, S., Shah, Z. (2015), Effect of offline parent brand dimension on online trust, satisfaction and loyalty: In context of newspaper industry. *Journal of Management Sciences*, 2(2), 223-254.
- Galbraith, J.R. (1974), Organization design: An information processing view. *Interfaces*, 4(3), 28-36.
- Gholami, R., Sulaiman, A.B., Ramayah, T., Molla, A. (2013), Senior managers' perception on green information systems (IS) adoption and environmental performance: Results from a field survey. *Information and Management*, 50(7), 431-438.
- Gideon, Z. (2014), Institutionalising and mainstreaming policy analysis culture in African environments. *International Journal of Public Policy and Administration Research*, 1(1), 12-25.
- Gordon, L.A., Miller, D. (1976), A contingency framework for the design of accounting information systems. In: *Readings in Accounting for Management Control*. Boston, MA: Springer. p569-585.
- Gray, R. (1992), Accounting and environmentalism: An exploration of the challenge of gently accounting for accountability, transparency and sustainability. *Accounting, Organizations and Society*, 17(5), 399-425.
- Hair, J.F., Ringle, C.M., Sarstedt, M. (2010), PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152.
- Haseeb, M., Hassan, S., Azam, M., Suryanto, T. (2018), The dynamics of governance, tourism and environmental degradation: The world evidence. *International Journal of Global Environmental Issues*, 17(4), 340-363.
- Henri, J.F., Journeault, M. (2010), Eco-control: The influence of management control systems on environmental and economic performance. *Accounting, Organizations and Society*, 35(1), 63-80.
- Henry, U. (2014), Globalization and environmental issues: A new framework for security analysis. *Humanities and Social Sciences Letters*, 2(4), 209-216.
- Ismail, N.A., King, M. (2007), Firm performance and AIS alignment in Indonesian SMEs. *International Journal of Accounting Information Systems*, 6(4), 241-259.
- Ismail, N.A., King, M. (2014), Factors influencing the alignment of accounting information systems in small and medium sized Indonesian manufacturing firms. *Journal of Information Systems and Small Business*, 1(1-2), 1-20.
- Ismail, N.A., King, M. (2005), Firm performance and AIS alignment in Malaysian SMEs. *International Journal of Accounting Information Systems*, 6(4), 241-259.
- Khan, H., Hassan, R., Marimuthu, M. (2017), Diversity on corporate boards and firm performance: An empirical evidence from Malaysia. *American Journal of Social Sciences and Humanities*, 2(1), 1-8.
- Kigpiboon, C. (2013), The development of participated environmental education model for sustainable mangrove forest management on Eastern part of Thailand. *International Journal of Sustainable Development and World Policy*, 2(3), 33-39.
- Kline, R.B. (2005), *Methodology in the social sciences*. In: *Principles and Practice of Structural Equation Modeling*. 2<sup>nd</sup> ed. New York, US: Guilford Press.
- Lin, C.T.J., Lee, J.Y., Yen, S.T. (2004), Do dietary intakes affect search for nutrient information on food labels? *Social Science and Medicine*, 59(9), 1955-1967.
- Lober, D. J. (1996), Evaluating the environmental performance of corporations. *Journal of Managerial Issues*, 8(2), 184-205.
- Luong, N.D., Lon, H.V., Tuan, N.K., Thai, N.D. (2017), Using rubber aggregate derived from discarded tires for producing cement concrete towards resource recovery and environmental protection in Vietnam. *International Journal of Sustainable Energy and Environmental Research*, 6(2), 36-49.
- Mauldin, E.G., Ruchala, L.V. (1999), Towards a meta-theory of accounting information systems. *Accounting, Organizations and Society*, 24(4), 317-331.
- Marshal, I. (2017), Product brand and customer loyalty: A survey of the Nigeria banking industry. *Journal of Accounting, Business and Finance Research*, 1(1), 7-18.
- Mathews, M.R. (1997), Twenty-five years of social and environmental accounting research: Is there a silver jubilee to celebrate. *Accounting, Auditing and Accountability Journal*, 10(4), 481-531.
- Meiryani, M. (2016), Influence of uncertainty and risks on the information system. *International Business Management*, 10(9), 1575-1580.
- Meiryani, M. (2017), The influence of business process and management support on accounting information system. *Journal of Engineering and Applied Sciences*, 12(23), 7416-7421.
- Meiryani, M. (2018), The factors that affect the quality of accounting



- information system empirical testing in the state-owned enterprises. *Journal of Theoretical and Applied Information Technology*, 96(7), 1-11.
- Meiryani, M., Bambang, L.H., Sasya, S., Edwin, H. (2017), The Influence of Leadership Styles on Accounting Information Systems Quality and its Impact on Information Quality Survey on State-Owned Enterprises. *IEEE Xplore, Ei Compendex*; 2017. p1989-1993.
- Meiryani, M., Lusianah, L. (2018), The influence of business process on accounting information system quality. *Pertanika Journal of Social Sciences and Humanities*, 26, 209-218.
- Melnyk, S.A., Sroufe, R.P., Calantone, R. (2003), Assessing the impact of environmental management systems on corporate and environmental performance. *Journal of Operations Management*, 21(3), 329-351.
- Mia, L. (1993). The role of MAS information in organisations: an empirical study. *The British Accounting Review*, 25(3), 269-285.
- Mobus, J.L. (2005), Mandatory environmental disclosures in a legitimacy theory context. *Accounting, Auditing and Accountability Journal*, 18(4), 492-517.
- Moline, L.M., Llorens-Montes, J., Ruiz-Moreno, A. (2007), Relationship between quality management practices and knowledge transfer. *Journal of Operations Management*, 25(3), 682-701.
- Muñoz, L. (2017), Is environmental externality management a correction of Adam Smith's model to make it environmentally friendly and shift it towards green markets or is it a distortion on top of another distortion? *International Journal of Economics, Business and Management Studies*, 4(1), 1-16.
- Mušić, L. (2017), Ecofeminist pragmatism of female founders in sociology as source of women empowerment in academia and society. *International Journal of Emerging Trends in Social Sciences*, 1(1), 29-36.
- Patten, D.M. (2002), The relation between environmental performance and environmental disclosure: A research note. *Accounting, Organizations and Society*, 27(8), 763-773.
- Sharif, A., Raza, S.A. (2017), The influence of hedonic motivation, self-efficacy, trust and habit on adoption of internet banking: A case of developing country. *International Journal of Electronic Customer Relationship Management*, 11(1), 1-22.
- Sharif, A.A., Bukhari, S.W. (2014), Determinants of brand equity of Qmobile: A case study of Pakistan. *Journal of Management Sciences*, 1(1), 49-60.
- Tabachnick, B.G., Fidell, L.S. (2007), *Using Multivariate Statistics*. Boston, MA: Allyn and Bacon/Pearson Education.
- Waseem, S.N., Frooghi, R., Afshan, S. (2013), Impact of human resource management practices on teachers' performance: A mediating role of monitoring practices. *Journal of Education and Social Sciences*, 1(2), 31-55.
- Wu, S.P.J., Straub, D.W., Liang, T.P. (2015), How information technology governance mechanisms and strategic alignment influence organizational performance: Insights from a matched survey of business and IT managers. *MIS Quarterly*, 39(2), 497-518.
- Zhang, W.B. (2017), Economic development and environmental change with endogenous birth and mortality rates. *Asian Journal of Economic Modelling*, 5(1), 77-97.
- Zomorodi, A., Zhou, X. (2016), Role of EKC and PHH in determining environment quality and their relation to economic growth of a country. *Asian Journal of Economics and Empirical Research*, 3(2), 139-144.
- Zomorodi, A., Zhou, X. (2017), Impact of FDI on environmental quality of China. *International Journal of Business, Economics and Management*, 4(1), 1-15.