THE EFFECT OF COMPANY SIZE, PROFITABILITY, ECONOMIC GROWTH RATE, MARKET TRACTION AND COMPETITIVE ADVANTAGE ON STARTUP VALUATION IN LOGISTICS AGGREGATORS

Shafira Elvina Putella¹, Zuliani Dalimunthe², Teddy Oswari³
¹,²Universitas Indonesia, Jakarta, Indonesia
³Universitas Gunadarma, Indonesia
Email: shafira.elvina5@gmail.com

Abstract
The large number of startups in Indonesia is supported by an increase in internet user penetration which reaches 64.8% of the Indonesian population or 171.17 million users (APJII 2019). The potential of Indonesia's creative economy and startups is very large which is supported by abundant natural resources, local cultural diversity spread throughout the archipelago, and diversity of human resources. The objectives of this study are as follow: Describe the financial performance of start-ups in logistics aggregators at PT Linknau. Analyzing company size, profitability, economic growth rate, market traction and competitive advantage against startup valuation in logistics aggregators (Case Study at PT Linknau). The data used in this study are primary data and secondary data. Primary data is in the form of interviews conducted in depth interviews with the CEO of PT Linknau and secondary data in the form of financial statements of startup companies PT Linknau from 2019-2022. The results show that the valuation of the Real Option Method (ROM) from 2019 to 2023 is seen increasing. It can be seen that the highest value of ROM valuation in 2023 is right in executing investments and finding the optimal value of PT Linknau itself.

Keywords: company size; profitability; economic growth rate; market traction and competitive advantage; advantage on startup valuation;

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INTRODUCTION

Today's technological developments are increasingly sophisticated, Indonesia has become a thriving startup ecosystem, based on the startupranking database (2020) Indonesia has a total of 2,217 startups. The large number of startups in Indonesia is supported by an increase in internet user penetration which reaches 64.8% of the Indonesian population or 171.17 million users (APJII 2019). From these data, it can be concluded that the number of internet users is increasing over time and it has become common among internet users to use the internet as a forum for online transactions.
According to Howkins (2001) the change in economic patterns is known as the economic wave, and the creative economy is the fourth wave in economic orientation after the agricultural economy, industrial economy, and information economy. Based on the results of creative economy potential mapping conducted by the Indonesian Creative Economy Agency in 2016, there are 16 creative economy subsectors consisting of: (1) architecture; (2) interior design; (3) visual communication design; (4) product design; (5) films, animations, and videos; (6) photography; (7) crafts; (8) culinary; (9) music; (10) fashion; (11) app and game developers; (12) publishing; (13) advertising; (14) television and radio; (15) performing arts; and (16) fine arts.

The potential of Indonesia's creative economy and startups is very large which is supported by abundant natural resources, local cultural diversity spread throughout the archipelago, and diversity of human resources. With the addition of the value of creativity and innovation to the creative economy, it will have the opportunity to become a driver of national development and a driver of national economic growth.

At first, startups receive government and external agency support to help kick-start the business stages, for example to produce prototypes, write business plans, lease facilities, and other activities involved in creating the organization. Support coming from external agencies does not guarantee that all companies will have long-term success. The reality is quite the opposite, once a business has been established and can operate on its own, this level of support is hard to find. The challenge is particularly formidable for business owners at this stage of the early cycle due to the lack of funding from the public and private sectors. This relates specifically to theories such as the Business Life Cycle Model developed by Churchill and Lewis (1982) or Greiner's Growth Model (Morris et al. 2008)

![Figure 1: The Valley of Death startup. Osawa and Miyazaki (2006)](image)

An interesting start-up that is the focus of this research is Linknau for Business. Linknau was established in 2019 as one of the start-ups that runs a business as a logistics aggregator, which uses applications via devices or smartphones for integrated delivery of goods through an application to support business growth. Linknau's logistics partners consist of JNE, Anter Aja, Ninja Express, 21 Express, SAP Express Courier and Si Cepat. Linknau in running its business has all the conveniences for business people, such as being able to integrate with company systems using Application Programming Interfaces (APIs), having their own store couriers with multiple logistics support, providing access
between business people and partners through a separate interface system and providing more choices of delivery partners if using Linknau.

Figure 2. Sales Data, Investment Expenditure Activities and Investor Income for the 2019-2022 period

Furthermore, the growth rate is the process of increasing the production of goods and services in the economic state of the community, an economy is said to experience growth if the economic level achieved in a certain year is higher than the previous year. So that the rate of increase in GDP can cause changes in the ratio of state income because GDP is the numerator of the calculation of the Tax Ratio. DP as one of the benchmarks that can be used to determine the amount of income of a country. Gross domestic product is the amount of products in the form of goods and services produced by production units within the territorial boundaries of a country (domestic) for one year.

Economic growth is very influential on company valuations, supported by research conducted by Dharma et al. (2019) states that company growth along with economic growth greatly affects startup valuations. Likewise, research conducted by Oktaviani (2020) states that company growth along with economic growth greatly affects start-up valuations.

Market traction is a development momentum for startups to increase sales and increase customer base. In other words, traction is the company’s ability to monetize the value of its users, where the output can be in the form of users, partners, merchants, and so on, as long as it can be monetized. Generally, the success of a company in the traction period is judged by the number of new customers and the total revenue they receive. However, many large companies such as Amazon, Google, Uber, and startups such as Gojek have good traction although their revenue cannot always be determined. Traction is an abstract, yet possessive concept. Here are some important functions of traction for startups, Key Investor Considerations, as the main consideration for investors to disburse funds. Investors will choose companies that are stable, potential, and able to grow exponentially. Indirectly, the traction success rate of a startup is an indicator that is quite influential for investors who are interested in disbursing funds. Next, the Customer Interest Indicator, how much customer interest in the product or service offered. The traction value will be a validation and material for evaluating the success of a startup's product or service. Then, the ever-increasing traction value can convince excellent candidates to join your startup. Thus, you can improve the quality of human resources within the company. Finally, considering traction is an effort to increase business profits, revenue, and customer base. No wonder, if startup traction is also called a "whip" for
companies to continue to take innovative steps so that your startup grows. Market traction affects company valuation, this is supported by research conducted by Nielsen et al (2019) stating that market traction affects start-up valuation. Meanwhile, research conducted by Visconti (2020) states that market traction affects start-up valuations.

Competitive advantage here is how a business practices or implements business strategies and is useful for implementing objectives and strategies on how the business can compete in the market (Porter, 2008). There are also three general strategies for businesses that want or aim to have above-average performance in the industry taken, namely 1) Cost Leadership; 2) Differentiation; and 3) Focus (Pulaj et al. 2015). The competitive scope can have a great influence and can have a major impact on competitive advantage. Competitive advantage also affects the company's valuation. Meanwhile, research conducted by Chiun-sin Lin and Chih-Pin Huang (2011) states that competitive advantage affects company valuation. The importance of assessing start-up valuations in terms of company size, profitability, industry growth in line with the economy, market traction and competitive advantage is used to attract investors to invest. Therefore, it is necessary to conduct research on the effect of company size, profitability, market traction and competitive advantage on start-up valuation in logistics aggregators (Case Study at PT Linknau).

The objectives of this study are as follow Describe the financial performance of start-ups in logistics aggregators at PT Linknau. Analyzing company size, profitability, economic growth rate, market traction and competitive advantage against start-up valuation in logistics aggregators (Case Study at PT Linknau).

RESEARCH METHODS

The study was conducted from January to March 2023. The data used in this study are primary data and secondary data. Primary data is in the form of interviews conducted in depth interviews with the CEO of PT Linknau and secondary data in the form of financial statements of start-up companies PT Linknau from 2019-2022. There are also data as support for this research in the form of journals, theses and books as research support. This study used a descriptive and verificative approach using primary data and secondary data. The descriptive approach is used to provide an overview of the company's financial condition and ability to provide added value for investors in PT Linknau's start-up company, while the quantitative approach is used to describe statistical data that shows the relationship between company size, profitability, economic growth rate, market traction and competitive advantage to the valuation of PT Linknau's start-up company value using a mathematical model with the help of Eviews software 7.

The model in this study used panel data. In general, there are three commonly used models, namely Pooling Least Square (PLS), Fixed Effect Model (FEM), and Random Effect Model (REM). To select the model used, the Chow Test, the Hausman Test and the Lagrange Multiplier Test are performed.

The Chow test is performed to choose between PLS methods without dummy or FEM variables. After the Chow Test is carried out a Lagrange Multiplier Test to choose between PLS and REM, then a Hausman Test is carried out to choose between REM and FEM.
After the series of tests is completed, in using regression analysis, it is necessary to test classical assumptions so that the results of this regression show a valid relationship to meet the assumption of the Best Linear Unbiased Estimator (BLUE). Thus, it is necessary to test classical assumptions in the form of normality, heteroscedacity, autocorrelation, and multicholinerity tests.

The equation model of the effect of company size, profitability, economic growth rate and competitive advantage on company valuation in research using leg, this is due to being an independent variable sourced from financial statements, so there is a delay in its issuance. In general, the issuance of financial statements is issued in the next one or quarter. To overcome these problems in this study the variables CS, NPM, CAGR, CLV and ROIC used are variable values in the previous two periods (t-2),

RESULT AND DISCUSSION

A. Analysis of the effect of profitability, company size, market traction, economic growth rate and competitive advantage on The Real Option Method

<table>
<thead>
<tr>
<th>Table 1 Uji Autokorelasi</th>
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<tbody>
<tr>
<td><strong>Durbin Watson</strong></td>
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Source: Data processed (2023)

<table>
<thead>
<tr>
<th>Table 2 Multicollinearity Test</th>
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<tr>
<td><strong>FCM</strong></td>
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<td>FCM</td>
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<tr>
<td>CS</td>
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<td>MTR</td>
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<tr>
<td>GRE</td>
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<tr>
<td>KB</td>
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Source: Data processed (2023)

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<tr>
<th>Table 3 Heteroscedasticity Test</th>
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<tr>
<td><strong>Model</strong></td>
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</tbody>
</table>

Source: Data processed (2023)

<table>
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<tr>
<th>Table 4 Regression Analysis Results of Valuation Panel Data The First Chicago Method PT Linknau</th>
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</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
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<tr>
<td>C</td>
</tr>
<tr>
<td>CS</td>
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</table>
From the results of data processing using EViews software, it can be seen in Table 4.10 that the significant value of F of 0.0006 is smaller than the degree of significance (α = 5%), so it can be concluded that the average variables Company Size (CS), Market Traction (MTR), Growth Rate (GRE) and Competitive Advantage (KB) together affect the valuation of PT Linknau using The First Chicago Method. From the regression results, an adjusted R-Square of 84.1% was obtained. This means that 84.1% of PT Linknau's valuation using The First Chicago Method can be explained by independent variables in this model, while the rest is explained by other factors.

After valuation using The Berkus Method with a Valuation by stage approach and the results of interviews in depth interview as one of the references in this study, it can be seen that the results of valuation after assessing each element of PT Linknau's Startup are in the early stage growth stage. PT Linknau is at the early stage of engagement with the funding stage in the Round seed capital leading to the series A funding stage. With a pre-money valuation value of Rp.3,524,830,240 is the company's valuation value before getting funding at the early stage, according to the references and interview results obtained that amount.

To find out how much the total valuation value of the entire PT Linknau company, before getting funding and after getting funds from a donor (angel investor), who is known to have received funding of Rp. 2 billion, the calculation at the early stage is as follows:

Post Money Valuation = Pre-Money Valuation (Calculation Berkus method) + Investment Value Received
Post Money Valuation = Rp.3,524,830,240 + Rp.2,000,000,000
= Rp.5,524,830,240

Post-Money Valuation is an initial milestone in the company's value when receiving investment. Post-Money Valuation has an impact on the share price in the position of stock issuance and paper value of shares owned by the founder. The calculation of Post-Money Valuation is important because it determines how the next
valuation is done. If the company's growth is as targeted, the next round of funding will look at the previous Post-Money Valuation as a basis. So, PT Linknau's Post Money Valuation in the early stage of Rp. Rp. 5,524,830,240 is the basis for the company to receive investment and as a basis for an investor to provide investment to the company, and this will have an impact on the company's stock price.

B. Analysis of the effect of profitability, company size, market traction, economic growth rate and competitive advantage on The Real Option Method

**Table 5 Autocorrelation Test**

<table>
<thead>
<tr>
<th>Model</th>
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Source: Data processed (2023)

**Table 6 Multicollinearity Test**

<table>
<thead>
<tr>
<th></th>
<th>FCM</th>
<th>CS</th>
<th>MTR</th>
<th>GRE</th>
<th>KB</th>
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<tbody>
<tr>
<td>FCM</td>
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<td>-0.05</td>
<td>0.04</td>
<td>0.05</td>
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<tr>
<td>CS</td>
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<td>0.02</td>
<td>0.01</td>
<td>0.02</td>
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<tr>
<td>MTR</td>
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<td>GRE</td>
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<td>KB</td>
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<td>-0.05</td>
<td>-0.05</td>
<td>1.000000</td>
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</table>

Source: Data processed (2023)

**Table 7 Heteroscedasticity Test**

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<thead>
<tr>
<th>Model</th>
<th>P-Value</th>
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</table>

Source: Data processed (2023)

**Table 8 Results of Regression Analysis of PT Linknau's Berkus Method Valuation Panel Data**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-1.35324</td>
<td>2.54851</td>
<td>-0.06642</td>
<td>0.07250</td>
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<tr>
<td>CS</td>
<td>1.00667</td>
<td>1.79810</td>
<td>0.01715</td>
<td>0.00020</td>
</tr>
<tr>
<td>MTR</td>
<td>1.59518</td>
<td>0.15592</td>
<td>3.01723</td>
<td>0.00880</td>
</tr>
<tr>
<td>GRE</td>
<td>-1.00421</td>
<td>1.00151</td>
<td>-2.07921</td>
<td>0.03200</td>
</tr>
<tr>
<td>KB</td>
<td>2.32404</td>
<td>2.18536</td>
<td>1.04814</td>
<td>0.03100</td>
</tr>
<tr>
<td>Effects Specification</td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>S.D. Rho</th>
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<tbody>
<tr>
<td>cross-section random</td>
</tr>
<tr>
<td>Idiosyncratic random</td>
</tr>
<tr>
<td>R-squared</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
</tr>
<tr>
<td>S.E. of regression</td>
</tr>
<tr>
<td>F-statistic</td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
</tr>
</tbody>
</table>
From the results of data processing using EViews software, it can be seen in Table 8 that the significant value of $F$ of 0.0005 is smaller than the degree of significance ($\alpha = 5\%$), so it can be concluded that the average variables Company Size (CS), Market Traction (MTR), Growth Rate (GRE) and Competitive Advantage (KB) together affect the valuation of PT Linknau using the Berkus Method. From the regression results, an adjusted R-Square of 88.1% was obtained. This means that 88.1% of PT Linknau's valuation using the Berkus Method can be explained by independent variables in this model, while the rest is explained by other factors.

**CONCLUSION**

Based on the results of the research above, it can be concluded that the financial performance of start-ups in logistics aggregators at PT Linknau can be explained using company valuations calculated or measured using three methods, namely the Real option method, The first chicago method and the Berkus Method. The results show that the valuation of the Real Option Method (ROM) from 2019 to 2023 is seen increasing. It can be seen that the highest value of ROM valuation in 2023 is right in executing investments and finding the optimal value of PT Linknau itself. Furthermore, The First Chicago Method returns a value slightly above the actual value. This is because using probabilities such as 25%, 50%, and 25%, for successful outcomes, expected outcomes, and pessimistic outcomes respectively, the final value is weighted among the possibilities. Considering that The First Chicago Method consistently produces higher scores than DCF, the authors argue that overpricing is due to overbelief in optimistic scenarios. Overall, The First Chicago Method is quite accurate in assessing start-up companies, such as PT Linknau, compared to DCF scores. Likewise, Valuation uses The Berkus Method. PT Linknau is at the early stage of engagement with the funding stage in the Round seed capital leading to the series A funding stage with a pre-money valuation value of Rp. 3,524,830,240 is the company's valuation value before getting funding at the early stage, according to the references and interview results obtained by that amount. After that, PT Linknau's Post Money Valuation in the early stage of Rp. 5,524,830,240 is the basis for the company to receive investment and as a basis for an investor to provide investment to the company, and this will have an impact on the company's stock price.

On the effect of company size, profitability, economic growth rate, market traction and competitive advantage on company valuation calculated or measured using the real option method, the first Chicago method and berkus method using panel data regression. Overall, it has a significant effect on the level of significance (alpha = 5%). If there are changes in company size, profitability, economic growth rate, market traction and competitive advantage, it will affect PT Linknau's company valuation.

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