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Start-Up Valuation for Internal Corporate Venture of PT Telekomunikasi Indonesia Tbk (Case Study: Venture B)

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***Abstract*— To adapt with phenomenon in industry 4.0 which disruptive technology quickly emerges and can threaten many companies, PT Telekomunikasi Indonesia Tbk (Telkom) implements internal corporate venturing by establishing Amoeba Digital Program that is lab to manage innovation by employees who form a team named Amoeba. Amoebas are incubated by adopting lean start-up methodology thus they can be considered as a start-up. They have to go through steps of innovation journey and after all the steps are passed and there is potential upscale revenue, they will become Business As Usual of Telkom. Venture B is one of Amoebas that has launched its product and generated revenues. However, recent Venture B's revenues is decreasing, thus Venture B needs to implement new business model and needs more financing. A problem confronting Telkom as the parent company which provides the venture capital is determining the value of the venture to determine whether funding should be provided. Therefore, this research is conducted to give insight on how much the venture is really worth and how Venture B will be going in the future. Methodology used in this research is both qualitative and quantitative approach to understand the business situation and get a picture of the venture in a form of numbers or value. Combined of Damodaran and First Chicago method will be used to value the venture considering these methods can overcome issues emerged in valuing start-up company and provide better view on Venture B's overall potential through combining the value of three different scenarios. The value of Venture B with new business model then will be compared with the value of Venture B with existing business model. From the result, Telkom can know how much Venture B is really worth which can help Telkom determine future strategy.**

***Index Terms*—corporate venturing, Damodaran method, First Chicago method, start-up, valuation**

I. INTRODUCTION

Nowadays, the world including Indonesia is facing industry 4.0 which in this era, disruptive technology quickly emerges and can threaten many companies that are not agile in adapting to the growth of technology. Successful companies are companies that can fulfil people needs with digital innovation, even start-up companies can defeat mature corporations. These new start-ups could be a threat for PT Telekomunikasi Indonesia Tbk, or in short Telkom, a state-owned and the largest information and communication technology enterprise and telecommunications network in Indonesia. In few years, Telkom may be defeated by the unicorn start-ups if the company does nothing.

To adapt with the phenomenon, Telkom is now transforming to become a digital telecommunication company as the vision of the company is "Be the King of Digital in the Region" with mission "Lead Indonesian Digital Innovation and Globalization". One way to achieve the goal is by implementing internal corporate venturing through establishment Amoeba Digital Program that is corporate innovation lab from Telkom to manage innovation by employees who form a team named Amoeba.

Amoebas are incubated by adopting lean start-up methodology thus they can be considered as startups. Each Amoeba has to go through innovation journey that consists of five steps which are Idea Generation and Validation, Customer Validation, Product Validation, Business Model Validation, and Market Validation. Amoebas will be fully funded by Telkom as the parent company as they passed each step. Amoebas that have passed all the steps, have reached zero EBITDA, and show potential upscale revenues will exit and become Business As Usual of Telkom.

Venture B is one of Amoeba that has launched its product, generated revenues, and reached Market Validation step. It gives services in selling digital game voucher and other digital voucher for merchants especially internet cafes that will sell online voucher to gamers. It should have been exit soon and become Business As Usual. However, recent Venture B's revenue is decreasing, thus Venture B needs to implement new business model, repeat the innovation journey from Customer Validation, and needs additional fund to develop the new business.

A problem confronting Telkom as the parent company which provides the venture capital is determining the value of the venture to determine whether funding should be provided. If the proposed product or service provided by the venture has no value or benefit to the company, then it should not be developed. Valuation can be a way to give insight on how much the venture is really worth and how Venture B will be going in the future.

Venture B was established in 2017. Since then, there are 8,095 registered merchants with 4,161 of them are active merchants that spread in various regions across all island in Indonesia. It also does not have any competitors that doing the same business. Currently Venture B is selling PC game vouchers from seven games that are PCgame1, PC game2, PCgame3, PCgame4, PCgame5, PCgame6, PCgame7. They also sell electricity (PLN) voucher and receive payment of PLN Postpaid, phone credit, and internet voucher.

In the new business model, Venture B will sell PC game voucher as existing in addition with mobile games voucher from three games and bundling of Wi-Fi and In Game Treatment voucher through merchants that are internet cafés

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or game centers. The In Game Treatment voucher is actually the cheapest mobile game voucher in every game that Venture B sold. Bundling voucher will be sold to be used for two hours.

The venture will no longer sell PLN, phone credit, and internet voucher to focus its portfolio as game voucher provider. In the implementation, Venture B will make partnership with Wi-Fi Corner (WiCo), product from Divisi Business Service (DBS) of Telkom to provide the Wi-Fi infrastructure and voucher.

II. Literature Review

A. Corporate Venturing

Corporate venturing or corporate entrepreneurship is the process by which individuals inside organizations pursue opportunities independent of the resources they currently control [9]. The process involves new venture creation within existing organizations and the transformation of organizations through strategic renewal. If the new venture is created within the parent company's organizational domain, it is called internal corporate venturing. The aim of corporate venturing is to improve company's competitive position and financial performance.

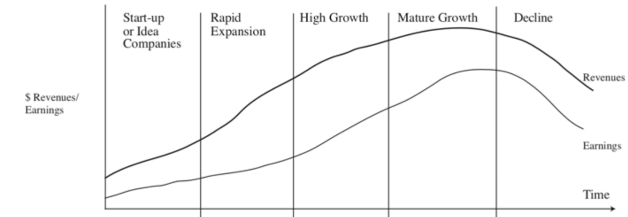
Funding the venture might be the most important aspect to analyze because in any organization, funds are limited thus financing requires good financial justification. The venture must demonstrate detailed financial projection to the parent company to convince them investing in the venture. The financial projection must show the potential for a return on the investment. Revenues and costs should be indicated through pro forma income statement.

To decide whether funding should be provided for the venture, its value should be determined by considering characteristics of the industry which the venture operates and growth of future markets. Nonfinancial factors should also be considered such as the uniqueness of the idea, its contribution to the company, the synergies of the idea with company's capability, length of time development, amount of investment involved, strength of the venture team, and possibility for more products or services.

B. Start-Up

The term start-up describes a company in the early stage of the business life cycle with a high degree of innovation looking for capital resources. Start-ups have to develop a scalable business model and a business plan. They depend on sufficient capital for realization of their business idea.

Reference [3] shows that the characteristics of start-up or young companies are no or have limited histories, small or no revenues result in operating losses, dependent on private equity rather than public markets, many of them do not survive and fail thus control system must be established to identify and solve emerged problem quickly, get multiple claims on equity by investors because of repeated equity raising, and more illiquid than investments in publicly traded firms.



Revenues/Current Operations	Nonexistent or low revenues; negative operating income	Revenues increasing; income still low or negative	Revenues in high growth; operating income also growing	Revenue growth slows; operating income still growing	Revenue and operating income growth drops off
Operating History	None	Very limited	Some operating history	Operating history can be used in valuation	Substantial operating history
Comparable Firms	None	Some, but in same stage of growth	More comparables, at different stages	Large number of comparables, at different stages	Declining number of comparables, mostly mature
Source of Value	Entirely future growth	Mostly future growth	Portion from existing assets; growth still dominates	More from existing assets than growth	Entirely from existing assets

Fig. 1. Business Life Cycle
Source: Damodaran, 2012

C. Valuation

Valuation is the process that links risk and return to determine the worth of an asset [7]. There are three key inputs to the valuation process which are cash flows (returns), timing, and risk which determines the required return. The value of a firm is the present value of expected cash flows generated by it, discounted back at a composite cost of capital that reflects both the sources and costs of financing used by it [3]. Valuation is based on intrinsic value of a company such as cash flow, assets, risks, and growth. Although it is a quantitative method, the inputs of valuation leave plenty of room for subjective judgements. However, there will still be uncertainty about the final numbers even at the end of the most careful and detailed valuation.

Valuation of start-up and established company is different because the characteristics of the company itself is different. Valuing business in the earlier stages in a life cycle is more challenging and difficult than valuing mature business since there is little information about the company.

D. Start-Up Valuation Alternatives

According to [20], there are two valuation methods for start-up that are traditional method and alternative method. Traditional methods consist of Discounted Cash Flow (DCF) method, market multiple method, and comparable transaction method. Alternative methods consist of Venture Capital (VC) method, First Chicago method, Damodaran method, Real Option method, Valuation of Intangibles, Cayenne Consulting Calculator, Dave Berkus Valuation model, Scorecard Valuation method, and Risk Factor Summation method.

The DCF, market multiple, and comparable transaction method cannot be used to value Venture B because it is more appropriate for established and publicly traded companies. Cayenne Consulting Calculator, Dave Berkus Valuation model, Scorecard Valuation model, and Risk Factor Summation method are also not appropriate to be used because it is more suitable for pre-revenue start-ups, whereas VC method is less objective because usually result in higher than normal discount rate. Real option method has to be used selectively only in case where the expected expansion opportunity cannot be reflected within the cash flow growth.

After analyzing all the methods, it can be concluded that Damodaran and First Chicago method would be the most appropriate method to value Venture B. Damodaran method is DCF method with some adjustments to overcome the problems emerged in valuing a start-up company. The First Chicago method will complement since it combines the value of three different scenarios which are success, sideway, and failure. Therefore, it provides a better view on the Venture B's overall potential.

E. Discounted Cash Flow Valuation

Discounted Cash Flow (DCF) valuation is the foundation on which all other valuation approaches are built [4]. It has its foundation in the present value rule, where the value of any asset is the present value of expected future cash flow on it. The cash flow that computed in calculation is usually the free cash flow. To estimate the future free cash flow, income statement, balance sheet, and statement of cash flow need to be forecasted or it is called pro forma financial statements.

$$Free\ Cash\ Flow = Operating\ Cash\ Flow - Capital\ Expenditures$$

Then, the formula to calculate present value of expected future cash flow is as follows.

$$Value = \sum_{t=1}^{t=n} \frac{FCF_t}{(1+r)^t}$$

Where

n = Life of the asset
FCF_t = Expected free cash flow in period t
r = discount rate

The discount rate computed in the calculation is obtained from Weighted Average Cost of Capital (WACC). To calculate WACC, it needs data equity and debt of the company.

$$WACC = \frac{k_e\left(\frac{E}{D+E}\right)}{k_d\left(\frac{D}{D+E}\right)}$$

Where

k_e = Cost of Equity
k_d = Current borrowing rate (1-t)
E = Value of Equity
D = Value of Debt

The inputs of debt in the calculation must include both short-term and long-term debt. To calculate the cost of equity, Capital Asset Pricing Model (CAPM) approach will be used because it considers different set of factors than dividends alone and can apply to any kind of investment.

$$k_e = r_f + \beta\ x\ (r_m - r_f)$$

Where

r_f = risk free rate
β = Beta
r_m = expected return on the market
r_m-r_f = market risk premium

The formula explained above only calculate present value of future cash flow or value of a company in some certain period. However, the remaining value of the company after discounted period should be taken into account. This value is called terminal value. The formula to calculate terminal value can be seen below.

$$Terminal\ Value = \frac{FCF_n\ (1+g)}{(r-g)}$$

Where

FCF_n = Free Cash Flow in year n
g = perpetuity growth rate
r = discount rate

In this calculation, it is assumed that the growth after discounted period will be constant. Finally, the enterprise value is obtained by summing up the present value in discounted period with the discounted terminal value.

F. Damodaran Method

To apply DCF models to value young companies, Damodaran has found a way to deal with the characteristics of young company by estimating the data needed to be computed systematically.

1) Estimating Future Cash Flows

There are two approaches to estimate the process which are top down approach and bottom up approach. First thing to do in top down approach are estimating the potential market, market size, and market share that will be captured. After that, estimate operating expenses, investment for growth, tax effect, and the last, check for internal consistency. In bottom up approach, the first thing to do is estimating investment to run the business. After that, estimate units of sales or revenues, operating cost, taxable income, and the resulting taxes. The last step is estimating additional reinvestment to scale up the business.

2) Estimating Discount Rates

Beta cannot be estimated using the standard practice from stock prices since young companies are usually not publicly traded. Cost of equity has to incorporate to some or maybe all of the firm specific risk. Young companies almost never have bonds outstanding. Consequently, there will be no bond rating to measure default risk. There no market values that can be used to weight debt and equity to calculate cost of capital since equity and debt in young companies is not traded.

3) Estimating Value today and adjusting for survival

Estimation of cash flow and discount rates are key building blocks towards valuing a business. However, there are other issues to deal with to get the value of company. The first is determining what will happen at the end of forecast period and the second is adjusting for likelihood that the business may not survive.

a) Terminal Value

There are three ways to estimate the terminal value for young companies. The first one is to value the company as going concern and make assumptions that cash flows will be growing in perpetuity. The second is to make assumption about how long cash flow is expected to continue in certain period and estimate the present value of these cash flows. Lastly, assume the company will be liquidated at the end of forecast period and the salvage value of any assets accumulated over the company's life is the terminal value.

b) Survival

There is two-step approach to consider this issue. The

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first step is valuing the company on the assumption that it will survive and makes it to financial health. The second step is to bring the likelihood that the firm will not survive. The probability of failure can be assessed in one of three ways. The first one is by using sector averages data made by Knaup and Piazza. The second is by using probits approach and the last is by doing simulations under condition if the company will face failure and specify the probability.

G. First Chicago Method

The First Chicago Method was first introduced by Sahlman and Scherlis (1987). It is developed and named after the late First Chicago Bank. It is a valuation approach used by investors for early stage companies that has dynamic growth. The method answers to questions what if the company has a chance of becoming huge or worst, face a failure, by making valuations based on three case scenarios which are worst-case scenario, normal-case scenario, and best-case scenario. Each scenario is made with the DCF method. The step to do valuation using this method is first define different future scenarios for the company. Then, estimate divestment price for each scenario. After that, determine required return and calculate valuation for each scenario. Last, estimate probabilities of scenarios and calculate weighted sum.

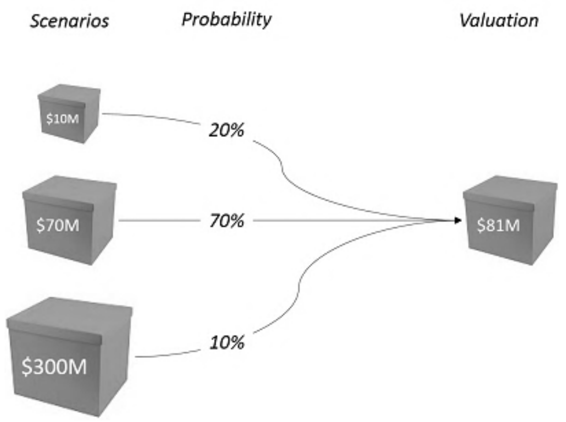

Fig. 2. Illustration of The First Chicago Method
Source: www.medium.com, 2016

III. Methodology

The methodology used in this research is both qualitative and quantitative approach. Qualitative approach is done by analyzing external and internal environment of the venture to understand the business situation and analyze the prospect of the business. External environment will be analyzed using PESTLE model and Porter's Five Forces whereas internal environment will be analyzed based on the venture's resources and capabilities using VRIO framework. Then, SWOT analysis can summarize the internal and external environment to identify strengths, weaknesses, opportunities, and threats of the venture.

Quantitative approach is done by calculating the value of the venture based on projected cash flow calculation to get a picture of the venture in a form of value or numbers. Combined of Damodaran and First Chicago method will be used to value the venture based on analyzing literature review. Valuation will be conducted under two different condition which the first condition is if Telkom give additional fund, and the second condition is if Telkom does not give additional fund and the venture will operate as existing. Both values then are compared, and the results can help Telkom determine future strategy.

All data available to be analyzed are collected from primary data and secondary resources. Primary data is collected through interview to define business issues, get big picture about the company and business situation, and also to know the company's strategy. The interviewees are the CEO and CMO of Venture B. Secondary data is collected through venture's internal data and available public data resources. The secondary data consists of venture documents such as venture report, venture's plan, and venture's data. There are also a lot of supporting data obtained from online media such as market data and customer behavior that related with the business of the venture. Books and academic papers from online and offline media are also used to support the valuation process.

IV. Analysis and Results

A. Analysis of Business Situation

1) External Environment

a) General Environment

- *Political*: Indonesia Government supports game industry to grow, proven by establishment of Badan Ekonomi Kreatif (Bekraf) that manage and develop creative industry including game. The Ministry of Communication and Information Technology (Kominfo) also has built digital infrastructure with the Palapa Ring. However, Kominfo appealed to the regional government to issue regulations that limit the operating hours of internet cafes not up to 24 hours and recent issue arose that there will be restrictions of particular game regarding the user's age and duration of playing game.
- *Economic*: Game industry is growing fast and has lucrative economic potential. Global market of game industry reached USD 134.9 billion in 2018, more than half of them came from mobile game segment. This phenomenon affects Indonesia which reached total expenditure of USD 1,130 million in 2018 and made Indonesia the 17th largest game market in the world based on revenue and biggest market for mobile games in South East Asia (SEA).
- *Social*: In Indonesia, more than half of the online population play mobile games. In 2017, the number of Indonesian gamers reached 55 million. Indonesia is the second largest downloader of mobile games behind China. Most people love to play strategy, puzzle, adventure, and action games. People nowadays need Wi-Fi access as their primary needs and places with free Wi-Fi are attracted many people. In line with this, mobile gamers also have the highest growth among all game segments which proved that nowadays people tend to play with they own devices.
- *Technological*: Game industry is very related with development of technology. People can play games using their immobile or mobile gadget, with single or multiplayer, offline or online. With the rise of internet, smartphones, and online games, people can play mobile games anytime anywhere. The emergence of decentralized gaming platforms allows gamers to monetize their skills.
- *Legal*: Venture B must obey Telkom's regulation to run

its business and must be aligned with business of Telkom. Things that Venture B has to pay attention are intellectual property rights and contracts made with all stakeholders.

- *Environmental*: Although digital games are material-free, it requires a lot of energy. Producing a digital game creates 53% more CO_2 than a physical game whereas download and gameplay also produced CO_2. In addition, gaming PC can use up to 5 monitors and that energy is equivalent of 3 refrigerators.

b) Industry Environment

Game industry can be divided into console game industry, PC game industry, and mobile game industry. Console game industry will not be analyzed further since Venture B is not related with this industry.

- *Threat of New Entrants*

PC game has moderate threat of new entrants because it needs high investment to develop PC games and online games. However, mobile game industry has high threat of new entrants because a lot of local players participate in the industry as well as global players. It is also easier and cheaper to develop the game rather than another segment.

- *Bargaining Power of Suppliers*

Suppliers in PC game industry are moderately powerful because there are a lot of software suppliers which are not differentiated greatly and dependent on buyers for its revenues whereas the hardware suppliers have more control on the prices they charge. In mobile game industry, bargaining power of suppliers is low because there are plentiful of developer companies which provide a wide range of products.

- *Bargaining Power of Buyers*

Bargaining power of buyers in both PC game and mobile game industry is high because they could switch to another product easily.

- *Threat of Substitute Products*

In PC game industry, the threat of substitute is moderate because the fast-paced lifestyle of consumers may lead them to find entertainment products that are more portable, and the biggest threat comes from its "friend" which is mobile game. However, PC game segment has already had its own market that attached to some game developers.

The threat of substitute in mobile game industry is also moderate because there are a lot of products that compete for a mobile user's time especially for casual games. In spite of that, gamers who play multi-player online games usually have attached with some mobile game developers.

- *Intensity of Rivalry Among Competitors*

The intensity of rivalry is high in each type of games both in PC game and mobile game industry. Companies that develop strategy games will compete intensely, but they do not really compete with companies that develop puzzle games. There are large number of companies who create homogeneous products in the industry, resulting in low switching cost.

2) Internal Environment

a) Resources

(1) Tangible resources

- *Financial:* Telkom is the biggest telecommunication in Indonesia which can invest huge amount of money to Venture B.
- *Organizational:* Venture B has its own formal reporting structure and routines meeting, also they have to make a report to Telkom regularly.
- *Physical:* Venture B's office is located at Telkom and allowed to use all Telkom facilities and infrastructure if needed.

(2) Intangible resources

- *Human:* Currently Venture B consists of a team of ten, with solid three people hold C-level job and the rest are outsourced. The chiefs have skill and knowledge that could support the sales, proven by Venture B's achievement in 2017 becoming the best product of Telkom that can generate the most sales.
- *Innovation:* Venture B has capacity to innovate, proven by the chief's achievement becoming the best innovator in 2017. The team is also facilitated to share knowledge from top management of Telkom and from practitioners of start-up company that have cooperated with Telkom.
- *Reputational:* Venture B has good reputation related with its customers and partnerships as it can maintain relationship with them. Venture B is also under name of Telkom which already have strong brand name in Indonesia.

b) Capabilities

Resources that are integrated to achieve some mission will yield to capabilities. The capabilities of Venture B are solid and integrity C-level employees, ability to envision the future game industry and internet cafes, ability to innovate and share knowledge with experts directly, ability to use facilities and infrastructure of biggest telecommunication company in Indonesia, effective marketing to promote Venture B's product, strong relationship with customers and partnerships, innovative product which make Venture B a pioneer, and effective organizational management process.

c) VRIO Framework

Resource and capability must have four attributes that are valuable, rare, imperfectly imitable, and able to be exploited by the company's organizational process in order to become the core competencies of the company. These attributes then are developed into VRIO (Value, Rarity, Imitability, and Organization) framework.

TABLE I: THE VRIO FRAMEWORK OF VENTURE B

Resource/Capability	V	R	I	O	Competitive Implications	Economic Performance
Solid and integrity C-level employees	Yes	Yes	Yes	Yes	Sustained competitive advantage	Above normal
Ability to envision the future game industry and internet cafes	Yes	No	No	Yes	Competitive Parity	Normal
Ability to innovate and share knowledge with experts directly	Yes	Yes	Yes	Yes	Sustained competitive advantage	Above normal
Ability to use facilities and infrastructure of biggest telecommunication company in Indonesia	Yes	Yes	Yes	Yes	Sustained competitive advantage	Above normal
Effective marketing to promote Venture B's product	Yes	No	No	Yes	Competitive Parity	Normal
Strong relationship with customers and partnerships	Yes	Yes	Yes	Yes	Sustained competitive advantage	Above normal
Innovative product which make Venture B a pioneer	Yes	Yes	No	Yes	Temporary competitive advantage	Above normal
Effective organizational management process	Yes	No	No	Yes	Competitive Parity	Normal

3) SWOT Analysis

SWOT analysis of Venture B can be seen in table below.

TABLE II: SWOT ANALYSIS OF VENTURE B

Strengths	Weakness
1. A pioneer of B2B voucher games seller to merchant especially internet cafes. 2. Solid and integrity C-level employees. 3. Ability to innovate and share knowledge with experts directly. 4. Ability to use facilities and infrastructure of biggest telecommunication in Indonesia. 5. Strong relationship with customers and partnerships.	1. Venture B is not really independent to develop its business because it is under the auspices of Telkom and its regulation. 2. Employees beside C-level holders are outsourced, make them less engage with the venture.
Opportunities	**Threats**
1. Development of digital infrastructure. 2. Game industry is supported by Indonesia government to grow through BEKRAF. 3. Mobile game segment has highest growth among other game segments. 4. Indonesia is the biggest market for mobile games in SEA. 5. Phenomena “Wi-Fi everywhere” and “Bring Your Own Devices”. 6. Emergence of decentralized gaming platforms.	1. Restrictions plan of particular game regarding user’s age and duration of playing game, also limitation of operating hours of internet cafes. 2. Fraud in contracts made with stakeholders. 3. High competition in mobile game industry. 4. Increasing price from suppliers due to weakening IDR to USD or inflation.

B. *Valuation of Venture B (First Condition)*

To estimate the future cash flow of Venture B, bottom up approach is used because it is more suitable for business that face restrictions on raising additional capital. Venture B cannot obtain capital easily since there is only Telkom who funds the capital. Bottom up approach of cash flow will yield lower expected cash flow and earnings because it works with capacity constraints, however it will prevent over estimated cash flow result from top down approach.

1) Estimating Cash Flow

a) Capacity Investment

Venture B does not need new set-up cost regarding land, building, plant, equipment, and intangibles. It also does not have inventory and receivables because the supplier is making the transaction through Telkom. Therefore, working capital required is determined based on operating cost which is IDR 1,259,820,000 in the first year.

b) Unit Sales/Revenues and Cost of Sales (COS)

The revenues and COS projection of each voucher sold is determined using different approaches. PC game vouchers revenues are projected using trend from historical data revenues to get the projection as close as Venture B capacity. The trend is also in line with the PC games trend which is decreasing. Projected COS of PC game vouchers are determined by percentage of sales according to historical data which is different for every game and assumed will be constant for the next five years.

Mobile game voucher revenues are projected based on expected market share acquired, based on Venture B’s historical capability of acquiring market share of PC game vouchers. By selling PC game vouchers from seven games, Venture B could acquire 0.017% market share in 2017 and 0.009% in 2018. Therefore, for mobile game vouchers revenues, the market share is expected to be 0.005% in 2019 and will reach 0.10% in 2023. Projected COS of mobile game vouchers are determined by percentage of sales according to Venture B expected which is different for every game and assumed will be constant for the next five years.

Bundling vouchers sales are projected based on expected cities and merchants acquired. The acquisition plan is made based on historical capabilities of Venture B and the venture’s plan.

TABLE III: PROJECTED CITIES ACQUISITION

Island	2019 Cities Acquired	2020 Cities Acquired	2021 Cities Acquired	2022 Cities Acquired	2023 Cities Acquired	Total
Jawa	7	15	12	-	-	34
Bali & Nusa	-	3	-	-	-	3
Sumatra	-	14	17	-	-	31
Kalimantan	-	-	9	-	-	9
Sulawesi	-	-	11	-	-	11
Maluku-Papua	-	-	5	-	-	5
Total	7	32	54	-	-	93
Accumulative	7	39	93	93	93	

TABLE IV: PROJECTED MERCHANTS ACQUISITION – NORMAL-CASE

Island	2019 Merchants Acquired	2020 Merchants Acquired	2021 Merchants Acquired	2022 Merchants Acquired	2023 Merchants Acquired	Total
Jawa	135	310	1,145	1,435	275	3,300
Bali & Nusa	-	7	26	42	8	83
Sumatra	-	68	167	270	52	557
Kalimantan	-	-	57	103	18	178
Sulawesi	-	-	56	121	20	197
Maluku-Papua	-	-	9	19	7	35
Total	135	385	1,460	1,990	380	4,350
Accumulative	135	520	1,980	3,970	4,350	

Based on historical data, Venture B can acquire 4,161 merchants in 93 cities in two years. Therefore, it will be possible that Venture B can acquire 4,350 merchants in 93 cities in five years. The number of merchants’ distribution in each city is based on historical data with assumption that in every city there will be additional number of merchants.

To determine the number of sales, Venture B has decided the target number of users for every merchant. Several assumptions are made such as business hours of merchants are assumed 12 hours per day with expected number of users per two hours will be 3 people in weekdays and 8 people in weekend. Number of operating weeks per year is assumed to be 49 weeks, whereas usually there are 52 weeks in a year. Three weeks are assumed to be holidays thus merchants will not be operating. From the assumptions, target number of users is estimated will be 9,114 people per year or around 760 per month.

The price of the bundling vouchers is determined based on its COS. COS of Wi-Fi had already determined by DBS whereas COS of In Game Treatment will be determined by multiplying percentage of active users of the three games in Indonesia (estimate buyers) with COS from suppliers. It is assumed that the cost will increase according to inflation rate, which expected will be constant at 3.38% for the next five years. This rate comes from average of inflation rate for the past 30 months.

The price is then decided for the next five years. The price in the first and second year is IDR 5,000 to attract more customers since the product is still new in the market. The price will be increasing in year three by IDR 200 to align the increased cost of sales and in year four the price will stay the same to attract more customers and merchants. Then, in year five the price will increase by IDR 300 because it is assumed that the product is already well-known and has acquired the targeted market.

TABLE V: TOTAL EXPECTED REVENUES – NORMAL-CASE (IN IDR)

Description	2019	2020	2021	2022	2023
Bundling Voucher	2,622,000,000	15,665,500,000	62,164,960,000	145,018,640,000	209,459,800,000
PC Game Voucher					
PCgame1	73,202,485	67,065,035	63,045,771	60,045,750	57,649,784

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PCgame2	98,235,454	86,426,208	78,558,972	72,797,459	68,324,831
PCgame3	31,345,524	28,532,040	26,432,025	24,754,849	23,358,108
PCgame4	7,761,988	7,738,142	7,699,491	7,644,529	7,572,021
PCgame5	6,788,072	6,505,594	6,314,984	6,170,697	6,054,503
PCgame6	15,813,007	15,009,154	14,409,150	13,929,957	13,530,888
PCgame7	939,753	886,701	850,902	823,804	801,982
PC Game Voucher	234,086,283	212,162,874	197,311,297	186,167,045	177,292,115
Mobile Game Voucher					
Mgame1	299,040,000	1,854,503,269	3,597,825,000	5,495,818,462	7,504,753,846
Mgame2	29,904,000	185,450,327	359,782,500	549,581,846	750,475,385
Mgame3	59,808,000	370,900,654	719,565,000	1,099,163,692	1,500,950,769
Mobile Game Voucher	388,752,000	2,410,854,250	4,677,172,500	7,144,564,000	9,756,180,000
Total Revenues	**3,244,838,283**	**18,288,517,124**	**67,039,443,797**	**152,349,371,045**	**219,393,272,115**

TABLE VI: TOTAL COST OF SALES– NORMAL-CASE (IN IDR)

Description	2019	2020	2021	2022	2023
Bundling Voucher					
Wi-Fi	1,284,780,000	7,935,495,837	31,302,271,476	75,489,708,826	106,570,987,038
In Game Treatment	1,012,495,385	6,253,718,854	24,668,352,090	59,491,104,915	83,985,299,047
Bundling Voucher	2,297,275,385	14,189,214,691	55,970,623,566	134,980,813,741	190,556,286,084
PC Game Voucher					
PCgame1	70,133,548	64,253,404	60,402,643	57,528,395	55,232,877
PCgame2	80,374,463	70,712,352	64,275,523	59,561,558	55,902,134
PCgame3	26,697,596	24,301,296	22,512,672	21,084,188	19,894,557
PCgame4	7,133,636	7,111,721	7,076,199	7,025,686	6,959,048
PCgame5	5,581,303	5,349,044	5,192,321	5,073,684	4,978,147
PCgame6	13,314,830	12,637,972	12,132,758	11,729,268	11,393,245
PCgame7	892,765	842,366	808,357	782,614	761,882
PC Game Voucher	204,128,140	185,208,154	172,400,473	162,785,394	155,121,890
Mobile Game Voucher					
Mgame1	215,305,870	1,335,224,182	2,590,398,745	3,956,935,439	5,403,349,230
Mgame2	26,166,000	162,269,036	314,809,688	480,884,115	656,665,962
Mgame3	52,332,000	324,538,072	629,619,375	961,768,231	1,313,331,923
Mobile Game Voucher	293,803,870	1,822,031,290	3,534,827,807	5,399,587,785	7,373,347,115
Total Cost of Sales	2,795,207,395	16,196,454,135	59,677,851,846	140,543,186,920	198,084,755,089

c) *Operating Cost*

The operating cost is categorized into four categories which are People, Marketing, Operation, and General Affairs.

TABLE VII: TOTAL OPERATING COST – NORMAL-CASE (IN IDR)

Operating Cost	2019	2020	2021	2022	2023
People					
Internal Partnership	44,400,000	48,000,000	105,600,000	169,200,000	240,000,000
Designer	32,000,000	42,000,000	91,200,000	151,200,000	216,000,000
Web Developer	31,200,000	68,400,000	148,800,000	234,000,000	326,400,000
Mobile Developer	37,200,000	81,600,000	180,000,000	279,000,000	384,000,000
Backend Engineer	43,200,000	94,800,000	204,000,000	315,000,000	432,000,000
Frontend Engineer	31,200,000	68,400,000	148,800,000	234,000,000	326,400,000
External Partnership	50,400,000	55,200,000	120,000,000	189,000,000	264,000,000
Telemarketing	600,000	1,320,000	2,190,000	2,400,000	2,640,000
Branch Manager	145,000,000	940,240,000	2,909,880,000	4,363,560,000	4,776,480,000
Esport Analyst	48,000,000	184,800,000	364,800,000	436,800,000	462,000,000
Total People	463,200,000	1,584,760,000	4,275,270,000	6,374,160,000	7,429,920,000
Marketing					
Marketing Management	64,000,000	101,400,000	140,400,000	166,050,000	193,500,000
Mini Game Competition	27,200,000	42,660,000	73,440,000	78,360,000	83,280,000
GOOB for Validation	153,600,000	232,620,000	451,140,000	301,380,000	274,920,000
Event Booth	159,100,000	470,810,000	2,541,896,000	1,654,930,000	1,375,064,000
Brand Awareness	147,500,000	483,840,000	1,006,560,000	1,038,240,000	538,560,000
Gathering Warnet	131,200,000	408,000,000	1,282,752,000	1,285,464,000	1,164,480,000
Indihome Gamer	7,000,000	10,920,000	33,000,000	39,900,000	25,200,000
PoinBOS	12,000,000	12,360,000	38,160,000	52,320,000	26,880,000
Voucher Gimmick	25,000,000	62,880,000	132,000,000	206,640,000	90,000,000
Member get member	5,000,000	12,480,000	26,400,000	41,040,000	14,400,000
Total Marketing	731,600,000	1,837,970,000	5,725,748,000	4,864,324,000	3,789,884,000
Operation					
Appear.in pro	1,500,000	1,550,000	1,600,000	1,650,000	1,700,000
Hosting Website Game Center 2.0 Landing Page	3,600,000	7,440,000	7,680,000	7,920,000	8,160,000
SMS Gateway Nexmo	6,000,000	12,360,000	12,720,000	13,080,000	14,400,000
Total Operation	11,100,000	21,350,000	22,000,000	22,650,000	24,260,000
General Affairs					
Branch Manager Kit	28,120,000	43,764,000	70,412,000	75,540,000	77,900,000
Working Tools	3,000,000	3,060,000	6,240,000	9,540,000	12,960,000
Administration	2,400,000	3,000,000	6,000,000	6,000,000	7,200,000
Recapitulation & Evaluation	20,400,000	29,760,000	52,440,000	76,440,000	105,600,000
Total General Affairs	53,920,000	79,584,000	135,092,000	167,520,000	203,660,000
Total Operating Cost	**1,259,820,000**	**3,523,664,000**	**10,158,110,000**	**11,428,654,000**	**11,447,724,000**

d) *Taxes*

To compute the taxes for Venture B, it starts with the fact that the company had accumulated Net Operating Losses (NOL) of IDR 1,429,044,666. According to Undang-Undang nomor 36 Tahun 2008 Pasal 6 ayat (2), if a corporation has net losses, then the loss is compensated with income for the next five years in a row. After the company generate taxable income, the tax rate of 25% will be used as as stated at Undang-Undang nomor 36 Tahun 2008 pasal 17 ayat (2a).

TABLE VIII: TAX EXPENSES– NORMAL-CASE (IN IDR)

Year	Profit Before Tax	Net Loss at the Start of Year	Compensation Expired	Net Loss at the End of Year	Taxable Profit	Tax Expenses
2017	(1,140,478,935)	-	-	(1,140,478,935)	-	-
2018	(288,565,731)	(1,140,478,935)	-	(1,429,044,666)	-	-
2019	(805,989,112)	(1,429,044,666)	-	(2,235,033,778)	-	-
2020	(1,431,601,011)	(2,235,033,778)	-	(3,666,634,789)	-	-
2021	(2,796,518,050)	(3,666,634,789)	-	(6,463,152,839)	-	-
2022	377,530,125	(6,463,152,839)	-	(6,085,622,714)	-	-
2023	9,860,793,026	(6,085,622,714)	762,948,810	-	4,538,119,122	1,134,529,780

e) *Additional Reinvestment*

Additional reinvestment each year for the next five years will be the operating cost needed as described before. However, after year 5, operating cost needed is assumed to be the same with year 5 based on percentage of sales.

f) *Pro Forma Financial Statements*

After determining the revenues, COS, operating cost, and taxes, pro forma financial statements can be made. Since Venture B is fully funded by Telkom and does not have any debt or loan, there will be no interest expense computed in the income statement. In addition, the venture does not have any other income or investment that could generate interest income, thus there will be also no interest income computed.

TABLE IX: PRO FORMA INCOME STATEMENT – NORMAL-CASE (IN IDR)

Description	2019	2020	2021	2022	2023
Revenues	3,244,838,283	18,288,517,124	67,039,443,797	152,349,371,045	219,393,272,115
Cost of Sales	2,795,207,395	16,196,454,135	59,677,851,846	140,543,186,920	198,084,755,089
Gross Profit	449,630,888	2,092,062,989	7,361,591,950	11,806,184,125	21,308,517,026
People	459,000,000	1,584,760,000	4,275,270,000	6,374,160,000	7,429,920,000
Marketing	731,600,000	1,837,970,000	5,725,748,000	4,864,324,000	3,789,884,000
Operation	11,100,000	21,350,000	22,000,000	22,650,000	24,260,000
General Affairs	53,920,000	79,584,000	135,092,000	167,520,000	203,660,000
Total Operating Cost	1,255,620,000	3,523,664,000	10,158,110,000	11,428,654,000	11,447,724,000
EBITDA	(805,989,112)	(1,431,601,011)	(2,796,518,050)	377,530,125	9,860,793,026
Depreciation & Amortization	-	-	-	-	-
Total Operating Profit (EBIT)	(805,989,112)	(1,431,601,011)	(2,796,518,050)	377,530,125	9,860,793,026
Interest Income	-	-	-	-	-
Interest Expenses	-	-	-	-	-
Profit Before Tax	(805,989,112)	(1,431,601,011)	(2,796,518,050)	377,530,125	9,860,793,026
Tax Expenses	-	-	-	-	1,134,529,780
Net Profit	(805,989,112)	(1,431,601,011)	(2,796,518,050)	377,530,125	8,726,263,245

Assets that Venture B have is only cash which numbers computed in Balance Sheet come from calculation in Statement of Cash Flow. The venture will not make any investment regarding marketable securities. However, Venture B has Account Payable computed which numbers obtained from the total top up made by merchants. It is assumed that the payable will be 19.22% of sales each month according to Damodaran's data in Emerging Market for Software (Entertainment) industry.

To compute the equity account, there will be Telkom Fund and Retained Earnings input in the calculation. Both Telkom Fund and Retained Earnings in first period are resulted from addition of last year data and forecasted data. Telkom will stop providing the fund in September 2021.

TABLE X: PRO FORMA BALANCE SHEET – NORMAL-CASE (IN IDR)

Description	2019	2020	2021	2022	2023
Assets					
Current Assets					
Cash	825,118,223	3,245,550,098	9,004,402,620	10,932,307,360	20,180,613,359
Account Receivable	-	-	-	-	-
Inventory	-	-	-	-	-
Marketable Securities	-	-	-	-	-
Total Current Assets	825,118,223	3,245,550,098	9,004,402,620	10,932,307,360	20,180,613,359
Non-Current Assets					
Land	-	-	-	-	-
Plant & Equipment	-	-	-	-	-
Intangible	-	-	-	-	-
Total Non-Current Assets	-	-	-	-	-
Total Assets	825,118,223	3,245,550,098	9,004,402,620	10,932,307,360	20,180,613,359
Liability					
Current Liability					
Account Payable	116,837,001	445,205,888	1,601,536,459	3,151,911,074	3,672,903,828
Accruals	-	-	-	-	-
Debt	-	-	-	-	-
Total Current Liability	116,837,001	445,205,888	1,601,536,459	3,151,911,074	3,672,903,828
Non-Current Liability					
Bank Loan	-	-	-	-	-
Bond Payable	-	-	-	-	-
Total Non-Current Liability	-	-	-	-	-
Total Liability	116,837,001	445,205,888	1,601,536,459	3,151,911,074	3,672,903,828
Equity					
Telkom Fund	2,947,515,000	6,471,179,000	13,870,219,000	13,870,219,000	13,870,219,000
Retained Earnings	(2,239,233,778)	(3,670,834,789)	(6,467,352,839)	(6,089,822,714)	2,637,490,531
Total Equity	708,281,222	2,800,344,211	7,402,866,161	7,780,396,286	16,507,709,531
Total Liability & Equity	825,118,223	3,245,550,098	9,004,402,620	10,932,307,360	20,180,613,359
Balance Check	-	-	-	-	-

Pro Forma Statement of Cash Flow is made based on Pro Forma Income Statement and Pro Forma Balance Sheet. The beginning cash in year 2019 is obtained from historical statement of cash flow in the end of 2018.

TABLE XI: PRO FORMA STATEMENT OF CASH FLOW – NORMAL-CASE (IN IDR)

Description	2019	2020	2021	2022	2023
Net Income	(810,189,112)	(1,431,601,011)	(2,796,518,050)	377,530,125	8,727,313,245
Depreciation	-	-	-	-	-
(Increase)/Decrease in Account Receivables	-	-	-	-	-
(Increase)/Decrease in Inventory	-	-	-	-	-
Increase/(Decrease) in Account Payables	107,689,501	328,368,887	1,156,330,571	1,550,374,615	520,992,754
Increase/(Decrease) in Accruals	-	-	-	-	-
Total Cash Flow from Operating Activities	(702,499,611)	(1,103,232,125)	(1,640,187,478)	1,927,904,740	9,248,305,999
(Increase)/Decrease in Marketable Securities	-	-	-	-	-
(Increase)/Decrease in Land	-	-	-	-	-
(Increase)/Decrease in Plant & Equipment	-	-	-	-	-
(Increase)/Decrease in Intangibles	-	-	-	-	-
Total Cash Flow from Investing Activities	-	-	-	-	-
Increase/(Decrease) in Telkom Fund	1,259,820,000	3,523,664,000	7,399,040,000	-	-
Total Cash Flow from Financing Activities	1,259,820,000	3,523,664,000	7,399,040,000	-	-
Net Cash Flow	557,320,389	2,420,431,875	5,758,852,522	1,927,904,740	9,248,305,999
Beginning Cash	267,797,834	825,118,223	3,245,550,098	9,004,402,620	10,932,307,360
Ending Cash	825,118,223	3,245,550,098	9,004,402,620	10,932,307,360	20,180,613,359

g) Free Cash Flow

Since Venture B does not have capital expenditures, it can be considered that the operating cash flow is the free cash flow. Cash flow from operating activities indicates the ability of a company to generate the amount of money from its core business activities.

2) Estimating Discount Rate

The discount rate that will be used in the valuation is Weighted Average Cost of Capital (WACC) of Telkom because the analysis is conducted through Telkom's point of view as the investor, thus Telkom should make an investment that will give return at least as much as its cost of capital. Weight of debt and equity is determined based on capital structure of Telkom in 2018.

TABLE XII: TELKOM'S CAPITAL STRUCTURE (IN MILLION IDR)

Capital Structure	2018	Weight
Short-Term	4,043,000	2.83%
Long-Term	40,044,000	28.00%
Debt	*44,087,000*	*30.83%*
Equity	*98,910,000*	*69.17%*
Total Capital Invested	*142,997,000*	*100.00%*

Source: Telkom Annual Report 2018

Cost of debt is estimated based on average data of interest rate of short-term debt and long-term debt that Telkom has made. Each of them has different interest rate, as seen in the table below.

TABLE XIII: TELKOM'S COST OF DEBT

Long-Term Debt	Interest Rate
Two-Step Loans	7.50%
Bonds	11.00%
Notes Payable	8.35%
Bank Loan	11.00%
Other Loan	8.35%
Average Interest Rate	9.24%

(a)

Short-Term Debt	Interest Rate
Bank Loan	
BNI	9.00%
MUFG Bank	7.30%
DBS	11.00%
UOB	8.10%
HSBC	14.34%
SCB	10.50%
CIMB Niaga	11.50%
Average Interest Rate	10.26%

(b)

Source: Telkom Annual Report 2018

The data used to calculate levered beta is obtained from slope of monthly return from historical market price of Telkom and Jakarta Stock Exchange Composite Index. The risk-free rate is using IBPA 10 years Government Bond Yield and the risk premium is using Data Damodaran in Emerging Markets.

TABLE XIV: TELKOM'S COST OF EQUITY

Levered Beta	0.56
Risk-Free Rate	7.46%
Risk Premium	8.59%
Cost of Equity	12.27%

Then, WACC of Telkom can be estimated.

TABLE XV: TELKOM'S WACC

Description	Weight	Cost	Weighted Cost
Cost of Short-Term Debt (After Tax)	2.83%	8.21%	0.23%
Cost of Long-Term Debt (After Tax)	28.00%	7.39%	2.07%
Cost of Equity	69.17%	12.27%	8.49%
WACC			10.79%

Telkom's cost of capital is 10.79% and assumed will be constant for the next five years.

3) Estimating Terminal Value

To estimate the terminal value of Venture B, cash flow

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growing in perpetuity will be assumed. It is the most suitable approach because Venture B can be considered successful if it can become Business As Usual of Telkom. The growth rate after year 5 is assumed to be stable at the rate of Indonesia Information and Communication GDP growth in 2018 which is 1.67%. It is the industry where Telkom is operating.

The first thing to do is estimating revenues, COS, and operating cost in year 6. COS in year 6 is assumed to be 89.96% from revenues which is average COS from year 2019 to 2023. Operating cost in year 6 is assumed to be 3.90% from revenues, the same as year 5. After that, Pro Forma Financial Statement for year 6 can be made.

The cost of capital in the stable period will be also Telkom's WACC since Venture B is assumed to become Business As Usual of Telkom after year 5. After determining all the input needed, terminal value can be estimated, and the result is IDR 100,333,524,141.

4) Present Value of Venture B

After estimating all the data needed to compute valuation, finally the value of Venture B can be determined.

TABLE XVI: EXPECTED CASH FLOW AND VALUE – NORMAL-CASE (IN IDR)

Description	2019	2020	2021	2022	2023
Free Cash Flow	(702,499,611)	(1,103,232,125)	(1,640,187,478)	1,927,904,740	9,248,305,999
Terminal Value	-	-	-	-	100,333,524,141
Total Cash Flow	(702,499,611)	(1,103,232,125)	(1,640,187,478)	1,927,904,740	109,581,830,140
PV of Total Cash Flow	(702,499,611)	(995,783,139)	(1,336,254,652)	1,417,683,152	72,732,752,862
Enterprise Value	*71,115,898,612*				

The result of enterprise value needs to be adjusted for survival. The chosen way will be simulations and the method used to conduct the simulations is First Chicago method.

5) First Chicago Method

The previous valuation calculated is for the normal-case scenario, whereas the worst-case and best-case scenario calculation will be presented hereafter.

a) Worst-case Scenario

In worst-case scenario, it is assumed that PC Game Voucher will be sold 80% of sales in normal-case. COS of PC Game Voucher will be estimated using the same percentage of sales in normal-case. For Mobile Game Voucher, it is assumed that Venture B could only reach 0.003% market share in year 1 and grow until 0.08% in year 5. COS of Mobile Game Voucher will be estimated using the same percentage of sales in normal-case. For Bundling Voucher, it is assumed that Venture B is still possible to acquire merchants the same amount as in the normal scenario. However, the users of every merchant are assumed to be fewer than normal scenario which are two people per two hours in weekdays and five people per two hours in weekends, thus total users per month will be 490. The price and COS of Bundling Voucher will be the same as the normal-case.

Operating cost and tax rate in the worst-case are assumed to be the same with the normal-case. After estimated the condition in the worst-case, Pro Forma Financial Statement can be determined.

Required return and the stable growth rate are assumed to be the same with normal scenario. The same step as in the normal-case calculation, terminal value needs to be estimated in the worst-case the result is IDR 45,429,181,509. Then, the value of Venture B in the worst-case can be seen in the table below.

TABLE XVII: EXPECTED CASH FLOW AND VALUE – WORST-CASE (IN IDR)

Description	2019	2020	2021	2022	2023
Free Cash Flow	(903,444,669)	(1,875,245,294)	(4,490,914,541)	(2,542,050,130)	3,006,808,506
Terminal Value	-	-	-	-	45,429,181,509
Total Cash Flow	(903,444,669)	(1,875,245,294)	(4,490,914,541)	(2,542,050,130)	48,435,990,014
PV of Total Cash Flow	(903,444,669)	(1,692,606,301)	(3,658,731,411)	(1,869,294,456)	32,148,421,748
Enterprise Value	*24,024,344,912*				

b) Best-case Scenario

In best-case scenario, it is assumed that PC Game Voucher will be sold 120% of sales in normal-case. COS of PC Game Voucher will be estimated using the same percentage of sales in normal-case. For Mobile Game Voucher, it is assumed that Venture B could capture 0.007% market share in year 1 and reach 0.12% in year 5. COS of Mobile Game Voucher will be estimated using the same percentage of sales in normal-case. For Bundling Voucher, it is assumed that Venture B can acquire 200 merchants in year 1 and 7500 merchants in year 5 with the total users in every merchant are expected to be the same with normal-case scenario. The price and COS of Bundling Voucher will be the same as the normal-case.

TABLE XVIII: PROJECTED MERCHANTS ACQUISITION – BEST-CASE (IN IDR)

Island	2019 Merchants Acquired	2020 Merchants Acquired	2021 Merchants Acquired	2022 Merchants Acquired	2023 Merchants Acquired	Total
Jawa	200	790	1,940	2,025	485	5,440
Bali & Nusa	-	37	56	72	38	203
Sumatra	-	148	327	370	152	997
Kalimantan	-	-	107	153	68	328
Sulawesi	-	-	116	181	80	377
Maluku-Papua	-	-	49	59	47	155
Total	200	975	2,595	2,860	870	7,500
Accumulative	200	1,175	3,770	6,630	7,500	

Operating cost and tax rate in the best-case are assumed to be the same with the normal-case. After estimated the condition in the best-case, Pro Forma Financial Statement, can be determined.

Required return and stable growth rate are assumed to be the same with normal-case scenario. The same step as in the normal-case calculation, terminal value needs to be estimated in the best-case and the result is IDR 204,832,922,982. Then, the value of Venture B in the best-case can be seen in the table below.

TABLE XIX: EXPECTED CASH FLOW AND VALUE – BEST-CASE (IN IDR)

Description	2019	2020	2021	2022	2023
Free Cash Flow	(574,859,772)	(193,046,189)	2,407,226,545	7,395,802,228	16,944,608,122
Terminal Value	-	-	-	-	204,832,922,982
Total Cash Flow	(574,859,772)	(193,046,189)	2,407,226,545	7,395,802,228	221,777,531,103
PV of Total Cash Flow	(574,859,772)	(174,244,509)	1,961,158,533	5,438,497,036	147,200,410,318
Enterprise Value	*153,850,961,606*				

c) Valuation Result

From the calculation conducted, the value in every scenario can be summarized as follows.

TABLE XX: VENTURE B'S VALUE IN EVERY SCENARIO (IN IDR)

Scenario	Enterprise Value
Worst Case	24,024,344,912
Normal Case	71,115,898,612
Best Case	153,850,961,606

To find the final value of Venture B, probabilities of each scenario needs to be estimated. The probability of best-case scenario will be 0.1 since it is possible to happen, but it needs extra hard work from every employee whereas as stated in SWOT analysis, one of Venture B's weaknesses is less engage outsource employees thus may make them not work as hard as the C-level employees do. The probability of normal-case scenario and worst-case scenario both will be 0.45 because both of them are likely to happen.

$$
\begin{aligned}
Enterprise\ Value &= weight\ worst\ case + weight\ normal\ case \\
&+ weight\ best\ case \\
&= 0.45\ (IDR\ 24{,}024{,}344{,}912) \\
&+ 0.45\ (IDR\ 71{,}115{,}898{,}612) \\
&+ 0.1\ (IDR\ 153{,}850{,}961{,}606) \\
&= IDR\ 58{,}198{,}205{,}746
\end{aligned}
$$

C. Valuation of Venture B (Second Condition - Existing)

As the additional investment does not happen in this condition, the revenue stream will only come from PC Voucher Game. All the assumptions made in the valuation of existing condition are same as in the normal-case scenario if Telkom give the additional investment. However, the tax rate that will be included in the calculation will be deducted 50% as stated in Undang-Undang nomor 36 Tahun 2008 Pasal 31E ayat (1) that local corporation with gross income up to IDR 50 billion will get tax reduction 50% from normal tax rate that is levied on Taxable Income from the gross income portion of up to IDR 4,800,000,000.

Using the same calculation in the previous section, discount rate of Telkom's WACC, and perpetuity growth of 1.67%, the terminal value is estimated to be IDR 126,853,599 and the value of the venture is as follows.

TABLE XXI: EXPECTED CASH FLOW AND VALUE – EXISTING CONDITION (IN IDR)

	2019	2020	2021	2022	2023
Free Cash Flow	11,803,190	15,277,461	14,111,060	13,226,352	12,521,160
Terminal Value	-	-	-	-	126,853,599
Total Cash Flow	11,803,190	15,277,461	14,111,060	13,226,352	139,374,759
PV of Total Cash Flow	11,803,190	13,789,517	11,496,228	9,725,987	92,507,215
Enterprise Value	***139,322,137***				

D. Analysis of Valuation

To determine whether funding should be provided by Telkom, the valuation under two different conditions should be compared and analyzed.

TABLE XXII: VALUATION OF VENTURE B IN DIFFERENT CONDITIONS (IN IDR)

Condition	Enterprise Value
Worst Case	24,024,344,912
Normal Case	71,115,898,612
Best Case	153,850,961,606
FCM	*58,198,205,746*
Existing	*139,322,137*

Based on Table XXII, it is found that if Telkom gives additional investment, the value of the venture will be much bigger than existing condition even if it faces the worst-case because it will give Venture B opportunity to get new revenue stream from mobile game segment which growth is predicted to become huge in the future.

V. CONCLUSION AND RECOMMENDATION

A. Conclusion

Based on the results of analysis and valuation, it can be concluded that the venture has opportunity to grow big and will be valuable for Telkom. Venture B could help leveraging assets and capabilities of Telkom to help create new business. Currently, Telkom has not had a product or business unit that has business model as Venture B, thus it can help Telkom to reach new market and create new revenue stream. However, if Telkom does not give additional fund, the venture will not be able to develop new revenue stream.

Based on calculation in condition which Telkom will give additional fund, Telkom will give the fund until September 2021 in each scenario. Therefore, total amount of Telkom's equity will be IDR 13,870,219,000. Value of the venture resulted if it is given additional fund is bigger than Telkom's total equity, even in the worst condition. However, if Telkom will not give the additional fund, total amount of Telkom's equity is IDR 1,687,695,000 and the venture's value is lower than the equity which is IDR 139,322,137.

B. Recommendation

Based on the conclusion, there are some recommendation can be considered that Telkom should give the additional fund to Venture B since the calculation resulted in higher enterprise value than total fund that Telkom gives to the venture, even in worst condition. However, Telkom has to be patient because it takes years for a venture to reach profitability. Corporate venturing is a long-term project for at least five years. Telkom should consider giving fund if the venture can show the potential revenue for the product or service provided and the characteristics of the industry which the venture operates has potential to grow.

To make the corporate venturing implementation successful, both parent company and venture should give benefit to each other. Venture B has to help the Telkom improve Telkom's competitive position and financial performance. Telkom also has to not only provide the fund to the venture but give financial and nonfinancial rewards. Telkom should support them to fully unleash their potential by facilitating the creative working environment and compensating the corporate entrepreneurs. Hence, Telkom will get not only financial return, but also employees' retention because the employees will feel of self-achievement and more job satisfaction.

Although Venture B starts the new business with clearly defined goals and objectives through its business model, it needs to be flexible to fit reality. The venture should make adjustment if there are changes in industry environment and market to maintain and develop profitability and growth. Therefore, evaluation must be done periodically.

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