Role of Education Management to Expediate Supply Chain Management: A Case of Indonesian Higher Educational Institutions

Dahlena Sari Marbun[*1], Sulaiman Effendi[#2], Henny Zurika Lubis[#3], Ikbar Pratama[#4]

[*1]*Faculty of Teachers Training and Education Sciences, Universitas Islam Sumatera Utara, Medan, Indonesia.*
[#2]*Faculty of Teachers Training and Education Sciences, Universitas Muhammadiyah Sumatera Utara, Medan, Indonesia.*
[#3]*Faculty of Economics and Business, Universitas Muhammadiyah Sumatera Utara, Medan, Indonesia.*
[#4]*School of Accountancy, College of Business, Universiti Utara Malaysia, Sintok, Malaysia.*

Corresponding author: dahlenausm@gmail.com

***Abstract*- Objective of this study is to examine the role of universities in supply chain management (SCM) in Indonesia. Among the Indonesian universities, the supply chain education is included, however, academic scholars did not pay the intention to examine the effect on SCM. Therefore, this study considered to examine the relationship between higher education institutions and SCM. Various key university related factors were considered, namely; university education system, supply chain education at university level and the role of university management. Data were collected from university teachers in Indonesia. Four hundred (400) survey questionnaires were used to collect the data. Collected data were analysed through structural equation modeling (SEM) technique. In response to the objective of the study, it is revealed that universities have significant role in SCM. Supportive education system of universities shows positive effect in SCM with mediating role of supply chain education. Additionally, university management as moderating variable strengthen the relationship between supply chain education and SCM.**

Keywords; *supply chain, education system, university management, higher education.*

1. Introduction

Literature is limited related to the importance of higher education institutions in supply chain management (SCM), although the literature emphasizes on the importance of SCM to organizational performance. In particular, the review of past research reveals that there are less studies that attempted to investigate SCM practices in relation to the universities, especially in the context of Indonesia. This limitation has resulted not only in little information but also less knowledge about SCM practices among universities of Indonesia is one of the constraints in SCM education. The lack of information and research suggested the need for more studies to be conducted in this area of study. Given this research gap, this study initiates an attempt to examine the effect of universities on SCM practices in Indonesia.

Various studies are available on SCM in prospective to the service and manufacturing sectors [1-3], however, previous studies did not consider the role of universities in SCM. As the role of universities is crucial in various supply chain activities, therefore, it should be considered to highlight the importance of the academic institutions in SCM. Thus, the objective of this study is to examine the role of universities in SCM in Indonesia. To achieve this objectives, various university related variables are considered, namely; university education system, supply chain education at university level and the role of university management.

Education system in various educational institutions has important role in the learning of students. Supportive education system increases the skills of students which shows positive role in the supply chain education which ultimately increases the skills related to the SCM. Education sector has significant importance for every country, particularly the higher educational institutions has key importance [4, 5]. These institutions have vital importance for young students to learn various skills including SCM. Therefore, educational system in universities has important role in SCM and supply chain education.

Moreover, role of supply chain education also has importance role in SCM. Better supply chain education at universities generally helps to develop good supply chain skills among the students which ultimately benefit various organization after recruitment of students as employees. Particularly, the relationship of supply chain education and universities is lacking in the literature, therefore, gap is existing in the literature which is filled by the current study. It is clear from the literature that there are various studies available in the literature related to the supply chain education [6-8], however, less studies are available which examined the supply chain education in higher

education institutions. As study carried out by [7], found that supply chain education in higher education has important role in supply chain activities.

Along with the education system and supply chain education, university management also has importance role in SCM. Top management of every organization has major role in policy making and any other process of decision making [9, 10], therefore, it also has importance role in universities. Particularly in educational decision making related to supply chain subjects or to start various programs of supply chain education, university has important role which influence SCM. In the current study, university management is taken as moderating variable between supply chain education and SCM. Figure 1 shows the relationship between university education system, supply chain education, university management and SCM.

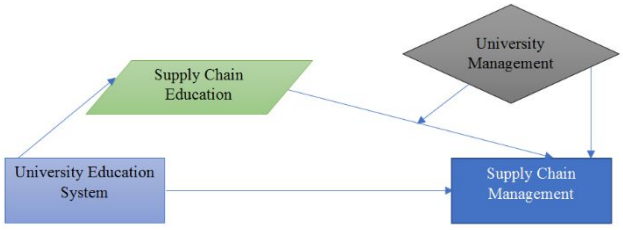

Figure 1. Framework of the study showing the relationship between university education system, supply chain education, university management and SCM

2. Literature Review

In a competitive environment, universities have central role to support SCM activities by producing talented students having significant skills of SCM. The business environment in which various firms operate is not only continuously changing but also becoming more complex, dynamic, unpredictable, as well as becoming more globalized in nature. The changes in such a business environment have posed both opportunities and challenges to the firms. However, in order to exploit the opportunities and cope with the challenges, these firms need to adopt effective management practices such as SCM. In highly competitive business environment, firms not only have to compete with each other directly but also the competition exists among their supply chain. Organizations need some form of competitive advantage to compete successfully. Regarding this, findings from previous studies have found that SCM plays an important role in providing firms the competitive advantage that they need to improve their organizational performance [11] in which higher educational institutions have important rile.

Furthermore, rapid changes and intensive competition required that organizations develop their capabilities to response as well as provide high quality products and services to their customers. Universities are playing important role to provide these capabilities and skills of SCM. Organizations can strengthen their capabilities by developing and implementing effective SCM practices. The adoption of effective SCM practices can help organizations to not only sustain their competitive advantage and organizational performance but also integrate their internal functions to external parties such as suppliers and customers. In the context of global marketplace, customers are demanding more varieties, better quality, higher reliability and faster delivery which is possible with the help of capable employees. These capable employees get education from universities related to the SCM. Moreover, product life cycle is becoming shorter, product variety is increasing, and technological advances are developing at a faster pace [12] which requires effective system of supply chain.

Firms need collaboration with higher education institutions to recruit well skilled employees for SCM. For firms to deal with various challenges, they need to develop strong upstream and downstream integration of their elaborate network of business relationships through effective SCM practices [13]. The adoption of SCM practices has provided benefits such as operational success for firms. This in turn has enhanced the organizational competitive advantage. As a result, SCM has been regarded as one of the most effective business practices as well as a successful management tool for organizations to keep up their business stability, development and prosperity. SCM involvement helps organizations to integrate their manufacturers, distributors, suppliers, and customers. By adopting SCM, organizations are able to develop more cohesive business model that can improve their long-term performance [13]. SCM also enables organizations to share their data and information, developed products together, negotiate prices and terms, make inquiry concerning potential partners and product specifications as well as determine demand expectations from their customers and suppliers. By allowing organizations to perform these activities, SCM is considered essential to the performance and success of organizations which requires collaboration with academic institutions.

Business environment within different firms is changing rapidly and becoming more competitive. The rapid changes and competition affect the products produced by the different firms and the way they sell them in the market requires academic background of employees. Coping with the changes and competing in the marketplace require to adopt effective SCM practices with the help of academic institutions. Nevertheless, the literature indicates that there is little information available between universities and SCM practices. Furthermore, the review of past research suggests that there are not many studies that investigate SCM practices with the help of universities or any level of academic institutions. Yet research on this area from the SCM perspective has not

attracted much interest and emphasis. Economy as well as the relevance and applicability of SCM to various firms is available in literature, however, empirical studies in this research area remained not only restricted but also neglected in Indonesia. Furthermore, although the literature emphasizes on important relationship between SCM practices and organizational performance, past empirical studies have mostly concentrated on investigating large business firms related to the business and neglected universities. The review of the literature further suggests that the effect of universities on SCM practices has not attracted much research attention, particularly in the local context of Indonesia. In view of this limitation, this study investigates the impact of universities on SCM practices in Indonesia.

2.1. Supply Chain Management

SCM practices referred to the way in which a firm integrates its suppliers, manufacturers, distributors and customers in order to compete, pursue, achieve and maintain its competitive advantage in an industry. There is no one universal accepted definitions of SCM. The literature indicates that concept of SCM has been defined in a variety of ways. However, in general, SCM refers to a business network that organizations adopt to enable them to manage and provide the products and services based on customer needs, right product as well as encompasses all activities needed to fulfil customers' demands and requests. The SCM activities involve the transformation of the raw material stage through the end users where they also contain the relevant information and funds flow. All the products will move through an organization from its original sources of raw materials through the end user. Furthermore, SCM is regarded as a management and planning of activities which required establishing resources and purchases of products, conversion and logistics activities. It also comprises collaboration among partners, intermediate channels, suppliers, customers and service providers to obtain a successful management to manage the supply and demand. Regarding the adoption of SCM, organizations focus on their strengths and core activities in order to ensure that their supply chain activities are executed specifically based on the required activities of organization.

Furthermore, SCM is also known as a chain of relationships between organizations in various business entities to promotes and foster strong coordination. In this chain of relationship, academic institutions like universities has central role. Supply chain education in these institutions enhances the management skills of supply chain. In order to ensure the effectiveness of strong coordination, an organization must integrate all the value-added activities and all the processes of supply chain must be smooth. Besides that, SCM is also refers as a links to all partners not only within an organization but it is also known as a links with external partners such as universities. Supply chain management is also widely accepted as an imported customer service component. Hence, the important thing in SCM is that the entire process must be viewed as one system in which universities have important role.

Employees recruited from universities generally have better skills related to the SCM. They have better ability to handle various issues related to the supply chain in their organizations. The true capabilities of the process in SCM must be assessed carefully, if any insufficient incurred across the SCM that involves suppliers, manufacturing plants, warehouses, customers. The processes of SCM exist in such as manufacturing as well as service organizations; even though the managerial complexity of the SCM might be vary from industries and different firms [14]. [15] in their study define SCM as cycle view which the processes and flow as an essential element for operational decisions. In order to have a clear understanding of operational requirement and to fulfil the customer's needs, an organization must have knowledge and understanding of the sequence processes and flows in a supply chain which generally assessed through university supply chain education. SCM is process of integrating part of many business entities such as manufacturers, suppliers, retailers, distributors and customers. The important factor of integrated entities is managing the flow of resources such as material flows (products, servicing, recycling), information flows (coordination of physical flows, order transmission, and tracking), and financial flows (credit terms, consignment arrangements, and payment schedules). Therefore, all information must be continuous and benefit all contributors in the SCM as operating an integrated SCM in order to create the optimum product flow [16]. [16] believe in order to create the most valuable process for the entire SCM network; the organization should identify good SCM members, critical to link with, and the processes needing linkage. On the other hand, [17] in their research found that SCM turns out to be a way of improving competitiveness through the reduction of uncertainty and the enhancement of customers' service. All these features of supply chain can be managed with the help of skilled employees and these employees can be hired from universities where they get education related to the supply chain.

Generally, the organizations cannot provide formal education related to the SCM. Organizations generally provide training to their employees. They cannot provide basic education of SCM. This education can be provided by the universities where the special courses related to the SCM are included in the various programs. SCM Practices refer to the operational activities or functional activities of

an organization that are required to enhance the effectiveness of its SCM. It is proven that SCM practices as a multi-dimension concept and should be viewed in a broader concept and comprehensively. The purpose of SCM can be explained through a strategic nature of SCM practices, namely to enhance the organizational performance of an individual and to enhance the performance of the entire supply chain [18]. In line with the views presented in previous studies, other researchers have also identified the dimensions of SCM practices that include outsourcing, continuous process flow, quality, purchasing, information sharing, core competencies, inter-organizational system use, postponement, geographic proximity, just in time capability, cross-functional teams and , product modularity [19]. Having presented the concept of SCM, the section below explains the three important aspects of SCM practices related to the SCM. Literature presented SCM practices comprise; customer relationship, strategic supplier partnership, and strategic outsourcing have been identified as the most important SCM practices. However, the current study discussed three important elements related to the universities. These elements include; university education system, supply chain education and university management.

2.2. University Education System

Education system within the universities has significant role in student learning which address leadership qualities [20]. Better education is one of the best opportunity for opportunity seekers [21, 22]. Generally, university education system provide various types of education [23, 24] in which SCM is also one of the part. Universities those do not provide supply chain education, generally have less effect on SCM skills by the students. Especially, the students when become the part of supply chain organization, their learning capability becomes low due to not having basic supply chain knowledge. Therefore, education system of universities has important role in supply chain education and SCM. As the education system has role in learning [25], therefore, it also has role in supply chain education and SCM.

2.3. Supply Chain Education

Generally, the subjects related to the supply chain are included in the course work of students within universities. These subjects provide a comprehensive overview of SCM. Generally, it starts from the basic level and end at higher level of SCM. Therefore, start from basic supply chain education is most significant for students to learn properly and become and good skilled employee of any organization. These subjects of SCM include introduction to the supply chain, various methods of SCM, importance of SCM, technologies of SCM etc.

All the areas of SCM covered by universities in various subjects shows positive link with the performance of SCM. It increases the capability of students to handle supply chain activities within the service and manufacturing firms. Therefore, a well-managed system by the universities effect positively on the SCM. Students get proper knowledge of supply chain and then organizations train them practically which positively on learning process of students and develop quality skills. It is also proved by the previous studies that supply chain education has significant role in supply chain practices [7, 26]. Sometimes companies start SCM executive education programs which are also helpful to enhance SCM [27]. Therefore, supply chain education has significant role in SCM. Hence, following hypotheses are proposed;

H1: University education system has positive effect on supply chain education.

H2: University education system has positive effect on SCM.

H3: Supply chain education has positive effect on SCM.

H4: Supply chain education mediates the relationship between university education system and SCM.

2.4. University Management

University management has significant role to provide supply chain education and various other programs which can influence SCM and enhances the skills of students related to the supply chain. University provides the platform to develop something new. University management has the major effect between the relationship of supply chain education and SCM. As it is also proved by various studies that management of organizations has significant role in their activities [28, 29], in the same way university management also has important role in SCM education. Literature shows that university management has crucial role in their educational activities [30]. Addition and subtraction of SCM subjects in the course work of various programs in university generally based on the university management decision. Therefore, university management has major influence on the supply chain education and SCM.

H5: University management has positive effect on SCM.

H6: University management moderates the relationship between supply chain education and SCM.

3. Research Methodology

The concerned population is the key for the success of very research study. Along with the population, respondents have vital role. The target population of the current study was the universities of Indonesia. Data were obtained from the teachers of these universities. Only those employees were selected having link with supply

chain. Particularly the teachers of supply chain were selected as the respondents for this study.

The questionnaire was used in this study contains various items related to the university education system, supply chain education, university management and SCM and it was divided into different sections. The questionnaire was adopted and modified from previous studies to suit the context and the purpose of this study. All sections in the survey questionnaire were written in English. Section A required the respondents to provide the demographic details. Section B consists of items used to measure SCM. Following this, the items in Sections C, D, and E are used to measure university education system, supply chain education and university management. The respondents were asked to rate each item based on a seven-points scale ranging from (1) strongly disagree to (7) strongly Agree.

Area cluster sampling is quite suitable while collecting the data form large population [31]. It has the ability to cover the wide area. Therefore, area cluster sampling was used in this study. Four hundred (400) survey questionnaires were used to collect the data. Collected data were analysed through structural equation modeling (SEM) technique. Total two hundred and ten (210) questionnaires were returned and used to proceed the analysis.

4. Findings

Findings of the study is based on the partial least square (PLS). The steps of PLS are followed from previous studies [32, 33]. The confirmatory factor analysis (CFA) is shown in Figure 2. It is highlighted that all the items have factor loadings above 0.5. Composite reliability (CR), alpha and average variance extracted (AVE) is highlighted in Table 1 which is above 0.7, 0.7 and 0.5 respectively. Discriminant validity is provided in Table 2 with the help of cross-loadings.

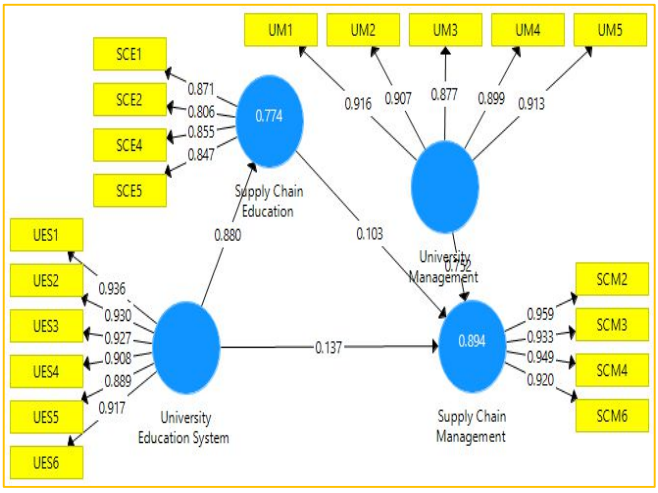

Figure 2. Confirmatory Factor Analysis (CFA)

Table 1. Construct Reliability and Validity

	Alpha	rho_A	CR	AVE
Supply Chain Education	0.866	0.868	0.909	0.714
Supply Chain Management	0.956	0.958	0.968	0.884
University Education System	0.963	0.963	0.97	0.842
University Management	0.943	0.944	0.956	0.814

Table 2. Cross-Loadings

	Supply Chain Education	Supply Chain Management	University Education System	University Management
SCE1	0.871	0.698	0.884	0.674
SCE2	0.806	0.623	0.87	0.566
SCE4	0.855	0.828	0.581	0.809
SCE5	0.847	0.842	0.62	0.806
SCM2	0.864	0.959	0.718	0.909
SCM3	0.832	0.933	0.691	0.897
SCM4	0.84	0.949	0.701	0.881
SCM6	0.78	0.92	0.647	0.824
UES1	0.82	0.679	0.936	0.625
UES2	0.781	0.644	0.93	0.574
UES3	0.798	0.676	0.927	0.591
UES4	0.81	0.676	0.908	0.634
UES5	0.792	0.677	0.889	0.613
UES6	0.841	0.685	0.917	0.663
UM1	0.821	0.871	0.617	0.916
UM2	0.81	0.845	0.635	0.907
UM3	0.761	0.784	0.564	0.877
UM4	0.785	0.854	0.62	0.899
UM5	0.775	0.859	0.597	0.913

Six hypotheses were formulated in this study and tested by using PLS bootstrapping. Beta value and t-value was considered to examine the significance of the relationship. Hypotheses with t-value below 1.96 were not supported. In the current study, as shown in Table 3, all the direct hypotheses have t-value above 1.96. Thus, all direct hypotheses (H1, H2, H3, H5) are accepted. PLS bootstrapping is highlighted in Figure 3.

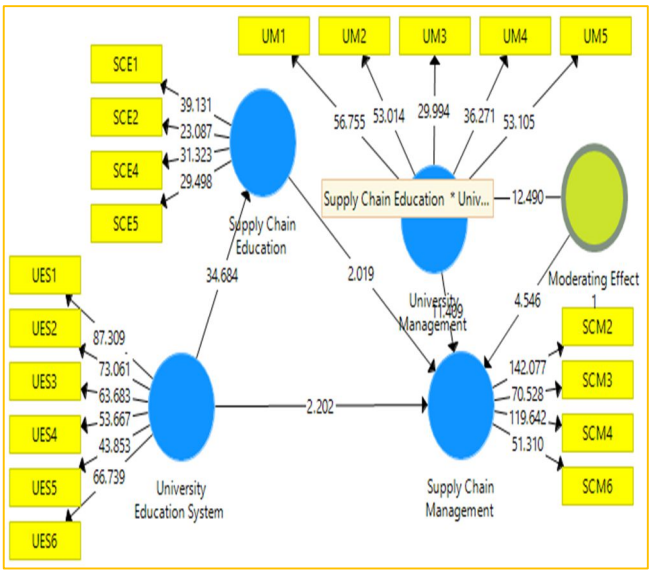

Figure 3. PLS Bootstrapping

Table 3. Direct and Moderation Effect

	(β)	(M)	(STDEV)	T Statistics	P Values
Moderating Effect 1 -> Supply Chain Management	0.072	0.072	0.016	4.546	0
Supply Chain Education -> Supply Chain Management	0.188	0.182	0.093	2.019	0.044
University Education System -> Supply Chain Education	0.88	0.881	0.025	34.684	0
University Education System -> Supply Chain Management	0.091	0.106	0.042	2.202	0.042
University Management -> Supply Chain Management	0.794	0.784	0.07	11.409	0

Table 3 shows that university education system has positive effect on supply chain education and SCM. Moreover, supply chain education and university management also have positive effect on SCM. Additionally, it is found that university management moderates the relationship between supply chain education and SCM. University management as moderating variable strengthen the relationship between supply chain education and SCM. It is shown in Figure 4. Finally, indirect effect is given in Table 4 which is also significant. Thus, supply chain education mediates the relationship between university education system and SCM. These results supported H4 and H6.

Table 4. Mediation Effect of Supply Chain Education

	(β)	(M)	(STDEV)	T Statistics	P Values
University Education System -> Supply Chain Education -> Supply Chain Management	0.166	0.161	0.082	2.012	0.045

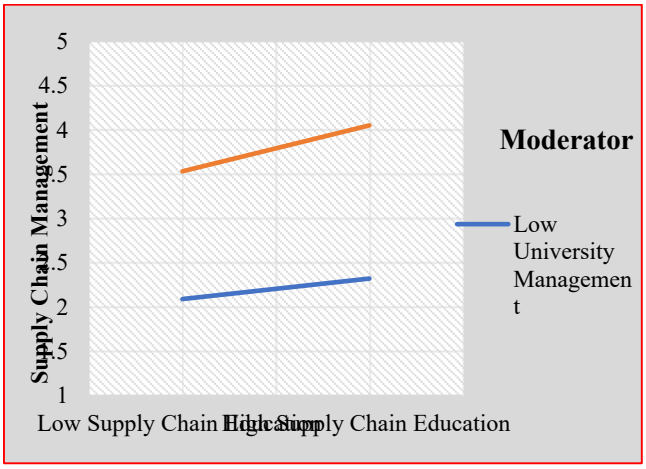

Figure 4. University management as moderating variable strengthen the relationship between supply chain education and SCM

5. Conclusion

It is revealed that universities have significant role in SCM. Students in universities learn skills and basic knowledge related to the SCM and play significant role in organizations as an employee. Supportive education system of universities shows positive effect in SCM with mediating role of supply chain education. Better quality of education system has significant positive effect to boost supply chain education. However, low quality education system may lead to low performance of students in supply chain education. Increase in supply chain education increases the SCM in Indonesia. Supply chain education must be provided in universities to enhance SCM. It is found that supply chain education reflects the effect of university education system on SCM. Moreover, top management of universities also has crucial role in SCM. Additionally, university management strengthen the relationship between supply chain education and SCM. Thus, Indonesian universities should adopt good education system and provide supply chain education to boost SCM.

References

[1] R. Y. Zhong, S. T. Newman, G. Q. Huang, and S. Lan, *"Big Data for supply chain management in the service and manufacturing sectors: Challenges, opportunities, and future perspectives,"* Computers & Industrial Engineering, Vol. 101, pp. 572-591, 2016.

[2] O. Alansaari, R. Yusoff, and F. Ismail, *"Exploring the link between employee commitment, recruitment process, and performance of internal supply chain of manufacturing firms in UAE,"* Uncertain Supply Chain Management, Vol. 7, pp. 237-250, 2019.

[3] S. Nadeem, A. K. Alvi, and J. Iqbal, *"Performance Indicators of E-Logistic System with mediating role of Information and Communication Technology (ICT),"* Journal of Applied Economics & Business Research, Vol. 8, 2018.

[4] N. T. T. Ha and P. G. Quyen, *"The relationship between state ownership and tax avoidance level: empirical evidence from Vietnamese firms,"* Journal of Asian Business Strategy, Vol. 7, No. 1, pp. 1-12, 2017.

[5] M. Gaebel, V. Kupriyanova, R. Morais, and E. Colucci, *"E-Learning in European Higher Education Institutions: Results of a Mapping Survey Conducted in October-December 2013,"* European University Association, 2014.

[6] R. Lancioni, H. Forman, and M. F. Smith, *"Logistics and supply chain education: roadblocks and challenges,"* International Journal of Physical Distribution & Logistics Management, Vol. 31, pp. 733-745, 2001.

[7] S. K. Jauhar, M. Pant, and R. Dutt, *"Performance measurement of an Indian higher education institute: a sustainable educational supply chain management perspective,"* International Journal of System Assurance Engineering and Management, Vol. 9, pp. 180-193, 2018.

[8] M. Habib and C. Jungthirapanich, *"Research framework of education supply chain, research supply chain and educational management for the universities,"* International Journal of the Computer, the Internet and Management (IJCIM), Thailand, Vol. 17, pp. 1-8, 2009.

[9] B. B. Nielsen and S. Nielsen, *"The role of top management team international orientation in international strategic decision-making: The choice of foreign entry mode,"* Journal of World Business, Vol. 46, pp. 185-193, 2011.

[10] F. T. Lohrke, A. G. Bedeian, and T. B. Palmer, "*The role of top management teams in formulating and implementing turnaround strategies: a review and research agenda,"* International Journal of Management Reviews, Vol. 5, pp. 63-90, 2004.

[11] A. D. White and M. B. Mohdzain, *"An innovative model of supply chain management: a single case study in the electronic sector,"* International Journal of Information Technology and Management, Vol. 8, pp. 69-84, 2008.

[12] P. Radanliev, D. C. De Roure, J. R. Nurse, P. Burnap, E. Anthi, U. Ani, L. Maddox, O. Santos, and R. Montalvo, Cyber risk from IoT technologies in the supply chain–discussion on supply chains decision support system for the digital economy, Univ. Oxford, 2019.

[13] S. Gorane and R. Kant, *"Supply chain practices and organizational performance: An empirical investigation of Indian manufacturing organizations,"* The International Journal of Logistics Management, Vol. 28, pp. 75-101, 2017.

[14] L. M. Ellram, *"Supply-chain management: the industrial organisation perspective,"* International Journal of Physical Distribution & Logistics Management, Vol. 21, pp. 13-22, 1991.

[15] S. Chopra and P. Meindl, Gerenciamento da Cadeia de Suprimentos: Estratégia, Planejamento, e Operação, in Gerenciamento da Cadeia de Suprimentos: Estratégia, Planejamento, e Operação, ed, 2003.

[16] P. Hadaya and R. Pellerin, *"Determinants and performance outcome of manufacturing SMEs use of internet-based IOISs to share inventory information,"* International Journal of Electronic Business, Vol. 8, pp. 477-504, 2010.

[17] C. Chandra and S. Kumar, *"Supply chain management in theory and practice: a passing fad or a fundamental change?,"* Industrial Management & Data Systems, Vol. 100, pp. 100-114, 2000.

[18] K. P. McCormack and W. C. Johnson, *Supply chain networks and business process orientation: advanced strategies and best practices:* CRC Press, 2016.

[19] K. C. Tan, V. R. Kannan, and R. B. Handfield, *"Supply chain management: supplier performance and firm performance,"* Journal of Supply Chain Management, Vol. 34, p. 2, 1998.

[20] F. Ghorashi and R. Darabi, *"Compare value at risk and return of assets portfolio stock, Gold, REIT, US and Iran market indices,"* Asian Journal of Economic Modelling, Vol. 5, No. 1, pp. 44-48, 2017.

[21] S. J. Declaration, *Joint declaration on harmonisation of the architecture of the European higher education system,* By the four ministers in charge for France, Germany, Italy and the United Kingdom. Paris, 1998.

[22] T. K. Hamrita, *"Building a holistic international educational partnership: Collaboration between The University of Georgia and the Tunisian Higher Education System,"* Journal of community engagement and scholarship, Vol. 4, p. 2, 2019.

[23] Y. Treshchevsky, S. L. Igolkin, and M. Shatalov, *"Internationalization of the educational services market through development of the system of remote education: possibilities and barriers,"* International Journal of Educational Management, Vol. 33, pp. 478-485, 2019.

[24] J. Marcus and V. Zambre, *"The effect of increasing education efficiency on university enrollment evidence from administrative data and an unusual schooling reform in Germany,"* Journal of Human Resources, Vol. 54, pp. 468-502, 2019.

[25] A. Hussain, *"Education system of Pakistan: Issues, problems and solutions,"* 2015.

[26] E. Grogan and S. Morris, *"Increasing sustainability engagement using experiential pedagogies in socially responsible supply chain management education,"* International Journal of Environmental, Cultural, Economic & Social Sustainability: Annual Review, Vol. 12, 2016.

[27] B. Davis-Sramek, R. W. Thomas, and B. S. Fugate, "*Integrating behavioral decision theory and sustainable supply chain management: Prioritizing*

economic, environmental, and social dimensions in carrier selection," Journal of Business Logistics, Vol. 39, pp. 87-100, 2018.

[28] W. Ul-Hameed, H. Mohammad, H. Shahar, A. Aljumah, and S. Azizan, *"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, pp. 311-328, 2019.

[29] C. Schultz, J. Graw, S. Salomo, and A. Kock, *"How project management and top management involvement affect the innovativeness of professional service organizations—an empirical study on hospitals,"* Project Management Journal, Vol. 50, pp. 460-475, 2019.

[30] M. D. Ensley and K. M. Hmieleski, *"A comparative study of new venture top management team composition, dynamics and performance between university-based and independent start-ups,"* Research Policy, Vol. 34, pp. 1091-1105, 2005.

[31] W. UL Hameed, Q. A. Nisar, A. Abbas, A. Waqas, and M. S. Meo, *"Microfinance Institutions as a Strategic Tool to Enhance Women's Career Development in Pakistan,"* ASIAN WOMEN, Vol. 35, pp. 93-128, 2019.

[32] W. Hameed and F. Naveed, *"Coopetition-Based Open-Innovation and Innovation Performance: Role of Trust and Dependency Evidence from Malaysian High-Tech SMEs,"* Pakistan Journal of Commerce and Social Sciences, Vol. 13, pp. 209-230, 2019.

[33] J. Henseler, C. M. Ringle, and R. R. Sinkovics*, The use of partial least squares path modeling in international marketing,* in New challenges to international marketing, ed: Emerald Group Publishing Limited, 2009, pp. 277-319.