

INVESTMENT DECISION IN THE AGENCY THEORY FRAMEWORK

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Abstract. This studies aims to observe the development of literature on company investment decisions and to decide what research should be conducted further on company investment decisions in the theoretical framework of agency theory. The methods used were bibliometric network analysis and literature review. This study has mapped out the literature on company investment decisions based on agency theory. This study shows that the topics on competition research, corporate governance, and capital structure are closely related to the company investment decisions in the theory of agency, and it is worth investigating. Therefore, it is necessary to develop further empirical research related to company investment decisions in the framework related to agency theory by analyzing the influences of competition, corporate governance, and capital structure comprehensively on investment decision.

Keywords: investment decision, bibliometric network analysis, capital structure, corporate governance, competition

Abstrak. Tujuan dari penelitian ini adalah untuk observasi pengembangan literatur pada keputusan investasi perusahaan dan dapat menentukan penelitian yang harus dilakukan selanjutnya mengenai keputusan investasi perusahaan dalam kerangka teori keagenan. Metode yang digunakan kali ini ialah *bibliometric network analysis* dan kajian literatur. Penelitian ini telah memetakan literatur mengenai keputusan investasi perusahaan. Kajian ini menunjukkan bahwa topik penelitian persaingan, tata kelola perusahaan, dan struktur modal berkaitan erat terhadap keputusan investasi perusahaan dalam teori keagenan, dan layak untuk di teliti lebih lanjut. Oleh karena itu perlu dikembangkan penelitian empiris lebih lanjut terkait keputusan investasi perusahaan dalam kerangka terkait teori keagenan dengan menganalisis terkait pengaruh persaingan, tata kelola perusahaan, dan struktur modal secara komprehensif.

Kata kunci: keputusan investasi, *bibliometric network analysis*, struktur modal, tata kelola perusahaan, persaingan

INTRODUCTION

Decisions making regarding the utilizations of funds owned by a company, there are some differences in interests among the managers, employees, shareholder, and debtholder; similarly, the same thing happens when a corporate or a company will take investment decisions. On the other hand, investment decisions are important for the company in maintaining its sustainability and in growing its business. Investment decisions are important because they are related to the profitability that the company will earn, and this will even give impacts on the company value supported by Karuna (2007), Laksmana and Yang (2015), and Akdogu and MacKay (2012) who state that investment decisions can maximize the company value.

In addition, according to Gilbert and Lieberman (1987), investment would reduce the possibility of the competitor to expand, but temporarily it is influential. In

the development of studies related investment decisions has a close relationship with agency theory. This is because the agency theory is established based on the seven basic assumptions of personal interests, goal conflicts, restricted rationality, information asymmetry, efficiency excellence, risk aversion, and information as a commodity (Eisenhardt 1989). The studies which were concerned with the relationship between agency and the company investment decisions include Myers and Majluf (1984), Jensen (1986) and Fazzari *et al.*, (1988) who argue that the problem of information asymmetry between management and financial institutions and agency conflicts between controlling shareholders and minority investors and between management and shareholders have been proved to significantly affect company investment decisions. Meanwhile, according to Aivazian (2005), agency problems arise from the interaction among shareholders, debt-holders, and management.

According to Davis *et al.*, (1997), there are various mechanisms of agency theory in order to protect the interests of shareholders, minimize agency costs and ensure alignment interests. Jensen (1983) outlines two forms of agency theory that have been developed, namely, positivist and principal-agent. Positivist researchers have emphasized on governance mechanisms, especially in large corporations to identify agency issues and governance mechanisms that address agency problems. Eisenhardt (1989) states that positivist researchers have focused exclusively on special cases of principal-agent relationships between owners and managers of public companies. Meanwhile, the principal-agent research approach is a more general approach of agency theory where it explores the relationship between two parties such as workers and employers; legal consultants and their clients, and buyers and sellers. The principal-agent flow focuses on the technical and mathematical relationships of the specific details of contracts among the principal-agents. In other words, the focus of the principal-agent is to determine the optimal contract (Eisenhardt 1989). Positive accounting theory (Watts and Zimmerman 1986) proposes three hypotheses i.e. bonus plan hypothesis, debt/equity hypothesis, and political cost hypothesis which implicitly recognize three agency forms i.e. between owner and management, between creditor and management, and between government and management. Therefore, broadly speaking, the principal is not only the owner of the company, but it can also be a shareholder, creditor, or government.

The agency problem was initially explored by Ross (1973), while the detailed theoretical exploration of agency theory was first expressed by Jensen and Meckling (1976) stating that the manager of a company is the "agent" and the principal is the "shareholder". Jensen and Meckling (1976) describe the agency relationship in agency theory that a company is a nexus of contract between the owner of the economic resources (principal) and the manager who takes care of the utilization and controls the resources. According to Messier *et al.*, (2006), this agency relationship results in two problems: (a) the occurrence of information asymmetry, where management generally has more information on the actual financial position and the entity operation position of the owner; and (b) the occurrence of a conflict of interest due to inequality of goals, where management does not always act in the interests of the owner. In an effort to overcome or reduce the agency problem, agency cost which will be borne by both principal and agent must be provided. In regard to agency issues, corporate governance, which is a concept based on agency theory, is expected to serve as a tool to give assurance to investors that they will receive return on the funds they have invested.

Previous study showed that the company investment sensitivity on stock prices is determined by the extent to which the company has asymmetric information (Chen *et al.*, 2007) and problem agency (Jiang *et al.*, 2011). According to Jensen and Meckling (1976), asymmetric information makes investment decisions inefficient. The study by Guariglia and Yang (2015) documented strong evidence of investment inefficiency which was explained through a combination of financing constraints and agency problems. Two significant conclusions were emerged from this major finding. On the one hand, limited access to capital markets has caused many Chinese companies to be under-investment. In addition, weak corporate governance structures lead shareholders or managers to overinvest their free cash flow in projects with negative NPV. Shin and Kim (2002) also found that corporate investment decisions are influenced by the company agency cost, and this was supported by the study conducted by Hirt *et al.*, (2010). Based on the literature, it can be seen that the company investment decisions have relation closeness to the agency theory because in making investment decisions, they are inseparable from the conflicts among the stakeholders described in the agency theory.

Problems. There is limited information on the factors that determine investment decisions within the framework of agency theory. In addition, various studies show inconsistent results due to inefficient market conditions (Mutlu *et al.*, 2016; Young *et al.*, 2008; Bruce *et al.*, 2005; Sundaramurthy and Lewis 2003; Hill 1992), and agency theory applies only to the anglo saxon context (Bruce *et al.*, 2005). Hill (1992) who considers that in the event of a discrepancy in market conditions ignored by the researchers, the paradigm in agency theory should be comprehensively studied.

In the studies by Mutlu *et al.*, (2016) and Bruce *et al.*, (2005), there was some doubt to the application of agency theory on companies that develop in the context of non-anglo saxon culture and on companies that are still developing (Young *et al.*, 2008). In addition, Sundaramurthy and Lewis (2003) state that in an efficient market, agency theory will produce inconsistent results. This is in accordance with Hill (1992) that states that agency theory works based on the assumption that the market is efficient and adjusts for rapid changes. Inconsistent results in agency theory in previous studies led to the importance of prior mapping of the obtained literature, which can then be further studied.

Objective. The study aims to see the mapping of literature on research topics related to company investment decisions within the framework of agency theory and to find out research topics on company investment decisions within the framework of agency theory can be further developed.

LITERATURE REVIEW

According Karuna (2007), product market competition of an industry influences managerial decisions. One of the managerial decisions is that investment decisions, based on Laksmana and Yang (2015) and Alimov (2014) show that competition also influences company investment decision. Competition itself is essential for growing a business because competition leads to business efficiency (Yi 2014), and Griffith (2001) also points out that product market competition plays an important role in reducing agency costs. In addition, competition allows companies to optimize the performance of their managers toward competitors (Laksmana and Yang 2015).

The study by Jiang *et al.*, (2015) found that high investment in high competition would increase the value proposition of the company. In addition, the study found a positive relationship between product market competition and corporate investment using a sample of Chinese manufacturing company in the period of 1999-2010. The study by Alimov (2014) also found that key corporate decisions are fundamentally influenced by product market competition. Theories and other empirical evidence also show that corporate investment decisions are influenced by competitive pressures, and competition as a different business cycle affects the amount and stability of the company cash flow (Mello and Wang 2012).

Corporate governance plays an important role in the management of a company because it will affect the performance of the company as stated by Byun *et al.*, (2012) that internal corporate governance has a positive effect on corporate value, and Ammann *et al.*, (2010) also shows that corporate governance will increase the value of the company. Similarly, investment decisions cannot be separated from the role of corporate governance (Guariglia and Yang 2015). Ammann *et al.*, (2013) indicates that corporate governance significantly increases the value of company in non-competitive industries only. In addition, the study found that good corporate governance for companies in non-competitive industries makes them have more capital expenditures, spend less on acquisitions, and tend to diversify. According to Zhou *et al.*, (2016), governance of the board of directors has a positive effect on managerial risk taking, indicating that board governance will result in higher investment in R & D expenditure and lower investment in capital expenditures, not only in the current year but also for the following years.

Giroud and Mueller (2011) found that weak corporate governance in competitive industries has lower returns on equity, poorer operating performance, and lower corporate value. The researchers also found that weak corporate governance in competitive industries is more likely to be targeted by hedge fund activists, suggesting that investors are taking action to reduce inefficiency.

The results of the study by Hu and Liu (2014) show that companies having CEOs with more diverse career experiences exhibit less cash flow sensitivity and exploit outside funds more, including bank loans and trade credit. Hossain *et al.*, (2000) found that the percentage of external directors is positively related to the investment opportunities of the company. Bathala and Rao (1995) and Hutchinson (2002) found a negative relationship between the proportion of external directors and the company growth rate. In contrast, Hossain *et al.*, (2000) found that the percentage of external directors is positively related to the investment opportunities of the company.

Anwar and Sun (2014), Aivazian *et al.*, (2003) examined the impact of financial leverage on corporate investment decisions using information in the Canadian public companies. The results also show that leverage is negatively related to investment, and this negative effect is significantly stronger for companies with low growth opportunities compared to those with high growth opportunities.

Anwar and Sun (2014) argue that an increase in foreign ownership, which refers to the level of foreign investment in domestic companies, can affect the leverage of the companies. The empirical results show that foreign investment has a negative influence and is significant statistically on the leverage of domestic companies in the manufacturing sector in China. By subsector, the results show that the impact of foreign investment on the leverage of domestic enterprises in China textile industry is negative

and significant, and this impact is much stronger than the overall impacts on the manufacturing sector. Meanwhile, the impact of foreign investment on leverage of domestic enterprises in the subsector of electrical machinery and equipment for the manufacturing industry is negative but less than the overall impacts in this type of industry.

METHOD

This study used the literature review method on company investment decisions. The keyword data, titles and abstracts from 223 literatures obtained from the literature search engine were collected, and they were then analyzed using bibliometric network analysis. From this analysis, first we obtained some information on overlay visualization to see the development of literature obtained, and the next information was network visualization used to identify clusters and relationships among the research topics. Finally, density visualization was identified to see the density of the topics of the literature obtained. The results of bibliometric network analysis serve as a reference for a more in-depth literature review of the matters or factors affecting the company investment decisions. In the literature review, the selection and classification of the literature obtained based on the clusters from the results of the bibliometric network analysis was firstly conducted. Furthermore, a review on the research results of the study according to the clustering was carried out. Following this, the contradictions and differences of research results from the existing literatures were analyzed, and finally, the conclusions of the results of the analysis of the existing literature were made.

RESULT AND DISCUSSION

Bibliometric Network Analysis

This analysis viewed the development of the literature on investment decisions within the framework of agency theory using bibliometric network analysis of 223 literatures. The results obtained are as follows.

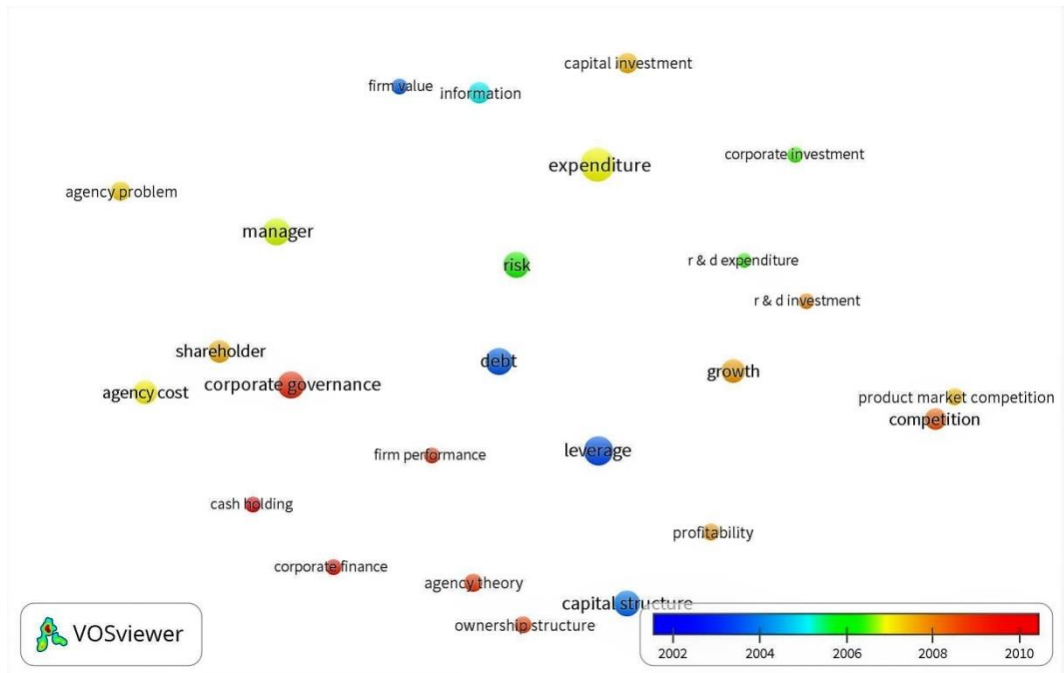


Figure 1. Overlay Visualization

Based on Figure 1, it can be seen that from the literature obtained, the research topics commonly discussed from 2002 to 2004 included the capital structure, leverage, debt, and firm value; on the other hand, from 2004 to 2006, the topics included information, risk, corporate investment, and R & D expenditure. Furthermore, from 2006 to 2008, the research topics covered manager, expenditure, agency cost, agency problem, and capital investment, and from 2008 to 2010, they covered shareholder, R & D investment, growth, product market competition, competition, profitability, ownership structure, agency theory, corporate finance, cash holding, firm performance, and corporate governance.

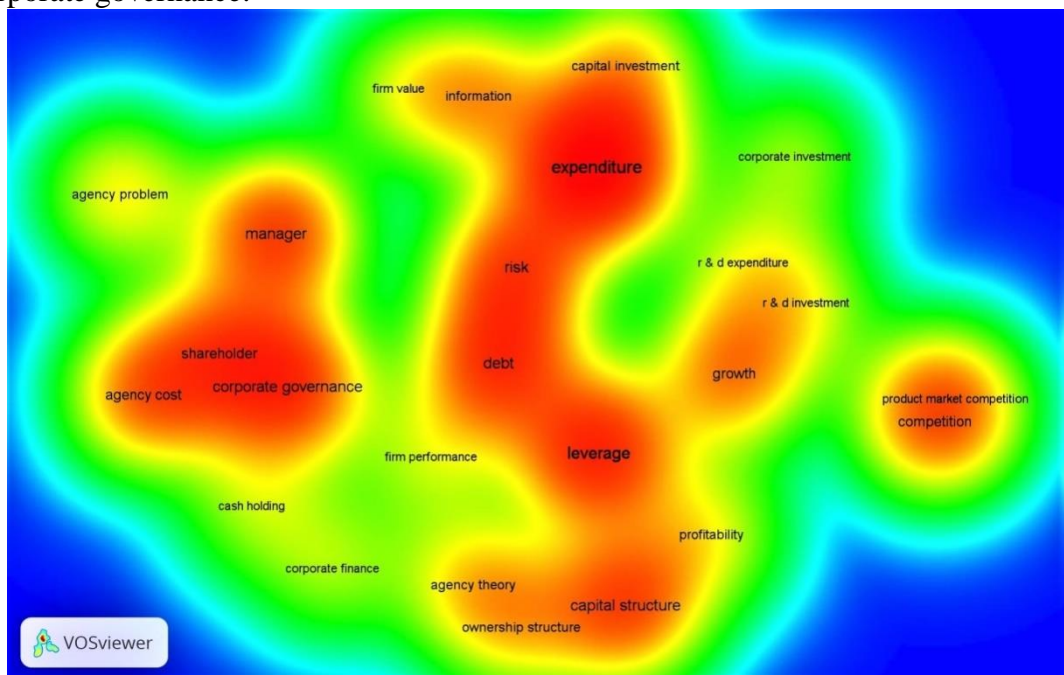


Figure 2. Density Visualization

Figure 2 shows the density of an item or topic of a study. The higher the number of topics around the point and the higher the weight of the topics surround them, the closer the point to the red color. Conversely, the smaller the number of items or topics, the lower the weight of the topics surround them, the closer the point to the blue color. Based on the density and proximity distance of the topics as shown in Figure 2, it can be seen that product market competition and competition have a large density and a close distance. The topics that have a close distance and large density are corporate governance, shareholder, manager and agency cost supported by the topics of agency problem, cash holding, and corporate finance whose position is next to the location with less density. Furthermore, the larger density and close proximity to most research topics include expenditure with capital investment, information, and firm value around the area; moreover, risk, debt, and leverage with firm performance around them followed by growth with R & D investment, R & D expenditure, and corporate investment next to the area; lastly, capital investment with profitability, agency theory and ownership structure are located around the area.

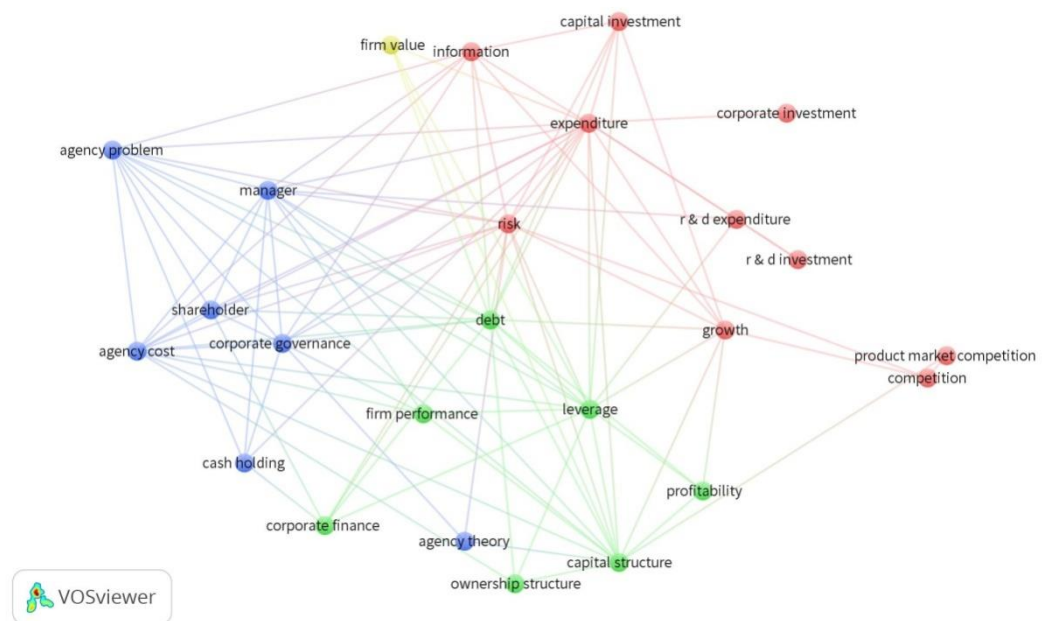


Figure 3. Network Visualization

The figure shows that the research themes of investment, competition, corporate governance, capital structure, and agency theory have direct and indirect relevance to each other. The theme of investment research is shown by the topics on capital investment, corporate investment, expenditure, R & D expenditure, R & D investment, and expenditure. Moreover, the theme of competition research is shown by the topics on product market and competition. Furthermore, the theme of capital structure research is shown with the topic of leverage, capital structure, and debt while the theme of corporate governance research is shown by research topics on corporate governance, ownership structure, manager, and share holder. Also, the theme of agency research is shown by agency theory, agency problem, agency cost, and information.

Based on Figure 3, there are three major clusters, and the first cluster marked by red color includes the research topics on capital investment, corporate investment, expenditure, R & D expenditure, R & D investment, growth, information, risk,

competition, and product market competition grouped into one cluster. The second cluster marked by a blue color includes the research topics on agency theory, agency problem, agency cost, corporate governance, manager, and cash holding. The third cluster in green color covers research topics on corporate finance, capital structure, debt, leverage, profitability, and ownership structure.

When viewed from Figure 3, research with the theme of competition (product market competition and competition) is correlated directly with the topics of capital structure, risk, and growth. As for the theme of capital structure (leverage, capital structure, and debt), it is directly related to the research topics on product market competition, profitability, growth, risk, ownership structure, corporate finance, firm performance, information, firm value, expenditure, capital investment, expenditure, R & D expenditure, manager, agency cost, agency problem, and agency theory. Furthermore, the theme of corporate governance research (corporate governance, ownership structure, manager, and shareholder) is directly related to the research topics on information, expenditure, R & D expenditure, firm performance, risk, leverage, debt, capital structure, cash holding, agency cost, agency Problem, and agency theory.

From the analysis of bibliometric network analysis, it can be concluded that the development of literature starts from the themes of capital structure, investment, agency theory, competition to corporate governance. The results of the analysis show that there are 3 clusters of capital structure, corporate governance, and investment and competition. The results of bibliometric network analysis also show the relevance of other research topics with investment decisions. Previous research reinforced the results of the bibliometric network analysis which show that investment decisions are influenced by factors such as competition (Jiang *et al.*, 2015; Griffith 2001; Alimov 2014; Flammer 2013; Laksmana and Yang 2015; Cheung 2012; Yi 2014; Fresard and Valta 2013; Mello and Wang 2012), corporate governance (Guariglia and Yang 2015; Francis *et al.*, 2013), and leverage (Anwar and Sun 2014; Aivazian *et al.*, 2003). (3 point of views or 3 cluster). From the bibliometric network analysis results supported by the existing literature, the next stage will be the literature study on company investment decisions from the 3 cluster i.e. cluster 1 product market competition, cluster 2 corporate governance, and cluster 3 capital structure.

Cluster 1. Product Market Competition. Laksmana and Yang (2015) contribute to the literature by providing evidence of the role of product market competition in disciplining management investment decisions. First, the results show that competition encourages managers to invest in risky investments. One potential explanation for this result is that competition reduces the opportunity for resource shifting for management personal benefits. Another explanation is that the power of competition affects management to take on more risks for long-term company survival. Second, these results indicate that competition makes management more disciplined on cash usage. Overall, research results provide support for corporate governance functions from product market competition to corporate investments and show that companies in more competitive industries take more risks as measured by capital expenditure, R & D expenditure, and standard deviations from stock returns than those in less competitive industries.

According to Chen *et al.*, (2014), product market competition can lower equity capital cost, indicating that the agency cost competition will become more efficient. Lin *et al.*, (2012) state that increased competition of product market will improve efficiency

of banking and financing in labor intensive industries. The research by Jiang *et al.*, (2015) also shows that there is a positive relationship between competition of product market and corporate investment in a country with a strong and predictable economy like China.

On the contrary, Grullon and Michaely (2008) had somewhat a different study from other studies i.e. examining the interaction between product market competition and manager decisions to distribute cash to shareholders. The study used the Herfindahl-Hirschman Index (HHI) from the census of producers as a proxy for product market competition and used a sample of large manufacturing companies, and it is found that companies in less competitive industries have a significantly lower payout ratio than those in more competitive markets. Overall, these findings are consistent with the idea that the power of competition encourages managers to be disciplined in paying for excess cash and with the idea that dividends are the "outcome" of the external factors. Moreover, Baggs and Bettignies (2007) state that competition has a direct pressure, significant effect, and a significant institutional effect on managerial efficiency. These effects make the company understand the importance of quality improvement.

Cheung (2012) investigated how competition in the product market together affected corporate investment and financing behavior during the period of 1996-2008. The research explained the role of competition in different market structures. The results found that higher market product competition generally resulted in higher reduction in investment. However, these results do not apply to concentrated industries where competition of product market leads to significant investment expenditure. Meanwhile, Yi's (2014) study discusses the impact of product market competition on the investment efficiency of the company from both sides. First, in terms of corporate governance, product market competition facilitates institutional investors in disciplining companies, and this makes investment more efficient. However, if it focuses on the production information, product market competition reduces the company incentive to acquire information. Companies in a competitive industry receive different signals on exact demand which leads to less efficient investment.

Grosfeld and Tressel (2001) study show that product market competition has a positive and significant impact on performance. Finally, product market competition and good corporate governance tend to reinforce one another instead of being a substitute. Competition has no significant impact on performance for companies with bad corporate governance; in contrast, it has significant positive impact on companies with good corporate governance.

In general, with the competition, agency problems and agency costs will decrease, and this benefits the company because the competition will improve the performance of management and corporate governance. However, there is still inconsistency from research on product market competition such as the study by Cheung (2012) which shows inconsistency in the influence of competition on investment, i.e. if market structure is different, it will have a difference influence on investment. Furthermore, Laksmana and Yang (2015) argue that competition makes management more disciplined on the use of cash, but they also state that competition encourages managers to make risky investment decisions. As it is in the study of Yi (2004) which shows that competitive industries are less efficient in corporate

investment. In addition, lack of competitive research on investment in the framework of agency theory in Indonesia makes this necessary to be further studied.

Cluster 2. Corporate Governance. The study of Chen *et al.*, (2014) that examined the level and type of ownership with the allocation of investment funds found that ownership of a company has an important role in determining investment behavior of the company. Based on the study by Francis *et al.*, (2013), corporate governance is a key determinant of investment sensitivity to internal cash flows; in addition, the level of corporate governance has a positive effect on access to funding. The results of this study support the argument of agency theory which suggests the existence of incentives and monitor costs of managerial actions can lead to friction funding and affect the behavior of corporate investments. As it is in the research of Shin and Kim (2002), company investment decisions are also influenced by agency costs.

According to Chen *et al.*, (2015), companies that have more concentrated shares/stocks have a drive to conduct over-investment while those with higher stock trading proportion, board size of supervisors, and leverage will mitigate over-investment. For underinvestment firms, their evidence shows that firms with higher state-ownership concentration, larger board size of directors or higher proportion of outside directors are associated with severer under-investment, while firms with higher leverage or higher proportion of tradable shares alleviate under-investment.

According to Chen *et al.*, (2013), foreign institutional shareholdings make a difference in the level of asymmetry information, and problem agency makes a difference in investment behavior. The shareholdings will mitigate the problem agency and asymmetric information by improving corporate governance and transparent financial management. The study by Almeida and Dalmacio (2015) investigated how interaction between product market competition and corporate governance improves analyst accuracy estimates and reduces estimates of deviations. The study used a sample of public companies in Brazil. The results show that competitive industries provide incentives to improve the flow of information but not necessarily to improve quality. However, good corporate governance improves the financial reporting process, and consequently, the quality of analyst estimates becomes more accurate. The main evidence of the study is that analysts covering companies in competitive industries with strong corporate governance are the most accurate ones. Similarly, according to Guadalupe and Gonzalez (2010), competition policy can have an important influence on corporate governance.

The contract structure is influenced by the corporate governance. With the involvement of foreign investors in ownership, a better management system will be created due to the current knowledge and technologies that enter the company (Guariglia and Yang 2015; Chen *et al.*, 2014; Shin and Kim 2002). In addition, managerial share ownership mechanisms can improve the performance of the company and shareholder values (Jensen and Meckling 1976, Morck *et al.*, 1988; Wright *et al.*, 1996; Lins 2003; Wei *et al.*, 2005). In the agency theory, the option of the offering of the managerial shareholding interestingly encourages managers to improve their company performances (Sundaramurthy and Lewis 2003).

According to Connelly *et al.*, (2017), dividend payout initiation is associated with stronger governance (stronger positions of the shareholders and independent board). The managerial shareholding by the CEOs has a positive relationship with the dividend initiation at companies whose governance is highly strong. The study found

that when initiation was due to significantly stronger governance, the governance was then related to corporate investment opportunities, while for weaker corporate governance, the relationship was not observed.

Based on Chen *et al.*, (2017), the shareholdings of the government and foreign institutions are associated with different levels of asymmetric information and problem agencies. The studies found strong evidence that government shareholding have undermined the sensitivity of investment opportunities, thus increasing investment inefficiency. Conversely, the foreign shareholding has strengthened the sensitivity of investment opportunities, thereby increasing investment efficiency. In addition, I found that the relationship between foreign ownership and investment efficiency is stronger as the government relinquished control and the governance level of the government institutions is weaker.

According to Mykhayliv and Zauner (2017), the majority of shareholders and the increase in state share ownership have a negative influence on the company investment, such as domestic share ownership and financial institutions whereas the insider shareholdings and industry and financial groups do not affect investment.

Based on the existing literature, it can be concluded that in general, corporate governance is influential on company investment decisions; however, there are differences in the influences due to the level of competition or the structure of market competition that makes the governance different. In addition, the existing corporate governance studies still have shortcomings as in the study of Connelly *et al.*, (2017), who studied the relationship between weak corporate governance and unobserved investment decisions. Moreover, there is still inconsistency in terms of influence of share ownership on investment decisions as Mykhayliv and Zauner (2017) state that insider shareholdings and industrial and financial groups do not influence investment. It is, therefore, necessary to further study the influence of corporate governance on more specific investment decisions.

Cluster 3. Capital Structure. According to Firth *et al.*, (2012) in addition to shareholder, there are also debt holders who will monitor the company performance and business decisions of the company including investment decisions due to the leverage. The existence of problem agency in the research by Aivazian (2005) is "overinvestment" due to conflict between management and shareholders. Managers have a tendency to expand in the company scale only and pay less attention to future corporate value after investments; moreover, they even take on poor investment projects and reduce shareholder wealth. Management ability to implement the policy is limited by the availability of cash flow, and this constraint can be further reduced through debt financing. By issuing debt, the company has to pay interest and principals that put pressure on management not to allocate funds for poor investment projects. Similarly, Anwar and Sun (2014), Aivazian *et al.* (2003), Guney *et al.*, (2011) in their studies state that leverage affects investment decisions.

In order to prevent over-investment and increase control over corporate management, capital structure policy is often used. With the interest cost and creditor supervision, the company management will be more careful in investing for the company (Anwar and Sun 2014, Guney *et al.*, 2011 Aivazian *et al.*, 2003). Guariglia and Yang (2015) argue that the limited access to capital markets causes many Chinese companies to be under-investment. In addition, weak corporate governance structure

leads shareholder managers or controllers to overinvest their free cash flow in projects with negative NPV.

The findings obtained by Moenadin *et al.*, (2013) indicate that there is a significant relationship between selected industrial capital structure and product market competition. Similarly, the study by Pandey (2004) shows that there is a relationship between capital structure and market forces due to the complex interactions of market conditions, agency problems and bankruptcy costs. According to Rathinasamy (2000), companies that have more monopoly power use longer-term financing and debt. Based on the research by Guney *et al.*, (2011), Chinese companies tend to adjust their leverage ratios. There is a relationship between the intensity of competition and the leverage ratio, which supports the theory of predation.

According to Munisi (2017) who studied the determinants of capital structure in Sub-Saharan Africa, capital structure is negatively related to profitability and tangible assets, supported by pecking-order theory and trade-off theory. The findings show that capital structure is positively associated with free cash and corporate growth, consistent with agency theory and pecking-order theory.

Nevertheless, there are also different study results on agency theory in capital structure as in Banga *et al.*, (2017) who state that the determination of capital structure in the small-medium scaled businesses in India is influenced by the application of pecking order theory and trade off theory, but there is no evidence for the application of agency theory. Also, Huang *et al.*, (2016) examined the capital structure of the small-medium scaled businesses in China, and the results show that leverage is influenced by executive shareholders and excess cash compensation. However, institutional share ownership does not affect leverage level that is more influenced by traditional factors such as taxes and operating cash flows.

Empirical results from Dawar's (2014) research in India show that leverage has a negative effect on the financial performance of Indian companies, which contradicts the assumption of agency theory as it is generally accepted in developed and developing countries. Consequently, agency theory postulate should be viewed with a different perspective in India by considering the nature of bond market and dominance of state-owned banks in providing loans to the corporate sector.

Based on the existing literature, it can be concluded that with leverage, there is a conflict among shareholders, management and debtholders that can be seen from the agency theory. The sub-sectoral differences, foreign share ownership, and market structure will affect the company capital structure, and Pecking order theory and trade off theory affect the capital structure. On the contrary, the agency theory on capital structure is still inconsistent because a number of studies show that the agency theory is not found in determining capital structure.

The implication of research development. According to Hill (1992), there are paradigms in analyzing agency theory, namely, corporate strategic behavior; principal-agent contract structure; monitoring and strengthening of principal-agent contracts, and evolutionary processes that alter the structure of the principal-agent contract and the institutional structure that issues the contract. From the study, it was found that differences from market conditions resulted in inconsistent results, and by analyzing them from various paradigms, more comprehensive results in the application of agency theory can be obtained. Based on the literature review on investment decisions within

the framework of agency theory associated with the topics of product market competition research, corporate governance, and capital structure, inconsistent results still exist.

Therefore, further research is required to provide a more comprehensive review related to the company strategic behavior paradigm by using product market competition indicators affecting the company environmental conditions (Jiang *et al.*, 2015; Griffith 2001; Alimov 2014; Flammer 2013; Laksana and Yang 2015; Cheung 2012; Yi 2014; Fresard and Valta 2013; Melo and Wang 2012); The principal-agent contract structure is indicated by implementation of good corporate governance within the company (Guariglia and Yang 2015; Chen *et al.*, 2014; Shin and Kim 2002); and the monitoring and strengthening of the principal-agent contract use the capital structure policy indicator, and with the existing of the interest cost and debtholders supervision, the company management will be more careful in investing the company (Anwar and Sun 2014, Guney *et al.*, 2011 Aivazian *et al.*, 2003). From this studies, it is expected to provide a study that can provide consistent results in inefficient market conditions.

CONCLUSION

This study has mapped out the existing literature using bibliometric network analysis that can show that the development of literature starts from the themes of capital structure, investment, agency theory, competition and corporate governance. Then the results of the analysis indicate that there is a linkage of topics directly or indirectly, and this analysis shows from the existing literature that there are 3 major clusters of capital structure, corporate governance, and competition.

Based on the existing literature review, the research topics of product market competition, corporate governance, and capital structure are research topics that have closeness relation to company investment decisions within the agency theory framework. The previous studies generally stated that product market competition, corporate governance and capital structure affect investment decisions taken by the company and can be discussed with the agency theory. However, there are still deficiencies and inconsistencies in the results of the previous studies, and there is still lack of research on the influence of product market competition, corporate governance, and capital structure on corporate investment decisions within the framework of the agency theory that was thoroughly studied. Therefore, further empirical studies on the impact of product market competition, corporate governance, and capital structure on investment decisions in comprehensive agency theory are required.

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