



Business Valuation Using Discounted Cash Flow Method in Restaurant Industry (Case Study: Coffee Shop XYZ)

Nisrina Balqis Maharani Putri¹, Ana Noveria²

^{1,2} Master of Business Administration, School of Business and Management, Bandung Institute of Technology, Bandung, Indonesia, 40132

ABSTRACT: The level of coffee consumption continues to increase from year to year due to the influence of third wave coffee, this also affects the sales of Coffee Shop XYZ which continue to increase. Departing from this success, management wants to open two new branches, namely in Purwakarta and in Subang through raising funds on the equity crowdfunding platform. That's why Coffee Shop XYZ needs steps for company valuation to find out the business value and share price that Coffee Shop XYZ will provide. Coffee Shop XYZ's company valuation assessment uses absolute and non-absolute valuation methods, where the absolute valuation method uses discounted cash flow with terminal value, while the non-absolute valuation method uses a relative model which compares Coffee Shop XYZ's financial ratios with similar companies in the same industry, namely the restaurant. Based on the results of the study using the absolute valuation method, it was found that Coffee Shop XYZ had an enterprise value of Rp 19.930.457.260, with a share price of Rp 49.706,38 and 390.000 outstanding shares. Meanwhile, based on the non-absolute method, the EV/EBIT, P/E and P/B ratios indicate that Coffee Shop XYZ is undervalued, meaning that the business will generate greater profits, and the business is considered not too high-risk for investment. It also has a fair share price and the ratios show its ability to distribute dividends to investors. In conclusion, based on Coffee Shop XYZ's valuation, it is known as a declining overvalued company. Even so, Coffee Shop XYZ will still provide positive residual income.

KEYWORDS: Business Valuation, Discounted Cash Flow, Coffee Shop, Relative Model, Terminal Value.

I. INTRODUCTION

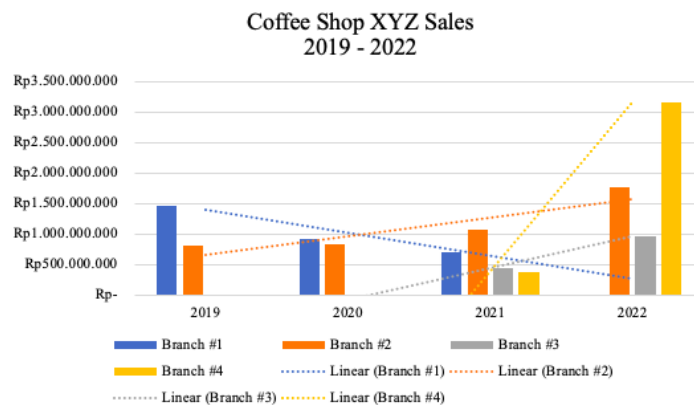


Figure 1. Coffee Shop XYZ Sales 2019 – 2022
(Source: Coffee Shop XYZ and Author’s Calculation, 2023)

According to the International Coffee Organization (2022), Indonesia's domestic coffee consumption has almost doubled since 1990, reaching the equivalent of 5 million 60-kilogram bags of coffee in 2020/2021, which is the greatest number in the past ten years. This increase was partly influenced by consumer preferences entering the “third wave of coffee consumption”.

The third wave coffee shops actually flourish as place that not only the consumer can come to have a cup of coffee where but also can accommodate activities that will grow as sociable place (Pozos-Brewer, 2015). Up until the end of 2016, more than 20 new coffee shops have opened in Bandung that promote the principles and values of third wave coffee culture. These establishments



include Common Grounds, Yellow Truck Coffee, Contrast, Sejiwa, Armor Kopi, Noah's Barn, Kopi Florist, and many other third wave coffee shop brands.

To expand the business, Coffee Shop XYZ will need around Rp 2,300,000,000.00 which is planned to be obtained through Udana's secure crowdfunding service. Before being able to issue its shares, Coffee Shop XYZ requires a business valuation to estimate the value of its shares. The data is intended to facilitate management in pioneering the two new branches.

The decision to use the crowdfunding platform was based on the small number of Coffee Shop XYZ investors. So far Coffee Shop XYZ has only offered investment privately or to individuals so that the number of investments and investors is limited.

II. LITERATURE REVIEW

A. Business Valuation

The conceptual idea of value can be defined as the present value of future gains. To calculate the present value, first one must identify a revenue stream and a rate of return. The rate used in valuations is determined by the risk assumed. To assess risk, it must understand the influence of economic conditions in general, the impact of economic conditions in the industry, and the impact of economic conditions on the individual firm (Damodaran, 2005).

B. Discounted Cash Flow Method

A valuation method known as discounted cash flow (DCF) uses projected future cash flows to estimate an investment's value (Damodaran, 2005). With the help of future financial projections, DCF analysis attempts to determine an investment's current worth. It can help consumers decide whether to buy securities or a company. Business owners and managers may also use discounted cash flow analysis to choose between capital budgets and operating expenses.

C. Unlevered Free Cash Flow

Unlevered free cash flow, also called as free cash flow to the firm, refers to the amount of money that is accessible to investors after all operational costs, including taxes, have been paid and any investments for running capital and fixed capital have been made. It can be interpreted as the gross cash flow generated by the company (Herbohn and Harrison, 2002). The unlevered cash flow is important to investors and shareholders because they use these data from a company's annual statement to forecast future returns on their current investments. The potential for development and growth of a company is emphasized.

D. Relative Valuation Model

Relative valuation is a valuation model that works by comparing the fundamental performance of one company to another company, relative valuation can be seen as one of the earliest types of valuation in the simplest linear form. (Ali, 2014).

E. External Analysis

The goal of external analysis is to identify external factors that may affect company and take the form of opportunities or dangers. Based on research question, PEST will be used for the macro-environmental analysis and Coffee Shop XYZ's external analysis, respectively.

The term PEST stands for political, economic, social, and technological. PEST analysis is an effective and popular method for assessing strategic risk. It identifies the changes and impacts of the external macro environment on the competitive position of a company (Sammut-Bonnici and Galea, 2015).

Political

Jokowi is considering stockpiling exports of raw coffee raw materials to increase added value. This policy will benefit entrepreneurs who use coffee products such as MSME Coffee Shop XYZ, as the purchase price of coffee raw materials will be more stable. Additionally, the government has policies to facilitate business permits and tax relief for MSMEs, such as Presidential Regulation 98 of 2014 and Government Regulation 23 of 2019.

Economic

The purchasing power of the populace will also be impacted by economic growth that keeps accelerating. Due to the rise in income, both of these will be advantageous to business owners. Borrowing money from banks is made easier in terms of economic policy by the comparatively low interest rates. Hence giving Coffee Shop XYZ a chance to start a new branch.

Sociocultural

Social features include the traits of contemporary society, including behavior, values, and culture. Gumulya and Helmi (2017) assert that Indonesians, for the most part, like to be joyful during their free time. Coffee sipping and conversing is one of these

pastimes. The coffee shop industry is a very promising one for business people, given the lifestyle of today's society, where many people like gathering with family or friends and drinking coffee. Consequently, the chance to open Coffee Shop XYZ is expanding and looking fairly interesting.

Technological

Most of the visitors to Coffee Shop XYZ are people who are already literate in technology. Currently customers prefer to choose coffee shops that have free internet or free wi-fi service, so they can do their work while enjoying drinks and food. In addition, technology in payment methods such as e-money, debit cards, credit and digital wallets such as OVO, Dana, Gopay, is also important to be provided in stores to facilitate the payment process.

F. Internal Analysis

The goal of internal analysis is to identify a company's strengths and shortcomings in light of its values, corporate strategy, and financial situation. To conduct internal analysis on Coffee Shop XYZ, the value proposition canvas will be used to understand the value that Coffee Shop XYZ offered to their customers.

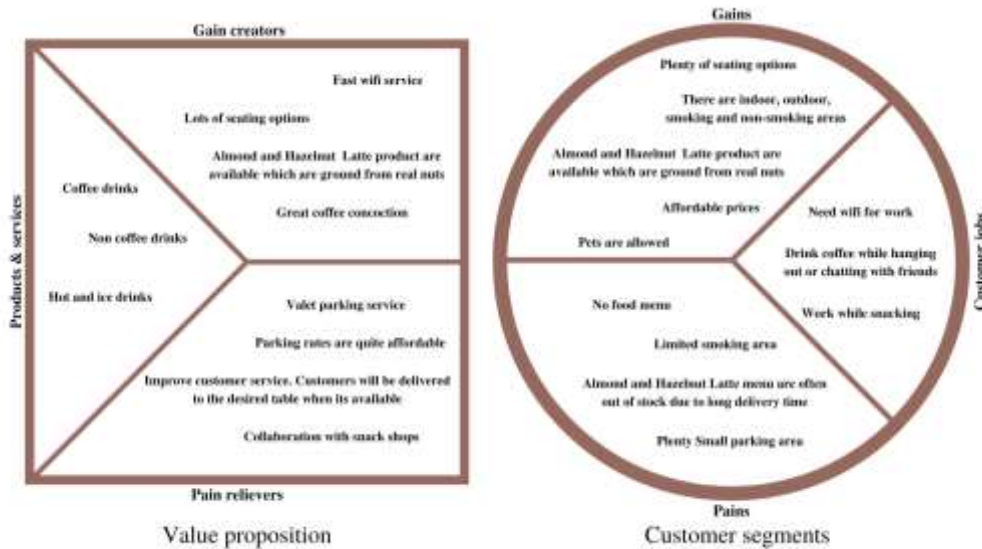


Figure 2. Value Proposition Canvas of Coffee Shop XYZ
(Source: Author’s Analysis, 2023)

Customer Jobs

Jobs are the things that your clients are attempting to complete either at work or in their personal lives. A customer's job may consist of the duties they are attempting to carry out and finish, the issues they are attempting to resolve, or the wants they are attempting to satiate. In this research there are three customer jobs, which are 1) Need wifi for work; 2) Drink coffee while hanging out or chatting with friends; 3) Work while snacking.

Customer Pains

Anything that irritates your consumers before, during, or after they attempt to complete a task—or just keeps them from completing one—is referred to as a pain. Risks, or potential negative results, associated with performing a task ineffectively or not at all are also described by pains (Osterwalder A. , Pigneur, Bernarda, & Smith, 2014). In this research there are four customer pains, which are 1) Small parking area; 2) Almond and Hazelnut Latte products are often unavailable due to long delivery of nuts; 3) Limited smoking area with power plugs; 4) There is no food menu.

Customer Gains

Customer gains are the benefits that customers anticipate or seek to obtain when performing their duties well. It is crucial to categorize the various customer jobs according to their relative importance to the client. In this research there are four customer



gains, which are 1) Plenty of seating options; 2) There are indoor, outdoor, smoking areas and non-smoking areas; 3) Almond and Hazelnut Latte products are available which are ground from real nuts; 4) Affordable prices.

Products and Services

The precise goods and services that Coffee Shop XYZ provides are described in this section. It may also list components that are being developed at the moment or those that cooperate to add value. In this research there are three products and services, which are 1) Coffee drinks; 2) Non coffee drinks; 3) Hot and ice drinks.

Pain Relievers

"Pain relievers" describes the clearly and effectively in which Coffee Shop XYZ's products and services relieve certain customers' problems. They specifically describe how you plan to get rid of or cut down on some of the annoyances your customers experience before, during, or after they try to accomplish a task or that stop them from doing so (Osterwalder A. , Pigneur, Bernarda, & Smith, 2014). In this research there are four pain relievers, which are 1) Valet parking service; 2) Parking rates are quite affordable; 3) Improve customer service. Customers will be delivered to the desired table when it is available again; 4) Collaboration with snack shops.

Gain Creators

Gain creators describe how the products and services of Coffee Shop XYZ generate in benefits for clients. They clearly outline the company's strategy for achieving the results and benefits that clients anticipate, desire, or would be pleasantly pleased to learn about, such as usefulness, social benefits, positive emotions, and cost savings (Osterwalder *et al*, 2014). In this research there are four gain creators, which are 1) Fast wifi service; 2) Almond and Hazelnut Latte products are available which are ground from real nuts; 3) Lots of seating options; 4) Great coffee concoction.

III. RESEARCH METHODOLOGY

The quantitative research design was adopted in this study. The main objective of quantitative research is to gain insight and comprehension about business valuation. This study strategy was utilized in conjunction with quantitative studies. Quantitative research would be conducted to ascertain market expectations, as well as company's valuation and share prices. The data is obtained through the company where the author works as an intern. The data was taken through the company's supervisor or contact person in June - July 2022. The data obtained is company data from 2019 - 2022, then observed by the author. In this quantitative research, the analytical method used is valuation techniques using free cash flow method and relation valuation method.

A. Financial Performance Overview

An evaluation method for assessing a company's past, present, and future performance is financial statement analysis. Numerous techniques are used in financial statement analysis, such as ratio analysis, which establishes statistical relationships between data, vertical analysis, which presents each category of accounts on the balance sheet as a percentage of the total account, and horizontal analysis, which contrasts financial data from two or more years in both Rupiah and percentage form (Kenton, 2021).

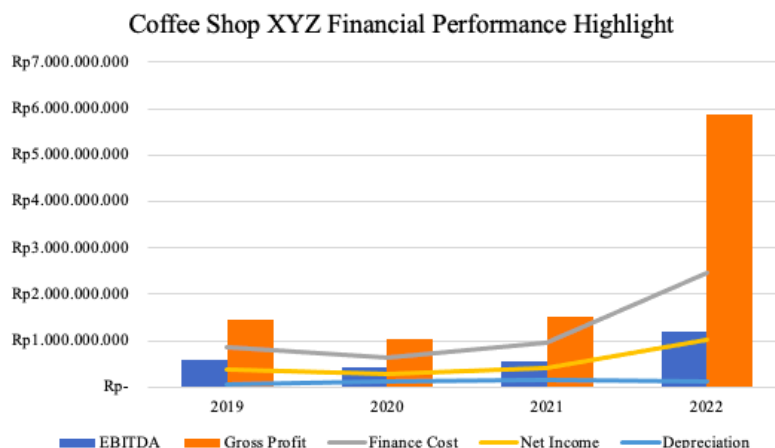


Figure 3. Coffee Shop XYZ Sales 2019 – 2022
(Source: Coffee Shop XYZ and Author's Calculation, 2023)



From Figure 3.1 above, it can be seen that Coffee Shop XYZ financial performance are increasing from year to year except in 2020 when the COVID-19 virus pandemic occurred. Gross profit and EBITDA that increases each year indicates that the company uses labor and supplies to produce goods or offer services to customers effectively.

B. Financial Ratio Overview

Ratio analysis is a tool for examining the balance sheet and income statement of a company in order to understand more about its liquidity, efficiency, and profitability (Jayaraj, 2022).

Profitability metrics including gross margin, operating margin, net profit margin, and EBITDA margin will all be investigated at in this research. These ratios illustrate how effectively a business could turn a profit (Jayaraj, 2022). The following table shows profitability ratios of Coffee Shop XYZ from year 2019 – 2022.

Table 1. Financial Ratio Analysis of Coffee Shop XYZ (Source: Author’s Calculation, 2023)

<i>Financial Ratio Analysis</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>2022</i>
<i>Gross Margin</i>	0,64	0,60	0,58	0,62
<i>Operating Margin</i>	0,26	0,24	0,22	0,20
<i>Net Profit Margin</i>	0,16	0,16	0,16	0,17
<i>EBITDA Margin</i>	0,26	0,24	0,22	0,20

Gross Margin

Gross Profit Margin is a ratio that shows how a company's sales result in gross profit. It includes only the variable and fixed costs associated with producing or acquiring products and services. Ciptawan and Brian (2021) state that if a company's gross profit margin sways a lot, it might be an indication of poor management practices and/or subpar goods, or it might be a sign that the company is changing its business model significantly operationally. Product prices affect the Gross Profit Margin value, so a firm will have a higher gross margin if it sells its goods at a premium price.

The Gross Profit Margin ratio has been moving up and down since 2020 due to social restrictions and the COVID-19 pandemic. In 2021, Coffee Shop XYZ opened two new branches, increasing production-related expenses. In 2022, the ratio increases again, indicating management can manage the business well and expenses related to production and sales are starting to stabilize.

Operating Margin

Operating margin is the amount of revenue left over after operational expenditures and cost of goods sold are subtracted. It is influenced by a variety of factors, such as pricing strategy, raw material costs, labor costs, etc. A high ratio indicates negative circumstances, as it suggests that every rupiah of sales is subjected to significant costs. However, a slight decline in operating profit margins suggests that costs are falling more quickly than revenues, reflecting the decisions of pessimistic management to cut back on resources. Based on the calculation results above, it is known that the Operating Margin of Coffee Shop XYZ continues to experience a significant decline from year to year. This indicates that Coffee Shop XYZ generates large profits, where expenses decrease faster than sales.

Net Profit Margin

Net profit margin is the amount of net income generated from sales revenue after operational costs, amortization, income taxes, interest, and depreciation have been subtracted. The higher the ratio, the better. Based from data above, Coffee Shop XYZ's sales and operating expenses fluctuate from year to year, but in 2022 the ratio increases, indicating that sales are increasing and operating expenses are decreasing.

EBITDA Margin

EBITDA margin is an estimate of an company’s operational profits as a proportion of total sales. A low EBITDA margin shows that a company is struggling with both profitability and cash flow. A high EBITDA margin indicates that the company's earnings are consistent. The calculation above shows that Coffee Shop XYZ has significantly decreased its EBITDA Margin from year



to year. This shows that Coffee Shop XYZ is having problems with its profits and cash flow. This can be affected by the effects of the COVID-19 pandemic and the opening of new branches.

C. Income Statement Projection

To make projections for the next five years, the authors use assumptions to fill in the values of net sales growth, gross profit margin, OPEX growth, depreciation in net sales growth.

	Actual				Forecast Period					CAGR 2019 - 2022	CAGR 2023 - 2027	
	2019	2020	2021	2022	2023	2024	2025	2026	2027			
Net sales	Rp 2.275.641.000	Rp 1.744.120.800	Rp 2.589.778.550	Rp 5.877.508.622	Rp 6.171.384.053	Rp 7.097.091.561	Rp 7.948.742.650	Rp 8.505.154.647	Rp 9.100.515.472	37,20%	10,20%	
growth %		-23,36%	48,49%	126,95%	5,00%	15,00%	12,00%	7,00%	7,00%			
COGS	-Rp 811.782.662	-Rp 683.623.128	-Rp 1.089.135.676	-Rp 2.250.847.696	-Rp 2.403.646.585	-Rp 2.764.191.573	-Rp 3.095.896.802	-Rp 3.312.609.578	-Rp 3.544.402.249	40,49%	10,20%	
Gross profit	Rp 1.463.858.338	Rp 1.050.497.672	Rp 1.500.642.874	Rp 3.626.660.926	Rp 3.767.737.468	Rp 4.332.898.088	Rp 4.852.845.858	Rp 5.192.545.068	Rp 5.556.023.223	35,31%	10,20%	
margin %	64,33%	60,23%	57,94%	61,70%	61,03%	61,05%	61,05%	61,05%	61,05%			
OPEX	-Rp 862.929.709	-Rp 635.134.615	-Rp 939.715.508	-Rp 2.445.393.315	-Rp 2.687.527.622	-Rp 2.687.527.622	-Rp 2.687.527.622	-Rp 2.953.637.218	-Rp 3.246.096.056	-Rp 3.567.513.147	41,51%	7,34%
growth %		-26,40%	47,96%	160,23%	9,90%	9,90%	9,90%	9,90%	9,90%			
in % of net sales	37,92%	36,42%	36,29%	41,61%	43,55%	37,87%	37,16%	38,17%	39,20%			
Total costs	-Rp 1.674.712.371	-Rp 1.328.757.743	-Rp 2.028.851.384	-Rp 4.696.241.015	-Rp 5.091.174.208	-Rp 5.451.721.195	-Rp 6.049.534.020	-Rp 6.558.705.634	-Rp 7.112.005.396	41,02%	8,72%	
growth %		-20,66%	52,69%	131,47%	8,41%	16,09%	10,97%	8,42%	8,44%			
EBITDA	Rp 600.928.620	Rp 415.363.057	Rp 560.927.366	Rp 1.181.267.607	Rp 1.080.209.846	Rp 1.645.370.466	Rp 1.899.208.640	Rp 1.946.449.012	Rp 1.988.510.076	25,27%	16,48%	
margin %	26,41%	23,82%	21,66%	20,10%	17,50%	23,18%	23,89%	22,89%	21,85%			
Depreciation	-Rp 60.018.275	-Rp 118.902.221	-Rp 145.501.869	-Rp 234.931.889	-Rp 294.223.598	-Rp 338.357.137	-Rp 378.959.994	-Rp 405.487.193	-Rp 433.871.297	57,60%	10,20%	
in % of net sales	2,64%	6,82%	5,62%	4,00%	4,77%	4,77%	4,77%	4,77%	4,77%			
EBIT	Rp 540.910.354	Rp 296.460.836	Rp 415.425.497	Rp 946.335.718	Rp 785.986.248	Rp 1.307.013.329	Rp 1.520.248.647	Rp 1.540.961.819	Rp 1.554.638.779	20,50%	18,59%	
Tax (0,5%)	-Rp 11.378.205	-Rp 8.720.604	-Rp 12.948.893	-Rp 27.237.809	-Rp 3.929.931	-Rp 6.535.067	-Rp 7.601.243	-Rp 7.704.809	-Rp 7.773.194	33,77%	18,59%	
Net Profit After Tax	Rp 529.532.149	Rp 287.740.232	Rp 402.476.604	Rp 919.097.909	Rp 782.056.317	Rp 1.300.478.262	Rp 1.512.647.404	Rp 1.533.257.010	Rp 1.546.865.586	20,18%	18,59%	

Figure 4. Coffee Shop XYZ Income Statement Projection
(Source: Coffee Shop XYZ and Author’s Calculation, 2023)

Coffee Shop XYZ is planned to be listed in March 2023. After the investment funds are received, Coffee Shop XYZ management takes about 3 months to renovate the new branch. So that it is only at the end of 2023 that the new Coffee Shop XYZ branch is predicted to operate. This is what underlies the author and Coffee Shop XYZ to project sales to increase by 5% in the first year because sales at the new branch have not been fully operational or for a full year. In the second year, the authors project that sales will increase by 15%, assuming the two new branches are fully operational in one full year. Whereas in the third and fourth years the authors project a decline in sales with the assumption that in those years sales are stable. And so it was in the fifth year. Meanwhile, the gross profit margin, OPEX growth and depreciation in net sales growth are the average results from historical Coffee Shop XYZ data for 2019 – 2022.

D. Beta Calculation

The term "beta" in the financial industry refers to the slope of a linear relationship fitted to data on the rate of return on an investment and the market's rate of return or market index (Tofallis, 2011). A stock is more volatile if its beta is greater than 1.0 than the market as a whole, whereas a stock is less volatile if its beta is lower than 1.0. Prior to determining company WACC, beta is utilized to calculate the Cost of Equity. Coffee Shop XYZ's beta is determined using the relevered unlevered Beta of similar companies in the same industry.

Beta Industry.

The WACC calculation includes consideration for both levered and unlevered beta at various stages. Unlevered beta demonstrates the return volatility that results from avoiding financial leverage. The terms asset beta and equity beta both apply to levered beta and unlevered beta, respectively. According Faiteh and Aasri (2022), Levered Beta of listed companies is calculated using the formula below:

$$\beta = \frac{Cov(r_i, r_m)}{\sigma^2_m} \tag{1}$$

Cov(r_i, r_m) = covariance of 'i' asset return with market return;

σ²_m = variance of market return.

For unlevered beta Hamada (1972) and adjusted formula by Rubinstein (1973) is used.

$$\beta_U = \beta_L / [1 + (1 - T) x (D/E)] \tag{2}$$



β_U = Unlevered Beta (asset Beta);
 β_L = Levered firm’s equity Beta;
 T = Corporate income tax rate;
 D = Book value of Total debt,
 E = Book value of Shareholder’s Equity.

Once the Beta for each company has been unlevered, the Unlevered Beta will be utilized to determine the Beta industry. The average unlevered beta of these companies is used to compute the beta industry. Table 3.2 shows the unlevered beta in food industry in Indonesia.

Table 2. Unlevered Beta Industry

Company	Levered Beta	Market Value of Debt*	Market Value of Equity*	Debt/Equity	Equity/Total Assets	Tax Rate	Unlevered Beta
PT Map Boga Adiperkasa Tbk	0,24	487.198	5.557.562	8,8%	91,9%	20%	0,22
PT Fast Food Indonesia Tbk	0,63	699.008	3.149.784	22,2%	81,8%	21%	0,54
PT Sarimelati Kencana Tbk	1,51	458.624	1.622.964	28,3%	78,0%	20%	1,23
PT Pioneerindo Gourmet International Tbk	0,12	102.372	532.147	19,2%	83,9%	20%	0,10
PT Champ Resto Indonesia Tbk	0,34	321.573	2.990.000	10,8%	90,3%	15%	0,31

* Presents in Million Rupiah

(Source: Company Financial Report 2022, www.gurufocus.com, Author’s Calculation, 2023)

From the data above, the authors get an average industry unlevered beta value of 0,48, an average industry debt/equity of 17,8%, and marginal tax rate of 1%.

Beta Company.

After obtaining an estimate of the industry beta value, a re-levered beta calculation is performed using formula (3) for Coffee Shop XYZ with the following results. Re-levered beta formula (Fernández, 2008) :

$$\beta_L = \beta_U \times [1 + (1 - \text{Marginal Tax}) \times D/E] \tag{3}$$

β_L = Re-Levered Beta
 β_U = Unlevered Beta industry
 Marginal Tax = Company’s Tax Rate
 D/E = Mean of D/E industry

Table 3. Re-Levered Beta Company

Re-Levered Beta Coffee Shop XYZ	Mean Unlevered Beta Industry	Mean D/E Industry	Marginal Tax Rate	Re-Levered Beta Coffee Shop XYZ
Coffee Shop XYZ	0,48	17,8%	0,5%	0,57

(Source: Author’s Calculation, 2023)



E. WACC Calculation

The WACC is a discount rate that must be applied to the Free Cash Flows in order to get the same outcome as when utilizing Equity Cash Flows discounted at the needed return on equity (Fernandez, 2013). To get the WACC value, the Cost of Debt and Cost of Equity values are needed. The Cost of Equity is the result of calculating the Risk-Free Rate plus the Market Risk Premium multiplied by the Re-Levered Beta and plus the Size Premium.

Cost of Debt and Cost of Equity.

According to Aswath Damodaran (2005), when the firm does not have a rating or any recent bank loans to use as reference, Cost of Debt can be calculated using Coverage Ratio that resulted from operating income and lease expenses (treated as interest expenses). According to Findlay III and Williams (1975), the ratio is calculated using formula below:

$$Coverage\ Ratio = \frac{Operating\ Income}{Interest\ (Lease)\ Expense} \tag{4}$$

Coffee Shop XYZ itself earned an operating income of Rp 1.181.267.607 in 2022, with a commitment to rent space at Branch # 2 and Branch # 4 to be paid Rp 120.000.000 and Rp 480.000.000 each year until 2024 and 2026. So that if it is included in formula (4), the Coverage Ratio value is 1.968779345.

This value is then compared to synthetic ranking data for Ratings, Interest Coverage Ratios and Default Spread for Non-Financial Service Firms, so it is found that Coffee Shop XYZ rating is B1/B+ with a Default Spread of 4.55% as presented in Table 4.

Table 4. Ratings, Interest Coverage Ratios and Default Spread for Non-Financial Service Firms

>	≤ to	Rating is	Spread is
-100000	0,199999	D2/D	20.00%
0,2	0,649999	C2/C	17.50%
0,65	0,799999	Ca2/CC	15.78%
0,8	1,249999	Caa/CCC	11.57%
1,25	1,499999	B3/B-	7.37%
1,5	1,749999	B2/B	5.26%
1,75	1,999999	B1/B+	4.55%
2	2,2499999	Ba2/BB	3.13%
2,25	2,49999	Ba1/BB+	2.42%
2,5	2,999999	Baa2/BBB	2.00%
3	4,249999	A3/A-	1.62%
4,25	5,499999	A2/A	1.42%
5,05	6,499999	A1/A+	1.23%
6,5	8,499999	Aa2/AA	0.85%
8,50	100000	Aaa/AAA	0.69%

(Source: pages.stern.nyu.edu, 2023)

According to Aswath Damodaran (2005), by examining all rated corporations in the US, the relationship between interest coverage ratios and ratings was discovered. The default spreads are derived from bonds that are traded. The pre-tax cost of debt for a company can be calculated by adding that amount to a risk-free rate.

After getting the Coverage Spread value, look for the After-Tax Cost of Debt value which can be calculated using the formula (4) that presented by Palepu *et al* (2013).

$$After\ Tax\ Cost\ of\ Debt = (Risk\ Free\ Rate + Default\ Spread) \times (1 - Tax\ Rate) \tag{4}$$



Where the variable Risk-Free Rate is 6.92%, Default Spread is 4.55%, and Tax Rate is 0.5%. So that the value of After-Tax Cost of Debt is 11.41%.

The Risk-Free Rate and Market Risk Premium value are obtained from personal analysis from the source fenebris.com by Frankfurt/M. Meanwhile the Cost of Equity is calculated using formula (5) presented by Sharpe (1994).

$$\text{Cost of Equity} = \text{Risk Free Rate} + (\beta \times \text{Equity Risk Premium}) \tag{5}$$

According to pages.stern.nyu.edu, Indonesia's Equity Risk Premium is 9.23% which is a calculation of the Default Spread and Mature Market Premium values. So if it is included in formula (5), a Cost of Equity value of 15.16% is obtained.

WACC.

The WACC is the amount by which a company's future cash flows must be discounted in order to determine the present value of the enterprise. It reflects how risky the cash flows are thought to be. The formula explained in formula (6) by Brealey *et al* (2010).

$$\text{WACC} = \left[\frac{\text{Equity}}{\text{Debt} + \text{Equity}} \right] \times \text{Cost of Equity} + \left[\frac{\text{EDebt}}{\text{Debt} + \text{Equity}} \right] \times \text{Cost of Debt} \tag{6}$$

After obtaining the Cost of Equity and Cost of Debt, the WACC is calculated using formula (6) and the resulting value is 12,03%.

Table 5. Coffee Shop XYZ WACC

After-Tax Cost of Debt	11,35%
Cost of Equity	12,15%
WACC	12,03%

(Source: Author’s Calculation, 2023)

F. Discounted Cash Flow Valuation

Discounted Cash Flow is a type of evaluation that aims to find the true value based on fundamentals. According to Aswath Damodaran (2005), the DCF assumes that “the value of an asset is the present value of the expected cashflows on the asset, discounted back at a rate that reflects the riskiness of these cashflows”.

On its research, Beitel (2016) mentioned that Discounted Cash Flow valuation roughly consists out of 2 different stages, the explicit forecasted period which is calculating Unlevered Free Cash Flow, and the terminal value calculation. Discounted cash flow can be formulated as seen in formula (7) (Herbohn and Harrison, 2002). Where CF is Cash Flow at period t, and r is discount rate such as WACC.

$$\text{DCF} = \frac{\text{CF}_t}{(1+r)^t} \tag{7}$$

Terminal Value is one of the most important components in calculating a company's valuation, because its value reaches 53-80% of the overall business valuation. Terminal Value can be calculated using formula (8), where the UFCF Growth Rate value must be smaller than the WACC value (Aswath Damodaran, 2005).

$$\text{Terminal Value} = \frac{\text{Final Year UFCF} \times (1 + \text{Terminal UFCF Growth Rate})}{(\text{WACC} - \text{Terminal UFCF Growth Rate})} \tag{8}$$

To get the Terminal Value, the first thing we need is to calculate the Unlevered Free Cash Flow. UFCF is calculated using formula (9) presender by Damodaran (2005).



$$UFCF = EBIT - Taxes + Depreciation - Capital Expenditures - Increase in Non - Cash Working Capital \quad (9)$$

Unlevered free cash flow is used to remove the impact of capital structure on a firm's value and to increase business comparability. Its primary application is in valuation, when a DCF is created to determine a company's net present value, or NPV. From the formula above, the data is generated as follows:

Free Cash Flow Calculation	Actual				Forecast Period					
	2019	2020	2021	2022	2023	2024	2025	2026	2027	
Net Sales	Rp 2.275.641.000	Rp 1.744.120.800	Rp 2.589.778.550	Rp 5.877.508.622	Rp 6.171.384.053	Rp 7.097.091.661	Rp 7.948.742.660	Rp 8.505.154.647	Rp 9.100.515.472	
EBITDA	Rp 600.928.629	Rp 415.363.057	Rp 560.927.366	Rp 1.181.267.607	Rp 1.080.209.846	Rp 1.645.370.466	Rp 1.899.208.640	Rp 1.946.449.012	Rp 1.988.510.076	
Tax Expense	-Rp 11.378.205	-Rp 8.720.604	-Rp 12.948.893	-Rp 27.237.809	-Rp 3.929.931	-Rp 6.535.067	-Rp 7.601.243	-Rp 7.704.809	-Rp 7.773.194	
CAPEX		-Rp 58.883.946	-Rp 26.599.648	-Rp 34.430.020	-Rp 102.630.800	-Rp 118.025.420	-Rp 132.188.470	-Rp 141.441.663	-Rp 151.342.580	
in % of net sales		3,38%	1,03%	0,59%	1,66%	1,66%	1,66%	1,66%	1,66%	
Net Working Capital	Rp 588.231.237	Rp 550.959.310	Rp 272.404.730	Rp 332.914.873	Rp 349.560.617	Rp 401.994.709	Rp 450.234.074	Rp 481.750.459	Rp 515.472.992	
in % of net sales	25,85%	31,59%	10,52%	5,66%	5,66%	5,66%	5,66%	5,66%	5,66%	
Increase/Decrease in NWC		Rp 37.271.927	Rp 278.554.580	-Rp 60.510.143	-Rp 349.560.617	-Rp 52.434.092	-Rp 48.239.365	-Rp 31.516.385	-Rp 33.722.532	
Unlevered Free Cash Flow	Rp 589.550.424	Rp 385.030.434	Rp 799.933.405	Rp 1.059.089.635	Rp 624.088.498	Rp 1.468.375.887	Rp 1.711.179.562	Rp 1.765.786.154	Rp 1.795.671.770	

Figure 5. Coffee Shop XYZ Unlevered Free Cash Flow

After getting the Unlevered Free Cash Flow results, the data is entered into formula (8) with a Terminal Growth Rate value of 4.85%. This number is taken from the average percentage of Indonesia's GDP growth over the last 20 years. Then the Terminal Value value is generated as follows:

Table 6. Coffee Shop XYZ Terminal Value Calculation

Terminal Year FCF	Rp 1.795.671.770
Terminal Growth Rate	4,85%
WACC	12,03%
Terminal Value	Rp 26.207.783.117

(Source: Author's Calculator, 2023)

The present value of a future stream of cash flows is then determined once the terminal value has been determined, in order to help determine its value today. The Present Value calculation uses the Exit Multiple method with the formula (10) presented by Fin-Wiser.

$$PVTV = Terminal Value \times Discount Factor \quad (10)$$

Where the Discount Factor is used to calculate what the value of receiving a rupiah at some point in the future would be based on the implied date of receipt and the discount rate assumption. Discount Factor is searched using the formula (11).

$$Discount Factor = \frac{1}{(1+WACC)^n} \quad (11)$$

Where n is the number of periods to be calculated, namely 5 years. So that the Discount Factor value is 0.50. This value is then entered into formula (10) so that the Present Value Terminal Value is obtained Rp 14.848.461.829.

$$PVUFCF = UFCF \times Discount Factor \quad (12)$$

$$Discount Factor = \frac{1}{(1+WACC)^t} \quad (13)$$

After that, you can find the company's valuation value or Enterprise Value/EV by adding up the PV Terminal Value with the discounted Unlevered Free Cash Flow (Present Value Unlevered Free Cash Flow) using formulas (12) and (13). Where t on the Discount Factor is the calculated year period. From the calculation above, the following results are shown in Table 7.



$$Company\ Value = \frac{FCF_t}{(1+r)^t} + PV\ Terminal\ Value \quad (14)$$

Or it can also be calculated using formula (15) presented by Arzac (2005).

$$Company\ Value = Market\ Capital + Total\ Debt - Total\ Cash \quad (15)$$

Table 7. Entreprise Value of Coffee Shop XYZ

	2023	2024	2025	2026	2027
<i>Unlevered Free Cash Flow</i>	Rp 624.088.498	Rp 1.468.375.887	Rp 1.711.179.562	Rp 1.765.786.154	Rp 1.795.671.770
<i>PV of Unlevered Free Cash Flow</i>	Rp 557.052.867,91	Rp 1.169.870.302,12	Rp 1.216.875.907,76	Rp 1.120.828.206,64	Rp 1.017.368.146,70
<i>Total PV UFCF</i>					Rp 5.081.995.431,13
<i>PVTV</i>					Rp 14.848.461.829
<i>Enterprise Value</i>					Rp 19.930.457.260

(Source: Author’s Calculation, 2023)

IV. RESULT AND DISCUSSION

A. Valuation Based on Discounted Cash Flow Model with Terminal Value

Table 8. Coffee Shop XYZ Present Value of Terminal Value

Terminal Year Free Cash Flow	Rp 1.795.671.770
Perpetuity Growth Rate	4,85%
Terminal Year EBITDA	Rp 1.988.510.076
Terminal Value	Rp 26.207.783.117
Implied Exit Multiple	13,95
Discount Period	5
Discount Factor	0,57
Present Value of Terminal Value	Rp 14.848.461.829
% of Enterprise Value	73,51%

In a DCF analysis, the Terminal Value, which is the present value of all future cash flows expected to rise at a constant rate indefinitely, quantifies the value of a business beyond the projection period. In this study, Terminal Value constituted 73,51% of the value in a 5-year DCF, or the equivalent of Rp 14.848.461.829. This means that Coffee Shop XYZ's valuation outside the DCF period reaches Rp 14.848.461.829.

Small businesses with a five-year growth window, like Coffee Shop XYZ, will offer a lower percentage of valuation compared to the value of Terminal, in contrast to the condition of mature enterprises, which will generate greater and positive cash flow in their first years. This is due to the fact that the Coffee Shop must reinvest throughout its initial years in order to reach its Terminal Value.



Table 9. Coffee Shop XYZ Enterprise Value and Share Price

Equity value	
Less: Total debt	Rp 1.571.465.000
Plus: Cash and Cash Equity.	Rp 1.026.496.725
Net debt (negative number equals net cash position)	Rp 544.968.275
Equity value ("market cap")	Rp 19.385.488.985
Share price	
Outstanding shares	390000
Price per share	Rp 49.706
Enterprise value ("EV")	Rp 19.930.457.260

The authors look for the price per share from the provided data because the aim of the study is to assist Coffee Shop XYZ IPO on the safe crowd funding platform.

The price per share itself is obtained by dividing market capital to the amount of outstanding shares, which is 390.000 as the result of discussions between the author and Coffee Shop XYZ management. The author and management of Coffee Shop XYZ agreed on a number 390.000 with the consideration that the management of Coffee Shop XYZ wants their issuers to be not too expensive and easy to reach by various groups. By agreeing the number, the price per share is obtained Rp 49.706,38.

Meanwhile equity value or market capital is obtained from reducing enterprise value with net debt. Where net debt results from reducing total liabilities and cash or cash equivalents. So that from the data that the author has entered, the results of Enterprise Value Coffee Shop XYZ are Rp 19.930.457.260.

B. Valuation Based on Relative Model

The author compares the financial performance of Coffee Shop XYZ with several companies in the same industry, namely Restaurants industry. The ratio compared are presented in Table 10.

Table 10. Coffee Shop XYZ Financial Ratios Compares to Industry

Companies	EV/Sales	EV/EBITDA	EV/EBIT	P/E	P/B	Operating Margin
Coffee Shop XYZ	3,39	16,88	21,07	21,09	9,04	20,10%
PT Map Boga Adiperkasa Tbk	1,78	11,52	23,54	33,08	4,99	5,28%
PT Fast Food Indonesia Tbk	0,64	10,66	N/A	18,56	2,80	-1,63%
PT Sarimelati Kencana Tbk	0,65	9,93	89,23	136,82	1,50	54,00%
PT Pioneerindo Gourmet International Tbk	1,10	10,80	22,28	50,00	4,70	7,99%
PT Sari Kreasi Boga	2,20	13,90	18,86	17,80	2,20	17,10%
Mean	1,63	12,28	35,00	46,22	4,21	17,14%
Median	1,44	11,16	22,28	27,09	3,75	12,55%

EV/Sales

The EV/Sales ratio compares a company's value to its total revenue, and is used by investors to assess new companies that have not yet made a profit. The higher the ratio, the more valueable the company is, but it is often unappealing to investors because they will not see a quick return on their investment. Coffee Shop XYZ has a higher ratio calculation than other companies, indicating that it is overvalued and has the potential to attract less investor interest due to its price proposition.



EV/EBITDA

The EV/EBITDA ratio is a valuation ratio used to assess how expensive a company is based on its ability to generate operating profit or operating cash. It is used to find out what the price is fair or reasonable in the industry. An average ratio value is needed for the same industry, and Coffee Shop XYZ has a score above the industry average of 16.88. This indicates that the company is overvalued, making it less attractive to investors. One way to reduce this ratio is to increase sales or reduce market capital and debt.

EV/EBIT

Chan and Lui (2011) found that the EV/EBIT ratio is a more accurate measure of a company's true financial condition. It includes depreciation and amortization, which provide investors with insight into profit growth and long-term sustainability. A high ratio indicates that a company's stock is overvalued, and a low ratio indicates that it is undervalued. Coffee Shop XYZ appears to have the second lowest score after PT Sari Kreasi Boga, which is 21.07. This indicates that the company is undervalued due to its growth rate being different from other companies. A low ratio value also usually describes a company with a stable and secure financial condition.

P/E Ratio

The P/E Ratio is a ratio that compares stock prices to a company's net profit. It is used to determine if the price of a share is considered appropriate or not. Basu (1977) discovered that stocks with low P/E ratios can generate a larger financial return than stocks with high ones. Wu (2014) found that investing in high P/E companies is dangerous because their ROE in the following years could be either high or extremely low. Coffee Shop XYZ has a P/E value of 21.09, which is below the industry average and median. This indicates that the company is undervalued and provides a greater financial return.

P/B ratio

The P/B ratio is calculated by dividing the share price by the book value. Companies with P/B ratios above 1, which indicate that the market value surpasses the book value, typically do well. It is a better measure of future ROE than P/E, and as P/B stocks rise in value in response to increased returns, the company's revenue and its capacity to pay dividends both rise. Coffee Shop XYZ is a good example of a company with a P/B value of 9.04 or exceeds the average and median in the industry, indicating its ability to generate high sales and distribute dividends to investors.

Operating Margin

Operating Margin is a measure of profitability that shows how much of each rupiah revenue is still available after deducting operating costs and costs of goods sold. Coffee Shop XYZ has an Operating Margin value of 20.10% which is higher than both the industry average and the industry median, indicating that it operates efficiently and converts sales into profits. This ratio is closely related to management flexibility and competence, indicating good managerial skills.

V. CONCLUSION

The valuation of Coffee Shop XYZ using the Discounted Cash Flow method with Terminal Value is Rp 19.930.260. However, when compared using the Relative Model method, it is overvalued. This is because the Enterprise Value ratio is too large when compared to sales and EBITDA. It is recommended that management create a new strategy to increase sales and cut expenses related to operations. Research by Kao et al (2018) suggests that overvalued equities will ultimately reverse back to their fair value after the revelation of the fundamental value and stock prices eventually drop. Good corporate governance also reduces the reverse effect of previous overvaluation on current market valuation. EV/EBIT and share price-based ratios such as P/E give the result of being undervalued. A low ratio indicates that the business will provide a greater financial return and the company is considered not too high risk for investment.

Coffee Shop XYZ's P/B value indicates its ability to generate high sales, as well as its ability to distribute dividends to investors. The relationship between P/E and P/B ratios is explained by Halsey (2000) as follows:

1. High Performing Company. Characterized by a high P/B ratio, and a high P/E ratio. Indicates positive residual income and increasing income.
2. Declining Company. Characterized by a high P/B ratio, and a low P/E ratio. Indicates positive residual income and decreasing income.



3. Improving Company. Characterized by a low P/B ratio, and a high P/E ratio. Indicates negative residual income and increasing income.
4. Poor Performing Companies. Characterized by a low P/B ratio, and a low P/E ratio. Indicates negative residual income and decreasing income.

Coffee Shop XYZ is a declining overvalued company, but its Operating Margin assessment shows that it has operated effectively and efficiently so that it generated large profits. When compared to other companies that carry out equity crowdfunding, the ratio ratings are above the average and median. However, the need for reinvestment makes the terminal value too high. This can be controlled by lowering the company's expectations and strategies.

VI. RECOMMENDATION

Coffee Shop XYZ

For the management of Coffee Shop XYZ, the authors recommend increasing sales or reducing operations so that the ratio of Enterprise Value to Sales and EBITDA reaches the ideal level. In addition, the company can reduce expectations and strategies in order to get a reasonable terminal value. This is done so that the company avoids being overvalued so that Coffee Shop XYZ issuers can look attractive in the eyes of investors.

Future Researcher

The author suggests conducting a business valuation using other methods to compare the Enterprise Value of Coffee Shop XYZ.

REFERENCES

1. Ali, Kim Ehab Shelbaya. 2014. *Fundamental Analysis and Relative Valuation Multiples: A Determination of Value Drivers and Development of a Value Model for the US and UK Markets*. United Kingdom. University of Portsmouth.
2. Arzac, Enrique. 2005. *Valuation For Mergers, Buyouts, and Restructuring*. John Wiley & Sons.
3. Bailetti, Tony., Stoyan Tanev, and Christian Keen. *What Makes Value Propositions Distinct and Valuable to New Companies Committed to Scale Rapidly?*. Technology Innovation Management Review.
4. Basu, S. 1977. *Investment Performance of Common Stocks in Relation to Their Price- Earnings Ratios: A Test of the Efficient Market Hypothesis*. The Journal of Finance, 32 (3), pp. 663-682.
5. Brealey, R. A., Meyers, S.C., Allen, F. 2010. *Principles of corporate Finance 10th edition (Global Edition)*. McGraw-Hill-Irwin.
6. Chan, Ronald W., and Brian C. Lui. 2011. *EV/EBIT Ratio: The Best of Both Worlds*. Hong Kong. Chartwell Capital.
7. Choiriya, Choiriyah., et al. 2020. *The Effect of Return on Assets, Return on Equity, Net Profit Margin, Earning per Share, and Operating Profit Margin on Stock Prices of Banking Companies In Indonesia Stock Exchange*. Bandung. International Journal of Finance Research, Vol. 1, No.2.
8. Ciptawan., and Brian Owen Franjaja. 2021. *The Impact Of Current Ratio And Gross Profit Margin Towards Financial Distress In Technology Sector Companies Listed In Indonesia Stock Exchange For Period 2016-2020*. Medan, Indonesia. Journal of Industrial Engineering & Management Research, Vol. 3 No. 1.
9. Creswell, John W. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. California, USA. SAGE Publications, Inc.
10. Damodaran, Aswath. 2005. *Valuation Approach and Metrics: A Survey of The Theory and Evidence*. Stern. Stern School of Business.
11. Doblaz, M.P, Lagaras, M.C.P., and Enriquez, J.A. 2020. *Price to Earnings and Price to Book Ratios as Determinants of Stock Return: The Case of Financial Institutions Listed in Bahrain Bourse*. Journal of Applied Economic Sciences, Volume XV, Fall, 3(69): 532-539.
12. Faiteh, Anouar., and Mohammed Rachid Aasri. 2022. *Accounting Beta as an Indicator of Risk Measurement: The Case of the Casablanca Stock Exchange*. Rabat, Morocco. MDPI.
13. Fernández, Pablo. 2008. *Levered and Unlevered Beta*. Madrid, Spain. IERE Business School.
14. Fernández, Pablo. 2013. *WACC: Definition, Misconceptions and Errors*. Madrid, Spain. Business Valuation Review 29(4).



15. Findlay III, M. Chapman., and Edward E. Williams. 1975. Toward More Adequate Debt Service Coverage Ratios. *Financial Analysts Journal*, Vol. 31, No. 6.
16. Fitch, S. 2022. *P/Es for the Smart Money*. *Forbes*; 5/13/2002, Vol. 169 Issue 11, p184-186.
17. Gitman, L.J., Juchau, R., and Flanagan, J. 2015. *Principles of managerial finance*. Pearson Higher Education AU. ISBN: 1292018208 978-1292018201, 929 p.
18. Gürel, Emet. 2017. *SWOT ANALYSIS: A THEORETICAL REVIEW*. *Journal of International Social Research*.
19. Hamada, R. 1972. *The Effect of the Firm's Capital Structure on the Systematic Risk of Common Stocks*. *Journal of Finance*, 27, 435-452.
20. Handayani, Novia., and Srihadi Winarningsih. 2020. *The Effect of Net Profit Margin and Return on Equity Toward Profit Growth*. *Jurnal Akuntansi dan Keuangan*.
21. Herbohn, John., and Steve Harrison. 2002. *Introduction to Discounted Cash Flow Analysis and Financial Functions in Excel*. *Socio-economic Research Methods in Forestry*.
22. Jayaraj, Prabhuraj. 2022. *Study on Ratio Analysis at TNPL*. Conference: Business Finance and Social Science at TAMILNADU.
23. Kao, Lanfeng., Anlin Chen., and Cheng-Shou Lu. 2018. *Ex ante and ex post overvalued equities: The roles of corporate governance and product market competition*. *Taiwan. Asia Pasific Management Review* 23 (2018), pp 209-221.
24. Kenton, W. 2021. *Corporate Finance & Accounting*. [Online] Available at: <https://www.investopedia.com> [Accessed 20 January 2023].
25. Mahruzal., and Muammar Khaddafi. 2020. *The Influence of Gross Profit Margin, Operating Profit Margin and Net Profit Margin on the Stock Price of Consumer Good Industry in the Indonesia Stock Exchange on 2012-2014*. *Aceh. International Journal of Business, Economics and Social Development*, vol. 1, No. 33, pp. 153-163.
26. Manglik, Manish., and Dr. Akhil Goyal. 2016. *Operating Margin Ratio (A Comparative Study of Selected Public and Private Sector Companies)*. Jaipur. *Indian Journal of Research*, Vol. 5, Issue 5.
27. Osterwalder, Alexander., et al. 2014. *Value Proposition Design: How to Create Products and Services Customers Want*. Wiley.
28. Park, Han-Up. 2017. *CHANGES IN OPERATING MARGINS DURING A SALES DECLINE AND ABNORMAL RETURNS*. Temple university Graduate Board.
29. Pozos Brewer, Rose. 2015. *Coffee Shops: Exploring Urban Sociability and Social Class in the Intersection of Public and Private Space*. Swarthmore College, Dept. of Sociology & Anthropology.
30. Riedho, M. Roehman Zainur. 2022. *Larangan Ekspor Bijih Nikel Oleh Pemerintah Indonesia Setelah Meningkatnya Tren Industri Otomotif Berbasis Listrik*. Universitas Islam Negeri Sunan Ampel Surabaya.
31. Rizky, Zulfi Noor. 2020. *Pengaruh Third Wave Coffee Culture Terhadap Modernisasi Budaya Kopi di Indonesia*. Malang. Universitas Muhammadiyah Malang.
32. Rubinstein, M. 1973. *The Fundamental Theorem of Parameter Preference Security Valuation*. *Journal of Financial and Quantitative Analysis*, 8, 61-69.
33. Sammut-Bonnici, Tanya., and David Galea. 2015. *PEST Analysis*. Wiley Encyclopedia of Management. John Wiley & Sons, Ltd.
34. Sharpe, W.F. 1964. *Capital Asset Prices: A Theory of market equilibrium under conditions of risk*. *Journal of Finance* 19: 425-442.
35. Tofallis, Dr. Chris. 2011. *INVESTMENT VOLATILITY: A CRITIQUE OF STANDARD BETA ESTIMATION AND A SIMPLE WAY FORWARD*. Hatfield, United Kingdom. Department of Management Systems The business School University of Hertfordshire.
36. Wu, Wan-Ting. 2014. *The P/E Ratio and Profitability*. Massachusetts, USA. *Journal of Business & Economics Research*, First Quarter 2014, Vol. 12 Number 1.

Cite this Article: Nisrina Balqis Maharani Putri, Ana Noveria (2023). Business Valuation Using Discounted Cash Flow Method in Restaurant Industry (Case Study: Coffee Shop XYZ). International Journal of Current Science Research and Review, 6(2), 1413-1427