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Optimizing Fintech Startup Seed Funding Valuation

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Abstract

The advancement of technology and the utilization of smartphones result in ease of doing financial accountability, which will be stored in it. With the help of a Point of Sales machine that comes in a traditional calculator to record the sales, will provide more convenience for monger to have an immediate and easy financial record of transactions. SAUDAGAR is a fintech startup founded in 2019 tries to help to address and solve these issues with that solutions, increasing the capabilities of SMEs to be more bankable and able to grow and sustain. Nevertheless, without any income, they are still in the seed stage and need some money to fund their activities. They, therefore, need to find an appropriate source of funding to support their company. This research aims to consider SAUDAGAR value to be a bargaining power in the quest for capital and the real source of the financing for it. From the assessment of five valuation methods, the result show Berkus Method generates a USD 1,150,000 valuation, Scorecard Methods generates a USD 5,049,816 valuation, Risk Factor Summation methods produces a USD 4,362,692, Discounted Cash Flow method shows a USD 3,462,812.59 valuation, and Venture Capital method create a USD 186,676 valuation. To the seed-stage startups such as SAUDAGAR, Berkus, Scorecard, and Risk Factor Summation system is superior to the following two approaches, DCF and VC, due to the lack of financial record.

1. Introduction

SME's ability to absorb labor (reduce unemployment) is the most prominent role of its existence. The creation of SMEs is, therefore, more important for most people who are imaginative, innovative,

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competitive, and have a high work ethic. Because they will feel freer to know that big business is also beginning from small businesses with the potential to grow fast (Prasetyo, P. E., 2008). SMEs too have widespread all over Indonesia in which according to The Ministry of Cooperatives and Small and Medium Enterprises of the Republic of Indonesia in 2017, there were 62,928,077 SMEs recorded operated in Indonesia. And in 2018, SMEs contributed around 60.34% to Indonesia's GDP.

SMEs have many challenges to grow and sometimes challenging to maintain in order to run a market. Pramiyanti (as cited in Niode, I. Y., 2009) outlined six financial problem endured by SMEs which one of them bankability, with the reason behind it is transparency of the financial management or the incapability to manage the finance. A lot of Indonesian SMEs owner has no or low capability to manage the finance of the enterprise nor to prepare financial accounting or statement. Some SMEs owner even have a hard time to differentiate between the enterprise money and their own personal money.

Point of Sales has become common in enterprise right now. It was firstly introduced in 1879 as the means to keep employees from pilfering. The first POS was a cash register machine like we have in the 2000s and in fact it didn't have a cash drawer. James Ritty, the inventor of the first POS created it so he could keep track of his sales and the amount of sales he received. POS machines can process a lot of transactions and collect vast amounts of private data from customers as a part of their day-to-day operations through credit card transactions, online reservations, and rewards programs (Ramos, Y. & Castro, A.O., 2017). POS has gone under improvement for several time for decades. As of right now the most sophisticated POS would use mobile device and could record the data digitally even into databases or even cloud system. But behind that, sophisticated POS system too came with a high price.

Previously, mobile phones were only able to perform certain basic services. After some technological progress, a mobile phone has developed into a laptop that can act as a pocket-sized version of a personal computer. The multifunction smartphone would replace most of the single-purpose machine from everyday lifestyle apps such as mp3 player, tape recorder, pocket camera and even more advanced like financial records.

SAUDAGAR tries to address the issues happened in the SMEs environment and try to pry open solutions that could be given to the business owner that could help them track and record their sales, give them capabilities to differentiate between personal and enterprise money with a more affordable price. By utilizing the technologies of smartphones SAUDAGAR would create an enhanced traditional monger calculator that will act as Point of Sales, track and record the sales and sync the calculator with the smartphone which will store the data of the sales.

Currently the number of populations in Indonesia is 265,000,000 and estimated could increase at least 1% each year according to BPS data (as cited in katadata.co.id). The increase of population could be resulted in the increase of demands of basic products that could led to the increase of the number SMEs channeling the basic product or due to limited amount of spaces could led to the increased number of basic needs supplied by each monger. The increase amount of the basic need channeled would require the increase amount of funds as the means for working capital. The service offered by Saudagar can help to establish the bankability of growth and the ability of SMEs to cope with demand growth. Saudagar, though, was a newly built start-up. They needed funding to improve their R&D and grow their business. Banks would not lend to a technology start-up firm such as Saudagar as the money would be primarily used for research and development rather than being used to buy tangible assets that could be used as leverage.

In fact, Saudagar was in the earliest stage with only one design in hand, had not yet produced any sales and there was no financial data history that could be used to render conventional methods for corporate valuation. SAUDAGAR therefore had to find other methods suitable for valuing start-up so that SAUDAGAR could know its value and find the appropriate source of funding.

2. Materials and Methods

Start-Up

A startup 's valuation is a key concern for both investors and founders (Cumming & Dai, 2011; Hsu, 2004; Engel & Keilbach, 2007; Hochberg et al, 2010; Gompers et al, 2010). The startup is not just about the entrepreneurs that have just begun their business. There are two views on the start-up concept, one is start-up as a start-up phase, and the other is start-up as a kind of company. Startup as only a phase of new venture growth, despite having different styles of business model, will be passed by most entrepreneurs. The trend usually prevailing in the new venture development throughout the start-up life cycle can be divided into several phases; pre-start (planning phase), start-up (execution phase), early growth (expansion phase) and late growth (mature) (Raichaudhuri 2010). What separates them from other firms as a kind of industry is growth: their capacity to expand big and fast (Graham, 2012). As there are hundreds of companies that surface everyday, biggest challenge faced by new companies is how their product acknowledge by the market that it is useful (Suwarni et al., 2020). SAUDAGAR identified as a company that began to move into the consumer verification process when the research was conducted at the conclusion of the product discovery phase.

Startup Financing Cycle

Startups that seek for funding much reach certain accomplishment prior to receiving fund (Joglekar, 2019). Based on the map from Uzzaman's book in (2015), he divided start-up finance rounds into four rounds based on their major capital funding needs; seed round, A round, B round, and final round. Seed Round is the early start-up phase when the founder's vision and concepts are still in design shape. The fund the start-up would earn depends on the company's projected start-up cost. These start-up costs are used to develop the company that allocated its product, promotion, wages, and office supplies to research and development of its Alpha version. Series A is the phase of completion of the product's Alpha and Beta version. The company pursuing this funding round should have gained a number of users and produced revenue from sales. The startup will have to focus their money in this round to grow the business through a large promotional scale (Uzzaman, 2015).

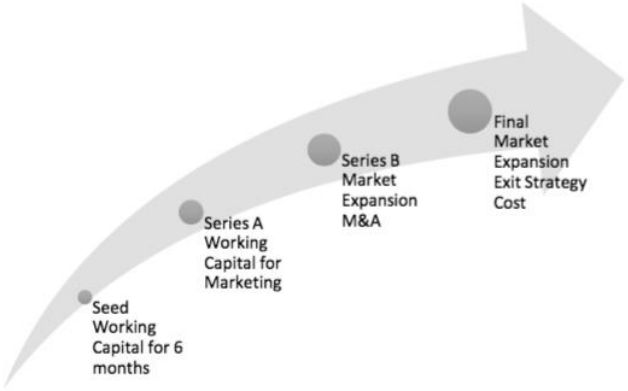


Figure 1. Purpose of Financing on Each Round

Many start-ups launch their end product in the Series B phase, which has created a customer base and some revenue. The company will need a fund to grow its business in this funding round point. The entrepreneurs are waiting for the fund to move up to global business growth in the final phase. It could be achieved by introducing their goods into other different languages that have been internationalized. In this round, the company will also suggest pursuing their exit strategy needing some capital. The expense of the exit strategy will be added to the value of planning for IPO (Initial Public Offering) and Merger or Acquisition Consultative Fees (Uzzaman, 2015).

Startup Source of Financing

In order to start a company, funding is an important for the sustainable growth of a startup. It is not unusual for entrepreneurs not to have financial resources to operationalize their ideas and have to find a way to raise funds for their projects (Oliveira, F. B., & Zotes, L. P., 2018). There are some sources of funding accessible to start-ups to get the money they want. Two main forms of financing could be acquired in the form of debt from borrowers or in the form of investment from investors.

Debt Financing

Debt financing is money provided by lending it from the creditors under the contract to repay the lent money in the future with additional interest at the specified time. In the short or long term, borrowing by equity and mortgages could be repaid. Short-term loans are used to fund operating operations when buying more tangible assets such as homes, machinery and other facilities are funded by long-term loans (Hofstrand, 2013). Debt financing could be accessed from different sources including FFF (Friends, Families, and Fools), banks and other institutional borrowers, or peer-to-peer lending.

Entrepreneurs in their early days of business building usually gain some encouragement from friends or family members they referred to as Acquaintances, Community, and Fools or ' FFF ' whether psychologically or financially. Although this source of funding is dependent on close relationship confidence, if the developers of companies want to follow this form of finance, often make a written contract to revisit the agreed terms for revaluation later (Edwards, 2010). The conservative way of obtaining a fund is through financial institutions such as banks. The developers should determine their own credit score when applying for a loan so that they can know in advance what the structured borrower will see. The credit score would influence the lender's interest rate, the lower the credit score would mean that the company will have a higher risk that the lender's cash will not be paid back so that the creditor can receive a higher interest rate (Edwards, 2010). Borrowing has also moved to the peer-to-peer loan form online, known as social borrowing which excludes intermediaries: the branch. These online platforms allow lenders to connect directly to stakeholders with the capital.

Equity Financing

Equity finance is a financial investment in the sale of a portion of equity securities acquired by shareholders. That form of investment does not need to be returned in the future, however shareholders were able to participate in the decision-making of the business strategy (Hofstrand, 2013). Venture shareholder or venture capital could be used to raise equity financing. According to William Payne's article published in (2007) by Kauffman eVenturing, A community of angels that collectively own 20-40% of the start-up they sponsored, Angel investors are wealthy, high net worth individuals willing to invest in start-up companies anywhere from USD 50,000 to USD 2 million (Edwards, 2010). Such forms of shareholders may be institutional or entity in the context of an

association. Angel investors are looking for high-growth companies that can deliver great returns at any price. Madill et al. (as cited in Fester et al., 2013) identified that Angel Investors often act as the early stage investors in the seed round as it helps to increase the financial incapability in high-risk early seed stage. With the intention to fund for the working capital and execute ideas and plans, Maunula (as cited in Fester et al., 2013) mentioned that Angel Investors help increasing the start-up credibility in as to attract potential partners and elevate chances to be able to attain further investment.

Venture funds are a broad, professional organization composed of finance professionals, industry experts, and retired businessmen, according to Edwards in her book (2010). Venture fund firms oftentimes are structured as branch of a parent company in which investment managers act as employees that governed by working contracts (Heughebaert and Manigart, 2012). Venture funds put working on sort of funding source plans to invest in high-growth companies that can sell at least USD 25 million after five years, which suggests the company should have big ideas and actual innovation. They must get back at least 10 percent chance to make their investments 30 times. Lots of entrepreneurs aim to raise venture funds financing as funding strategy from the best venture funds investor that they have access to whilst venture funds compete to have the most promising entrepreneruial firms (Sorensen, 2007). Like all equity financing, if the founders want to acquire their equity financing, they must be willing to give up control over major decisions as the equity holders will interfere with the decision of the founder.

Startup Valuation Method

Valuation is important as value of company will determine the fractions of shares received by the investors in returns for their investment. Valuation contribute greatly to the entrepreneur as it lead motivations and value of the resources and efforts they put in the company. Moreover valuation will help to align the ambitions of the entrepreneurs and investors, addressing fair treatment and lessen probable dispute between them (Miloud, T., Aspelund, A., & Cabrol, M.. 2012; Clercq et al. 2006; Zacharakis, Erikson, & Bradley. 2010). A business is like any other company or enterprise that needs one or more contributions to assist their day-to-day activity in the early days of their lives before they can raise any revenue to support their own funding. Furthermore, startups try to value themselves whenever companies are shares are being sold to existing or new investors (Sudarningsih et al., 2019). Startups are priced for several reasons, such as having exit strategies for either merger & acquisition or initial public offering (IPO), designing stock option policy, and drawing up funding proposals for the business ' future. Startups have some features that make it hard for them to be priced using conventional methods. We lack financial history-related data, uncertain distribution, untested market platform, unknown rival, inexperienced staff, and unrealistic expectations (Goldman, 2008).

As thought that it is hard to value startups in the early stage, pre-revenue valuation is important as it will create framework with which the entities will negotiate a pre-money valuation. The valuation will lay baselines for current and future distribution of ownership (Bell, 2014). Terms that are pre-money or post-money assessment are commonly used by stakeholders when valuing a company such as SAUDAGAR. Post-money value is calculated by dividing the investment capital by the number of equity shares of the shareholders. On the other hand, pre-money valuation is simply calculated by subtracting the amount of capital invested from the post-money valuation (Villalobos, 2007).

There are several approaches used by practitioners for valuing startups, which are the Berkus Method, Scorecard Method, Risk Factor Summation Method, Discounted Free Cash Flow Method (DCF), and Venture Capital Approach.

The Berkus Method

The Berkus model was developed for companies in the early stage. In the expected phases, fewer than one in a thousand companies will meet or surpass their projected revenue (Berkus, 2016). Berkus ' method, which began with an initial pre-money valuation, does not involve financials and relies solely on the assumption that after five years, the business would make it exceed USD 20 million. The concept is to add up to half a million dollars once every degree of criteria is reached by the startup. Table 1 offers certain requirements and considerations. This valuation method is a very early valuation in which the company is unlikely to have any revenue yet. This method loses credibility once revenue is settled (Berkus, 2016).

Table 1 Berkus Method Factors

Factors	Add to company value up to
Sound Idea	$500,000
Prototype	$500,000
Quality of Management Team	$500,000
Strategic Relationships	$500,000
Product Rollout or Sales	$500,000

Source: Berkus, 2016

Scorecard Method

This method evaluates the valuation of pre-money and pre-revenue compared to the average valuation and then adjusts the value based on certain metrics. The first step is to survey venture capitalist or angels' pre-money, pre-revenue valuations for startups within the same target industry and region. And then, based on the following categories and weights provided in Table 2 (Payne B., 2011), the startup is quantitatively compared to the similar. After that, it is possible to make a comparison between the startup and the surveyed startup average.

After that, it is possible to make a comparison between the startup and the surveyed startup average. For the weights, for the other factors, the maximum of 30 percent within the range for the strength of the management team would be added to an average team with respect to the comparable and so on. If the company is below the peer companies in one class, less than the total amount is received. Therefore, the sum of all variables is determined by the median value derived from the assessment study.

Risk Factor Summation Method

The failure rate of new projects or product lines growing drop from 70% to 90% (Maxwell, 2014). The high rate of failing companies indicates that it could be very difficult to own a company either as a developer or shareholder. To stop our company crashing, it is necessary to identify and handle the potential risks. Among the many risk factors that could affect a company's performance, the threats that contributed significantly to a company's pre- and pre-revenue value are the 12 risk dimensions; risk management, business level, legislation / political risk, risk of production, sales and marketing danger;

Table 2 Scorecard Method Factors

Factors

Strength of the Management Team	0% - 30%
Size of the Opportunity	0% - 25%
Product/Technology	0% - 15%
Competitive Environment	0% - 10%
Marketing / Sales Channels / Partnerships	0% - 10%
Need for Additional Investment	0% - 5%
Other	0% - 5%

Source: Payne, 2011

Threat-raising funding / capital, market threat, technical hazard, legal danger, global risk, credibility risk, and possible lucrative escape (Payne, 2011). For order to calculate the enterprise value using the summation model of the risk factor, each of these 12 risk factors is determined by a score of + 2, which means very positive, 0 which means favorable and -2, which means extremely negative. The total value given for each positive or negative rating in the estimation of the scorecard system after that is modified by USD 250k respectively.

Discounted Free Cash Flow Method (DCF)

The DCF model is one of the ways for calculating a company's enterprise value being derived by discounting the expected free cash flow (Berk & DeMarzo, 2011). Most professionals use the DCF approach to learn the value of the company they would like to spend. Therefore, this method requires a strong basis of hypotheses that fail to set these results mostly in an erroneous value. If only one output element is changed, the product can be moved by ten million, which generates around billions of dollars for big business (Behrmann, 2016). But in order for shareholders to understand the inherent value of the company they plan to spend their capital on, the DCF model can provide detailed information on how the stock would do with certain estimators. As added by Black, E. L. (2002) cash flow measurement gave out more value presence to company in early life cycle stages.

Venture Capital Approach

Baum and Silverman (as cited in Block et al., 2013) stated that venture capitalists (VC) are facinated by financial returns received from company. Furthermore, William A. Sahlman first suggested this VC approach method in 1987, then updated it through the case study of Harvard Business School (Sahlman, 2003), then explained it more by Ron Engel (Engel, 2002) through calculating the terminal value (TV) of the enterprise to be priced a few years from now when the exit is scheduled. Enterprise Value / Sales (EV / Sales) ratios or multiple sales of similar companies in the industry are estimated for that year and translated into a TV. It was therefore necessary to extract the enterprise value from that calculation. Damodaran (2009) also used a slightly different method to refer to this approach. Instead of using Terminal Value, he measured Enterprise Value with the Forecasted Sales Multiple and EV/ Sales ratio from the calculation of Expected Revenues by the end of the expected years.

The data collected were evaluated using five methods; this work started with the discovery of problems and proceeded by a study of literature to establish criteria for the issue found. Two methods are used to collect the information used in this analysis. Primary information is the first. Primary data is the data obtained from the source directly. Interview with SAUDAGAR's CEO at the end of the study to gather data. The interview questions generated for each start-up assessment process focused on the appraisal criteria. The organization will also receive the financial data

including financial projections directly. The secondary information was collected from the repository of Angel.co, which collects comprehensive start-up dataset commonly used as a source by venture capitalists. The data collected from those websites will be used as comparable data to estimate the value of the SAUDAGAR. Berkus method, Scorecard method, Risk Factor Summation method, Venture Capital method, and DCF method.

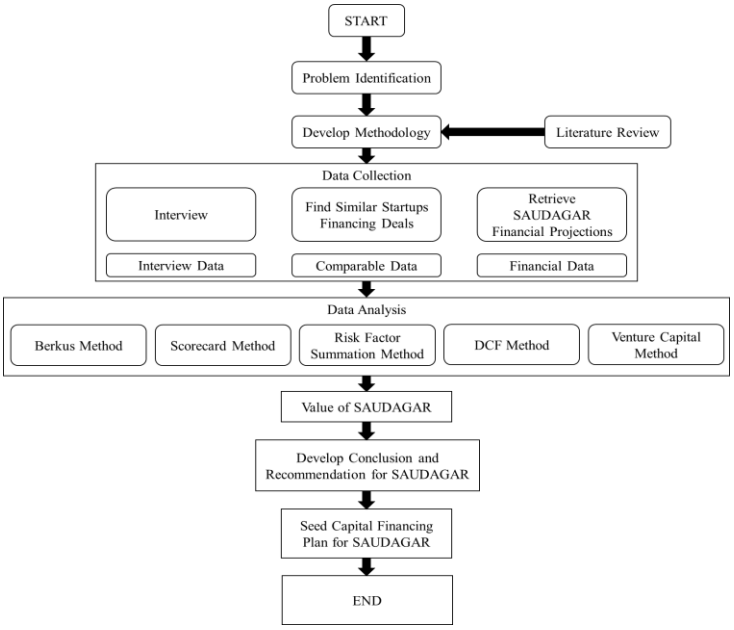


Figure 2. Research Framework Design (Analysis, 2019)

The Berkus Method was used to see how roughly the value of the SAUDAGAR. For each variable, it can be achieved by adding up to $500,000. A amount of accomplishment that reflects how far SAUDAGAR has progressed on each factor decides the values on each variable. Then the maximum value multiplies the amount of accomplishment. To derive the comparison price, this method uses equivalent data from previous funding transactions. The benchmark price will then be weighted depending on the assessed multiple factors and parameters based on the outcome of the interview. There are seven major factors, each of which has multiple subfactors, and each of the subfactors has a condition or circumstance.

Depending on the maximum value of the weight range of each element, the seven major variables will be weighted as seen in the Max Value percent row. The benchmark value of the average number of comparable data is multiplied by the weight of each factor that results in the column of the weighted value. The norm as the base number is calculated to be 100 million. Using the evaluation guideline, a portion of the standard will be adjusted. The weighted percentage, variable numbers and valuation will be created by dividing between weighted value and standard percentage. Upon assessing both variables and parameters, the total of all factors will become SAUDAGAR business cost.

The valuation guide is used together with the weights provided to determine the sub-factors and other specific parameters extracted from the main factors. Based on a rating from ++ + which means very positive to—-which means very negative, the effect of each parameter has been established within each main factor. These are converted into percentage based on 5% each positive or negative sign which will be as follows: +++ is 15%, ++ is 10%, + is 5%, - is -5%, -- is -10% and --- is -15%.

Risk Factor Summation Method

This approach is close to the system used as a standard by the scorecard utilizing equal valuation. It will be focused on the results of the meeting, which will discuss multiple dimensions: leadership danger, company level, legislation / political risk, production risk, sales and marketing risk, financing / capital risk, technical risk, litigation risk, global risk, reputation risk, and potential lucrative exit.

The risk of rising variable is then granted a score of +2 at a very low risk, +1 at a moderate risk, 0 at a positive risk, -1 at a medium risk and -2 at a very high risk. Instead, for each positive or negative ranking, the overall industry quality used for the scorecard system is changed by USD 250k.

Discounted Free Cash Flow Method (DCF)

The general idea of the DCF approach is to forecast future cash flows and compare their price with a component of capital cost to the present value (Wu, 2001). DCF approach do estimates value of company as total accumulation of the present value of the company's free cash flows generated within forcasting period and the company's terminal value at the end of the forcasting period (Ali et al., 2010). For measure free cash flow, it is important to first construct a projected income statement or balance sheet or financial reports pro forma. There is a simple way to generate financial statements that use the percentage of sales (Gitman, 2009). Thus, a revenue projection that reflects the expected growth rate should be produced for the company to grow at a certain pace in the following years. There are three solutions to the Damodaran (2001) growth rate calculation. The first way to find the future growth trend is to look at past sales and earnings ' historical development. It refers more to an established company. This method can not be used by a seed company like SAUDAGAR that has no historical data. The second method is to use the company's expected growth rate from the financial analyst and board of directors. For a young company like SAUDAGAR, this approach is more realistic because it depends on the plan of the management to determine the company objective. The last approach is to calculate the rate of growth by looking at the basic financial information of the company and determining the actions of spending and production from there.

In order to reduce the cash flow, it is necessary to determine the value of the discount rates. The discount rates can be obtained in the DCF method by calculating the Weighted Average Cost of Capital using the Eq formula.1.

$$\begin{aligned}\text{WACC}&=(\text{Proportion of Debt} \times \text{Cost of Debt (1-Tax Rate)})\\&+(\text{Proportion of Equity} \times \text{Cost of Equity})\\&=(Wd \times rd\ (1-T))+(We \times re)\ldots(1)\end{aligned}$$

The price of assets should be determined in order to calculate the WACC. Capital Asset Pricing Model (CAPM) will be used in this analysis to determine the cost of capital. Eq provides the equation. 2.

$$\text{Cost of Equity}=\text{Risk Free Rate}+\text{Beta} \times \text{Market Risk Premium}\ldots(2)$$

The enterprise value of all its future cash flows was recovered from the present value. Just five years of expected cash flows have been generated historically. After year five, cash flows beyond the timeline of estimating must be projected when the business is expected to experience stable growth. That's Terminal Price (TV). The equation used for terminal value estimation is given in Eq. 3. Using

the formula given for Eq, the Enterprise Value (EV) can then be determined using Discounted Cash Flows in both the forecast duration and terminal value. 4

$$TV = \frac{FCFn(1+g)}{(r-g)} \dots (3)$$

FCFn = free cash flow in year n
n = terminal year of the projection period
g = perpetuity growth rate
r = WACC

$$EV = \frac{FCF_1}{(1+WACC)^1} + \frac{FCF_2}{(1+WACC)^2} + \cdots + \frac{FCF_n}{(1+WACC)^n} + \frac{FCFn(1+g)}{(r-g)} \dots (4)$$

Venture Capital Method

Description of the modified measures (Damodaran, 2009):

1. Finding multiple comparable publicly traded companies in the healthcare sector EV / Sales or Sales
2. Estimating value estimation in years expected using Eq.5.

$$Estimated\ Value\ in\ n\ years = Revenue_{Year\ n} \times Sales\ Multiple\ or\ \frac{EV}{Sales} \dots (5)$$

3. Calculation of the current enterprise value using Eq from the previously calculated Estimated value.

$$Enterprise\ Value = \frac{Estimated\ Value\ in\ n\ years}{(1+Target\ return)^n} \dots (6)$$

Every method's findings are contrasted to achieve SAUDAGAR company's most consistent valuation. The valuation used the attributes and value assessed in the research to find the correct source of funding.

3. Results and Discussions

Berkus Method

Berkus Method assesses in a total of five stages that will add a maximum of $500,000 for each factor that checked off. Each factor was assigned with the percentage of achievement between 0-100% then multiplied by the maximum value of $500,000. The assigned value depends on the how far the business has accomplished each factor. The first factor is the idea soundness. SAUDAGAR's business idea is to provide SMEs with point-of-sales system that enables the owner and monger to record the sales into their own account and system that they could access through the mobile apps. The idea come up as in order to help the SME's owner to able to create their financial statement clearly and systematic in which would help their enterprises to be bankable. In order to drive the interest, they will try to introduce the product with secondary value in which enables the monger able to pay for alms (zakat) through the apps. The secondary value proposed have been validated

through market research and focus group discussion with a LAZ (amil zakat institution), ustadz and business owner of SMEs especially those who are Muslims.

The second factor is prototype availability. SAUDAGAR hasn't create the firm MVP (Minimum Viable Product) as they only have prepared the design and the features of the calculator and have prepared the user interface of the application. They have prepared on how to integrate each feature of the calculator with the app and the feature for later use by the user to pay for the alms. Product has not been produced in order to be market tested those 30% is the value given for this stage.

SAUDAGAR has just establish a four-member team which positioned as the strategic member of the enterprise. The team formed has a solid and strong background in both academically and professionally in each of the team member to contribute in all for the establishment and the growth of the company. The team both worked as the strategic and process position and as strategic position SAUDAGAR currently implement lotacracy, those in result enable agility and autonomy of the organization but also created the risk of having different perspective in taking decision for any matter and the team need to work in double position. For those reason, 35% is the maximum value given for the third factor, quality management team. The fourth factor is the strategic relationship. SAUDAGAR has establish partnership with a LAZ to channel the fund that are collected as alms. SAUDAGAR too has gone to several market center in Bandung and has conducted market research and in the process along with the controller of the markets in which controllers has gain the interest of SAUDAGAR product and looking forward the first introduction of the product to the mongers. As the means to enable preaching center and education center market SAUDAGAR has try to introduce ideas to ustadz that have role in the market and has gain their interest and trust, but the partnership hasn't established yet. Therefore, 65% of maximum value was given to the fourth factor.

SAUDAGAR is still in the development stage of the product and system and has not generated any sales yet. Because this stage has not been completed yet, zero was given for the fifth factor, the occurrence of sales. The assessment results are based on interview that had been conduction the strategic team of SAUDAGAR on 14 of August 2019. Based on the calculation using the Berkus Method provided in Table 3, SAUDAGAR's value is USD 1,150,000

Table 3 Berkus Method Result

Stage	Max. Value (USD '000)	% of Achievement	Assigned Value (USD '000)
1. Idea Soundness	500	100%	500
2. Prototype	500	30%	150
3. Management Team Quality	500	35%	175
4. Strategic Relationships	500	65%	325
5. Product Rollout or Sales	500	0%	-
SAUDAGAR Enterprise Value			1,150

Source: Analysis, 2019

Scorecard Method

Scorecard approach used comparable data from the data provided by Angel.co server from previous deals. The data was limited to start-ups in the financial services sector that provided seed

capital funding. To get the number of the post-money valuation, an assumption was made from the in between number which is 40% of shares then multiplied by the amount of invested seed capital. This post-money valuation is then subtracted by the seed capital, which then would give us the pre-money valuation. The average pre-money valuation obtained from the dataset is USD 4,362,692.

SAUDAGAR's ability, which SAUDAGAR group holds, what they are envisioning of and what they have done so far have been attempted to be measured based on SAUDAGAR team's interview on 14 of August 2019. The assessments are broken down in to several factors: strength of entrepreneur and team, size of the opportunity, product/ technology, competitive environment, marketing/ sales/ partnerships, need for additional investment, and other factors. Table 4 offers the detailed evaluation estimate using the Scorecard Method. Hence, the value of the enterprise is USD 5,049,816.

Table 4 Scorecard Method Calculation Result

		Average Healthcare Startups			SAUDAGAR (Based on Norm)			
	Weighted Ranking Range (% Value to Pre-Revenue Company)	Max Weight Value (%)	Weighted Value (USD)	Norm	% of Norm	Weighted %	Factor	Valuation (USD)
Strength of the Management Team	0% - 30%	30%	1,308,808	100%	135%	40.50%	0.41	1,766,890
Size of the Opportunity	0% - 25%	25%	1,090,673	100%	80%	20%	0.20	872,538
Product/Technology	0% - 15%	15%	654,404	100%	145%	22%	0.22	948,886
Competitive Environment	0% - 10%	10%	436,269	100%	125%	12.50%	0.13	545,337
Marketing / Sales Channels / Partnerships	0% - 10%	10%	436,269	100%	110%	11%	0.11	479,896
Need for Additional Investment	0% - 5%	5%	218,135	100%	90%	5%	0.05	196,321
Other (Market Validation, Strong Brand)	0% - 5%	5%	218,135	100%	110%	6%	0.06	239,948
		100%	4,362,692			116%	1.16	5,049,816

Source: Analysis, 2019

Table 5 Risk Factor Summation Method Calculation Result

No	Particulars	Risk (Very Low / Low / Normal / High / Very High)	Score		Value
	Angel.Co Average of Financial Service Startup in Asia				4,362,692
1	Management	very high	-2	-500,000	3,862,692
2	Stage of Business	low	+1	+250,000	4,112,692
3	Legislation/ Political Risk	High	-1	-250,000	3,862,692
4	Manufacturing Risk	high	-1	-250,000	3,612,692
5	Sales and Marketing Risk	High	-1	-250,000	3,362,692
6	Funding/ Capital Raising Risk	Normal	0	0	3,362,692
7	Competition Risk	Very low	+2	+500,000	3,862,692
8	Technology Risk	low	+1	+250,000	4,112,692
9	Litigation Risk	Normal	0	0	4,112,692
10	International Risk	Very Low	+2	+500,000	4,612,692
11	Reputation Risk	Very High	-2	-500,000	4,112,692
12	Potential Lucrative Exit	Low	+1	+250,000	4,362,692
	SAUDAGAR Enterprise Value				4,362,692

Source: Analysis, 2019

Risk Factor Summation Method

Risk Factor Summation Method also used Angel.Co's seed capital investment pre-money valuation in the Financial Service industry. From 39 startups listed, the average pre-money valuation obtained is USD 4,362,692. This method assessed SAUDAGAR in 12 dimensions of risk. Each factor was given a rating ranging from -2 for a very high risk, -1 for a high risk, 0 for a neutral risk, +1 for a low risk, and +2 for a very low risk. Each level of risk would be given a positive or negative value of USD 250,000. SAUDAGAR's level of risk exposures were determined from author's knowledge of the situation in startups engaged in financial service industry. Table 5 summarizes the estimated value of SAUDAGAR using Risk Factor Summation Method. The calculated enterprise value of SAUDAGAR using this method is USD 4,362,692.

Discounted Cash Flow Method (DCF)

To determine SAUDAGAR's value using the Discounted Cash Flow Method (DCF), the revenue forecast and pro forma financial statement had to be calculated. A 5-year forecast of SAUDAGAR's financial projections were mad in this research. Assumptions were made to occur in order to prepare the financial statements pro forma. Table 6 summarizes the conclusions.

Table 6 Key Assumptions for DCF Method

No	Key Factors	Value	Description
1	Discount Rate (WACC)	9.96%	Based on internal data
2	Cost of Equity (re)	9.96%	Sum of Risk-free rate multiplied by Risk premium
3	Risk-free Rate (rf)	6.80%	ORI16, Retail Government Bond Coupon Rate
4	Market Risk Premium	6.06%	Based on Risk Market calculated from capital market and Risk-Free rate from ORI16
5	Beta	0.78	Based on beta of Financial Services (Non-bank & Insurance) by Damodaran 2019
6	Cost of Debt (rd)	7.00%	Kredit Usaha Rakyat (KUR) BRI rate
7	Perpetuity Growth (g)	4.50%	BI Target of Inflation Rate in 2019
8	Debt Proportion (Wd)	1.00%	Final income tax (PPh Final) under Article 4(2) income tax
9	Debt Proportion (Wd)	0%	They have not yet issued any debts
10	Equity Proportion (We)	100%	-

Source: Analysis, 2019

The enterprise value is the amount of the present cash flows values, the present value of terminal value subtracted by debt value. The final assessment results using the DCF method are

shown in the Table 7. SAUDAGAR's enterprise value using DCF method could be defined in the total value of USD3,462,812.59 from the estimate made in the previous sections.

Table 7 Discounted Free Cash Flow Calculation Result

(in IDR)	0	1	2	3	4	5
Cash Returnns	2019	2020	2021	2022	2023	2024
EBIT	0	-736,740,965	-84,062,470	477,155,307	1,899,103,250	4,190,104,456
Interest	0	0	0	0	0	0
Taxes	0	-	-	-4,771,553	-18,991,032	-41,901,045
Depreciation	0	0	0	0	0	0
Reinvestments	0	0	0	0	0	0
Change in Net Working Capital	0	0	0	0	0	0
Total Free Cash Flow	0	-736,740,965	-84,062,470	472,383,754	1,880,112,217	4,148,203,412
Terminal Value						74,653,325,720
Cost of Equity	10.31%	10.31%	10.31%	10.31%	10.31%	10.31%
Present Values of Cash Flows	0	-667,902,460	-69,087,360	351,957,016	1,269,920,895	2,540,102,057
Sum of Present Values	3,424,990,149					
PV of Terminal Value	45,713,058,743					
Debt Value	0					
Net Business Enterprise Value (DCF)	49,138,048,892					
Net Business Enterprise Value (DCF) in USD (1USD = 14,190 IDR)	3,462,812.59					

Source: Analysis, 2019

Venture Capital Method

Venture capital method uses revenue forecast information that was previously produced using the DCF method. The projected sales by year 5 must be understood and then multiplied by the EV/Sales ratio of public listed company in the financial sector with industry of other, measured in Table 8 in order to find the enterprise value of SAUDAGAR using the venture capital method. The final calculation result of valuating SAUDAGAR using venture capital method is explained by Table 9.

From the calculation that has been done previously, the value of SAUDAGAR using venture capital method could be known in the total value of USD 186,676. This method yields the lowest amount of valuation compared to the other four valuation method as SAUDAGAR's company business process and product hasn't been found in any publicly listed company. Author choose industry of other in finance sector from Indonesia stock exchange as it is where the most suitable

companies that could be compared located though a lot of differences in companies' characteristics found.

Table 8 Financial Service Sales Multiple Average

Company Name	Stock Ticker	Enterprise Value (IDR)	Sales Revenue (IDR)	EV/Sales
PT. Capital Financial Indonesia Tbk	CASA.JK	16,887,630,538,020	8,224,145,951,643	2.0534
PT. Panin Financial Tbk	PNLF.JK	8,517,871,495,938	7,551,966,000,000	1.1279
PT. Pacific Strategic Financial Tbk	APIC.JK	6,647,771,042,555	473,565,000,000	14.0377
PT. MNC Kapital Indonesia Tbk	BCAP.JK	5,797,048,970,123	2,661,759,000,000	2.1779
Average				4.8492

Source: Analysis, 2019

Table 9 Venture Capital Method Result

Venture Capital Method	
Year n	5
Year n Revenue	4,148,203,412
EV/Sales	4.8
Estimated Value in n years	20,115,612,584
Value Today (IDR)	2,648,969,558
USD Rate	IDR 14,190
SAUDAGAR Enterprise Value (USD)	186,676

4. Conclusion

SAUDAGAR has a valuation varying between USD 186,676 at the bottom line to the highest value of USD 5,049,816 from the assessment of five methods of valuing a company. Figure 3 summarize the SAUDAGAR value calculation result. After the study, the outcomes of the evaluation methods chosen result in different values given the assessment of the same business. Berkus Method showing a valuation of USD 1,150,000, Risk Factor Summation Method showing a valuation of USD 4,362,692 and Scorecard Method showing a valuation of USD 5,049,816 depend on the comparable data calculation. Comparable evidence from previous deals made by investors investing in seed stage starts-ups in the Financial Services industry. Discounted Free Cash Flow (DCF) method which valued SAUDAGAR at USD 3,462,813 depends on the correct estimate of the financial projections' assumptions. Venture Capital Method which results in USD 186,676 is close to the DCF Method that used financial projections and financial service industry multiples for finding SAUDAGAR's today valuation. SAUDAGAR's capital requirements can be funded either through equity or debt. Yet given the characteristics of technology financial service startup like SAUDAGAR that provide products tangible and intangible, they need a significant amount of capital to grow their products before they can be provided on the market and generate any revenue. Therefore, the best funding sources for SUADAGAR are searching for Angel Investors and Venture Capital who usually have interest in financing risky early stage projects that require a large amount of capital to grow.

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