

Corporate Venture Capital Variable for Investing on Startup in Indonesia

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Abstract – Digital business has grown rapidly in recent years. Many startup companies create new businesses with innovative products for their customers. The majority of these startups finance their products using Venture Capital (VC). VC model helps startups to grow, because besides providing funding, VC also offers mentorship and networking to market and other investors which very important for startups to achieve their success. Traditionally, venturing is a business with a high failure rate, but higher risks are attended with higher return for investors. Large corporations also participate using subsidiary companies called Corporate Venture Capital (CVC) to manage funds and startup investments.

CVC is a generally subjective method for making investment decisions, and needs to be replaced with a new method to minimize the risk of being too subjective. This research will look for significant variables for venture investing that will help CVC making wise investment decisions. In this paper, initial variables will be determined using a literature review and an in-depth interview with a CVC expert. This paper concludes by suggesting specific CVC investment variables for Indonesia.

Keywords – Corporate Venture Capital, Investing Variable, Startup, Venture Capital.

I. INTRODUCTION

US Small Business Administration defines Venture Capital (VC) as a type of equity financing that addresses the funding needs of entrepreneurial companies that for reasons of size, assets, and stage of development cannot seek capital from more traditional sources, such as public markets and banks. VC financing can be defined as equity investments in closely held private companies with no publicly traded stock intended for a limited period of time [1]. VC is often called “patient capital” as it seeks a return not through immediate and regular payments of principal and interest, but through long-term capital appreciation [2].

Corporate Venture Capital (CVC) is an activities equity investment by large corporations in entrepreneurial ventures to pursue both the strategic and financial objectives of their parent companies [3]. The principal difference between VC and CVC is the funding source: CVC funding comes from a parent company while VC funding comes from private and public investors. Another key difference is the object of venturing: CVC looks for capital gain from the startup while also hoping for business synergy between the startup product and the parent company products. VC has the narrower and simpler focus of capital gain from the startup company.

Startup companies are defined as newly founded companies or entrepreneurial ventures that are in the early

phase of product development and market research. They are usually, but not necessarily, associated with high-tech projects because their product applications can be easily produced and reproduced [4]. Startups usually employ less than 5 full time employees, and have limited innovation activity [5]. To expand and develop their business, startups need to have access to funding. In the very early stage, the common financing source for startup companies will come from angel investors and it’s a startup founder, whose main task is to persuade angel investors to fund the new startup.

II. LITERATURE REVIEW

A. Indonesian Venture Capital

VC funds in Indonesia are increasing significantly, with initial funds available in 2015 around USD 200 Million and projected to grow in the future. The number of VCs operating in Indonesia is growing with different portfolios and different ranges of funding available [6]. VCs operating in Indonesia can be grouped by background, such as source of funds (private, public, corporate or conglomerate), or area of operation (local or regional company). Depending on the background VC funds can have a different strategies and different investment focuses. Classifications of VC that operate in Indonesia, based on their background, can be seen in Fig1.



Fig. 1. Classification of VC Operates in Indonesia

Conglomerate/Family backed VCs usually have funding from internal pockets and focus on investing in local startups that have products that can support and enrich their core businesses. Foreign/Regional VCs have funding from fundraising processes and invest in local and international startups that can operate regionally or locally in Indonesia. Local/Joint Venture VCs also have funding from fundraising processes, and focus on investing in local startups that target global or local markets. Finally, corporate backed VCs have funding from their internal



parent companies and invest in local and international startups that have products with high synergy value with their company business portfolio.

B. Startup Valuation

There are four stages of a startup life cycle. They are: 1) seed, 2) early stage, 3) later stage and 4) Initial Public Offering (IPO). Each of these stages must be passed by a startup before they can exit. Each stage has different characteristics in terms of product readiness, financial source, and the risk faced by investors. The characteristics for each stage in the startup life cycle can be seen in Table 1.

Table 1. Startup Staging Characteristic

Stage	Product	Financing Source	Risk	Investing Budget
Seed	Shaping concept	Angels	Very High	Low
Early Stage	Concept ready	Venture Capital	High	Medium
Later Stage	Product ready	Venture Capital	Medium	High
IPO	Product verified	Stock Exchange	Low	Very High

The critical point – that is, the decisive point for the life or death of the startup - is the transition point between seed and early stage. At that point, a startup should be able to prove to investors that they have a good product concept, and one that can be tested in the market. If, at that point, startups fail to persuade investors, they will come up short in funding and cease operations.

Valuating startups, especially in the early stages, is a challenge given the lack of historical data and many uncertain factors about the future. Most of the existing venture capital literature uses, either explicitly or implicitly, the orthodox discounted cash flow (DCF) approach to analyze venture capital investment decisions. The DCF approach inherently ignores the staging option and is not suitable for venture capital investment analysis [7] because it tends to show negative financial prognoses even for very promising startups. Venture capital investors are recommended to undertake a due diligence process to carefully evaluate each investment and, so, minimize risk. The initial due diligence process helps venture capital investors understand the capabilities of the founding team, assess the progress of product development, confirm whether or not the market is as large as anticipated, and determine whether the new technology has entered the product development cycle [8].

Based on these data, investors can develop a basic DCF calculation with which the adjusted corporate values can be calculated. To this end, relevant figures from the business plan (such as revenue projections and costs) are transferred into the model, and the final corporate value is calculated using the adjusted beta coefficient. The adjustment of the beta coefficient is based on various categories (technological, organizational, financial and others), each with related subcategories. Depending on its specific influence on the risk, each subcategory can lead to a positive or negative impact on the compensation that a

potential investor requires and hence a corresponding adjustment to the beta coefficient is necessary [9]. Festel [9] outlines the categories for beta coefficient adjustments in Table 2.

Table 2. Categories for Beta Coefficient Adjustment

Category	Subcategory
Technology	Maturity of technology
	Advantages compared to competitive technologies
	Reputation of scientist
	Patent protection
Products	Product benefits
	Unique selling proposition
	Scalability
	Competition
Implementation	Business plan
	Technical development plan
	Marketing plan
	Business development plan
Organization	Competences of the management team
	Headquarters location
	Competences of advisory board
	Process efficiency
Finances	Sales plan
	Costs plan
	Profitability
	Liquidity plan

Each category can be quantified and referred to a beta coefficient adjustment point. For example, the “maturity of technology” category can be quantified to a beta coefficient adjustment as follows [9]:

- Technology still in initial experimental phase (+1)
- Technology successful on a laboratory scale (+0.5)
- Technology successful in pilot plant (0)
- Technology successful in demo plant (-0.5)
- Technology successful in technical application (-1)

The next startup valuation is performed at the next round of financial funding and is led by a new venture capitalist investor. The valuation will be determined by reviewing accomplishments the founding team has made to date, evaluating the finances of comparable companies in the past, estimating the amount of additional capital required in the future, considering the amount of capital to be invested by the investors, and projecting what the company might be worth in the future [8].

III. METHODS

Decision making for investing in CVC is a long and prudent process, and divided into three stages: screening stage, value added stage and exit stage [2]. Decision making in the screening stage will relate to the investment decision about whether CVC will invest in the startup or not. The process will include a preliminary evaluation, a term sheet (negotiated with the startup), and a detailed due diligence report made by the CVC or a third party assessor to review startup business appropriateness. The object of screening process is to eliminate risk, but even with a thorough screening process, business risk and information asymmetries remain [10].

Decision making in the value added stage is dependent on CVC objectives to enrich startup capability and, at this

stage CVC details the mentorship program plan, additional budget, and strategic alliance with the startup business. Decision making in the exit stage will depend on CVC strategies for collecting gain from the existing investment in the startup company. CVC can decide to sell their share at IPO or trade the share with another company. Each decision will need a detail and a compliance process from the CVC and will need to correspond with the CVC mission given by the parent company about whether to focus on value gain or business synergy.

To help CVC make the right decision for their investment action, CVC should identify which variables have the most predictive power for the success of an investment, and also measure the dynamic relationships between variables that can influence the VC decision-making process. This will make a great contribution to the CVC investing decision, so that the CVC can make an objective decision without being dependent on a subjective judgment from the decision maker. In this paper, initial significant variables will be determined using literature review from past research, and will combine this data with an in-depth interview with a CVC expert to develop a specific variables model for CVC investing in Indonesia.

A. Previous Research

Literature review for this research was conducted to find variables for CVC investments through 21 (twenty-one) journals that study VC investment all around the world. The detailed review for each journal can be describe as follows:

1. Chen et al [11] conducted research to investigate the role of geography in venture capital investments in the US biotechnology industry. Data includes 4,409 quarterly investment deals from the Money Tree Survey in 1995 and 2008. (1.) Whether biotechnology firms receive a larger amount of capital per deal when located close to their investors, and (2.) Whether biotechnology firms located in recognized life science research clusters receive a larger deal size than those in other places. The research shows that as the geographic distance between biotechnology firms and their investors decreases, deal size increases. Location in established biotechnology clusters (such as New England and California) helps bring a larger deal to individual firms as well.
2. Kumari [12] attempted to analyze the investment trend of venture capital and private equity investments in India during the last one-decade. The results from the research are: (1.) Foreign direct investment and gross domestic product have an impact on venture capital and private equity investments. There is positive correlation between the variables. (2.) Significant variation is found in the investment trend in both sector wise and stage wise investment inflows during the last decade.
3. D'Souza and Clarkin [13] posed a research question about what differentiates successful VCFs from others. Further, they asked how strategic processes are implemented between VCFs. How the overall industry adapts to change is largely unexplored. Factors such as capital gains tax, higher GDP growth, the supply of substitute funding, a VCF's reputation and track record, stage of funding, and the LPs loyalty to a particular geographic area have all been found to influence investment or re-investment in VC firms. The VCs sampled in this research created smaller funds to invest in earlier-stage technology companies, focusing on their core competencies and looking for ways to differentiate themselves from other funds. The investment timing becomes one important key point for VCs investing.
4. Chung [14]. The purpose of this study was to construct and prioritize the intellectual capital measures of venture capital in Taiwan and to formulate a strategy map based on these measures. Intellectual capital can be categorized into three dimensions: Human Capital, Relational Capital and Structural Capital. The priority of sequencing in the first level is: relational capital, structural capital, and human capital. Relational capital is an accumulation of social networks and, thus, increases access to information about investment cases. Venture capital companies should take structural capital seriously and set up internal and external standard operation procedures to improve efficiency. Human capital is the knowledge stock of an organization as represented by employees.
5. Bartkus et al [15] conducted research to investigate the effects of increased fund commitments on portfolio size and subsequent effects on portfolio success rates. The authors found that increasing the size of portfolios not only leads to a decrease in the number of successful investments but also significantly affects portfolio success rates. As more low quality projects are funded, the probability of failure increases, which leads to lower returns to the portfolio on venture capital investments. The results suggest that portfolio size is an important determinant of venture capital portfolio success rates.
6. Blum [16] researched the factors for gender disparity among directors and partners at independent venturecapital firms in the United States. Four factors contribute to gender disparity in the VC industry. The factors are: 1) limited mentoring opportunities for females, 2) lack of executive management experience of women, 3) female exclusion from niche networks, and 4) male and females at VCs unwilling to address the gender disparity issue.
7. Panda's [17] sought to identify the various financial indicators that venture capitalists consider before funding growth firms by analyzing their capital structure. Along with various generic criteria such as a good management team, able entrepreneurs, and good economic and market conditions, financial considerations such as presence of tangible assets, prior profitability, high growth opportunities, and bigger size also provide positive signals regarding the credibility of the firm. VCs are not exactly the risk takers that they are assumed to be in academic literature. Their financial criteria for selection are not very different compared to the criteria adopted by banks and other financial institutions.
8. Avots et al [10] conducted research focusing on

development of the Latvian venture capital market, since the reported evidence suggests that there are not enough good projects to invest in, forcing Latvian entrepreneurs to look for venture capital outside Latvia. The focus is on the supply side, with very little attention in terms of public venture capital policy making being devoted to the demand side, and the overall institutional structure. Throughout the analysis, lack of demand or investment-ready projects will effect to successfulness of VC investments.

9. Schefczyk [1] performed a literature review and formulating 10 hypotheses, which he tested in Germany. The analysis indicates that emphasizing a portfolio company's "manager" qualification, intensifying cooperation between VCs and portfolio companies, and ensuring a strong (minority) shareholder position on VCs coincides with above average success.
10. Streletzki and Schulte [18] identified predictors of venture capital exit performance that are related to the founding teams of young ventures. As portfolio companies of venture capital firms are a very unique subgroup of young ventures, and as exit performance is a success variable that is only rarely examined, this study provides new insights from an investor's point of view. Several key results are: (1.) Education-related success predictors had the greatest influence on VC exit performance, followed by success predictors related to specific experience and functional experience. (2.) Founders' specialization in management education, marketing/sales, and finance, as well as start-up experience and former joint work experience, have a positive influence on VC exit performance. (3.) General management education and technical experience negatively influences exit performance. (4a.) Specialized education of the founders outperforms general business education in terms of exit performance. (4b.) Specific work experience related to the daily business outperforms specific work experience related to long-term strategy.
11. Wang et al [19] contributed to this literature by examining two related questions: whether venture capital firms use strategic alliances as a substitute or compliment to capital infusion, and how venture capital firms use alliances to mitigate different types of risk. Results from 2.505 venture-backed startups reveal that venture capital firms treat alliance formation as a substitute for capital infusion and that the breadth of the network of syndication partners investing in the startup increases the number of its strategic alliances. Research also finds intentionality in alliance formation. Specifically, firms operating in industry environments characterized by technical risk are more likely to form alliances with partners capable of mitigating technical risks, and firms operating in environments characterized by market risk are more likely to form alliances with partners capable of mitigating market risk.
12. Zhang [20] assumed that entrepreneurs with prior firm-founding experience are expected to have more skills and social connections than novice entrepreneurs. Such skills and social connections could give experienced founders some advantage in the process of raising venture capital. This paper used a large database of venture-backed companies and their founders to examine the advantage associated with prior founding experience. Compared with novice entrepreneurs, entrepreneurs with venture-backed founding experience tend to raise more venture capital at an early round of financing, and tend to complete the early round much more quickly. In contrast, experienced founders whose earlier firms were not venture-backed do not show a similar advantage over novice entrepreneurs, suggesting the importance of connections with venture capitalists in the early stage of venture capital financing. However, when the analysis also takes into account later rounds of financing, all entrepreneurs with prior founding experience appear to raise more venture capital. This implies that skills acquired from any previous founding experience can make an entrepreneur perform better and, in turn, attract more venture capital.
13. Khoso et al [21] empirically examined the determinants of demand for venture capital financing in Pakistan from 1992 to 2008. The critical determinants in accordance to their importance are found to be interest rate, and the level of stock market development (measured by market capitalization to percent of GDP and real GDP growth). In the interaction model of regression, it was found that the positive impact of GDP growth on venture capital demand is reduced in the periods of lowering economic freedom index. The rising index of economic freedom increases significantly the aggregate impact of GDP on demand for venture capital. The most surprising result of this study is that IPO is negatively correlated with the demand for venture capital even though the opposite was hypothesized.
14. Smolarski and Kut [22] examined how equity based venture-funding methods affect SME performance and internationalization. This research divided venture capital financing into several categories: incremental (staged) financing, where firms receive their venture capital funding in portions; lump-sum funding, where firms receive their funding in one lump-sum; syndication, where two or more external investors participate in a single financing round; and non-syndicated financing, where one investor participates in a single financing round. The results show that types of equity-based venture capital financing affect performance and internationalization. Annual sales growth rate and annual turnover are used as proxies for performance. Export ratio is used as a proxy for internationalization. Staged financing and financing through a syndicate has a positive effect on performance and internationalization when used separately. Research results observe a negative effect when syndication and staged financing are used in combination.
15. Devigne et al [23] studied how the presence of cross-

border as opposed to domestic venture capital investors is associated with the growth of portfolio companies. For this purpose, research used a longitudinal research design and tracked sales, total assets, and payroll expenses in 761 European technology companies from the year of initial venture capital investment up to seven years thereafter. The findings demonstrated how companies initially backed by domestic venture capital investors exhibit higher growth in the short term compared to companies backed by cross-border investors. In the medium term, companies initially backed by cross-border venture capital investors exhibit higher growth compared to companies backed by domestic investors. Finally, companies that are initially funded by a syndicate comprising both domestic and cross-border venture capital investors exhibit the highest growth.

16. Gompers et al [24] examined how changes in public market signals affected venture capital investing between 1975 and 1998. The research found that venture capitalists with the most industry experience increase their investments most when public market signals become more favorable. Their reaction to an increase is greater than the reaction of venture capital organizations with relatively little industry experience, and those with considerable experience but in other industries. The increase in investment rates does not affect the success of these transactions adversely to a significant extent. These findings are consistent with the view that venture capitalists rationally respond to attractive investment opportunities signaled by public market shifts.
17. Narayansamy et al [25] investigated VC decision-making processes and investment criteria practiced in Malaysia as an exploratory study. It was particularly interested in the following questions: do Malaysian VCs have sufficient experience in the industry? What is the time frame taken to evaluate investment deals? Which sector is most preferred by Malaysia VCs? Which investment stage is most preferred by Malaysian VCs? Are Malaysian VC decision-making procedures and investment criteria similar to the classical decision-making model? Findings reveal significant similarities in the decision making-procedure and investment criteria used to select investment with the classical model. As for investment criteria, greater importance is given to management integrity and exit opportunity rather than to the business idea. Findings also reveal that VCs experience does not correspond to expertise in decision making. The study also showed that two important evaluation criteria in VC decision-making process are government influence and the legal system.
18. Stewart [26] Australia and New Zealand recently enacted tax and entity reforms aimed at increasing venture capital investment. This paper examined their purpose and effect in light of policy goals for subsidizing venture capital and revealed the specific kind of venture capital investment sought to be subsidized by these reforms. In view of the perceived advantages of venture capital investment, and the possibility of market failure in the provision of capital for innovative enterprise, many argue that there is a need for government intervention. Government interventions include: (1.) Direct investment or provision of capital through government sponsored or private fund. (2.) Tax concession for employee stock option, tax credit for direct investment, specific concession for venture capital funds and tax subsidies for investment by retirement fund. (3.) Direct grant or concessional lending to business or for research. (4.) Government supported education for investors and information sharing network.
19. Gompers and Lerner [27] examined the forces that affect fundraising by independent venture capital organizations from 1972 to 1994. They studied both industry fundraising patterns and the fundraising success of individual venture organizations. Research found that regulatory changes affecting pension funds, capital gains tax rates, overall economic growth, and research and development expenditures – as well as firm-specific performance and reputation – affect fundraising by venture capital organizations.
20. Cherif and Gazdar [28] examined the determinants of venture capital investments across 21 European countries from 1997 to 2006. The empirical model includes many of the macroeconomic determinants already tested in previous studies. Empirical results can be summarized as follows: while interest rate does not appear as a significant determinant of venture capital in Europe, results in the cases of market capitalization, research and development expenditures, GDP growth, and unemployment, confirm the expected theoretical impact. For the divestments forms, this study showed that none of the three variables have significant effects on both early stage investments and funds raised. Finally, research showed the importance of the institutional quality as a determinant of European funds raised. Among the institutional dimensions, property rights freedom, financial freedom, and trade freedom seem to play a major role in determining European funds raise. However, early stage investments are not affected by the index of economic freedom.
21. Nunes et al [29] identified the importance assigned to various criteria used by Portuguese venture capitalists to evaluate and select early stage venture capital projects. The study revealed that personality and experience of the entrepreneur and of the management team are the most valued groups of criteria. VCs with a majority of private share capital place greater value on the personality of the entrepreneur and management team than do companies with a majority of public share capital. Additionally, VCs that have not yet internationalized consider the personality of the entrepreneur and management team, and the financial aspects, to be more important than VCs that have already expanded abroad.

B. Summarize Variables From Previous Research

The literature review just given covers research from more than ten countries in Asia, Europe, America, and the



Pacific regions. This study identifies ten key variables that emerge from the review. They can be described as follows:

1. Geographic location variables include: office management (distance between VC representative office and target startup office) and investment model for local or international companies [11], [23] and [29].
2. Market condition variables include: country Gross Domestic Product (GDP), market demand, sales growth rate, and export rate [12], [17], [10],[21], [22],[24] and[28].
3. Country circumstances variables include: Foreign Direct Investment (FDI), interest rate, stock market, government regulation system, and tax system [12], [17], [21], [25], [26], [27] and [28].
4. Investment timing variables include: angel stage, early stage, later stage, and Initial Public Offering (IPO) [11], [13] and [20].
5. Intellectual capital variables include: human capital / organization, relational / networking capital and structural capital [14], [1] and [18].
6. Portfolio size variables include: single product and multi product [15].
7. Gender disparity variables include: male management and female management [16].
8. Management team variables include: founder background and startup management [17], [18], [20], [25], [27], [28] and [29].
9. Cooperation with other VC variables include: direct funding or indirect funding, and general partner or limited partner [1] and [19].
10. Nature of product variables includes: product description, product validation, market validation, and business validation [19].

C. In-depth Interview

The object of the interview process is to gather initial variables for successful CVC investment from Indonesian experts in venture capital investment. The stages for determining variables using in-depth interviews are as follows:

1. Define the objective of in-depth interview

The objective of the in-depth interviews is to collect respondent experience regarding the investment decision-making process. The researcher needs to know what kind of variables respondents should consider before deciding to invest in a startup. The researcher also needs to understand to what extent those variables affect the investment result.

2. Plan in-depth interview

Before the interviews begin, there are several items that should be prepared. Screening for professional expertise will focus on background, experience in venture capital business, and knowledge about startup products, to say nothing of the respondent’s availability for an interview. Respondents will be asked questions related to variables, procedures, and timing of investments, as well as how to choose the startup portfolio.

Detail screening criteria for targeted respondent are:

- Experience (minimum 5 years) working in investment area
- Experience working with Corporate Venture Capital
- Familiarity with startup ecosystem

- Experience in an important role with a startup investment decision
 - Familiarity with Silicon Valley minded or Lean Startup methods
 - Availability for interview
 - Minimum of three experts
- Steps for conducting in-depth interview are:
- Introduction from interviewer
 - Explanation of the background of the research
 - Evaluation of the respondent’s background experience, including whether or not the respondent conforms with the screening criteria
 - If yes, continue the interview and, if not, stop the interview
 - Open question for respondent:
 - What is the important variable for investment?
 - What step should be done before investing on startup?
 - At what startup stage is the best timing for investment?

3. Conduct the in-depth interview

The data collected from respondents are shows in Table

- 3.

Table 3. Data From Respondent

Question	Respondent 1	Respondent 2	Respondent 3
Education background	Master Degree	Master Degree	Master Degree
Experience in investment area	> 5 years	5 years	> 5 years
Experience in CVC	Yes	Yes	Yes
Familiar with startup ecosystem	Yes	Yes	Yes
Job position	CEO	Head of Investment	Investor Analyst
Familiar with Silicon Valley minded and Lean Startup methods	Yes	Yes	Yes
What is the important variable for investment?	Product, Founders, Stages and Coherency	People, Potential Market, Product, Traction and Financial	Founder, Human Resource, Scalability & Growth, Market Size & Potential, Business Model
What step should be done before investing on startup?	Due diligence	Due Diligence (Internal DD, External DD, Legal DD)	Interview with founder, market potential check, product validation, financial due diligence
At what startup stage is the best timing for investment?	Growth stage	Series A, Scaling Phase	After business model validation (Series A)



4. Analyze data for reporting
Based on the expert interview, there are four (4)

variables with detail criteria that should be considered before investing. These are shown in Table 4.

Table 4. Variable from Expert Interview

Products / Market	Founders / People	Stages / Traction	Coherency
Description 1. Clear Product / Idea Formulation 2. Outline Features 3. Clear Consumer Formulation 4. Market Size 5. Clear Problem Formulation Effort To Validate 1. Problem 2. Customer 3. Product Revenue Stream 1. Clear Description 2. Estimation Cost Structure 1. Clear Description 2. Estimation	Commitment Willingness to focus effort and time to develop the business during the incubation period Traits 1. Flexibility 2. Resourcefulness (High Initiatives) 3. Getting Stuff Done 4. Determination 5. Team Bonding 6. Team Risk Experience 1. Sector Experience 2. Technical Experience	1. Product ready, better if already shows early traction. (Beta Version). 2. Already self-funded for some time (bootstrap) 3. Categories: Home Solution, Business Solution, City & Government Solution, Personal Apps and Commerce	1. Coherency fit to parent company group’s business unit 2. Ready to tap into group market access once graduated from the incubation program

The variables that came from expert interview can be summarized as follows:

- Product** variable include: description, effort to validate, revenue stream, and cost structure.
- Founder** variable include: commitment, traits, and experience.
- Stages** variables include: product readiness, funding, and product categories.
- Coherency** variables include: product fitness and implementation readiness.

IV. RESULT AND DISCUSSION

Based on the ten variables summarized from previous research, there is still a missing variable referring to CVC establishment objective. Variable that not yet covered from previous research is “Product Coherence / Synergy”. This variable is very important because product synergy is one of the main CVC objectives (alongside capital gain) for startup valuation. In this case, the variable gap that the previous research did not cover will be included in the research together with other variables for constructing a model for the research. The variable also validated by expert refers to output variables from in-depth interviews.

From previous research, there are several controversies, especially when defining gender and product portfolio, with regard to the variables that affect CVC investment. Gender may not have a big effect on startup performance. In the startup establishment, there only several people involved and, usually, the few employees are very keen on developing their business without thinking about gender differences. Product portfolio may also play a limited role in the beginning of a startup establishment, because, in the initiation stage, startups usually focus on product development (and not on making many product portfolios to the customer). Many product portfolios need a lot of effort from the startup in terms of time, resources, and money.

From the previous research there are some inconsistencies regarding the variable that affect VC

investment success. For example, Khoso et al [21] research in Pakistan showed that interest rate is a critical determinant, while Cherif and Gazdar’s [28] research in Europe concluded that interest rate does not appear to be a significant determinant for venture capital in Europe. Another inconsistency can be seen from Schefczyk’s [1] research in Germany, which found that manager qualification, intensifying cooperation between VCFs and portfolio companies, and ensuring a strong (minority) shareholder position in VCFs coincide with above average success, while Narayansamy et al [25] research in Malaysia revealed that VCs experience does not correspond to expertise in decision making. This inconsistency shows that previous research and prior models are not automatically suitable in a different country or different situation. For this reason, this research will be very important for CVC in Indonesia in order to build a specific model for the Indonesian condition and understand which variables have a vital effect on investment decisions. This research will enable startups, as well as the general CVC ecosystem in Indonesia, to find references for improving their business.

There are ten (10) variables found from the literature and four (4) variables found from the expert interviews. One would expect the output from both processes, when compared with each other, to show similarities between variables. The result shows eleven (11) variables that can be analyzed to fit within the decision-making process in CVC and those are as follows:

- Geographic Location is a variable to differentiate between local and international investment, because the implementation in regulation, financing, risk exposure etc., will be different for local or international investments. (+)
- Market Condition will support the success of product delivery to the customer, and validate the market available for the startup product. (+)
- Country Circumstances will affect the investment climate in the relevant country. Regulation simplicity and tax incentives will attract many investors to participate in the venturing business. (+)

4. Investment Timing / Stages will determine the risk exposure level and budget amount that should be provided by CVC. (+)
 5. Intellectual Capital like resource capability, vast networking, and creative idea, will become a critical asset for a startup to grow their business. (+)
 6. Portfolio Size is not a critical variable because CVC can still operate well even when they manage only a single product or have a small product portfolio size. (-)
 7. Gender Disparity, especially in the IT/Telco business (a major area for startup development) does not have a substantial effect on investment decisions. (-)
 8. Management Team / Founder with a good track record gives CVC confidence in injecting their capital. (+)
 9. Cooperation With Other VCs (especially with experienced partners) give benefits and confidence to new, entrant VCs. (+)
 10. Nature Of Product will affects cost structure, business model, and capital return projection for venture investing. (+)
 11. Coherence of new startup product with existing group business is one of CVC's main objectives, because it can produce a new revenue stream for the existing business from new product synergy activity. (+)
- The comparisons of variables from previous research and this research can be seen in Table 5.
The resume of variable selection can be seen in table 6.

Table 5. Significant Variable from Literature Review

No	Author	Year Publication	Research Location	Significant Variabel for Venture Capital											
				Geography Location	Market Condition	Country Circumstances	Investment Timing	Intellectual Capital	Portfolio Size	Gender Disparity	Management Team	Cooperation with other VC	Nature of Product	Product Coherence	
1	Chen et al	2010	United States	X			X								
2	Kumari	2013	India		X	X									
3	D'Souza et al	2014	United States				X								
4	Chung	2011	Taiwan					X							
5	Bartkus et al	2012	United States							X					
6	Blum	2014	United States								X				
7	Panda	2012	India		X	X						X			
8	Avots et al	2013	Latvia		X										
9	Schefczyk	2001	Germany						X				X		
10	Streletzki et al	2013	Germany						X			X			
11	Wang et al	2009	United States									X	X		
12	Zhang	2009	United States				X				X				
13	Khoso et al	2015	Pakistan		X	X									
14	Smolarski et al	2009	Swedish		X										
15	Devigne et al	2011	Europe	X											
16	Gompersa et al	2007	United States		X										
17	Narayansamy et al	2012	Malaysia			X					X				
18	Stewart	2006	New Zealand			X									
19	Gompers et al	1999	United States			X					X				
20	Cherif et al	2011	Europe		X	X					X				
21	Nunes et al	2014	Portugal	X					X			X			
22	Widyasthana et al	2016	Indonesia	X	X	X	X	X			X	X	X	X	X

Table 6. Hypothesis of Variable

No	Variabel	Hypothesis of Variabel for VC in Indonesia	Argument
1	Geographic Location	Agree	Important to differentiate between local or international investment
2	Market Condition	Agree	Market validation is very important for new product success
3	Country Circumstances	Agree	Regulation simplicity and tax incentive is important for VC in doing business
4	Investment Timing / Stages	Agree	Decision for investing in early stage (low price & high risk) or in later stage (high price & low risk)
5	Intellectual Capital	Agree	Resource capability, vast networking and good idea is very important for startup
6	Portfolio Size	Not Agree	VC can focus only to one product and don't have to manage complex and large portfolio
7	Gender Disparity	Not Agree	Especially for IT product, there are small disparity between male or female decision
8	Management Team / Founder	Agree	Founder with good track record will gives VC confidence on injecting their capital
9	Cooperation With Other VC	Agree	Cooperate as LP with experience partner can gives benefit for new entrant VC
10	Nature of Product	Agree	Type of business/product will gives effect to capital return for VC
11	Coherence	Agree	Synergy from the new business with existing group business is one of CVC objectives

Output from hypothesis shows nine important variables that should be measure by CVC when they are investing on startup in Indonesia as follows:

1. Geographic Location
2. Market Condition
3. Country Circumstances
4. Investment Timing / Stages
5. Intellectual Capital
6. Management Team / Founder
7. Cooperation With Other VC
8. Nature of Product
9. Coherence

V. CONCLUSION

Corporate venture capital should be very careful about investing in startups, because the venturing business is a very risky business with a high uncertainty level. To minimize risk, CVCs should understand the variables that influence investment results, with special sensitivity to the ways in which different countries and different timing give rise to different investment variables to observe.

The variable proposed in this research will help CVCs in Indonesia focus on the investment variables that are most relevant for increasing the success possibilities of startup investments. It is important to note that this research is limited to a focus on defining variables that fits with CVC operation in Indonesia. The results were found using literature review, in-depth interview and expert judgement. Further research is needed if we want to improve the model and implement the result of this research to CVCs in other countries.

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Born in Ujung Pandang Indonesia on November 24th, 1973. He graduate from Telkom University Bandung Indonesia with major in Telecommunication Engineering in 1995 and continue his Master at Bandung Institute of Technology Indonesia (ITB), School of Business and Management with major in Business Administration (MBA) in 2006. Today he is a Doctorate candidate at Bandung Institute of Technology (ITB) Indonesia, School of Business and Management with major Doctor of Science Management (DSM). He is an industry expert that has experience over 20 years in Telco and IT business. His position today as Director Portfolio Management at MDI (Telkom Indonesia subsidiary for CVC) has responsible for

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Prof. Dermawan join as member of performance measurement association in Cranfield UK and involving in many research project in Indonesia regarding performance management in state owned company and helping company on leadership training programs. He also published some fiction novel for character building and one of his novel "Gading-Gading Ganesha – Bahwa Cinta Itu ada" has been produced as Indonesia national movie.



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