

# The Effect of Auditor Commitment on Supply Chain Performance: Moderating Role of Supply Chain Top Management Support

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**Abstract**-The foremost aim of the present study is to examine the influence of internal audit competency along with internal and external auditor and employee commitment to change on the supply chain performance of the audit companies in Jakarta Indonesia. The objectives also include the examination of moderating role of supply chain top management support among the links of internal audit competency, internal and external auditor, employee commitment to change and supply chain performance of the audit companies in Jakarta Indonesia. The data has been obtained by using the questionnaire method while analysis has been made by using the smart-PLS. The results revealed that all the predictors such as internal audit competency, internal and external auditor, and employee commitment to change have a positive association with supply chain performance. The results also showed that the supply chain top management support has positively moderated among the links of internal audit competency and supply chain performance. These findings are provided with the guideline to the upcoming studies along with the regulators while investigating this area in future and formulating the policies on the supply chain performance of the organization.

**Keywords;** Internal audit competency, Employee commitment to change, Supply chain performance

## 1. Background

The term supply chain management is considered vital in the enhancement of organizational performance and productivity. Despite the research, a lot the supply chain concept with time is getting more importance in the business world. There are numerous results reported by the researchers regarding the importance of supply chain management [30]. Literature also witnessed that there is numerous method of the supply chain are reported according to the need of the business. Although there is huge literature is available on the supply chain management but still, there are some gaps that need to be filled to enhance the performance of the supply chain management. There are multiple factors that are reported with the supply chain management like gross domestic product etc. Literature proposed that some of the factors

like audit, leadership, culture etc. are very important from the supply chain point of view [8]. This investigation will shine the spotlight on the nexus between audit, leadership and the supply chain management.

There is a very strong bonding between audit and supply chain reported in the context that the audit is one of the factors which reduce the risk of an enterprise by giving the true and fair facts and figures about the organization. This reduction of risk in the enterprise has a direct effect on the supply chain management like it reduces the supply chain management process cost with the help of getting true and fair reporting in the form of company financial statements from the audit [14]. There are two determinants of the audit like internal and external. Both of these determinants (internal and external) has a strong relationship with supply chain management. Both the internal and external determinants positively affect the supply chain management performance in the organization [15].

Leadership is one of the organizational variables which influences the entire system of the organization. Irrespective of the matter that the organization is small, medium or large scale the leadership secure the maximum importance. As the psyche of the organization applies and reflects in the culture of the organization. Some of the examples are like a green leadership will prefer the green environment, on the other hand, the toxic leadership will go with the hectic environment [16]. Whereas the innovative leadership will allow the innovative and relax environment. So the psyche of the leadership strongly reflects and affect the operations of the environment inclusive of the supply chain management. It's the leadership which allows its employees to have the open decision for better utilization of the resources of the organization. This effective and efficient usage of the available resources directly affects the performance of the employees in the organization which further affects the organizational supply chain performance [12]. There are multiple forms of the leadership reported in the literature. The most relevant proposed by the different authors are

transformational transactional. Both of these forms are considered most valuable to lead the workers in the right direction for the success of the organization [3].

If the top management supports the audit team in order to enhance the performance of the supply chain this will ultimately enhance the audit team performance. There is a positive association reported between the support from the top management and the audit practices applicable in the organization. There is numerous hurdle faced by organizational leadership in order to be effective. One of the most important factors is change. The organizations which failed to bring change according to the changing needs of the world ultimately failed to survive. In this running era, change is very important to upgrade the organization operations etc. [31]. There is another fact attached to the change which is that everyone needs change but most of the times resist when changing activities are applicable. This resistance to change is very hazardous for the organization. Effective leadership will only be successful if it succeeds to control that employee resistance to change. In the leadership literature, there is a positive association reported between leadership effectiveness and employee commitment to change [2, 23]. For the transfer of the effective leadership of the organization on the supply chain is associated with the employee commitment to change.

There are four relationships tested in this investigation. First the relationship between competency of the internal audit team and the supply chain performance. Second, the relationship between external and external audit with the performance of the supply chain management. The third is between employee commitment to change and supply chain performance. The moderating effect of supply chain top management support will also be tested. Numerous time the supply chain top management support as moderating or mediating variable with the supply chain management performance [26].

## 2. Hypotheses development

Literature proposed that the audit team competency plays a vital role to enhance the audit competencies. One of the factors that play an important role in order to provide competency in this regards is the training activities offered by the organization. There is a positive association reported between the professional competency of both internal and external auditors and audit effectiveness. In the literature, the professional competency of both internal and external auditors is proposed as a fundamental tool to increase audit effectiveness [13]. There is also a positive link reported between the audit team competency and audit effectiveness. The presentation of the true and fair picture of the organization financials is the need of every firm. One of the elements strongly affects that intentions to present the true and fair picture is the competency of the

audit department. This presentation of the true and fair financial position of the organization is the indicator of the smooth supply chain management procedure [28]. It is also narrated that professional audit practices act in two ways. First, it maximizes the risk of the enterprise. Second, increase the performance of the supply chain. Another factor which needs to be considered is the competency of the staff. If the audit staff is professionally competent that will help to present the true and fair picture of the organization financial position [26]. The audit team is fully aware of the required professional knowledge of audit most of the times present the facts of the organization. The hypotheses derived from the above debate is:

**H1:** Internal audit competency has a positive association with supply chain performance.

Togetherness brings perfection. The performance of the organization strongly influenced by the inter-organization department's dexterity [30]. If the departments of the organization are connected properly they will help each other to clear the bugs available in the system. On the other hand, if the departments are not aware of the issues of inter-department they can't help each other to resolve the issue to enhance the organization performance [32]. The coordination between the departments of the organization is very necessary in order to comply with the company operational requirements in a true manner [20]. Communication is the best tool to bring coordination between the different departments of the organization. Same is the case here with internal and external audit departments [11]. Both of the departments are strongly connected to present a true and fair picture. The audit department performance of any organization is the association between the organizational internal and external audit departments [29]. The weak associated will lead to less performance whereas the strong association will lead to better performance. The more the coordination between the internal and external audit team there are more chances of maximization of organizational risk [24]. This maximization of risk will directly affect the supply chain performance by reducing the operational cost. This increase in controlling organizational risk will lead to the effectiveness of the supply chain function in the organization. The hypotheses derived from the above debate is:

**H2:** Internal and external auditors have a positive association with supply chain performance.

The term change rated very high in the business world. In such a competitive world the organizations which failed to understand the real meaning of that word also failed to survive in such a competitive environment [27]. The organization with time bring different changes in different forms. All the changes which affect the employees are strongly resisted by the employees whereas if the change is not about the employee they are not against it [21, 30].

The leadership of the organization pays special attention before introducing any changing activity in the organization [17]. Literature witnessed that most of the organizational activities are crushed by the resistance shown by the employees. If the leadership succeed to convince the employee to accept the change this will lead towards the success of the organization [25]. So prior to bringing any change activity then organization prepare its feasibility plan to tackle or to convince the employee to respond towards the change as needed by the organization. In this context, the organization apply different change activities approach proposed by literature [18]. If the employees are convinced and committed towards the change this will allow the organization to execute its plans as per planning [33]. If the employees are not committed towards the change this will directly enhance the organization operational cost which will ultimately affect the supply chain performance of the organization. The hypotheses derived from the above debate is:

**H3:** Employee commitment to Change has a positive association with supply chain performance.

Support from any organization has a strong influence on the employees of the organization in multiple ways. It increases the employee's motivation level, empowers the employees for decision making, and increases the employee's effectiveness [6]. If any organization empower its employees in all the manners only then the employee is in the position to present the facts about the organization without any fear of sack etc. If the employee does not get proper support from the organization to have the right decision at the right time this will lead to demotivate the employee and also employee will hesitate to present the true and fair position of the organization and prefers to be silent [10]. If the employee will remain silent and will not efficiently and effectively use the resources of the organization this will lead to enhance the supply chain operational cost which will ultimately affect the supply chain performance. In literature, there is a positive relationship reported between the support from the top management and the supply chain performance [9]. The audit practices in the organization are getting supported by the supply chain and in response, the supply chain performance is also getting the support from the audit practices. A strong and fair relationship between the audit team and the top management is necessary to report the irrelevant activities without any hesitation. The top management also supports the audit team in all the respects with the intentions to have the true and fair financial position of the organization [32]. The more the audit team both internal and external are closer with the top management of the organization the more the chances of the fair reporting do exist. Top management support is one of the most significant factors that can increase the effectiveness of the audit committee. Literature shows that management support is an important element for various

activities of the audit [22]. Literature witnessed that the high support of the organization top management plays a vital role in the effectiveness of both internal and external audit teams [4]. The more they get to support the more they present the fair picture. This presentation of true picture results in a decrease of operational cost which directly influence the organizational supply chain performance. The hypotheses derived from the above debate are:

**H4:** Supply chain top management support positively moderates the nexus aimed internal audit competency and supply chain performance.

**H5:** Supply chain top management support positively moderates the nexus aimed internal and external auditors and supply chain performance.

**H6:** Supply chain top management support positively moderates the nexus aimed employee commitment for change and supply chain performance.

### 3. Methodology

The foremost aim of the present study is to examine the influence of internal audit competency along with internal and external auditor and employee commitment to change on the supply chain performance of the audit companies in Jakarta Indonesia. The objectives also include the examination of moderating role of supply chain top management support among the links of internal audit competency, internal and external auditor, employee commitment to change and supply chain performance of the audit companies in Jakarta Indonesia. The data has been obtained using the questionnaire method. The cluster sampling has been adopted to select the respondents while personal visit method has been adopted for distribution and collection of the survey questionnaires. About 540 questionnaires have been forwarded to the respondents but out of them, only 310 were returned that represents about 57.41 percent response rate. In addition, the analysis has been made by using the smart-PLS due to intricate framework. The variables that have been adopted include the one moderating variable such as supply chain top management support (SCTMS) that has six items, while one dependent variable has been adopted named as supply chain performance (SCP) that has four items. In addition, three predictors have been used by the current study such as internal audit competency (IAC) that has six items, internal and external auditors (IEA) that has four items and employee commitment to change (ECC) that has three items [5]. These constructs are shown with their links in Figure 1.

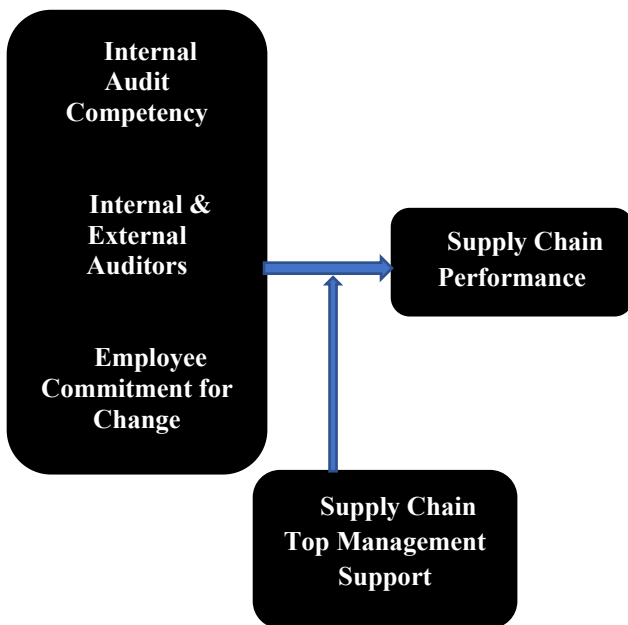


Figure 1. Theoretical model

#### 4. Results

The convergent validity has been examined first and proved it valid and show a high correlation among items because the Alpha along with CR values are higher than 0.70 while loadings and AVE values are more than 0.50. These figures are highlighted in Table 1.

Table 1. Convergent validity

Items	Loadings	Alpha	CR	AVE
ECC1	0.740	0.755	0.858	0.670
ECC2	0.805			
ECC3	0.902			
IAC1	0.827	0.926	0.942	0.729
IAC2	0.865			
IAC3	0.852			
IAC4	0.820			
IAC5	0.883			
IAC6	0.873			
IEA1	0.974	0.944	0.962	0.863
IEA2	0.973			
IEA3	0.781			
IEA4	0.973			
SCP1	0.855	0.821	0.893	0.736
SCP2	0.841			
SCP4	0.878			
SCTMS1	0.491	0.884	0.911	0.646
SCTMS2	0.910			
SCTMS3	0.945			
SCTMS4	0.880			
SCTMS5	0.944			
SCTMS6	0.497			

The discriminant validity has been examined second with help of Fornell Larcker and cross-loadings and proved it valid and show no high correlation among variables because the values that show the links with itself are larger than the values that show the links with other variables. These figures are highlighted in Table 2 and Table 3.

Table 2. Fornell Larcker

	ECC	IAC	IEA	SCP	SCTMS
ECC	0.819				
IAC	0.325	0.854			
IEA	0.366	0.386	0.929		
SCP	0.633	0.408	0.454	0.858	
SCTMS	0.448	0.516	0.490	0.418	0.804

Table 3. Cross-loadings

	ECC	IAC	IEA	SCP	SCTMS
ECC1	0.740	0.194	0.270	0.392	0.341
ECC2	0.805	0.244	0.242	0.490	0.343
ECC3	0.902	0.335	0.372	0.633	0.413
IAC1	0.273	0.827	0.282	0.321	0.421
IAC2	0.273	0.865	0.332	0.355	0.444
IAC3	0.271	0.852	0.297	0.316	0.413
IAC4	0.212	0.820	0.344	0.290	0.461
IAC5	0.279	0.883	0.352	0.372	0.456
IAC6	0.338	0.873	0.362	0.411	0.452
IEA1	0.336	0.342	0.974	0.418	0.456
IEA2	0.335	0.343	0.973	0.419	0.458
IEA3	0.363	0.398	0.781	0.428	0.445
IEA4	0.321	0.342	0.973	0.413	0.452
SCP1	0.537	0.318	0.368	0.855	0.299
SCP2	0.558	0.373	0.443	0.841	0.434
SCP4	0.531	0.355	0.352	0.878	0.337
SCTMS1	0.133	0.662	0.179	0.160	0.491
SCTMS2	0.420	0.418	0.456	0.400	0.910
SCTMS3	0.455	0.373	0.468	0.401	0.945
SCTMS4	0.390	0.392	0.463	0.373	0.880
SCTMS5	0.455	0.373	0.464	0.399	0.944
SCTMS6	0.140	0.661	0.191	0.174	0.497

The discriminant validity has been examined second with help of Heterotrait Monotrait (HTMT) ratio and proved it valid and show no high correlation among variables because the values are less than 0.90. These figures are highlighted in Table 4.

**Table 4. Heterotrait Monotrait ratio**

	ECC	IAC	IEA	SCP	SCTMS
ECC					
IAC	0.372				
IEA	0.426	0.411			
SCP	0.782	0.461	0.513		
SCTMS	0.505	0.668	0.509	0.466	

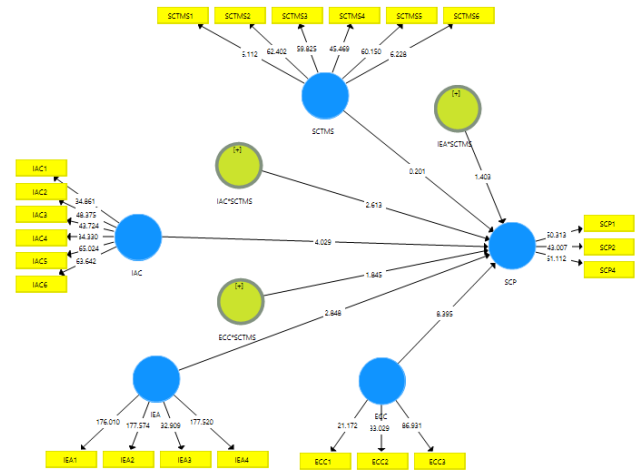


**Figure 2. Measurement model assessment**

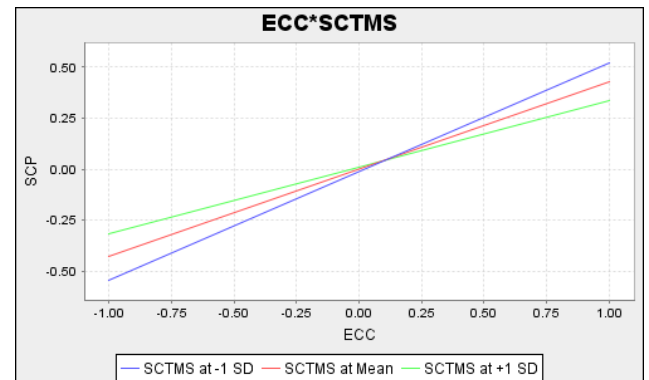
The path analysis exposed that internal audit competency, internal and external auditor, and employee commitment to change have a positive association with supply chain performance and accept H1, H2 and H3. In addition, the supply chain top management support has positively moderated among the links of internal audit competency and supply chain performance and accept H4. However, the supply chain top management support has insignificantly moderated among the links of the internal and external auditor, employee commitment to change and supply chain performance and reject H5 and H6. These nexus are highlighted in Table 5.

**Table 5. Path analysis**

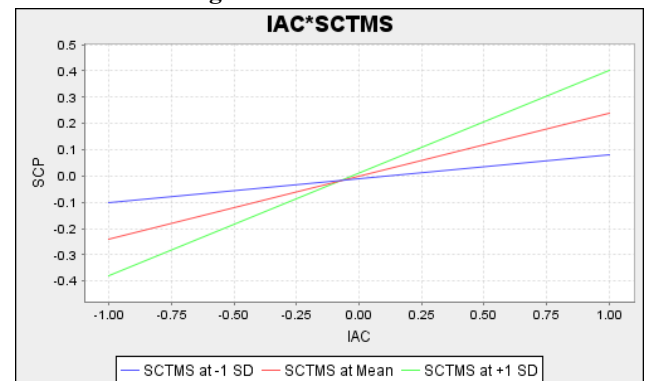
Relationships	Beta	S.D.	t-statistics	p-values
ECC -> SCP	0.428	0.051	8.395	0.000
ECC*SCTMS -> SCP	-0.102	0.055	1.845	0.066
IAC -> SCP	0.241	0.060	4.029	0.000
IAC*SCTMS -> SCP	0.149	0.057	2.613	0.009
IEA -> SCP	0.153	0.054	2.848	0.005
IEA*SCTMS -> SCP	-0.084	0.060	1.403	0.161



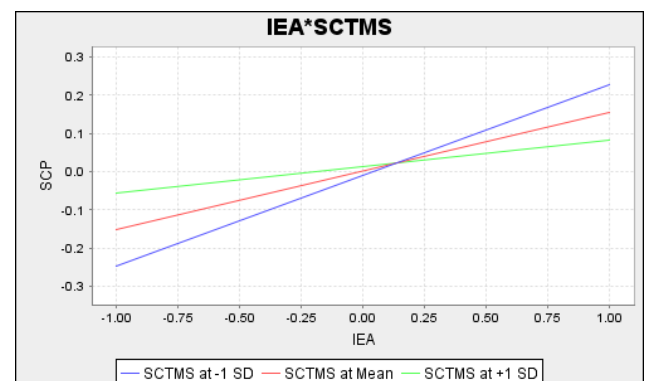
**Figure 3. Structural model assessment**



**Figure 4. ECC\*SCTMS**



**Figure 5. IAC\*SCTMS**



**Figure 6. IEA\*SCTMS**

## 5. Discussion and conclusion

The results revealed that all the predictors such as internal audit competency, internal and external auditor, and employee commitment to change have a positive association with supply chain performance. These findings are matched with the outcomes of the Ngai, Chau [19] who also exposed that internal audit competency has positively associated with supply chain performance. A study by Alfalla-Luque, Marin-Garcia [1] examined that employee commitment to change has positively influenced the supply chain performance and these findings are similar to the findings of ongoing study. The results also showed that the supply chain top management support has positively moderated among the links of internal audit competency and supply chain performance. These findings are also similar to the outcomes of Dai, Montabon [7] who also exposed that top management support is necessary for the influence of audit competency on supply chain performance. These findings are provided with the guideline to the upcoming studies along with the regulators while investigating this area in future and formulating the policies on the supply chain performance of the organization. Thus, the present study concluded that the audit companies of Indonesia have effective auditing competency and strong commitment of the employee to change along with high top management support that is the reason for high supply chain performance. The present study has suggested that future study should concentrate on the mediating factors that are ignored by the present study. In addition, this study also recommended that the upcoming studies should increase their scope by using cross country analysis in their studies and in halal supply chain industry.

## REFERENCES

- [1] R. Alfalla-Luque, J. A. Marin-Garcia, and C. Medina-Lopez, "An analysis of the direct and mediated effects of employee commitment and supply chain integration on organisational performance," *International Journal of Production Economics*, Vol. 162, pp. 242-257, 2015.
- [2] S. Bag, "Big data analytics as an operational excellence approach to enhance sustainable supply chain performance," *Resources, Conservation and Recycling*, Vol. 153, pp. 104-119, 2020.
- [3] R. Banomyong, P. Varadejsatitwong, and R. Oloruntoba, "A systematic review of humanitarian operations, humanitarian logistics and humanitarian supply chain performance literature 2005 to 2016," *Annals of Operations Research*, Vol. 283, No. 1-2, pp. 71-86, 2019.
- [4] C. Cai, Q. Zheng, and L. Zhu, "The effect of shared auditors in the supply chain on cost stickiness," *China Journal of Accounting Research*, Vol. 12, No. 4, pp. 337-355, 2019.
- [5] S. H. Chu, "The impact of institutional pressures on green supply chain management and firm performance: Top management roles and social capital," *Sustainability*, Vol. 9, No. 5, pp. 764-774, 2017.
- [6] T. Daddi and F. Iraldo, "The effectiveness of cluster approach to improve environmental corporate performance in an industrial district of SMEs: A case study," *International Journal of Sustainable Development & World Ecology*, Vol. 23, No. 2, pp. 163-173, 2016.
- [7] J. Dai, F. L. Montabon, and D. E. Cantor, "Linking rival and stakeholder pressure to green supply management: Mediating role of top management support," *Transportation Research Part E: Logistics and Transportation Review*, Vol. 71, pp. 173-187, 2014.
- [8] C. K. Dissanayake and J. A. Cross, "Systematic mechanism for identifying the relative impact of supply chain performance areas on the overall supply chain performance using SCOR model and SEM," *International Journal of Production Economics*, Vol. 201, pp. 102-115, 2018.
- [9] E. Erna, "Integration between radical innovation and incremental innovation to expedite supply chain performance through collaboration and open-innovation: A case study of Indonesian logistic companies," *Uncertain Supply Chain Management*, Vol. 7, No. 2, pp. 191-202, 2019.
- [10] W. Melesse, "Business cycles and financial frictions under money growth rule," *Asian Journal of Economics and Empirical Research*, Vol. 6, No. 1, pp. 16-26, 2019.
- [11] M. S. Hussain, M. M. B. Musa, and A. Omran, "The impact of private ownership structure on risk taking by Pakistani banks: An empirical study," *Pakistan Journal of Humanities and Social Sciences*, Vol. 6, No. 3, pp. 325-337, 2018.
- [12] K. Jermstittiparsert, P. Namdej, and S. Somjai, "Green supply chain practices and sustainable performance: Moderating role of total quality management practices in electronic industry of Thailand," *International Journal of Supply Chain Management*, Vol. 8, No. 3, pp. 33-46, 2019.
- [13] V. Mani, A. Gunasekaran, and C. Delgado, "Enhancing supply chain performance through supplier social sustainability: An emerging economy perspective," *International Journal of Production Economics*, Vol. 195, pp. 259-272, 2018.
- [14] M. Moazzam, "Measuring agri-food supply chain performance and risk through a new analytical framework: a case study of New Zealand dairy," *Production Planning & Control*, Vol. 29, No. 15, pp. 1258-1274, 2018.
- [15] A. R. M. Mokhtar, "Improving reverse supply chain performance: The role of supply chain leadership and governance mechanisms," *Journal of Cleaner Production*, Vol. 216, pp. 42-55, 2019.
- [16] M. L. Nandi, "Blockchain technology-enabled supply chain systems and supply chain performance: A resource-based view," *Supply Chain Management: An International Journal*, Vol. 2, pp. 14-16, 2020.
- [17] M. A. Nawaz, M. A. Azam, and M. A. Bhatti, "Are Natural resources, mineral and energy depletions damaging economic growth? Evidence from ASEAN

- countries*," Pakistan Journal of Economic Studies, Vol. 2, No. 2, pp. 145-153, 2019.
- [18] M. Nejati, S. Rabiei, and C. J. C. Jabbour, "Envisioning the invisible: Understanding the synergy between green human resource management and green supply chain management in manufacturing firms in Iran in light of the moderating effect of employees' resistance to change," Journal of Cleaner Production, Vol. 168, pp. 163-172, 2017.
- [19] T. N. ManieshiFonseka, "Impact of remuneration on motivation: A study of Acwell engineering (PVT) LTD Sri Lanka," Economy, Vol. 6, No. 1, pp. 25-33, 2019.
- [20] M. Pakurár, "The impact of supply chain integration and internal control on financial performance in the Jordanian banking sector," Sustainability, Vol. 11, 5, pp. 1248-1251, 2019.
- [21] A. Qazi, "Supply chain risk network management: A Bayesian belief network and expected utility based approach for managing supply chain risks," International Journal of Production Economics, Vol. 196, pp. 24-42, 2018.
- [22] H. Russell, K. T. Smith, and M. Smith, "Using social audits to detect and eliminate human trafficking in corporate supply chains," Internal Auditing, Vol. 32, No. 1, pp. 31-38, 2017.
- [23] N. Sari and A. Susanto, "The effect of auditor competency and work experience on information systems audit quality and supply chain (Case Study: Indonesian Bank)," International Journal Of Supply Chain Management (IJSCM), pp. 732-747, 2018.
- [24] J. Seago, "Climbing the scale: many internal audit departments are turning to maturity models to deliver opinions about organizational performance," Internal Auditor, Vol. 74, No. 2, pp. 38-44, 2017.
- [25] M. Shafiq and M. M. Savino, "Supply chain coordination to optimize manufacturer's capacity procurement decisions through a new commitment-based model with penalty and revenue-sharing," International Journal of Production Economics, Vol. 208, pp. 512-528, 2019.
- [26] H. Shee, "The impact of cloud-enabled process integration on supply chain performance and firm sustainability: the moderating role of top management," Supply Chain Management: An International Journal, Vol. 1, pp. 35-37, 2018.
- [27] T. Sriyakul, et al., Effect of Cultural Traits, Leadership Styles and Commitment to Change on Supply Chain Operational Excellence. Journal of Computational and Theoretical Nanoscience, Vol 16, 7, pp. 2967-2974, 2019.
- [28] M. Tarafdar and S. Qrunfleh, "Agile supply chain strategy and supply chain performance: complementary roles of supply chain practices and information systems capability for agility," International Journal of Production Research, Vol. 55, No. 4, pp. 925-938, 2017.
- [29] B. Tomic, "Organizational culture, quality improvement tools and methodologies, and business performance of a supply chain," Proceedings of the institution of mechanical engineers, Part B: Journal of Engineering Manufacture, Vol. 231, No. 13, pp. 2430-2442, 2017.
- [30] W. Ul-Hameed, "The effect of integration between audit and leadership on supply chain performance: Evidence from UK based supply chain companies," Uncertain Supply Chain Management, Vol. 7, No. 2, pp. 311-328, 2019.
- [31] C. Mbogela, "An empirical examination on trade openness and economic growth nexus in Africa," Asian Journal of Economics and Empirical Research, Vol. 6, No. 1, pp. 1-15, 2019.
- [32] H. Yazid, L. S. Wiyantoro, and C. Yan, "Perspective of internal and external auditors of supply chain management effects in opportunities, pressure and capabilities for fraud risk assessment," Int. J Sup. Chain. Mgt Vol, Vol. 9, No. 1, pp. 1021-1026, 2020.
- [33] A. A. Zaid, A. A. Jaaron, and A. T. Bon, "The impact of green human resource management and green supply chain management practices on sustainable performance: An empirical study," Journal of Cleaner Production, Vol. 204, pp. 965-979, 2018.