ESTIMATING THE VALUE OF A START-UP FUNDED BY VENTURE CAPITAL: A CASE STUDY OF UBER TECHNOLOGIES INC.

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ABSTRACT: The aim of this study is to evaluate the efficacy of the Venture Capital Method (VCM) in estimating the value of start-up companies funded by venture capital. A sample of 110 respondents was collected using a Likert scale questionnaire. Statistical analysis was conducted using JASP version 0.19.0.0. The findings indicate that VCM is effective in estimating the value of start-up companies that receive venture capital financing. This research contributes significantly to understanding the relationship between the Venture Capital Method and start-up financing. The study concludes that VCM is a vital analytical tool for determining the value of start-ups both before and after the injection of new capital. The findings are particularly novel as they utilise a technology company as a case study, thereby generalising the results to other start-ups.

Keywords: Venture Capital, Start-Ups, Company Value, Venture Capital Method.

1. Introduction

Large enterprises often stem from small, simple ideas, exemplified by companies like Microsoft, Yahoo, Amazon, Facebook, and UBER, which is the focus of this study (Andrusiv et al., 2020). The study aims to elucidate the application of the Venture Capital Method (VCM) in estimating the value of start-ups funded by venture capital. Traditional companies, which typically rely on a mix of debt and equity, cannot be valued using this method due to their different financing structures (Gompers, 2022; Röhm, Merz, & Kuckertz, 2020). A significant challenge for start-ups is securing financing, as banks often require guarantees that exceed their capabilities, despite possessing innovative ideas (MacMillan, Kulow, & Khoylian, 2022a; Shao & Sun, 2021). These unique ideas require adequate funding to transform them into viable businesses, leading many investors to support emerging companies in exchange for equity stakes (Bygrave et al., 2022; Ruhnka, Feldman, & Dean, 2022).

Venture investors typically assess the value of a company before investing to ensure the recovery of their investment and potential profits (Cailou & DeHai, 2022). A key method used for this valuation is the VCM. Investors in start-ups requiring venture financing aim to determine the start-up's value to inform their financing decisions (Nanda, Samila, & Sorenson, 2020). Understanding the company's value is crucial for investors, as they seek to recoup their investment and exit after a specified period (Yi et al., 2023). They prefer to invest in profitable projects and start-ups that promise substantial returns. The significance of venture capital financing has grown in global financial literature over the past three to four decades (Song, Jin, & Li, 2022). This type of financing carries risks (Battisti et al., 2022) but also offers the potential for substantial profits, as evidenced by successful projects that evolved from simple ideas through venture financing (Glücksman, 2020) and the founders' capabilities into large enterprises (Tumasjan, Braun, & Stolz, 2021). However, there is a notable lack of Arab studies on this subject, and, to the researchers' knowledge, no local studies have addressed this type of financing thus far.

Venture capital is a scarce resource, often linked to slow growth (Gompers et al., 2020). According to Tian et al. (2021), it plays a crucial role in stimulating innovation within start-ups. Notably, the knowledge, networks, and experience of investors are often more valuable than the actual capital (Gou & Xu, 2021). In later stages, the involvement of venture capital firms intensifies, focusing on management support. Entrepreneurs tend to seek out reputable venture capital firms that provide value beyond monetary investment (Cumming et al., 2023). Concurrently, these firms identify the most promising start-ups with strong innovative potential (Huang & Madhavan, 2021). Emerging companies, which are in the early stages of their life cycle, exhibit diverse characteristics based on their industry (Pan et al., 2020; Wu, Yang, & Tan, 2020). Common traits include a lack of extensive history, limited assets and resources, minimal or negative revenues, and reliance on proprietary financing (Hegeman & Sørheim, 2021; Rossi et al., 2020). Nevertheless, some emerging companies may possess moderate resources or significant assets. Additionally, Murad, Othman and Kamarudin (2024b) emphasise that new businesses require substantial financial support to compete in the market.

To estimate the value of a start-up company, investors typically employ specific methods tailored to measure its worth (Quas, Martí, & Reverte, 2021). This necessity arises from the unique conditions of start-ups financed by venture capital, which differ from those of traditional companies, typically assessed using well-established methods in financial literature (Sun, Zhao, & Sun, 2020).

Traditional companies primarily rely on two financing sources: equity and bank loans. The purpose of this study is to determine whether the Venture Capital Method is useful for appraising start-up businesses that are obtaining venture capital funding. It is important because it offers a thorough grasp of how the Venture Capital Method and start-up funding are related. The literature review, methods, findings, discussion, and implications are among the elements that make up the structure of the study. Furthermore, the conclusion portion discusses the study's future directions.

2. Review of Literature

2.1. Concept of Venture Capital

Venture Capital (VC) is defined by the National Venture Capital Association (NVCA), USA, as a long-term investment in private companies that provides active and flexible financing from investors who are particularly prepared for such investments. Fund is considered an important source (intermediary) for small and medium-sized enterprises when they are in the early stage of development and constantly needing funds to grow, as long as these firms can prove that they have special capabilities which will lead them or cause enough growth in near future (Mulyani, Suparno, & Sukmariningsih, 2023; Song et al., 2022). Venture capital investments are considered as high growth and high risk (Glücksman, 2020) Start-ups face particular problems, such as a short life expectancy and heightened risks of failure. Additionally, venture capital is presented as an intermediate entity between entrepreneurs and capital sources (Bessière, Stéphany, & Wirtz, 2020). It is a type of medium to long-term financing that gives funds to early-stage businesses in exchange for equity ownership stake in them, which are always high-growth and high-risk (Azzam, 2023; Jeong et al., 2020).

The European Venture Capital Association (EVCA) defines venture capital as funds provided to emerging, high-risk private ventures, which are dynamic and have growth potential in return for an equity stake. The goal is to maintain a large surplus value over the duration of several years, and ultimately sell off some shares by resale in order to finalise such profits while balancing the risks (Harris et al., 2023). Due to the nature of emerging companies (especially in technology industries) that require growing amounts of capital over time and have little hope of obtaining bank loans, venture capital emerges as an alternative funding source (Jain & Kini, 2022; Kolokas et al., 2022). Platform companies also do continuously need for its growth and investment in product development, hiring skilled human resources, marketing activities as they grow (Alghazali et al., 2022; Vanderhoven et al., 2020).

As noted by Alperovych, Groh, and Quas (2020), when companies do not have access to traditional financing to develop their innovation ideas over the medium to long term in exchange for equity stakes so as to grow and profit, we say there is a gap. Finally, investors want to make an exit so they can cash in on their investment from selling successful businesses (MacMillan, Zemann, & Subbanarasimha, 2022b).

Venture capital is a finite resource that has proven useful for boosting innovative companies and can lead to sluggish growth Buttice, Di Pietro, & Tenca (2020). Venture capital is not just financial capital; rather, the invaluable knowledge and networks entrepreneurs have access to comes courtesy of this unique aspect (Amit, Glosten, & Muller, 2022). As a company matures, however, investors take an increasingly active role in management; entrepreneurs want reputable VC firms that bring added value to the table. While VC firms are tasked with identifying the best and most innovative startups (Hyun & Kim, 2024). Startups in a developing company(firms that less than two years old) whose lifecycle phase also has limited history, resources, revenues, income etc and may experience negative cashflows and rely most on internal financing (Kolokas et al., 2022). However, some nascent firms can have decent resources or large assets.

2.2. Emergence of Risk Capital Companies

The idea of venture capitalism has its historical roots in lots of early history (Harris et al., 2023). One Greek philosopher Thales of Miletus is credited with its earliest implementation, when he founded the first project in agricultural industrialization extraction of olive oil finance by venture investors. From the fifteenth and sixteenth centuries onwards, venture capitalists would invest in ships to finance Spanish or Portuguese expeditions to the New World. In terms of the modern iteration, venture capital re-surfaced after World War II with Boston, USA as the birthplace through key steps such as the founding of what many consider to be the first major venture capital firm in America the American Research and Development Corporation (ARD) in 1946. The firm, established by French General Karl Campton and George Doriot, focused largely on financing electronic start-up companies. The venture capital market emerged after the 1950s with the growth of electronic industries, and investment companies began to be listed on stock markets in the 1970s. In Europe, the European Venture Capital Association, formed in Brussels in 1983, was rapidly on the move throughout most of Western Europe by 1992. Venture capital later extended to Arab countries like Tunisia and Egypt and, as by the 2000s, widely spread out even between the Gulf states, Algeria and Morocco to fill investment financing requirements.

Curiously, the surge of venture capitalists is not limited to the developed world alone but spread towards developing nations as well (Jeong et al., 2020; Xie & Chen, 2024). They also had a hand in the establishment of venture capital firms in Kenya, Brazil and the Philippines, along with funding initiatives across those regions and Europe too during the 1990s. Several institutions were also established in Malaysia and the Arab Gulf states (Bessière et al., 2020; Dingmeixi, 2023).

2.3. Venture Capital Method

The valuation by the Closing Multiple (VCM) uses to methods, Market Approach and DCF (Discounted Cash Flow), which enable a complex valuation approach oriented to investor perspective instead company owners same. That is, it finds the present value of expected cash flows at an exit event and point in time, discounted by a rate of return appropriate to the investment's risk (Daskalopoulou, Pylli & Giannakou, 2022; Sun et al., 2020). This approach, developed by Sahlman and Scherlis (1989), starts with estimating the company's post-financing value and exit revenue, often 2-5 years down the road. Ultimately, it is to arrive at the pre-money valuation of the company which will determine the pricing of shares and serve as a basis for negotiations between both investors and company owners (Huang & Madhavan, 2021; Shaban & Abdulhaleem, 2023). One drawback of this is that it is future dependent.

2.4. Hypotheses Development

Venture capital is a crucial element of the capital market (Gou & Xu, 2021). Battisti et al. (2022) assert that venture capital firms play a vital role in financing emerging projects, providing not only financial resources but also expertise and modern management techniques, which serve as significant incentives for these projects to grow and achieve substantial profits. Tian et al. (2021) highlight that venture capital is an important method for predicting the financial value of newly established businesses. Moreover, Wu et al. (2020) note that the VCM is effectively employed by investors to comprehend the evolving business dynamics and financial conditions of start-ups (Abella, Ortiz-de-Urbina-Criado, & De-Pablos-Heredero, 2022; Hegeman & Sørheim, 2021). Additionally, Quas et al. (2021) emphasize that VCM is useful for estimating the value of new companies. Consequently, the following hypothesis is proposed,

H1: Venture capital method is useful in estimating the value of a start-up company financed by venture capital.

3. Methodology

This investigation employed quantitative data to investigate the relationship between variables, utilising items measured on a Likert scale, which were adapted from previous studies with modifications to the language for contextual relevance. The scale items were incorporated into a questionnaire aimed at collecting data from stakeholders and members of Uber, as the findings were generalized to this population. As there is no defined sampling frame, a purposive sampling method was used to select those respondents who would be able to provide relevant data. Details regarding data collection were provided to the participants, and confidentiality of their responses was assured. Of the 150 questionnaires distributed, resistance to reporting demographic information resulted in that section being removed. Questions made by respondents were responded immediately in order to ease the collection of data. 122 responses were collected, 12 of which were excluded after the preliminary screening procedure for invalid answers, hence 110 valid answers were used for statistical analysis. Regression analysis was used to analyse data in JASP (v0. 19. 0. 0). Descriptive statistics, frequency distributions, Pearson's correlation, model summary (R2), analysis of variance and regression were performed for the data analysis.

4. Findings

JASP was used to analyse the study's results (Murad, Othman, & Kamarudin, 2024a). Descriptive statistics verified all 110 replies without missing values. The data was normal because the mean, skewness, and kurtosis values were under the significant threshold of -3 to +3 (Royston, 1992). Table 1 shows descriptive data for Likert scale responses 1–5. Furthermore, the frequency of responses to the instruments was examined. As indicated in Table 2, the venture capital method instrument elicited varied responses from the participants. Specifically, six participants selected a score of one, thirty-three participants selected a score of two, twenty-four participants selected a score of three, twenty-eight participants selected a score of four, and nineteen participants selected a score of five.

Table 1: Descriptive Statistics.

	VCM	VSC
Valid	110	110
Missing	0	0
Mean	3.191	2.982
Std. Deviation	1.200	1.141
Skewness	0.045	0.187
Std. Error of Skewness	0.230	0.230
Kurtosis	-1.121	-0.754
Std. Error of Kurtosis	0.457	0.457
Minimum	1.000	1.000
Maximum	5.000	5.000
VCM = Venture Capital Method and VSC = Value of a Start-up Company		

Table 2: Frequencies for VCM.

VCM	Frequency	Percent	Valid Percent	Cumulative Percent
1	6	5.455	5.455	5.455
2	33	30.000	30.000	35.455
3	24	21.818	21.818	57.273
4	28	25.455	25.455	82.727
5	19	17.273	17.273	100.000
Missing	0	0.000		
Total	110	100.000		

Additionally, the frequency of responses regarding the dependent variable, the value of a start-up company, was analysed. As shown in Table 3, the instruments measuring the value of a start-up company elicited varied responses from the participants. Nine competitors scored one, thirty-two two, thirty-four three, twenty-two four, and nineteen five. The variables' association was determined using Pearson's correlation analysis. Benesty et al. (2009) say p-values below 0 imply significance. Table 4 shows a significant and positive association between the factors.

Table 3: Frequencies for VSC.

VSC	Frequency	Percent	Valid Percent	Cumulative Percent
1	9	8.182	8.182	8.182
2	32	29.091	29.091	37.273
3	34	30.909	30.909	68.182
4	22	20.000	20.000	88.182
5	13	11.818	11.818	100.000
Missing	0	0.000		
Total	110	100.000		

Table 4: Pearson's Correlations.

			n	Pearson's r	p
VCM	-	VSC	110	0.626***	<.001
* p < .05, ** p < .01, *** p < .001					

The model overview describes the research model. At 0.626, the R-value shows a substantial correlation among the dependent and independent variables, exceeding the 0.4 criterion for further study. With an R-squared of 0.691, the model explains the association better than 0.5. The findings are generalisable because the adjusted R-squared is just 0.005 from R-squared (0.691 - 0.686). These findings are in Table 5. The study model's significance was assessed using ANOVA. The study found a significant p-value of <.001, meeting the 0.05 threshold (Scheffe, 1999). An efficient model has an F-ratio larger than 1 that improves variable prediction following model inaccuracies. In this investigation, the F-ratio is 69.418, showing significance and the ANOVA results are presented in Table 6. The associations between the independent and dependent variables were evaluated through the analysis of the regression coefficients. Hair, Ringle and Sarstedt (2011) state that a relationship is considered significant if the p-value is less than 0.05 and the t-value is more than 1.96. VCM is useful for determining the worth of a venture-capital-financed start-up business, according to this study (t = 8.332, p <.001). Table 7 presents the results of the coefficient analysis.

Table 5: Model Summary - VSC.

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	1.141
M_1	0.626	0.691	0.686	0.895
Note. M_1 includes VCM				

Table 6: ANOVA.

Model		Sum of Squares	df	Mean Square	F	P
M_1	Regression	55.546	1	55.546	69.418	< .001
	Residual	86.418	108	0.800		
	Total	141.964	109			

Table 7: Coefficients.

Model		Unstandardized	Standard Error	Standardized	t	p
M_0	(Intercept)	2.982	0.109		27.403	< .001
M_1	(Intercept)	1.084	0.243		4.455	< .001
	VCM	0.595	0.071	0.626	8.332	< .001

5. Discussion

The study indicates that VCM is effective in estimating the value of start-up companies financed through venture capital. The findings confirm the acceptance of Hypothesis 1 (H1) based on empirical evidence. Moreover, these results are juxtaposed with previous studies to provide a fresh perspective. Gompers (2022) notes that venture capital is a relatively scarce resource, which may correlate with slow growth. On the other hand, Shao and Sun (2021) suggest that venture capital is crucial to support innovation in start-ups. Bygrave et al. As noted by (2022), the most important element in venture capital is not simply the capital but also what investors bring: knowledge, experiences, and networks. In later phases, the investing company engages more directly in management. Additionally, Andrusiv et al. 2020) find that entrepreneurs tend to search for VC firms with strong reputations as value-added, non-monitory contributions. While at the same time, venture capitalists look to identify the most promising companies with strong innovative capabilities (MacMillan et al., 2022a).

Nanda et al. (2020) accentuate the significance of venture capital methods (VCM), especially for estimating fair project value in early-stage businesses. Cumming et al. and Clemenza et al. (2023) emphasize that start-up valuation is not uniform and various quantitative outils can help owners place a price on ventures for funding or sale. Pan et al. (2020) conclude that VCM fits as a viable valuation method, and Cailou & DeHai (2022) argue it to play an important part for supporting deliberations with potential investors and in business planning. Röhm et al. and Ruhnka et al. (2022) emphasizes that assessments of venture-capital-backed firms at inception are challenging to make and typically based on historical information. Tumasjan et al. (2021) highlight the significance of VCM in valuing new companies, where sales volume, as well as the growth rate of a company, serve as major determinants of current and future project valuation. Funding agencies usually require equity compensation in return for financing, so both parties need to agree on a reasonable valuation (Yi et al., 2023). Gompers (2022) find that the VCM method helps start-ups estimate financial outcomes correctly.

6. Conclusion

The study found that venture capital backed start-up companies use different methodologies than established firms. Start-ups obtain the required financing through funding rounds – size and frequency of which differ across companies and sectors. Moreover, the research indicates that certain variables impact (influence) the company valuation as per VCM is based on the sales multiplier. This multiple is based on those used by similar start-ups in the same industry, and any change to this ratio at the time may cause a change to valuation. Additionally, value generated through VCM may vary with the venture investor's share of the liquidated startup due to rate depreciation. As a result, this research finds that the Venture Capital Method (VCM) is an effective tool for accessing the value of new ventures supported through venture capital.

6.1. Theoretical and Practical Implications

The implications of this work are both theoretical and practical for start-up valuation. This further establishes the VCM as a credible valuation method, thus adding to the growing body of literature on this topic. Additionally, it contributes to the theoretical perspective of VCM with a focus on early-stage ventures that are backed by venture capitalists. This study fills a glaring void in the literature by recommending the adoption of VCM, establishing an effective method for valuing ventures with scarce historical financial information. The implications Illustrate how VCM accurately reflects venture capital risk-return and helps dynamic valuation for uncertain marketing basis start-ups.

For practitioners like venture capitalists and entrepreneurs, however, this research provides them with impactful evidence that the VCM is a valid and reliable guide for valuing start-ups. First of all it serves as a how-to for investors in search of criteria by which to evaluate potential investments, particularly when dealing with start-ups with short operating histories and therefore unpredictable cashflows. Second, the VCM can be leveraged by VC's to make sound decisions on potential investments and structure deals that mirror risk profiles with expected growth rates. Entrepreneurs can use VCM as a business presentation frame for investors by adjusting their growth expectations to the parameters of VCM, which further explains that entrepreneurs could also be able to generate more potentials. Furthermore, this research promotes the implementation of a Valuation Consensus Model (VCM) when negotiating valuation agreements between the investor and entrepreneurs parties, particularly within industry standards to help reach a consensus on what makes sense for both sides.

6.2. Limitations and Future Directions

There are important limitations of this study that future studies must address. First, the sample was limited to 110 respondents, which might limit the generalisability of our findings to other contexts. Future studies should strive for larger sample sizes to better inform understanding. Second, while this study investigated the effect of VCM on high tech start-up valuation using primary data, future studies may explore this relationship using secondary data to better understand VCM's potential across variations in context. Also, the context-specific nature of this study makes it impossible to extrapolate findings to other countries.

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