Role of the Supply Chain Finance Application in Indonesian Listed Banking Industries

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Abstract- The issue of supply chain management has been raised for nearly three decades, and based on available statistics, countries and organizations that have applied this knowledge have made significant progress in their respective fields and have made huge profits and large financial savings. In this study, while examining the existing infrastructure and the needs of the bank to enter the financing industry as one of the links in the supply chain of banks, the current state of the capital market and financing companies to the title of financing leaders was examined. Also, the profitability of financing companies and their types of services were studied and various methods of entering the industry were studied. In this regard, the strengths and weaknesses of entering the financing market as well as the opportunities and threats ahead were examined. In the end, the scheme of received commissions and hypothetical profit was proposed. One mechanism used to establish good supply chain management is the existence of a monitoring and monitoring system. The supply chain management mechanism in this study is shared with an internal mechanism proxy by an independent audit committee, audit committee financial expertise, frequency of audit committee meetings, managerial ownership, and an independent board of commissioners. The external mechanism is proxied by leverage. The population in this study is all banks that go public and are listed on the Indonesia Stock Exchange. This study uses a purposive sampling method, which is a sample based on the suitability of the characteristics of the sample with the specified sample selection criteria, with the following criteria: (1) Banks listed on the Indonesia Stock Exchange from 2015–2017; (2) The Bank produces annual reports from 2015-2017 and is published on the IDX website or the company's official website; (3) Having complete data relating to the variables used in this study. This study finds that most of the samples, management did not own the company's shares, besides that there was also a clear definition of financial expertise that must be owned by the audit committee. Studies have shown that the bank completes its supply chain by establishing a financing company while earning a profit and ensures the retention of current customers while getting potential customers.

Keywords: Finance, Supply Chain Management, Audit, Banking Industries

1. Introduction

Fraud is an act that is done to obtain benefits that will harm others who are done with cunning, tricks, unfair ways and fraud [1-5]. In [6] state that more than 50% of US companies in 2000 were victims of fraud, with losses of more than $500,000, for each company. According to the Association Certified Fraud Examiner (ACFE) survey, approximately $660 billion was lost in US companies in 2004 due to fraud and abuse, and nearly one in six cases of organizational fraud cost more than $1 billion [7].

A series of fraud cases in Indonesia recently is very worrying because the longer the fraud that occurs does not decrease but has increased so it must be addressed as well as possible. At present the law enforcement authorities have been involved in handling fraud cases at the Jiwasraya insurance company. Similar indications extend to the armed forces special insurance company, ASABRI. This condition follows massive management fraud at the Indonesian government-owned airline, Garuda Indonesia. This series of events has encouraged the importance of research on supply chain management and fraud risk in Indonesia, because corporate misconduct could generate profound negative externalities on the whole financial system [8-12].

One mechanism used to establish good supply chain management is the existence of a monitoring and monitoring system. In Indonesia, it uses a dual or dual-tiered system so that the supervisory board is called the board of commissioners. They also formed committees to assist in carrying out their duties, one of which was the audit committee. There are several characteristics of the audit committee that are independent audit committees to be objective, financial expertise possessed in order to monitor financial transactions and financial reports produced, the length of the audit committee worked in the company will help a better understanding of the problems in the company, in addition it is also a meeting or a meeting that is conducted so that monitoring is more effective. Likewise with the board of commissioners must have independence so as not to be affected by problems in the company so that they can be objective.

Some previous research on supply chain management is [13] which examines whether audit committees, the composition of the board of commissioners, and supply chain management structure influence the tendency of fraudulent financial reporting and the results of companies that have a high percentage of external board of commissioners are likely to decrease financial statement fraud audit does not have a significant effect on financial statement fraud. In [14] find that auditors with greater industry expertise and tenure, and audit committee chairs with greater tenure are less likely to be associated with companies that exhibit large inconsistencies between their reported revenue growth and related NMFs (higher fraud risk). In [15] examined the relationship between audit committee characteristics and financial misstatement and concluded that audit committee independence and committee meetings at least four times per year showed a
significant and negative relationship while audit committees that did not have members with financial expertise showed a relationship significant positive with the occurrence of restatement of financial statements.

In [16] examines the impact of the level of ownership concentration by insider with acts of financial reporting fraud. The results of this study indicate that the form of fraudulent financial reporting behavior is more likely to occur when there is a concentration of power in the hands of insiders, in addition to the dualism of the company, namely directors in addition to being top management also becomes a board through ownership in the company causing financial statement fraud. In [17], who examined the relationship between audit committee characteristics, approval processes and financial statement fraud. This study found that the possibility of fraudulent financial reporting was negatively associated with independent audit committees, audit committee meetings and managerial ownership and positively related to company size and company growth.

In Indonesia [18] analyses the mechanism of supply chain management, earnings management and financial performance found that managerial ownership had a significant negative effect on earnings management, the proportion of independent commissioners had a significant positive effect on earnings management, the number of commissioners and institutional ownership did not significantly influence earnings management, and earnings management (discretionary accruals) do not significantly influence financial performance (cash flow return on assets). In [19] examined the effect of supply chain management on earnings management in the Indonesian banking industry found that the composition of the board of commissioners and the presence of an audit committee had a significant negative effect on earnings management, the size of the board of commissioners had a significant positive effect on earnings management, company size had no effect on earnings management.

From some previous studies there are differences in results between studies with one another. In [20] research results showed that the audit committee had no significant effect on fraud while [21] found that the independence of the audit committee and audit committee meetings had a significant negative effect on financial statement fraud. Likewise, the results of [11] research show that fraud is more likely to occur when ownership is owned by insider, this is contrary to [21] who state that managerial ownership is significantly negatively related to fraudulent financial statements.

On this basis, it is necessary to conduct research on the effect of supply chain management mechanisms, and company size on the possibility of fraud. The supply chain management mechanism in this study is shared with an internal mechanism proxy by an independent audit committee, audit committee financial expertise, frequency of audit committee meetings, managerial ownership, and an independent board of commissioners. The external mechanism is proxied by leverage. The fraud in this study was proxied by internal fraud.

2. Literature Review

2.1. The growing cost of the cash supply chain

Retail banks operate some of the largest, most complex and most secure supply chains in the world, transporting and storing cash across thousands of locations every day. The cost of operating these supply chains extends to spending on all the equipment and services required to process and distribute cash throughout the bank’s network—from the central bank through to branches/ATMs and ultimately to customers. Independent committees are parties outside the bank that do not have financial, management, share ownership and / or family relations with the board of commissioners, directors and / or controlling shareholders, which can affect their ability to act independently (Bank Indonesia Regulation, 2006). The audit committee has the primary responsibility to assist the board of commissioners in carrying out their responsibilities, especially matters relating to the company's accounting policies, internal controls, and financial reporting systems.
In [3] wrote that audit committees are seen as monitoring mechanisms that voluntarily work in high agency situations to improve the quality of information flow between principals and agents. According to the agency theory the role of the supervisory board is that one of them is the audit committee as an element of monitoring that can reduce the occurrence of opportunistic behavior of managers as managers of the company. So that the existence of an independent audit committee is expected to improve the quality of financial statements which will also affect the information generated and will have an impact on preventing fraud.

This reasoning was supported by the results of research by [21, 10] who find that the independence of the audit committee negatively influences financial statement fraud.

Hypothesis 1: The independent audit committee negatively influences the likelihood of fraud.

2.2. Financial Expertise Audit Committee

In the corporate world, they call this Supply Chain (Risk) Management, and while there is a somewhat similar concept labelled as financial supply chain management within the banking world, the latter merely revolves around the payments side of trade, from the moment a purchase order is cut, to the time of settlement and everything in between. In the corporate world - from a definition perspective - supply chain management is described as the management of the flow of goods and services that includes the movement and storage of raw materials, work-in-process inventory, and finished goods from point of origin to point of consumption. In essence, supply chain draws heavily from the areas of operations management, logistics, procurement, and information technology, and strives for an integrated approach.

Financial expertise is the competence in the financial field, in this case the competence in finance must be owned by an audit committee in carrying out his position. In accordance with Bank Indonesia Circular No. 9/12 / DPNP also mentioned that audit committee members who come from independent parties must have expertise in finance or accounting.

An audit committee must have expertise in finance because financial expertise is able to improve the quality of financial reports, so that the audit committee as an element of monitoring can run well if an audit committee has financial expertise. If the financial statements that are presented are of high quality, they can reduce fraud.

This thinking was supported by the results of [12] which found that audit committees with expertise in accounting negatively affect financial statement fraud and [18] who found that audit committees of financial experts effectively reduce the occurrence of misappropriation of assets in public companies in America Union.

Hypothesis 2: Financial expertise of the audit committee negatively influences the likelihood of fraud.
2.3. Frequency of Audit Committee Meetings

Audit Committee meetings function as formal communication media for audit committee members in overseeing supply chain management processes, ensuring that senior management cultivates supply chain management, monitors that the company complies with the code of conduct, understands all issues that may affect the company's financial or non-financial performance, monitor that the company complies with each applicable law and regulation, and requires that internal auditors report in writing the results of supply chain management checks and other findings [3].

The Audit Committee usually needs to hold meetings at least 4 (four) times a year to carry out its obligations and responsibilities concerning the matter of the financial reporting system (National Committee on Governance policy). Audit Committee meetings can only be held if attended by at least 51% (fifty one percent) of the total number of members including an Independent Commissioner and an Independent Party (Bank Indonesia Regulation).

The agency theory states that the better monitoring can reduce agency problems between agents and principals. So that the more the number of meetings conducted by the audit committee, the control or monitoring conducted will be more effective, so as to reduce the risk of fraud.

This thinking was supported by the results of research by [21] which stated that audit committee meetings have a negative effect on financial statement fraud.

Hypothesis 3: The frequency of audit committee meetings negatively influences the likelihood of fraud

2.4. Managerial Ownership

Company performance is largely determined by the motivation of company managers. Different motivations will result in different amounts of earnings management, such as between managers who are both shareholders and managers who are not shareholders. This is in accordance with the company's management system under two criteria: (a) the company is headed by a manager and owner (manager); and (b) companies led by managers and non-owners. These two criteria will affect earnings management, because the ownership of a manager will also determine policy and decision making regarding the accounting methods applied to the companies they manage.

The statement above can be concluded that managerial ownership will affect management in running the company. Management who owns shares in the company tends to reduce fraud (fraud) that occurs in the company.

This thinking was supported by the results of research [10] and [21]. The results of these studies provided conclusions that companies that are managed by managers and have a certain percentage of company stock can reduce fraud. According to [16] the interests of managers and shareholders could be harmonized if the manager has a larger share of the company.

Hypothesis 4: Managerial ownership negatively influences the likelihood of fraud

2.5. Independent Board of Commissioners

In [13] stated that non-executive directors (independent commissioners) can act as mediators in disputes that occur between internal managers and oversee management policies and provide management advice. An independent commissioner is the best position to carry out the monitoring function in order to create a good supply chain management company.

Related to fraud, the independent board of commissioners is not directly related to the company they handle, because they are tasked with monitoring the directors of the company without any pressure from any party, so that the work done is pure without any interference with any party so as to reduce the occurrence of fraud in the company.

In [10] and [3], provided evidence of fraud committed more on companies with a board of commissioners structure dominated by insider. The results of the study concluded that companies that have a composition of the board of commissioners from outside the company can reduce fraud. Through its role in carrying out its supervisory function, the composition of the board can influence management in preparing financial reports so that a quality report can be obtained.

Hypothesis 5: Independent commissioners negatively affect the likelihood of fraud.

2.6. Leverage

Leverage is defined as the book value of total debt divided by total equity or leverage is the amount of loans or debts owned by a company. The higher the level of leverage the more likely it will be to violate credit agreements so that companies will report higher profits now.

In [13] stated that leverage is a proxy for the tendency of companies to violate credit agreements. From the statement above it can be concluded that the company with a high degree of leverage, the management will manipulate the report so that it does not become the spotlight for debtholders. This is what can encourage fraud in the financial statements.

Hypothesis 6: Leverage has a positive effect on the likelihood of fraud.

2.7. Company Size

According to agency theory, the greater the size of the company, the greater the agency costs. The increase in agency costs is due to the increasing need for monitoring and control mechanisms [13]. The cost to supervise large companies will be more compared to small or medium scale companies.

Large companies have more incentive to do earnings management because to meet the desires of investors by producing good financial performance while also being a spotlight for shareholders, debtholders, government and society. This is what causes fraud. Owens, et al (2009) also found empirical evidence that firm size has a positive relationship with fraud.

Hypothesis 7: Company size has a positive effect on the likelihood of fraud.
3. Research Method

This research examines how the traditional banking institutions can add value in supply networks of products and services. The approach is based on a critical examination of the current range of services offered by traditional banks and similar financial institutions to supply chains and their component firms. The population in this study is all banks that go public and are listed on the Indonesia Stock Exchange. This study uses purposive sampling method, which is a sample based on the suitability of the characteristics of the sample with the specified sample selection criteria, with the following criteria:

2) The Bank publishes annual reports from 2015–2017 and is published on the IDX website or the company’s official website.
3) Having complete data relating to the variables used in this study.

Hypothesis testing is done by logistic regression. This model was chosen on the grounds that the data used in this study are non-metric on the dependent variable, while the independent variables are metric and non-metric data variables. The mixture of scales on the independent variable causes the assumption that multivariate normal distribution cannot be fulfilled. Thus the form of the function becomes logistical and does not require the assumption of data normality on the independent variable. Logistic analysis is used to analyze quantitative data that reflects two choices or often called binary logistic regression. The logistic regression model in this study is as follows:

\[
\text{Fraud} = a + b_1 \text{DKI} + b_2 \text{FEKA} + b_3 \text{FRKA} + b_3 \text{KM} + b_5 \text{LEN} + b_7 \text{SIZE} + e
\]  

where:
- \(\text{Fraud}\): dummy variable, companies that disclose internal fraud (value 1) and those who don’t (value 0)
- \(a\): constant
- \(\text{DKI}\): independent audit committee
- \(\text{FEKA}\): financial expertise of the audit committee
- \(\text{FRKA}\): frequency of audit committee meetings
- \(\text{KM}\): managerial ownership
- \(\text{DKI}\): independent board of commissioners
- \(\text{LEV}\): leverage
- \(\text{SIZE}\): company size

### 4. Results

The summary model test (determination coefficient) produces -2 Log likelihood of 44.948 and the coefficient of determination seen from Nagelkerke R2 is 0.3112. That is, the combination of independent variables, namely the independent audit committee, audit committee financial expertise, the frequency of audit committee meetings, leverage, company size and the independent board of commissioners of the dependent variable is fraud by 31.12% while the remaining 68.88% is explained by the variables others are not included in this model.

The test results of the feasibility of a regression model (goodness of fit test) were measured by Chi-square values in the Hosmer and Lemeshow Test. The result shows that the Chi-square value was 7.916 and the significance was 0.321. Chi-square value of 7.916 with df 8 is smaller than the chi square table value of 15.507. Therefore the model is said to be fit because there is no real difference between the predicted classification and the observed classification so that the model is able to predict the value of its observations, and the results indicate the model is fit for further analysis.

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### 4.1. Interpretation of results

#### 4.1.1. The Effect of the Independent Audit Committee on the Possibility of a Fraud

The independent audit committee based on the results of statistical tests using logistic regression showed that the significance value of the independent audit committee was smaller than \(a\) so that the first hypothesis was accepted, so the independent audit committee had a significant negative effect on the possibility of fraud. This shows that an independent audit committee formed can reduce the possibility of fraud in the company. The results of this study are consistent with agency theory which states that an independent party is an effective mechanism used to prevent / reduce fraud.

The results of this study are consistent with research conducted by [1] which shows that the independent audit committee is significantly and negatively related to the restatement of financial statements [21] which states that the independent audit committee has a significant and negative effect on fraudulent financial statements. These results are not consistent with [16] study, which shows that statistically independent audit committees do not
4.1.2. The Influence of the supply chain Financial Expertise on the Possibility of a Fraud

In the discussion of supply chain management as a topic or as a set of business critical issues, the agenda usually consists of a discussion of the logistics network configuration, inventory management, centralized information, demand forecast, lead time reduction etc. The items on the agenda of a supply chain manager typically include (i) the design and control of physical product or material flow in the manufacturing supply chains, or the logistics of providing customer service in say, the knowledge and service industry, or (ii) the issues related to enabling services in supply chains, such as the management of information flows, business communication systems, and interoperability issues between supply chain partners. The results of statistical tests using logistic regression showed that the significance of the financial expertise of the audit committee was greater than α, it could be concluded that the financial expertise of the audit committee did not significantly influence the likelihood of fraud so the second hypothesis was rejected. The audit committee's financial expertise has no influence on fraud allegedly because the establishment of competent audit committees in the accounting and financial fields carried out is only mandatory against applicable regulations, because in Bank Indonesia Regulation requires companies to have at least 1 audit committee member who has financial expertise.

The results are in accordance with descriptive statistics which show that on average the company has 1.7 audit committee members who have financial expertise. It may also be unclear the definition of financial literacy / financial expertise that must be owned by members of the audit committee which causes each company to have a different definition that results in the appointment of electing audit committee members who have financial expertise. The results of this study are consistent with research conducted by [21] which states that the accounting and financial expertise of the audit committee significantly influence negative to the occurrence of financial reporting fraud.

4.1.3. Effect of Frequency of Audit Committee Meetings on the Possibility of Fraud

The results of statistical tests using logistic regression showed that the significance value of the audit committee meeting frequency was greater than α so that the third hypothesis was rejected, so the audit committee meeting frequency did not significantly influence the likelihood of fraud. The ineffectiveness of audit committee meetings on fraud can be caused by the formation of audit committees within the company which is only mandatory to the applicable regulations so that the audit committee has not carried out its responsibilities optimally so that their functions and roles are ineffective not discussed in depth with the management and external auditors, so the problems are not resolved.

The results of this study are consistent with research conducted by [22-27] but not in line with research conducted by [28] who found that audit committee meetings had a negative effect on earnings management levels [21] which stated that audit committee meetings were significantly negative related to financial statement fraud.

4.1.4. Effects of Managerial Ownership on the Possibility of Fraud

Managerial ownership based on the results of statistical tests using logistic regression shows that the significance value of managerial ownership is greater than α so it can be concluded managerial ownership has no significant effect on the likelihood of fraud, so the fourth hypothesis is rejected. Managerial ownership does not affect fraud because many of the samples in this study management does not have a stake in the company. This result can also be seen from the descriptive statistics which state that the average company that has managerial ownership is only 3% of all company samples.

The results of this study are consistent with [12] study, which states that managerial ownership has no effect on financial statement fraud, but is not consistent with research conducted by [11] which shows that fraud is more likely to occur when concentration is owned by people in the company [21] which state that managerial ownership is negatively related to fraudulent financial reporting.

4.1.5. The Influence of the Independent Board of Commissioners against the Possibility of a Fraud

The independent board of commissioners based on the results of statistical tests using logistic regression shows that the significance value of the independent board of commissioners is greater than α, so the fifth hypothesis is rejected, it can be concluded that the independent board of commissioners has no significant effect on the likelihood of fraud. This might occur because an independent board of commissioners is formed only to comply with applicable regulations, because according to Bank Indonesia regulations each company must have an independent board of commissioners at 50% of the total board of commissioners. This result can also be seen from the results of descriptive statistics which show that on average the company has 3 independent commissioners, so that the independent commissioners have not been able to carry out their duties and responsibilities effectively.

The results of this study are consistent with the study of [8], which states that the composition of the board of commissioners has no significant effect on earnings management, but it is not consistent with research conducted by [3] which shows that a high external board of commissioners allows fraud in financial statements to decrease and [7] which states that the proportion of independent commissioners has a significant positive effect on earnings management.

4.1.6. Effects of Leverage on the Possibility of Fraud

Leverage based on the results of statistical tests using logistic regression shows that the significance value of leverage is smaller than α, it can be concluded that leverage has a significant effect on the likelihood of fraud but the direction of the coefficient is negative so leverage has a significant negative effect on the likelihood of fraud.
so that the sixth hypothesis is rejected. From the results of these statistics show that the greater the debt will reduce the possibility of fraud. This result may occur because the debt in a banking company is mostly savings from the public so that the greater the debt, the company will be more stringent supervision and control over the recording and use of debt.

The results of this study are consistent with the research of [12] which shows that leverage is negatively related to earnings management. This result is not consistent with the study of [21], which states that leverage does not affect financial statement fraud.

4.1.7. Effect of Company Size on the Possibility of Fraud

Company size based on the results of statistical tests using logistic regression shows that the significance value of the company size is smaller than α, so the size of the company has a significant positive effect on the likelihood of fraud so that the seventh hypothesis is accepted. From the results of these statistics show that the larger the company, the more fraud occurs in the company.

The results of this study are consistent with agency theory which states that the larger the size of the company will increase agency costs, to reduce agency costs, companies tend to carry out inadequate monitoring and control. This result is consistent with the study of [21], which states that company size is related to financial statement fraud, but it is not consistent with research conducted by [6] which states that company size has no effect on earnings management which shows that company size has no effect on fraud in financial statements.

5. Conclusions

Based on the results of data analysis, supply chain in risk management, leverage and company size have a significant effect on the likelihood of fraud, while other variables, namely, audit committee financial expertise, audit committee meeting frequency, managerial ownership, and independent commissioners are not significant effect on the possibility of fraud. These results indicate that the mechanism of supply chain management is effective in influencing the occurrence of fraud. This might be due to the formation of an independent board within the company only to comply with regulations set by Bank Indonesia. The results of the meetings conducted are not discussed in depth together with internal and external auditors. In this study, most of the samples, management did not own the company's shares, besides that there was also no clear definition of financial expertise that must be owned by the audit committee. Therefore, it is highly useful to map the process that allows a description of the front-to-back process in relation to payments, lending, investments, etc., and look at how a disruption would impact one of the nodes alongside the supply chain for each of those financial activities, and how long it would take for the system to recover its senses, ie. Re-conduct the business as a going concern to the benefit of the customers. Banks have directly enhanced the cash flow of trading partners in a supply chain. But they have additional opportunity to enhance the efficiency of the whole network system by synchronizing cash flow with information flow and material flow.

References


