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The Effect of Awareness of Tax Laws, Understanding of Tax Laws and Tax Compliance Behaviour on Supply Chain Management

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Abstract- **The objective of this study is to explore the role of tax education in supply chain management (SCM) among Indonesian supply chain companies. To approach this objective, the study examined the effect of awareness of tax laws and understanding of tax laws on tax compliance behaviour. After that, the collective role of awareness of tax laws, understanding of tax laws and tax compliance behaviour was examined on SCM. Managerial employees were selected as the respondents to collect the primary data. Total seven hypotheses were established concerning the relationship of awareness of tax laws, understanding of tax laws, tax compliance behaviour and SCM to achieve the objective. A total number of two hundred (200) survey questionnaires were distributed among the respondents. All the hypotheses were supported by the current study. It was found that tax education has a significant relationship with SCM. Awareness of tax laws and understanding of tax laws supports SCM practise among Indonesian supply chain firms. Tax compliance behaviour enhances the positive effect of awareness of tax laws and understanding of tax laws on SCM. Therefore, tax compliance behaviour is a mediating variable to enhances the effect of tax education on SCM.**

Keywords- *Supply chain, tax education, tax laws awareness, tax understating, tax compliance behaviour.*

1. Introduction

Tax education is considered as one of the factors that can impact on tax compliance behaviours [20],[21]. Tax education has been viewed as an approach to expand the nation's ability to get control on taxation laws and to build their preparation to pursue those laws [17]. Various specialists have considered the effect of tax education on tax compliance behaviours universally. For example, ref [1] found that tax education promotes tax compliance behaviours, as they would know about their obligations and disciplines.

Various studies carried out research on the effect of tax education (tax awareness and tax understanding) and found that tax education has an important role in tax compliance [9],[17]. However, the role of tax education in supply chain management (SCM) is not examined by the literature. Still, the literature is missing with the effect of tax education on SCM

practices. Therefore, this study investigated the role of tax education with respect to tax awareness and tax understanding on SCM activities in Indonesian supply chain firms.

Now a day, experts are discovering a basic reason to enhance tax education and the role of tax education in SCM. As computerized advancement has promoted SCM and quick reaction to market worldwide which overlook the important aspect of taxation. The governments of various countries have made a deliberate move to compose a cutting-edge tax strategy that handles the tax issues. Presently, the genuine usage of new tax rules for the worldwide advanced economy is developing inconsistently from nation to nation. As taxation is most important in nations economy [25],[33], therefore, it requires attention, particularly in Indonesia supply chain firms.

For some, nations, taxes are the real source of income to fund the costs of the nation, for example, giving the essential administrations to the nation like building streets, railroads, airplane terminals, and seaports and advancing the general welfare [32]. Taxpayer compliance behaviours can be affected by numerous variables, and these components contrast starting with one nation then onto the next and starting with one individual then onto the next [18]. Illuminating the taxpayers with respect to tax laws is a basic component in making a compelling tax structure [31]. Achieving a worthy measure of compliance might be accomplished if subjects can complete a corporate income tax return successfully and pay the reasonable measure of tax. To handle on the objective of wilful compliance, nationals must be taught, (particularly in tax matters), and their tax capability level ought to be enhanced to keep their information applicable.

Therefore, by examining the importance of tax, this study highlighted the role of tax education in SCM. No investigations have yet carried out particularly around tax compliance behaviours and education in supply chain companies in the prospective to SCM. The absence of concentration in Indonesia legitimizes why this investigation is critical, which shows research on the connection between tax education and tax compliance behaviours is truly necessary. Less consideration has been given to the instance of tax compliance and tax education, which makes it basic to

embrace an examination of taxation in Indonesia. Hence, this study explored the connection between tax education and tax compliance in supply chain firms of Indonesia.

Hence the study objective is to examine the role of tax education in SCM among Indonesian supply chain companies. The other objectives are shown in below points. The relationship between awareness of tax laws, understandings of tax laws, tax compliance behaviour and SCM is shown in Figure 1.

1. To study the role of awareness of tax laws in SCM.
2. To study the role of understandings of tax laws in SCM.
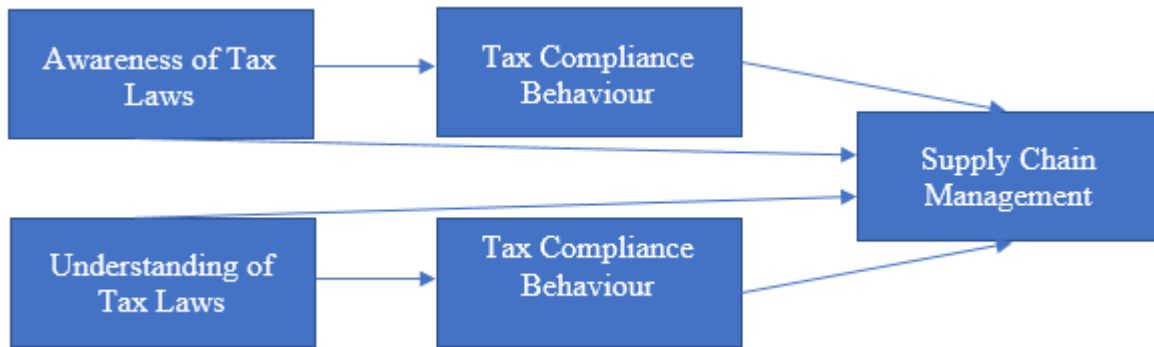3. To study the role of tax compliance behaviours in SCM

Tax Education

Figure 1. Proposed research framework of the study

2. Literature Review

Past investigations on tax education and tax compliance have utilized theories, for example, deterrence theory and the theory of planned behaviour in clarifying the behaviours of taxpayers. This current investigation uses the knowledge-and understanding-based model that Mustafa and Hanefah (1996) [22]

created in a Malaysian report, as shown in Figure 2. The model endeavors to clarify the connection between knowledge and the taxpayer compliance through factors, for example, statistic factors, resistance openings, disposition and observations, the structure of taxpayer. More specifically, the current study focused on awareness of tax laws, understandings of tax laws and tax compliance behaviours on SCM.
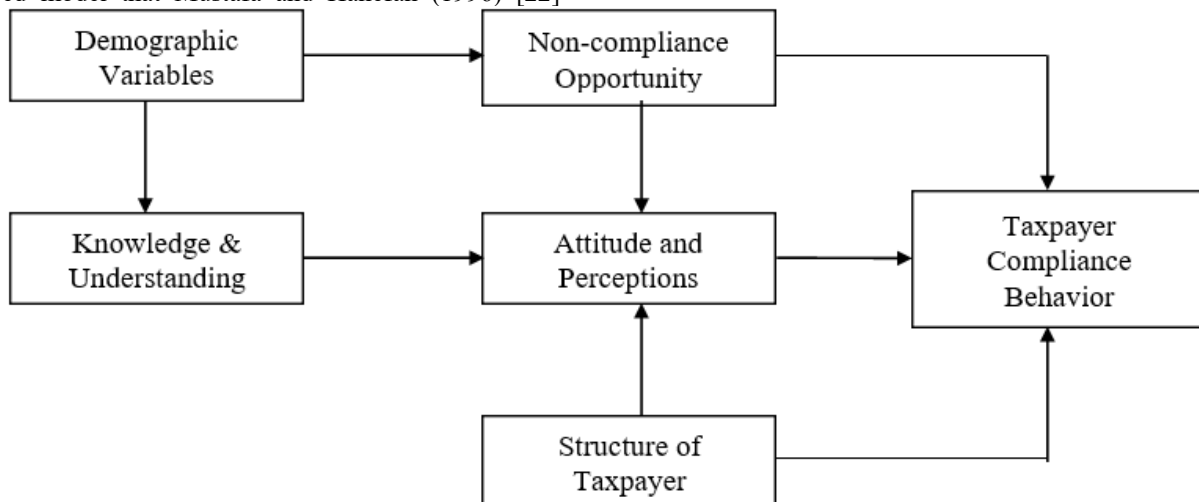

Figure 2. Taxpayer Compliance
Source: Mustafa and Hanefah (1996) [22]

One early research in knowledge and education was carried out by Kaplan, Reckers, West, and Boyd (1988) [16]. This examination explored how proficient tax encounter collaborates with the vagueness of a tax issue in influencing the judgements of tax professionals. They hypothesized that, while standing up to unambiguous issues, the proposals of tax

specialists would not be related to either year or specific experience. While facing indeterminate issues, it was theorized that experience would speak with the probability of a tax audit and different determinations. As the audit practices have an influence on enterprise risk management [1],[14] which influence the tax

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payment and SCM. The discoveries of the examination were predictable with the theories.

Bonner, Davis, and Jackson (1992) [6] anticipated the connection between knowledge and performance. Their discoveries uncovered that a positive relationship existed between specialized tax knowledge and performance, and a positive relationship existed between the quality measures of performance and the collaboration of specialized tax knowledge, and useful business knowledge. However, the outcomes did not strengthen a connection between practical business knowledge and quality performance or between general critical thinking capacity and performance. The outcomes were additionally not critical for procedural knowledge to the measures of execution, yet both the definitive and procedural knowledge were altogether identified with the quality and consolidated quantity-quality measure of performance. However, the political influence of stock returns and financial factors [4],[14],[19] may influence the tax.

2.1 Awareness of Tax Laws, Tax Compliance Behaviour and SCM

Awareness of tax laws is the acknowledgment of the presence of tax laws and directions and understanding how to pay and report the tax deliberate precisely [1] The impact of awareness on compliance behaviors has been demonstrated by different specialists [5],[15],[30], however, these studies did not discuss the tax awareness in aspect to the SCM. The literature is missing with the effect of tax education in SCM.

Sumartaya and Hafidiah (2014) [29] found a strong and unfriendly connection between tax awareness and tax avoidance. Therefore, the people or companies having good tax knowledge hesitate to go for tax avoidance. Alstadsæter and Jacob (2013) [3] found that tax awareness diminishes the probability, implying that when individuals know about tax laws they won't fall into inadvertent resistance exercises. Therefore, the supply chain companies having knowledge or awareness about tax, they do not go for tax avoidance and strictly follow the tax compliance which effects positively on the supply chain. Moreover, satisfaction has key role [27] which can be increases with through awareness of tax laws.

Propheter (2012) [24] also found that making people aware of their legal obligation to remit tax increases the probability of compliance. More the supply chain company awareness towards tax laws more will be the tax compliance behaviours which has significant contribution in SCM. Commitment towards compliance increases the SCM. Along these lines, the hypotheses of this study are as follows:

H-1: Awareness of tax laws has a positive effect on tax compliance behaviour.

H-2: Awareness of tax laws has a positive effect on SCM.

H-3: Tax compliance behaviour mediates the relationship between awareness of tax laws and SCM.

2.2 Understandings of Tax Laws, Tax Compliance Behaviour and SCM

Understanding the tax laws is one motivation behind why companies settle regulatory obligations and for what reason are they making good on government expenses. In current years, financial analysts have given expanding consideration regarding the investigation of tax avoidance. In spite of these endeavours, the understanding of the explanations for tax compliance behaviours remains limited [1]. Indeed, the puzzle of tax compliance is one reason that the vast majority keep making good on their regulatory obligation. Commitment to the tax obligation such as strict compliance enhances the SCM through an understanding of tax laws.

The standard economic model of income tax evasion outlines the tax compliance issue as a choice under a state of uncertainty [2],[28]. Taxpayers are expected to expand income by evaluating the advantages and disadvantages of avoiding taxes, which should be possible when the taxpayers understand the tax laws which has an influence on supply chain companies. Fjeldstad and Semboja (2001) [12] found that the capacity to pay, various chances for tax evasion, the likelihood of being recognized and the number of tax nonpayers known and by the respondent had positive and noteworthy associations with tax compliance behaviours. Besides, Fjeldstad, Katera, and Ngalewa (2009) [11] found that most people meet the regulatory obligations to avoid problems, demonstrating that the compliance level and purposes behind covering government expenses have a positive relationship. The investigations by Fjeldstad et al. (2009); Fjeldstad and Semboja (2001) [12] show that the understanding tax laws is a critical component in the advancement of tax compliance behaviours. Therefore, understanding of tax laws is most important for a tax payer in supply chain companies. Understanding of tax laws enhances the better tax compliance behaviours and increases the SCM.

H-4: Understanding of tax laws has a positive effect on tax compliance behaviour.

H-5: Understanding of tax laws has a positive effect on SCM.

H-6: Tax compliance behaviour mediates the relationship between the understanding of tax laws and SCM.

H-7: Tax compliance behaviour has a positive effect on SCM.

3. Research Methodology

3.1 Research Design

The research design is comprising of that how a research study will be carried out. It includes the whole procedure of the study. In this study, the quantitative technique was used. As a quantitative technique is best to accept or reject the hypotheses. However, this study is not based on longitudinal research design, it is based on a cross-sectional research design.

3.2 Sample size

According to the various studies, three hundred sample size is sufficient to proceed with the analysis. Some studies show that two hundred sample size is best to conduct the analysis. According to Comrey and Lee (1992) [8], two hundred sample size is satisfactory, however, three hundred is good. Apart from these cases, this study used five hundred sample size to avoid the conflicts.

3.3 Sampling

This study is based on area cluster sampling. All the questionnaires were given to managerial employees by using area cluster sampling. As the current study is covering the whole of Indonesia, therefore, the population is spread in a wide area, in that case, area cluster sampling is most suitable to collect the data. Moreover, the sampling frame was not available [26].

3.4 Scale of Measurement

According to the Polit Denise and Hungler Bernadette (1999) [23], a questionnaire is a method of gathering information from participants about behaviour, knowledge, values, and feelings. Sekaran and Bougie (2013) [26] said that appropriate method to better understand the relationship among different variables is a measurement scale. Therefore, the set of questions was designed to gather details to recognize the effect of tax education (awareness of tax laws, understandings of tax laws, tax compliance behaviour) on SCM in Indonesian supply chain companies.

4. Analysis of the study

The present investigation utilized a two-step process for assessing and detailing PLS-SEM results (Henseler et al., 2009). It is imperative to express that as indicated by Henseler et al (20069). Moreover, Hair et al., (2014) [10] the goodness-of-fit (GoF) index is not reasonable for model approval as the GoF couldn't separate the substantial and invalid models; this proof was given in an investigation that was led by utilizing PLS way models [10]. Therefore, PLS two step from used by the current study. Figure 3 shows the first step of PLS-SEM.
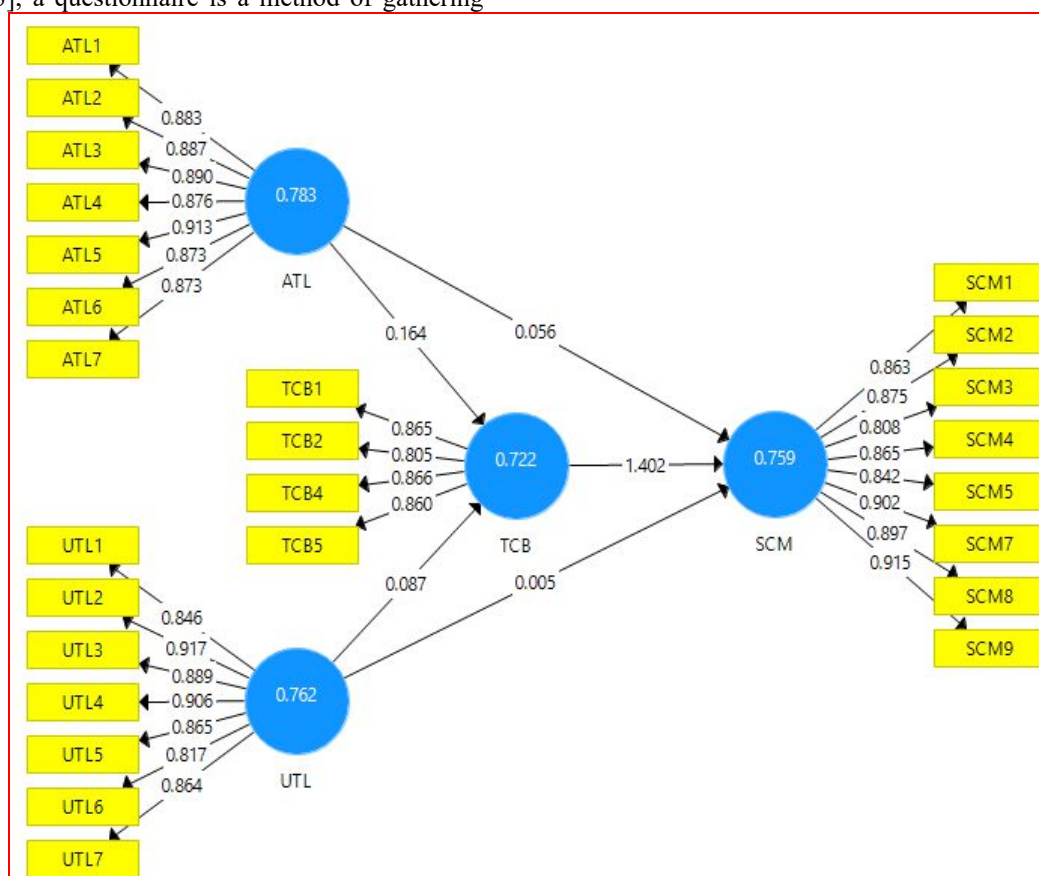

Figure 3. Measurement Model Assessment

Table 1. Factor Loadings

	ATL	SCM	TCB	UTL
ATL1	0.883			
ATL2	0.887			
ATL3	0.890			
ATL4	0.876			
ATL5	0.913			
ATL6	0.873			
ATL7	0.873			
SCM1		0.863		
SCM2		0.875		
SCM3		0.808		
SCM4		0.865		
SCM5		0.842		
SCM7		0.902		
SCM8		0.897		
SCM9		0.915		
TCB1			0.865	
TCB2			0.805	
TCB4			0.866	
TCB5			0.860	
UTL1				0.846
UTL2				0.917
UTL3				0.889
UTL4				0.906
UTL5				0.865
UTL6				0.817
UTL7				0.864

Various studies, for instance, Hair, Black, Babin, Anderson, and Tatham (2010) [13] gives the instructions that the factor loading should not be less than 0.5. In this study, all the loadings are above 0.5. It is shown in Table 1.

Table 2. Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	(AVE)
ATL	0.954	0.955	0.962	0.783
SCM	0.955	0.956	0.962	0.759
TCB	0.871	0.872	0.912	0.722
UTL	0.948	0.949	0.957	0.762

Furthermore, according to F. Hair Jr, Sarstedt, Hopkins, and G. Kuppelwieser (2014) [10], composite reliability should be above 0.7. Convergent validity needs the average variance extracted (AVE) above 0.5. All the values are shown in Table 2.

Table 3. Fornell and Larcker Criterion

	ATL	SCM	TCB	UTL
ATL	**0.885**			
SCM	0.717	**0.871**		
TCB	0.807	0.803	**0.849**	
UTL	0.727	0.734	0.756	**0.873**

Discriminant validity was tested with the help of square root of AVE, shown in Table 3. Additionally, it is also tested with the help of heterotrait-monotrait ratio, which is shown in Table 4.

Table 4. Heterotrait-monotrait ratio

	ATL	SCM	TCB	UTL
ATL				
SCM	0.750			
TCB	0.651	0.779		
UTL	0.675	0.768	0.842	

After the completion of the first step of PLS-SEM, the second step was carried out to check the hypotheses. In this step, all the hypotheses were examined that whether theses hypotheses are accepted or rejected by this study. To achieve this, t-value 1.96 was supposed. The relationship having t-value 1.96 or equal to 1.96 was accepted. Otherwise, it was rejected. However, in this study, all the hypotheses found t-value above 1.96. It is shown in Table 5 and Figure 4.
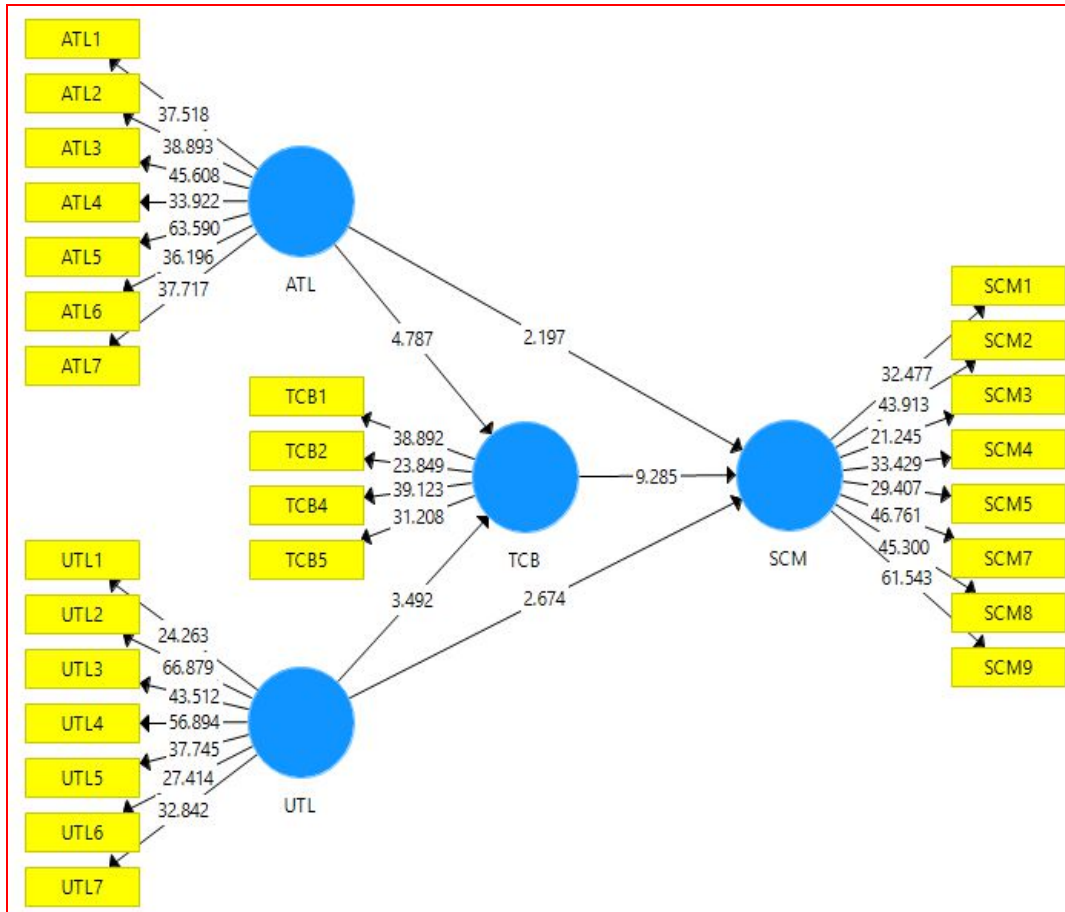
Figure 4. Measurement Model Assessment

Table 5. Direct Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ATL -> SCM	0.295	0.275	0.134	2.197	0.028
ATL -> TCB	0.517	0.517	0.108	4.787	0.000
TCB -> SCM	1.074	1.050	0.116	9.285	0.000
UTL -> SCM	0.088	0.096	0.033	2.674	0.005
UTL -> TCB	0.377	0.379	0.108	3.492	0.001

Moreover, the r-square value in this study is 0.809 which substantial [7]. It means that all the independent variables, namely awareness of tax laws, understanding of tax laws and tax compliance behaviour can bring 80.9% change in the dependent variable, namely; SCM. Moreover, the moderation effect in shown in Table 6 and histogram are shown in Figure 5 and 6.
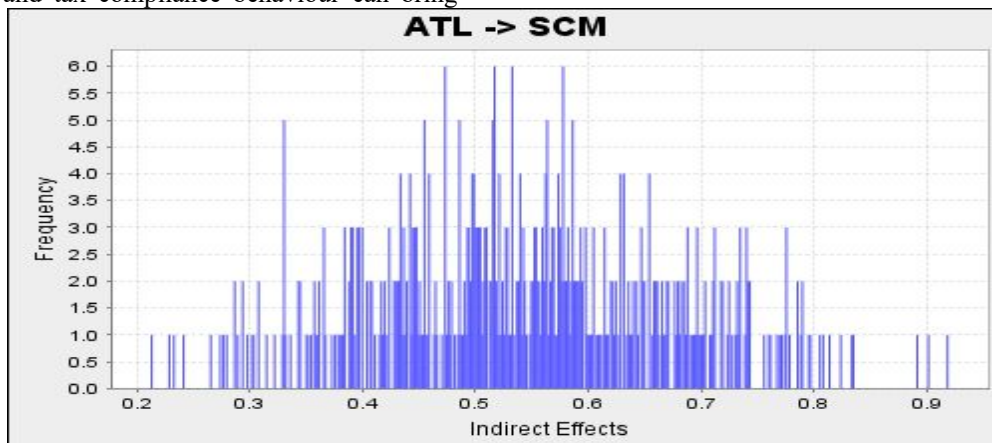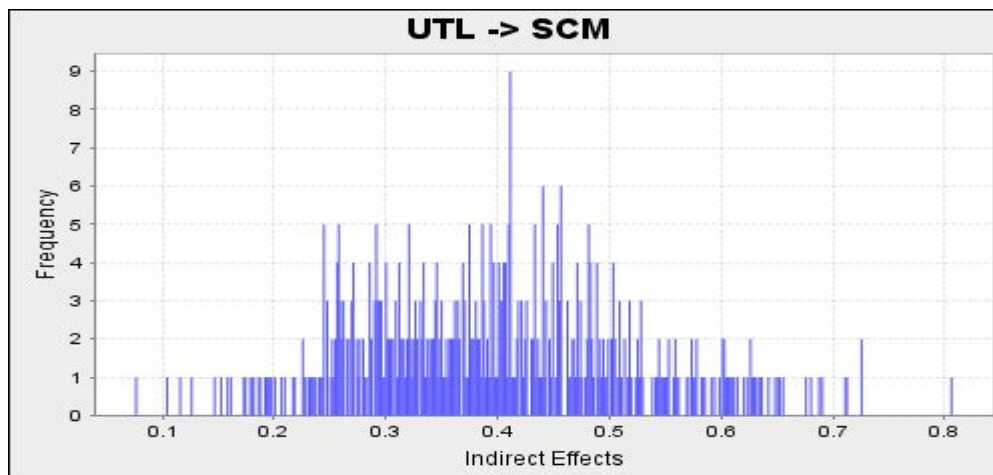
Figure 5. Mediation effect of tax compliance behaviour between awareness of tax laws and SCM

Figure 6. Mediation effect of tax compliance behaviour between the understanding of tax laws and SCM

In the case of mediation effect of tax compliance behaviour, it is clear from Table 6 that in both cases the mediation effect is significant. As the t-value is above 1.96, the p-value is below 0.05 and positive beta value.

Table 6. Mediation effect of tax compliance behaviour

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ATL -> TCB -> SCM	0.555	0.543	0.128	4.347	0.000
UTL -> TCB -> SCM	0.405	0.397	0.120	3.361	0.001

5. Findings of the study

The objective of this study was to explore the role of tax education in supply chain management (SCM) among Indonesian supply chain companies. The study examined the effect of awareness of tax laws and understanding of tax laws on tax compliance behaviour. The collective role of awareness of tax laws, understanding of tax laws and tax compliance behaviour was also examined on SCM. In line with these investigations, a total number of seven hypotheses were established. Five direct hypotheses were proposed.

First hypotheses were established between the effect of awareness of tax laws on tax compliance behaviour. While evaluating the hypothesis, it was found that t-value is 4.787 above 1.96 with positive beta value. Therefore, this hypothesis was supported. It shows that awareness of tax law increases the tax compliance behaviour among supply chain companies. In the second hypothesis in which the relationship of awareness of tax law on SCM was examined which shows t-value 2.197 with positive beta value. Thus, increases in awareness of tax law increase the tax compliance behaviour.

In the case of third and fourth hypothesis, the effect of understandings of tax law was examined on tax compliance behaviour and SCM and found t-value 3.492 and 2.674 respectively, with a positive beta sign. Thus, increases in understandings of tax law increase the tax compliance behaviour and SCM. Moreover, the

effect of tax compliance behaviour was also found positive and significant with t-value 9.285. Better tax compliance behaviour has a positive effect on SCM. Additionally, it is found that tax compliance behaviour is a mediating variable which enhances the positive effect of awareness of tax laws and understandings of tax laws on SCM. Finally, in this study, all the hypotheses were accepted.

By summing up the discussion, in this study, the role of tax education was examined on the SCM practices. This study was carried out in Indonesia. Results show that tax education is important for supply chain practices. Increases in awareness and understanding level have the ability to boost SCM and tax compliance. Therefore, Indonesian supply chain companies should adopt and educate their employees in regard to the tax education.

6. Conclusion

Tax education has a positive role in SCM practices. Awareness of tax laws among managerial employees of supply chain companies facilitates the supply chain company to pay tax on right time with the right amount. Awareness of tax laws increases the efficiency of supply chain firms through legalization of their income. Timely payment of tax amount develops good relations with tax authorities which facilitates to gain benefits through legal channel. Tax awareness is not only beneficial for supply chain or specific companies who pay the tax, but it is also most important for the country. Tax payment has significant positive relations with the nation's economy. Increases in tax awareness

show a positive effect on economic growth. As the tax is one of the major sources of income for the government of each country. In line with tax awareness, the understandings of tax laws have equal important. Better understandings of supply chain companies about tax insure the timely payment of tax which shows a positive effect on SCM. Tax compliance behaviours enhance the awareness of tax laws and understandings of tax laws to promotes SCM. Both tax awareness of laws and the understandings of tax laws increase the tax compliance behaviours which always shows a positive effect on SCM. This study can be beneficial for supply chain companies to focus on tax education and as a key element in their performance.

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