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Bachelor's Degree

Financial Managment

Financial evaluation of startup companies

(Case Study)

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A Thanks later

First and foremost, I want to thank Allah for opening a door for me when all of the others closed . I also want to thank my dear self for standing up and fighting in this toxic environment and being proud of it. I also want to thank my mother for drowning me with Dua in every move I made, my father for never complaining when I asked him for a lot of money, my sister and brother for only ever supporting me, and my second sister and best friend Fatima who, despite their busy schedules, gave me time.

Thank's to my teacher rabia bousbia laiche who stand with me in the dark's time

Finally, I'd like to express my gratitude for the school of economics, management, and commerce, which was a lovely setting and a lovely

experience. I'm grateful to my toxic classmates who stabbed me in the back, made me the bad guy, and served as a constant reminder that nobody could be trusted.

Introduction:

In today's fast-paced and dynamic business landscape, startups have emerged as the engines of innovation and economic growth. These young and agile companies, driven by entrepreneurial spirit, often face unique challenges in their quest for success. Among these challenges, the ability to effectively evaluate the financial health and viability of a startup is paramount. A comprehensive financial evaluation serves as a crucial tool for stakeholders, including investors, entrepreneurs, and decision-makers, enabling them to make informed decisions, mitigate risks, and unlock the path to sustainable growth.

This paper aims to delve into the intricacies of financial evaluation specifically tailored for startups. By understanding the key components and methodologies involved, stakeholders can effectively assess the financial standing of a startup, identify growth opportunities, and allocate resources optimally Using the discounted cash flow method.

In our first topic at the start of the theoretical chapter, we emphasized the startups in terms of their concept, development in Algeria, success criteria, and difficulties they encounter.

In the second panel, we focused on the process of discounting cash flows and explored financial valuation from its definition to its applicability, then its domains, and lastly its methodologies. Additionally, as part of the application, we looked at the Zoom scenario and applied the cash flow discount method's financial appraisal to it.

1-The general problem of research:

How is the financial evaluation of startups?

Based on the main problem, the following sub-questions arise for us:

What is a startup?

What is the finance evaluation?

What is the method's used in the financial evaluation?

Summary:

Our study aims at the impact of the financial evaluation on Startup Company in terms of several aspects, using the discounted cash flow method Which enabled us to know that Zoom's financial evaluation DCF mathod is perfect for it, as we also knew how to develop and know the company's shortcomings through this evaluation.

الملخص

تهدف دراستنا إلى معرفة تأثير التقييم المالي على شركة ناشئة من حيث عدة جوانب ، باستخدام طريقة التدفق النقدي المخفضة التي مكنتنا من معرفة تطور شركة زووم ونواقصها عن طريق التقييم المالي بطريقة التدفقات النقدية المخصومة

Résume :

Notre étude vise à l’impact de l’évaluation financière sur la Startup Company en termes de plusieurs aspects, en utilisant la méthode de flux de trésorerie à rabais Ce qui nous a permis de savoir que le mathod d’examen financier de Zoom DCF est parfait pour elle, car nous savions également comment développer et connaître les lacunes de la société à travers cette évaluation

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Preliminary Chapter
Previous study

I. INTRODUCTION

Indonesia is the largest economy in Southeast Asia and is home to a massive population that is excited to innovation. With the advent of some of Indonesia's largest tech giants going public, the island country is gathering significant importance and influence as a hub for start-ups and talents. Despite the devastating effects of the COVID-19 pandemic, enterprises in the digital sector are booming more than ever by the rise of consumer demand. COVID-19's silver lining has created a strong tailwind for Indonesia's digital economy, with the pandemic accelerating digital adoption and bringing about innovations faster than before. However, not all start-ups have the same success story like the big names such as Gojek, Tokopedia, and Traveloka. The top reasons start-up failed are due to ran out of money (37%), no investor interest (31%), no business plan (25%), lost focus (23%), and not the right team (22%).

II. BUSINESS ANALYSIS

II.A Conceptual Framework

According to Kivunja (2019), "a conceptual framework is the total, logical orientation and associations of anything and everything that forms the underlying thinking, structures, plans and practices and implementation of the entire research project". The conceptual framework of this paper is done by identifying current business issue and situation, analysis of external and internal factors, take into account literature study, performing business valuation, and finally to the summary and recommendation.[1]

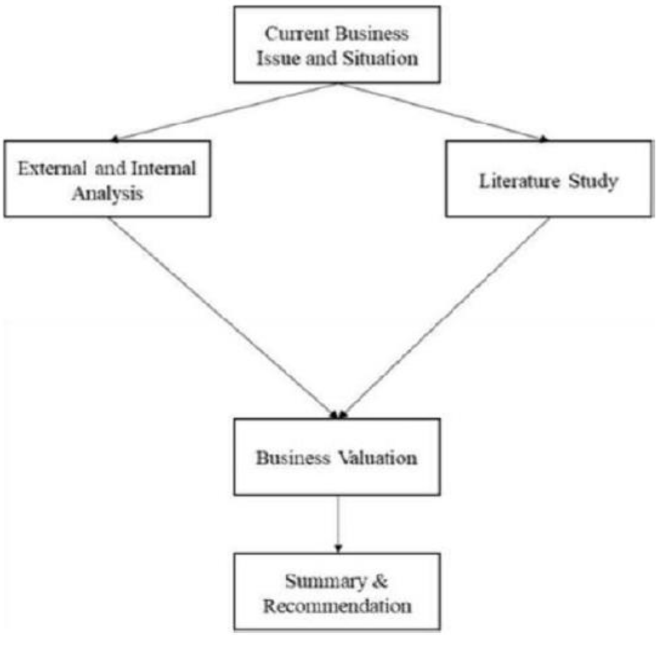


Figure.1 Conceptual Framework

[1] - Business Valuation for company Decision Making case Study of :PT HIJ review.

II.B External and Internal Analysis :

The external analysis is conducted by using PESTEL analysis and Porter's Five Forces. According to Walsh, (2015), "PESTEL analysis is assessed as a prerequisite/mandatory method that allows identifying factors relevant to the business environment and provides data and information that allow organizations within the analyzed environment to predict the situation in order to adapt to new situation and develop competitiveness". On the other side, The Porter's Five Forces take into account the analysis of bargaining power of buyer, the bargaining power of seller, the threat of substitute, the threat of potential entrant and the threat of the existing competition.

The internal analysis is conducted by using Business Model Canvas, SWOT analysis and SWOT Matrix. According to Magretta (2012), "A business model is a visualization describing how an enterprise operates, who is the customer, what does they value, and how it can generate revenue". Moreover, Osterwalder and Pigneur (2010) created the Business Model Canvas, which "incorporates various elements to be defined when considering the firm's business, value propositions, channels, customer segments, customer relationships, revenue streams, key resources, key partners, key activities and cost structures". The next internal analysis is SWOT analysis whereas according to Valentin (2001), the "SWOT analysis is the conventional approach of searching for insights into ways of realizing the desired alignment". Afterwards, Weihrich (1982) suggest a SWOT matrix that consist of four combinations: maxi-max(strength/opportunities),maxi-min(strength/threats),minimax(weakness/opportunities), and mini-min (weakness/threats).

II.C Literature Study :

Valuation :

According to Gitman & Zutter (2015), valuation is the process that link risk and return to determine the worth of an asset. However, the process can be complex sometimes in unsettled macroeconomics condition since the key inputs in every valuation process are the risk-free rate, risk free premium, and overall economic growth. The factors can be volatile in some case and in turn make it more difficult for the valuation process. Furthermore, even though the inputs into valuation are the same for all businesses, the challenges that arise face in making the estimates can vary significantly across firms and also across the business life cycle (Damodaran, 2019).[1]

[1]- Business Valuation for company Decision Making case Study of :PT HIJ review.

Terminal Value :

Terminal value is the value of an asset, business, or project beyond the forecasted period when future cash flows can be estimated. The two most common methods for calculating terminal value are perpetual growth (Gordon Growth Model) and exit multiple. Financing Family and friends are the most common financing type for early start-ups as the founder will try to reach out and validate their business to the closest circle. Angel investors are wealthy investors who provide capital for new business ventures, though they are often personally connected to the business. The most important details in this text are the sources of funding for high-tech startups.

Traditional banks may require collateral or a high credit profile to get the funding, while Venture Capital (VC) firms make the selection of portfolio companies, monitor, mentor and provide value-added services to them and ultimately exit from the company they invested. Exit strategies for entrepreneurs include Initial Public Offering (IPO), Acquisition, Buyback, and Write-off. IPO is attractive, but only few numbers of companies succeed to go IPO, so the exit strategy has higher probability of getting acquired while lower probability of IPOs and write-off.

II.D Analysis :

Based on the analyses, PT HIJ has a solid business model to grow its business. The trend of digitalization, government support and rising health awareness will benefit the company as one of the new startups itself. As the company already have a viable product and been running for one year, it is very possible to attract the investor sooner or later. However, there are still challenge to be faced in terms of valuation, for young and start-up firms like PT HIJ, the absence of historical data and the dependence on growth assets make estimating future cash flows and risk particularly difficult. Hence,

the next step for this research project is to evaluate valuation technique that might be applicable to the company and create the implementation plan after the valuation completed.

III. METHODOLOGY :

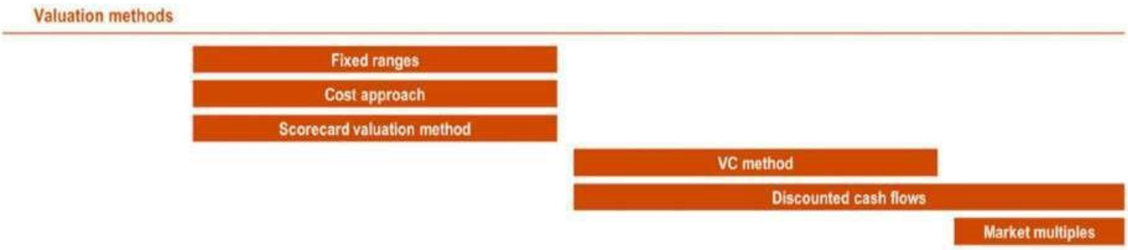
A startup valuation is a process in which the worth of the company is quantified during the initial funding or the seed funding where an investor gives funds for equity in the business. To analyses the method available, this project will divide it into 2 parts which is:[1]

[1] - Business Valuation for company Decision Making case Study of :PT HIJ review.

Pre-Revenue Valuation Methods	Post-revenue Valuation Methods
Venture Capital Method	Comparables Method
Scorecard Method	First Chicago Method
Risk Factor Summation Method	Discounted Cash Flow Method
Berkus Method	-

According to PwC, when determining which valuation method to be used, practitioners often use combination of the methods based on the several characteristics, as follow:

Characteristics	1 Idea / Seed	2 Seed / Start-up	3 Early growth	4 Expansion	5 Sustainable growth
Cash flows	NA	Only negative	Negative (but increasing)	Positive (growing at a decreasing rate)	Stable
Proof of concept	×	×	✓	✓	✓
Historical data	×	×	Limited	✓	✓
Forecast data	×	Limited	Limited	✓	✓



The valuation methods used for early-stage companies differ from those applied to more mature companies. For valuation of companies in Idea to Seed and Seed to Start-up stages, the fixed ranges approach, the cost approach, and the scorecard valuation method might be used. For valuation of companies in Early Growth and Expansion stages, the venture capital (VC) and discounted cash flows (DCF) methods might be used. For valuation of companies that have reached the Sustainable Growth stage, the DCF or market multiples methods might be used. PT HIJ is in the phase of start-up to early growth stage, and thus most suitable to be using the VC method, Scorecard method, and Discounted cash flow method.

III.A Discounted Cash Flow Valuation Process :

Using the DCF method can result in PT X to have either positive or negative cashflow, depend on the variables that were used as assumptions Revenue .[1]

[1] - Business Valuation for company Decision Making case Study of :PT HIJ review.

According to research conducted by Grand View Research (2020), the compound annual growth rate or CAGR of delivery meal kit service will be 17,4% from 2022 to 2030. According to Market Watch (2022), the compound annual growth rate will be at 22,6% from 2021 to 2026. According to brand essence research (2022), prepared meals industry is expected to growth at 17,15% from 2020 to 2027. Hence, taken the research data performed and for this paper purpose, the customer base will growth at the rate of 20% at the base scenario, 15% at the worst scenario, and 25% at the best scenario Required Rate of Return.

As suggested by Plummer (1989), Scherlis & Sahlman (1988), Sahlman, Stevenson & Bhide (1988), Manigart & Witmeur (2009), and Damodaran (2009) a range of discount rate may be used when estimating the discount rate below:

Stage	Seed / Idea	Seed / Start-up	Early growth	Expansion
Plummer[1]	50%–70%	40%–60%	35%–50%	25%–35%
Scherlis & Sahlman[2]	50%–70%	40%–60%	30%–50%	20%–35%
Sahlman, Stevenson, & Bhide[3]	50%–100%	40%–60%	30%–40%	20%–30%
VC guide in BE[4]	50%–100%	50%–60%	40%–50%	30%–40%
Damodaran[5]	50%–70%	40%–60%	35%–50%	25%–35%
Selected discount rate	**50%–85%**	**40%–60%**	**35%–50%**	**25%–35%**
Main characteristics	• First idea • Understanding marketability • Building an MVP	• Go-to-market • Define business model • Testing MVP • First revenues • Continuous feedback on MVP • First hires	• Product revenue starts to increase • Aiming towards break-even point • Pivot business model where needed • Competition increases • Team structure becomes more complex	• Marketing efforts increase • Cash flows become positive and more stable • Recurring / growing revenues and +/- break even • Expansion to new products or markets

The National Bureau of Economic Research has stated that a 25 percent return on a venture capital investment is the average. Cambridge Associates has found that the top quartile of VC funds has average annual returns ranging from 15% to 27% for 10 years holding period. In Indonesia, VCs have their own judgement when determining the required rate of return. ABC Capital estimates that the minimum required rate of return will vary depending on the stage, such as 20% to 25% for expansion, 30% to 40% for early stage, and 50% for idea stage. The forecast timeline for the valuation project is 10 years, as it is too difficult to predict for most companies.[1]

[1] - Business Valuation for company Decision Making case Study of :PT HIJ review.

DCF Valuation Result

Table below is the summary of the valuation of PT HIJ considering the probability of the case occurrence:

Scenario	Probability	Valuation (in IDR)
Best Case	25%	119,685,342
Base Case	50%	60,494,830
Worst Case	25%	(30,643,005)
Weighted Valuation		52,507,999

III.B Venture Capital Method Valuation Process :

The model suggests that the first step is to determine the terminal value, which can be a benchmark to a similar company or a multiple such as revenue multiplier. Discount terminal to present value using investor target required rate of return to get post financing valuation. However, there is some information about the deals valuation for delivery meal kit industry in the US, such as Blue Apron closing a deal of funding round in 2015, valued at $2 billion (2-3 times forward sales). For this project purposes, 3 times forward revenue will be used as a multiple valuation. The enterprise value/EBITDA and price/earnings transaction multiples are largely irrelevant, given that the acquisition can be value as high as 5 times revenue.

the lack of profitability for most meal-kit delivery services. Hence, Table below is the summary of the valuation of PT HIJ considering the probability of the case occurrenc .

Scenario	Probability	Valuation (in IDR)
Best Case	25%	359,054,843
Base Case	50%	314,751,966
Worst Case	25%	60,920,380
Weighted Valuation		262,369,789

III.C Scorecard Method Valuation Process :

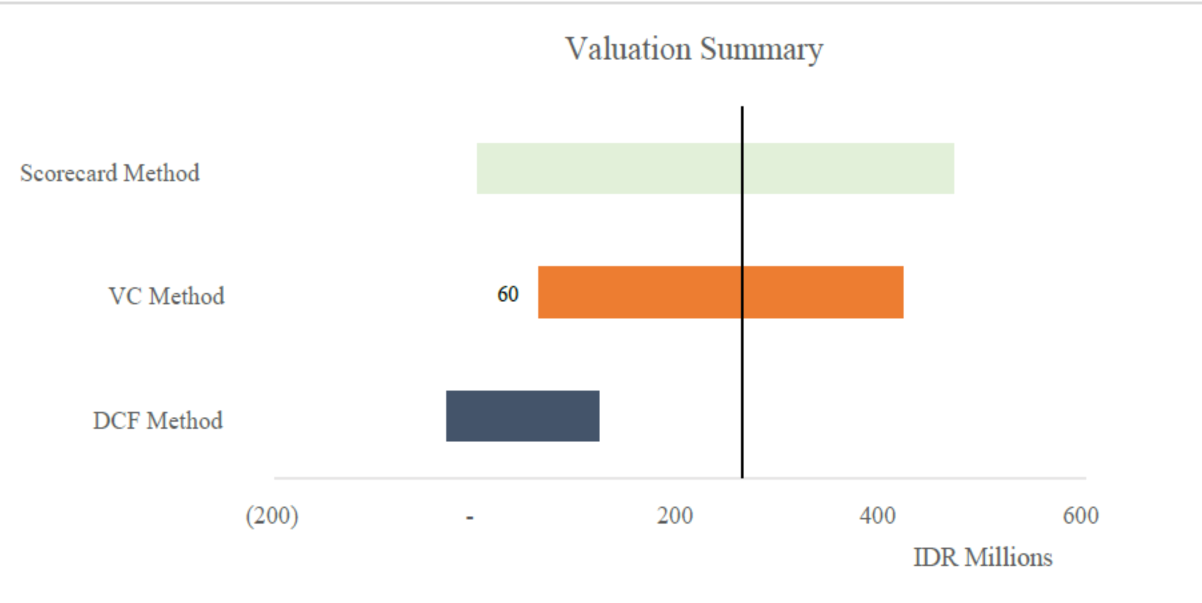
Under the scorecard valuation method, the list of criteria is provided and the valuation is based on the input from the management of the company, and venture capitalist considering the current condition and future opportunity of PT HIJ with the assumption of IDR 500 million pre-money valuation as demanded by the company's management team as the industry benchmark is not available. As follows:[1]

Main Factors	Range of Weighted value (%)	Max Weighted Value (%)	Weighted Value	% of Norm	Weighted % of Norm	Valuation (in IDR)
1. Strength of the management team	0%-30%	30%	150,000,000	85%	26%	127,500,000
2. Size of the opportunity	0%-25%	25%	125,000,000	110%	28%	137,500,000
3. Product/Technology	0%-15%	15%	75,000,000	80%	12%	60,000,000
4. Competitive Envinronment	0%-10%	10%	50,000,000	90%	9%	45,000,000
5. Marketing/Sales/Channels	0%-10%	10%	50,000,000	110%	11%	55,000,000
6. Need of Additional Investment	0%-5%	5%	25,000,000	100%	5%	25,000,000
7. Other (ie. Market Validation, Brand Awareness)	0%-5%	5%	25,000,000	80%	4%	20,000,000
Total						470,000,000

III.D Valuation Summary

Based on the above valuation, the summary can be derived as follow:

In IDR		Discounted Cash flow method	VC Method	Scorecard Method
Scenario	**Probability**	**Valuation (in IDR)**	**Valuation (in IDR)**	**Valuation (in IDR)**
Best Case	25%	119,685,342	359,054,843	
Base Case	50%	60,494,830	314,751,966	
Worst Case	25%	(30,643,005)	60,920,380	
Weighted Valuation		52,507,999	262,369,789	470,000,000



[1] - Business Valuation for company Decision Making case Study of :PT HIJ review.

IV. SUMMARY AND RECOMMENDATION:

At the beginning of this paper, it can be seen that number of startups has been growing rapidly, also accelerated by the COVID-19. We have also identified the reason of failing startup, business environment of the company and also valuation method. However, every company have different lifecycle and each of them have their own terms, risk, financing method, and valuation method.

Based on the company outlook, and business outlook, the company still have potential to succeed in the market and getting the funding. The valuation analysis performed will benefit the company as well as the founder. For instance, it provides an accurate industry benchmark and can make it easier to obtain funding from lenders and financial organizations. Regular business valuations ensure you can plan strategically and grow at the right time. They also highlight areas that need attention before your business can achieve the desired growth. Other than that, when opportunities for investment, private equity injection or strategic partnerships arise, decisions need to be made quickly. A business owner who understands the true value of their business can take full advantage of these opportunities. A business valuation report covers your business's history, legal structure, financial information and a range of other factors. Thus, it provides a snapshot of the business performance in the current industry climate.

Based on the valuation performed, PT HIJ valuation resulting in an enterprise value ranging up to IDR 470 million, with the median of valuation at IDR 262 million. As the founder or the management team already have a number in their mind, better understanding on how to evaluate their business, what consideration need to be taken as discussed in this project. The founder of the company can try to search for a funding by proposing business deck to the investor such as venture capital.[1]

[1] - Business Valuation for company Decision Making case Study of :PT HIJ review.

Chapter One: Theoretical Chapter

Topic one: the concept of startup:

According to Peter Thiel in his book ZERO TO ONE , a startup is the largest group of people you can convince of a plan to build a different future.[1]

The term startup terminology was used immediately after world war II , with the onset of risk capital companies this term is then used , the word startup consists of two parts start it is using of the idea of launching and up which refers to the idea of strong growth.[2]

definition of startup:

The startup is a company with a short operating history, which is often newly established, and is in the process of developing and searching for markets, and this term has become a global trader after the dotcom bubbles. Funders design startups to develop an effectively evolving business model, therefor the concepts of startups and similar entrepreneurship.[3]

With the benefit of hindsight, entrepreneurs now understand the problem, namely that startups are not simply smaller versions of large companies. Companies execute business models where customers, their problems, and necessary product features are all "knowns." In sharp contrast, startups operate in "search" mode, seeking a repeatable and profitable business model. The search for a business model requires dramatically different rules, roadmaps, skill sets, and tools in order to minimize risk and optimize chances for success.[4]

According to Eric, A startup is a human institution designed to create a new product or service under conditions of extreme uncertainty. A startup it's the human, financial resources group that is allocated to promote a creative idea that maybe new or present in markets outside its target usually funded by economic dealers such as banks, leading institutions and supporting government agencies.[5]

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[1] - peter thiel , Zero to one, 2014 , page:11.

[2] - بوشارية عبد الرزاق ،جوادي يوسف و اخرون ،المؤسسات الناشئة كمحفز لإنشاء مؤسسات ابتكارية دراسة حالة ، مذكرة ماستر في ادارة الاعمال ،جامعة الشهيد حمة لخضر ،الوادي ،2022/2021 صفحة 05

[3] - بوشارية عبد الرزاق ،جوادي يوسف واخرون ،المؤسسات الناشئة كمحفز لإنشاء مؤسسات ابتكارية دراسة حالة ،مرجع سبق ذكره ، صفحة 4-3

[4] - steve blank and Bob dorf, The startup Owner's manual, first edition: September 2012, page 13.

[5] - Eric Ries , The Lean startup,1st ed ,2011, page:27.

2.Concept of startups in Algeria:

Executive Decree No. 20-254 of 15 September 2020 included the establishment of the National Commission for Grants the label "start-up enterprise", an innovative project "and a business incubator".

This committee was established with the aim of contributing to the diagnosis and promotion of innovative projects and participating in the promotion of ecosystems of emerging enterprises. The Minister-in-Charge of the Prime Minister establishes the Commission.

Emerging institutions are represented by 9 ministerial sectors, namely finance, higher education and scientific research, postal andTransport, Industry, Agriculture, Fishing, Digitization and Energy Transition.

The Minister in charge of emerging institutions based on the ministers' proposals appoints members of the Committeethe three-year will is renewable.

According to the decree, a committee that meets at least twice a month can use each person or a body that can help her work. The Committee could meet in an extraordinary session upon invitation from its president, who prepares the agenda and determines the date of the meetings.

The Commission shall deliberate for granting marks and to examine applications filed after the denial of the marking, or these deliberations shall be valid only in the presence of at least half of its members, but shall not exceed the deadline for responding to requests deposited 30 days.

With regard to the conditions for granting, an emerging institution is marking: (Executive Decree No. 20-254 of15 September 2020)

- The startup should not be more than 8 years old, and is required to adopt the enterprise's business model on products, services, business model or any innovative idea.

- The annual business number shall not exceed the amount determined by the National Committee, and shall be a capital the company is at least 50% owned by natural persons or approved investment fundsor by other institutions with a "start-up" label.

- Besides, the potential of the enterprise's growth must be large enough and must not exceedthe number of workers is 250.[1]

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[1] - عراب فطيمة ،صدفي خضرة ، دور الدولة في دعم المؤسسات الناشئة بالجزائر في قرار انشاء الصندوق التمويل المؤسسات الناشئة ، جامعة الظاهري محمد بشار - الجزائر 8 العدد 1 (2021) ، صفحة 38،37

The Foundation's "start-up" label is given for a period of 4 years, renewable once.

The institution wishing to receive the "start-up" sign must submit an application through the portal National Electronic Card for Emerging Enterprises, attached to copies of the Commercial Registry the statistician and a copy of the company's basic law along with the two certificates of enrolment in the National Fund Social Insurance and National Fund for Social Insurance for Non-Employees, copies of financial statements for the current year and the Foundation's business plan in detail, as well as scientific and technical qualifications and experience Enterprise Users.[1]

[1] - عراب فطيمة ،صدفي خضرة ، دور الدولة في دعم المؤسسات الناشئة بالجزائر في قرار انشاء الصندوق التمويل المؤسسات الناشئة ، جامعة الظاهري محمد بشار - الجزائر 8 العدد 1 (2021) ، صفحة 38،37

3.The development of startup in Algeria :

One of the most prominent subjects in the business world is startups.

Recently, especially in Algeria, the beginning of this kind of project was postponed.

Along with low government funding on research, technological delays persisted at many levels No more than 7% of GDP was dedicated to science and development in 2016.

Although there have been a few modest attempts to establish start-ups in Algeria, most of them are engaged in e Marketing, This is similar to what Alan said about the country.

As is the case with the most successful businesses on a national level, it is also only a replica of earlier experiences in the world. Wade Kniss Company, a website devoted to illumination, has been it was introduced in 2006 and is an idea that was used in France.

The young are particularly affected by this since there is a view connected with the society cultural outlook in the formation of developing organizations.

When we visit an institution, the influence of the surrounding art is subject to the rogue treatment I want to invest in this field.

Young people are a prime example of the importance of emergence, when it comes to conducting their education; they favor larger corporations over smaller ones.

This is because they mistakenly believe that a small or emerging corporation can add value to them when, in fact, the exact opposite is true.

Eve From things in emerging institutions Instead of large ones .n a spectator or student might pick up a lot.

Due to its limited sociocultural perspective, Algeria's new institutions have a favorable reputation.

Owners are typically thought to be squandering their time or doing unproductive work, however this is not always the case.

These new businesses' operations provide money and fill the labor market.[1]

[1] - حسين يوسف ،صديقي اسماعيل ،دراسة ميدانية لواقع انشاء المؤسسات الناشئة في الجزائر ، مركزالجامعي مغنية المجلد 8،العدد 1 (2021) صفحة 78-79 .

One such example is the 100 would not a thousand small businesses run by two or three people's equal a thousand jobs. A thousand small businesses with a monthly profit of 200 euros represents a huge number in the search for workers and employment.

Since the Internet's advent at the start of 2000, we have now received more thorough reporting and steady flow emerging institutions are thus a promising strategic form over the following ten years.

After the e-commerce sector is rationed and framed by legal documents, there are creative start-ups that will transform it.

The ground will be prepared for this because of the youth's dedication, so I foresee this success being inhibited.

There will be creative start-ups that transform the commerce sector during the next ten years.

Electronic there is good intention, to be sure, but administrative barriers match it, and the administrators are not controlled and trained.

To expedite the granting of documents in the shortest amount of time feasible, but take note that the commercial registry, Which used to take a third of a month, is now achievable in 48 hours, and you must wait two months after the Paperwork are finished.

Additionally, half of the startup can work in the field, but when we contrast that with the UAE, Even if it is far away, we nevertheless see changes from Alvin's year.

To engage with the collective intelligence of The Foundation and perceive it as a collaborator rather than a rival, some Employees' mentalities need to shift. The field has produced fantastic results, and everyone's work is finished.

A tiny team is walking beside him at the same time, and if we combine their efforts, we will witness 43 spectacular Outcomes that will make their efforts worthwhile.[1]

[1] - حسين يوسف ،صديقي اسماعيل ،دراسة ميدانية لواقع انشاء المؤسسات الناشئة في الجزائر ، مرجع سبق ذكره ، صفحة 78-79

4.Startups success factors:

1. Ecosystem that is conducive to business:

Despite the crucial role and significance of the entrepreneur, the success of Business is frequently dependent on creating an environment and a business climate that support and encourage people who have innovative ideas and who are willing and able to put them into practice.

2. Constant innovation and creativity:

The cornerstones of a successful beginning are innovation and creativity for companies, which decide the continuation or demise of their company, in order for the startup to grow and expand their markets and flexibility can only be competitive by being genuine in discovering a different new product from what rivals are offering.

3. Pioneering education and culture are ingrained:

The more prevalent a culture is, the more entrepreneurs, including startup founders, it attracts. The same way, education has an impact on various levels.

Consider the university as one of the best places for startups to succeed in terms of ensuring a steady supply.

From those with innovative concepts, cutting-edge technologies, and knowledge the entrepreneur is the key player in improving the startup's unique personal qualities and attributes, such as the need for risk achievement, initiative, and innovation, which must improve the various leadership skills required to run his business, including management, social, and ethical skills.

Purely private or entrepreneurial, where successful businesspeople take on difficult, dangerous, risky, and entrepreneurial situations moreover, accept defeat.

4. Diverse and Contemporary Funding Sources:

Focus is placed on the following sources for startup finance: by contributing to a startup's cash that is not priced for a certain amount of time and at different phases, you can make a medium- or long-term investment.[1]

[1] - عماروش خديجة إمان ، مزيان أمينة تجربة شركة يسير كنموذج واعد للشركات الناشئة في الجزائر.قراءة تحليلية ،جامعة محمد بوقرة بومرداس الجزائر ،المجلد 12العدد 2جويلية 2022 صفحة 7،6

5. Angel businesses: (who make investments similarly to capital firms)

They frequently step in to fund the start-up's initial stage of life and contribute their expertise in managing, consulting, and utilizing their network of relationships for the benefit of startups and junior entrepreneurs. However, as individuals, they are typically wealthy people with a business background or former entrepreneurs.

Both financing and The Internet is being used as a new financial instrument to mediate between entrepreneurs looking for investment.

In addition, for people looking to support their investments, there are platforms created specifically to do so. In exchange for a Commission of between 5 and 10 % percent of the funds collected in the event of successful monitoring, The entire sum sought by the business owner throughout the collection campaign, which is for a set amount of time;

Otherwise, you will not accept the commission for any platform

Stock market, as some startups might raise money for expansion by selling stakes in their businesses.

From its capital to stock, market investors from government agencies and private investors Financial, typically in the function of a startup's life's maturity.

6. Numerous escort mechanisms and support organs:

Support and escort organizations are crucial in accelerating the development of the company by offering a variety of services, including information, awareness, motivation, composition, preparation, guidance, financing, and participation. They also offer logistics services and assist the leader in leading communication with the various partners and organizations he will deal with. Guidance comes in a variety of shapes and forms, but the most significant and effective are probably training, nurseries, and incubators.[1]

[1] - عماروش خديجة إمان ، مزيان أمينة تجربة شركة يسير كنموذج واعد للشركات الناشئة في الجزائر.قراءة تحليلية ، مصدر سبق ذكره ، صفحة 7،6

5.Challenges facing Algeria's startup:

Finance:

Since access to capital is one of the biggest barriers for start-ups, the biggest issue for these businesses is always finding the money to plant a seed that would allow them to grow and extend their business. Thankfully, projects and investment firms are starting to appear.

Risk and even growth accelerators, albeit slowly, are used to promote and ease access to capital.

Enough. Between the ideal start-ups that can benefit from growth and the investors who are willing to invest in them, there is still a gap. Although it is a significant issue, not everyone has trouble with finance.

Numerous independently funded startups have turned down financial offers because they did not align with their founders' goals

2.Small market size:

One of the major obstacles facing startups is marketing their products. Marketing is the company's main goal and the foundation for its continued success in generating returns and earning recognition.

Regarding self-financing, although if Algeria has fewer start-ups than other nations, this is justified by the modest size of the completely domestic market. The population, the use of the Internet, the ease with which electronic payments may be made, and even the startup culture themselves all contribute to the small size. Small market size startups, however, must search for additional marketing options, such as e marketing.

3.Insufficient experience among startups:

Starting a business demands a wide range of skills as well as a high degree of science and technology.

Who needs to be familiar with some of the foundations of management, such as teams and organizational structure? Marketing, work, and strategy. If the owner of the business or organization does not have access to this knowledge, they will have to purchase it by accepting finance from a financier with the required knowledge and a PR network; in this instance, he ought to give him a stake in his business.[1]

The lack of expertise among startup business entrepreneurs is also evident in the availability of a qualified feasibility study for the project of the company.

Typically, this study has to do with the financial analysis of the valuation the company's finance requirements are more acute at the start of the business and throughout the marketing study that pertains to product marketing, locating markets, and how to introduce and promote the product using a variety of channels, particularly Internet-based advertising.

A technical feasibility analysis about the organization's structure and the assignment of jobs is also present.

We find most startups meticulously charged with creating long-term goals and strategy for the business.

Failure to prepare a professional feasibility study, which can be accredited or used by emerging institutions in the preparation of feasibility studies in the offices of expertise and studies, was the cause of that not continuing or failing They may also make use of business accelerators or incubators.

4.Staff:

As most businesses and start-ups rely heavily on teamwork and collaboration,the successful start-up experiences have started to function as a team, and this difficulty may arise from the absence of such a team.

The job of the company's human resources department is to recruit personnel, and it begins by looking within a department.

Knowledge and requesting that they suggest a few employees here enters the favor element in the middle to affect the recruitment principle based on efficiency.

Startups struggle to find qualified workers quickly enough to complete a pressing project. They may publish numerous advertising, but many people will not respond to them as long as they are an unheard start-up those who are interested will not see many people in fact arrive.

[1] - ولد الصافي عثمان ،العرابي مصطفى ،التحديات التي تواجه المؤسسات الناشئة في الجزائر واليات دعمها ومرافقتها جامعة غرداية ، جامعة طاهري محمد بشار ،المجلد 7العدد3,2020صفحة 5،4

Due to the transient nature of the project, hiring freelancers is one way to overcome this kind of difficulty, but how can we locate them? We can locate them by looking for self-employment platforms that offer a range of abilities

That you can request and hire in order to do the necessary task precisely and competently.

The specialists on these platforms also offer the essential consultations in accordance with the start-up company's area of expertise.[1]

[1] - ولد الصافي عثمان ،العرابي مصطفى ،التحديات التي تواجه المؤسسات الناشئة في الجزائر واليات دعمها ومرافقتها جامعة غرداية ، مرجع سبق ذكره ، صفحة 5،4

Topic two: financial evaluation:

1.Definition of evaluation process :

The United States Financial Accounting Standards Board defines it as the allocation of numbers to certain elements or events in accordance with certain controls, and can be considered a comparative process aimed at obtaining accurate information leading to the possibility of favoring an alternative over another account in the event of a decision.

The International Accounting Board defines it as "the process by which the monetary value by which the Foundation's financial position is recognized and disclosed in the budget and results calculation table is determined by certain evaluation methods.

1.1Entries for financial valuation

The institution's valuation procedures require attention to many aspects of the institution in question, through the collection and analysis of various information relating to it, where there are three core curricula: the income curriculum; Market curriculum; and asset curriculum. Within each curriculum, there is a range of ways that a resident can use when determining an enterprise's value.

1.Asset curriculum:

In this curriculum, the value of an enterprise is determined by the value of its net assets after deduction of liabilities, as presented in the accounting budget, in which the various items are recorded in book values, which imposes the need for a series of adjustments in order to reach the market value of the enterprise's assets or liabilities.

2.Income curriculum:

This curriculum is based on the assessment of the share of ownership that is considered as a measurable investment as otherinvestments, where value is calculated on the assumption that the value of an ownership share is equal to the total present values of the economic benefits anticipated for the ownership of that share. The value of an enterprise is a function of three fundamental variables: the flow of economic benefits, which is often represented by cash flow, as well as the possibility of the enterprise's growth in the short and long term, taking into account the risks associated with receipt of benefits in amounts and in anticipated times, reflected in the [1]

[1] ـ قرادي عبد القادر مقاربات ومعايير التقييم المالي للمؤسسة الاقتصادية ،دراسة تحليلية جامعة عمار ثليجي ،الاغواط الجزائر ،المجلد السابع العدد 1افريل 2021صفحة 3،2

Discount rate. One of the most important ways in which this approach can be mentioned is the method of discounted cash flow of income for the period; Dividend Discount Form.

3.Market approach:

The fundamental tenet of this entry is that an enterprise's worth is assessed either by contrasting it with an enterprise Standard with known values, which are established through the trading of the latter's stocks on the stock exchange or by establishing its value beforehand.

By attempting to extract a set of ratios and criteria, financial information used in terms of quality and quantity is thought to have the greatest impact on the value achieved by relying on this entry.

However, these quantitative criteria alone are frequently insufficient, as it is required to look at the many qualitative factors through management and their growth and breadth, as well as the accounting budget, list of income, etc., but it is often important to look at the many qualitative characteristics through management and their growth and breadth, as well as product services, in order to assess the value of the firm with the necessary accuracy. As a result, these quantitative criteria alone are frequently insufficient.[1]

[1] ـ قرادي عبد القادر مقاربات ومعايير التقييم المالي للمؤسسة الاقتصادية ، دراسة تحليلية مصدر سبق ذكره ، صفحة 3،2

2.Value of financial analysis:

In order to evaluate the likelihood of an investment idea succeeding before it is actually implemented, taking into account the project's or investment idea's capacity to meet specific investor objectives, one branch of analysis called "project financial evaluation" must be conducted.

The main goal of the financial assessment is to direct a logical choice based on the project's scientific foundation and financial viability. The financial analysis establishes the investor's capacity to finance the funds required to begin implementation and outfit the project's productive and marketing capabilities. The analysis details the timing of the requirement for cash liquidity and the distribution of necessary expenditures for the acquisition of goods and supplies, the settlement of various expenses, and the use of capital.

The importance of financial evaluation or feasibility study is:

1. Determine the relative preference of investment chances according to the idea of commercial profitability and the selection of opportunities that satisfy the investor's purpose. This is why financial evaluation or feasibility studies are important, among other things.
2. It is a useful tool for assisting investors in choosing to fund a certain project with a given sum of money consistent with their potential and subject to a particular degree of risk.
3. Effective ways to convince creditors to offer suitable financing options and suitable terms
4. Reasonable and scientific methods for assessing proposed projects and the subject of the study using impartial financial and economic standards as far away from subjective and arbitrary judgments as is possible.[1]

[1] - فهمي مصطفى الشيخ ، التحليل المالي ،الطبعة الأولى 2008 ، صفحة 105

3.Financial evaluation areas :

Among the areas of financial value are:

1. New projects, such as the founding and operation of new businesses, a project in a new area

2. Projects for investment development, including opening a new branch or adding a new activity

3. Replacement or replacement projects, like projects to integrate existing equipment with new ones,

4. Development initiatives, such as improving an existing product by giving it additional features.[1]

[1] - فهمي مصطفى الشيخ ، مرجع سبق ذكره ، صفحة 106

4.Methods of evaluating startups:

Comparison of performance as a method of evaluationusing this technique, the target firm is compared to comparable start-up finance companies to ascertain its value and subsequent pre-financing valuation.

The company that needs finance or to whom investments will be made is known as the target company. The comparator is a newly funded business or any startup that is in the same industry, field, or market at the same stage of financing. Investors will therefore examine the management team's strengths, marketing and sales potential, growth potential, product and technology, and then compare the target firm to other companies after estimating the average price of a competitor's valuation. Each employee receives a certain weight during the company's appraisal process based on their value so that the total weights are 100%.

In order to establish a value of the target company prior to the start of the financing process, this method depends on comparing the target company to comparable start-ups operating in the area that were funded by angel investors and then computing the average valuation of those companies.

1.Berkus method:

The Berkus technique is centered on analyzing the key elements of the company and then determining an indicator of each side's value rather than expected returns or financial forecasts.

Investors evaluate the essential components of the business using this strategy during the initial investment round.

- Application and chance of success: Investors evaluate a project's or business's idea and the possibility that it will be used in the marketplace.

- Investors evaluate the management team's strategic plans and managerial abilities.
- Product evaluation and business plan prototypes.
- Strategic partnerships: assessing the company's alliances and connections with clients and partners.
- Launch and sales of the product: Evaluate the company's marketing and sales capabilities.[1]

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[1] - مقالات مكيال ، طرق تقييم السرطان أثناء مرحلة التمويل التأسيسي ،3 أغسطس ، 2022

The company's pre-financing valuation results from summing up all the values obtained from the five aspects. The maximum range for each of the five valuation factors is US $ 0 - 500 000, which theoretically raises the maximum worth of a company using this method to US $ 2.5 million. Given that the Berkus model provides an understanding of the value and is straightforward because it depends on qualitative characteristics, it has long been used to assess businesses before they generate profits.

2.To assess using the re-establishment cost:

Investors to calculate the startup costs of a similar business use this method. From this vantage point, investors concentrate on the crucial starting expenses such the sums spent on research, borrowing charges, license fees, technology expenditures, equipment and supply costs, as well as advertising and marketing expenses. The startup's value is low if starting a similar business would be inexpensive, and high if the incorporation procedure would be expensive and challenging. However, this method's primary flaw is that it does not take into account a company's intangible value or potential for future growth, as well as other factors like its ability to retain customers.

3.Method of comparison or market multiplier:

This method of valuation bases the value at which it was calculated and sold on actual market pricing and transactions made by businesses with comparable size, revenue range, sector, and business style. Regular monthly income, weekly active users, loss and profit, sales, profit margin, EBITDA, and other metrics are comparative indicators. Although this strategy is unsuccessful at identifying the market that the startup will enter, it may be useful when contrasting two startups that offer the same services and similar products.

It employs the three-way rule. The startup's value should be determined using a CPI in order to guarantee success. This could contain sales, profit margin, EBITDA, weekly active users, recurring monthly income, etc. This makes it challenging because the sector in which the company works does not specify the same similar aspects.[1]

[1] - مقالات مكيال ، طرق تقييم السرطان أثناء مرحلة التمويل التأسيسي، 3 أغسطس ، 2022

4 .Valuation based on EBITDA multiplier:

It is always EBITDA gives a true picture of the company's status because it is one of the most important criteria that investors consider when assessing a company. A company should provide a straightforward and quantitative indicator of an investment's profitability. EBITDA multiplied by EBITDA gives the company's value.

Investors use the following formula for valuing a startup using EBITDA:

The worth of an organization is equal to EBITDA multiplied by EBITDA

5.Using Bold Capitals:

This strategy, which indicates the investor's expectations upon leaving the company after a number of years, is based on the estimation of the future returns of a startup. The process begins by determining the company's post-financing value before creating a pre-financing valuation. In pre-financing company assessments, where it is simple to value a prospective exit, a bold capital method is typically used.

This technique offers a variety of pre-finance firm valuation formats.

Calculating the company's value at the conclusion of the upcoming forecast period:

The startup value at a given future date constitutes the final value. The computation format needs the following three components:

Final value = estimated income × estimated profit margin × price-to-profit ratio

How to determine a company is pre-financing value:

The desired rate of return on investors' investments as well as the amount of investment are necessary for a company's pre-financing valuation.

Pre-finance valuation = end value to return on investment - investment volume

Here, the final value is an estimate of what will be worth at a specific future date, and the return on investment may be determined by calculating the return an investor can anticipate from a particular investment while taking into consideration the degree of risk.[1]

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[1] - مقالات مكيال ، طرق تقييم السرطان أثناء مرحلة التمويل التأسيسي ،3 أغسطس ، 2022

6.Risk Aggregation Method:

Modern businesses wishing to assess their pre-fundraising prospects should use this strategy.

The approach of aggregating risk factors relies on figuring out a business's worth based on the moment at which a start-up that is comparable to it started, and then adjusting that value to account for the typical risk factors that start-ups face, which can range from extremely low to very high. According to this theory, minimal risk raises thecompany's valuation whereas large risk has the reverse effect. Some people may attempt to concentrate on risk and plan for or reduce risk in an effort to increase evaluation**.**

7.Book Value Assessment:

Because it is based on subtracting the value of liabilities and intangible assets from the total value of tangible assets, book value valuation is a straightforward method for determining the worth of a business. Since they only consider tangible assets, this approach of valuing companies is frequently left unaltered even if startups are more concerned with intangible assets like patents, intellectual property rights, and the like.

Book value = total assets - total liabilities.

8.Discounted cash flows (DCF):

The discounted cash flow method, which is dependent on future results, makes an estimate of the cash flow a start-up can produce and subtracts it from investments at a set rate known as the discount rate. The higher discount rate directly correlates with the greater investment risk.

Since it is impossible to anticipate future cash flow in companies with negative returns, we cannot utilize the discounted cash flow method in these situations. Concisely, discounted cash flow analysis seeks to establish the current worth of an investment in light of anticipated returns.[1]

[1] - مقالات مكيال ، طرق تقييم السرطان أثناء مرحلة التمويل التأسيسي ،3 أغسطس ، 2022

1.Calculate the value of discounted cash flow:

In this formula, CF stands for cash flow, DCF to discount cash flow, and R to discount rate.

DCF is a modern and fast-spreading technique for the evaluation of investment proposals. It washes out year-to-year variations in profit and gives a single valid figure for the whole life of the project, taking into account the timing of cash payments and receipts. It also gets around thedifficulty of interpreting what accountants mean by "profit" and gives a simple definition based on project earnings over the entire life of a project.

To understand what a Cash Flow is, why and howto discount it, and then what one can do with a DCF once he has it.

2.Cash Flow and the Capital Cycle:

The story begins with liquid capital in search of investment opportunities. This freedom of decision over how to use it recurs throughout a project's existence as part of the life cycle of resources. Whenever capital reappears as cash, someone is free to redecide whether and how to put it back to work. This is the significance of the cash-flow cycle.

3.Schematic Construction of a "Cash Flow":

The " cash flow " (C/F) is a specific stream of cash that can be derived from all of the other flows of cash. It consists of inflows of funds that belong to capital, which represent the remuneration of capital in whatever forms it may take. The derivation of C/F is represented schematically in Figure 1, where the solid lines represent physical flows and the dotted lines represent the flows of cash, which correspond to them but move in the opposite direction.

The remuneration of capital takes many specific forms, and depends on the legal and institutional arrangements under which the project's capital has been assembled.[1]

[1] -George B Baldwin,Discount cash flow, international monetary fund page:1,2

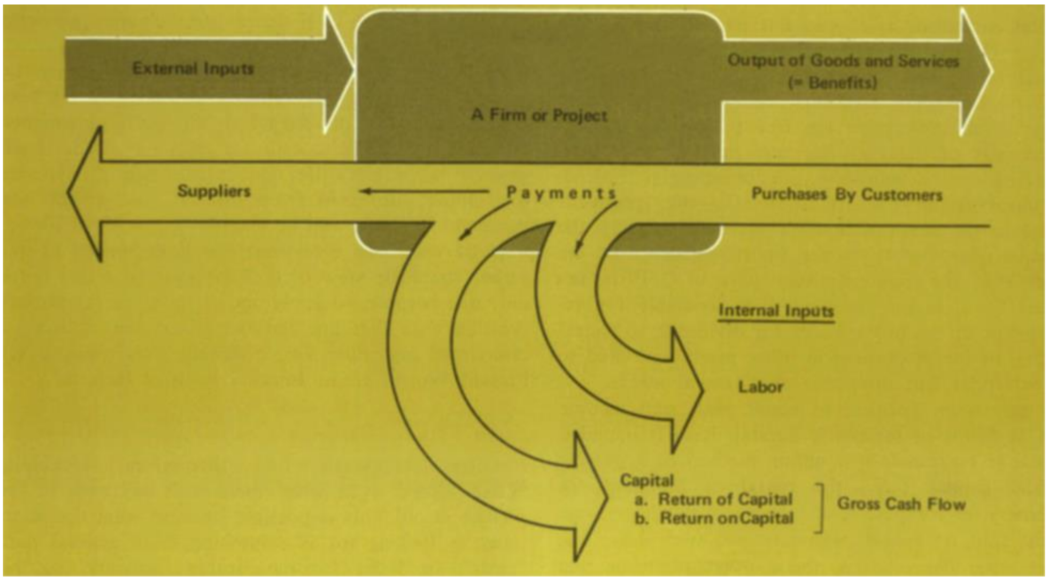

Fig1.1: Schematic Construction of a "Cash Flow"

Source:International Monetary fund.Discounted Cash Flow article

Chapter two:
Zoom case study

1.Company Overview

1.1 General Information

This section's major objective is to put into reality what has been learned and discussed in earlier sections by evaluating Zoom Video Communications using various methods. A final range of valuation will be suggested after evaluating the benefits and cons of each technique.

The case study will provide a detailed description of Zoom, its revenue streams, business model, and external factors. Data will be collected from annual reports, broker reports, and other public data sources as of October 2020, as Zoom was at its peak in terms of share price and market capitalization during the pandemic lockdowns.

A California-based company called Zoom Video Communications, Inc. specializes in communications technology and offers videoconferencing, phone, and chat services.

Zoom is a platform for unified communications developed by Eric Yuan in 2011 and released in 2013. It was priced at $36.00 per share in an initial public offering on April 17, 2019. The shares commenced trading on April 18, 2019.

In 25 different countries, Zoom provides local phone service, domestic calling, and toll-free service. However, customers of videoconferencing systems can initiate or join a meeting from any country. At the end of the first quarter of 2020, Zoom employed 2,532 full-time employees, 1,396 of them were located in the US and 1,136 elsewhere in the world. More than 300 million daily meeting participants (including free and paid) were using Zoom in April 2020, a 2,900% increase from the 10 million daily meeting participants it had in December 2019.[1]

1.2.Business Model:

It is well known that the Zoom business model is based on a freemium basis. However, the business provides a wide range of options to its customers. For instance, the company's Zoom Meetings product has plans that range from a free basic plan that can accommodate up to 100 users for a meeting that lasts no longer than 40 minutes to an enterprise plan that can accommodate up to 500 users at a cost of $199.9 per year per license. Every product has a monthly or yearly billing option.[1]

[1] - Zoom.us, Restricted Countries or Regions: Cuba,Iran ,North Korea,Syria, Ukraine (Crimea,Luhansk, Donetsk regions)

Zoom offers a selection of six products in October 2020, including Zoom Meetings, Zoom Phone, Zoom Video Webinars, and Zoom Rooms.

- Zoom Meetings: enables hosts to schedule and start meetings, allowing participants to join using voice, video, and screen sharing functionality. Additional services include team chat, records and transcripts, collaboration tools, and streamlined calendaring. It is targeted at small, medium, and big companies, as well as educational and government institutions. The Zoom Developer Platform enables developers to build integration that use Zoom's video-based communications solutions.

- Zoom Phone :is a cloud-based phone service that was introduced in 2019 and uses VoIP to deliver voice services. Bring Your Own Carrier (BYOC), which lets users utilize the telecoms operator of their choice, is one of its features. Customers also have access to a variety of Zoom call management services and functions (such as SMS capabilities in some locations), which are included.

- Zoom Video Webinars: This cloud-based application lets users hold online events with a range of registration and built-in ticketing options, as well as the usage of Zoom Meetings during the event. An all-in-one platform called Zoom Events gives users the ability to design virtual event hubs for attendees. For instance, a virtual representation of the location (such as the company's offices or product displays). Additionally, it provides customizable registration options, integrated ticketing options, and event registration tracking (such as attendance, ticket sales, and revenue). To assist the host in understanding how well the event is performing, Zoom Events offers analytics tools.

- Zoom Rooms: Zoom Rooms is a software-based conference room solution that enables wireless multi-sharing, an interactive whiteboard, and intuitive room design for users. It enables real-time interaction by bringing video collaboration to any location (such as the office, classroom, or home).[1]

[1] - Screen sharing Breakout rooms, Virtual background, Personal Meeting ID, Private & Group chat, Host controls, Co-Annotation, Remote keyboard & mouse, TLS encryption, Waiting room, Pin multiple people, Filters, among others

For instance, Zoom Meetings, the company's flagship product, is available in four distinct plans, each of which has a different price and set of features :

	Basic	*Pro*	*Business*	*Enterprise*
Price	Free	€149.90/year/license	€199.90/year/license	€199.90/year/license
Participant Capacity	100	100	300	500 (+1000 *Enterprise+*)
License count	1	1 to 9	10 to 99	+100
Billing cycle and terms	Free, supported by adds	Monthly or annual	Monthly or annual	Annual agreements only
Other basic services[4]	Yes, with limitations	Yes	Yes	Yes
Meeting duration	40 minutes	24 hours	24 hours	24 hours
Recording	Locally stored	Locally stored and 1Gb could	Locally stored and 1Gb could	Locally stored and unlimited
Telephone dial-in	No	Toll-based	Toll-based	Toll-based
Live streaming	No	Yes	Yes	Yes

Table2.1: Zoom Meetings Plans overview

Source: Own Elaboration and (zoom.us,n.d.)

In the same manner, apart from *Zoom Meetings,* the company also different plans for its other five products previously mentioned, following a similar structure based on an increasing relationship in terms of prices and services offered.

1.3.Facts and Figures:

The primary financial and business metrics of Zoom are described in this part in order to demonstrate the rapid growth the firm has seen since its initial public offering (IPO) in April 2019. These metrics include revenue, free cash flow, net income, and the number of customers. It is significant to note that the data presented in the following section was obtained as of October 2020 from Zoom's Announcement Reports, Broker, Research, and Analyst Reports.

A .Number of customers :

A customer is defined by Zoom as a separate and unique buying entity. This buying entity can be a single paid host or any size of company (including a separate organizational unit that includes numerous paying hosts). Zoom reports its clients in terms of clients with more than 10 workers and Customers Contributing More Than $100,000 of Trailing 12 Months Revenue in order to more clearly distinguish between commercial customers and its overall customer base.

Customers with more than 10 employees:

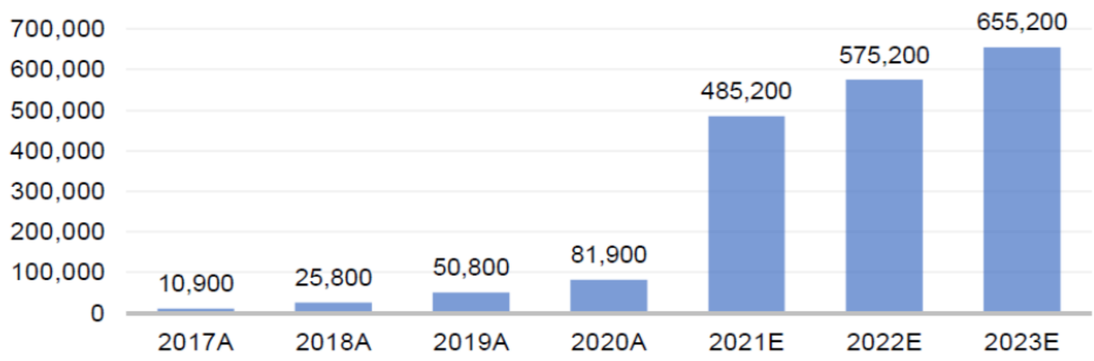

Figure2.1: Number of Customers with more than 10 employees
Source: Zoom Annual Reports and JP Morgan Analyst Reports

The revenue distribution between Zoom's two distinct customer segments is also important to see. In the past, customers with fewer than 10 employees have generally contributed between 30% and 20% of the company's income. However, a larger portion of the consumer base consists of these kinds of clients.

Customers Contributing More Than $100,000 of Trailing 12 Months Revenue:

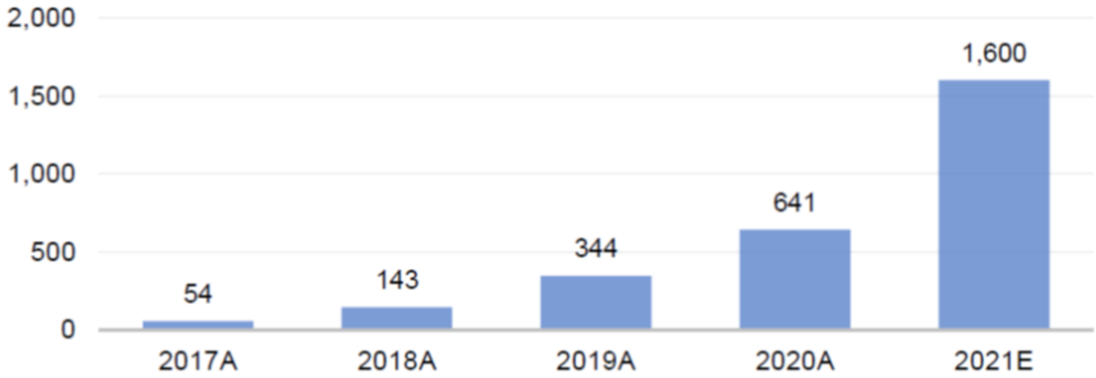

Figure2.2. Customers Contributing More Than $100,000 TTM Revenue
Source: Zoom Annual Reports

B.Revenue:

It's important to remember that all of the data relates to the fiscal year's end; for example, 2020A's $0.62 billion in revenue refers to the revenue as of January 31, 2020, which is the conclusion of the fiscal year. According to a forecast by Morgan Stanley, revenue would reach $3.44 billion in 2023E, an increase of 15.4% from the present year. Remember that, as was previously said, Zoom saw an extraordinary increase as a result of the lockdowns established during the epidemic, which compelled individuals and businesses to switch to a remote-working arrangement. In particular, Zoom's revenue increased by 282.7% from $0.62 bn in 2020A to $2.38 bn in 2021E.

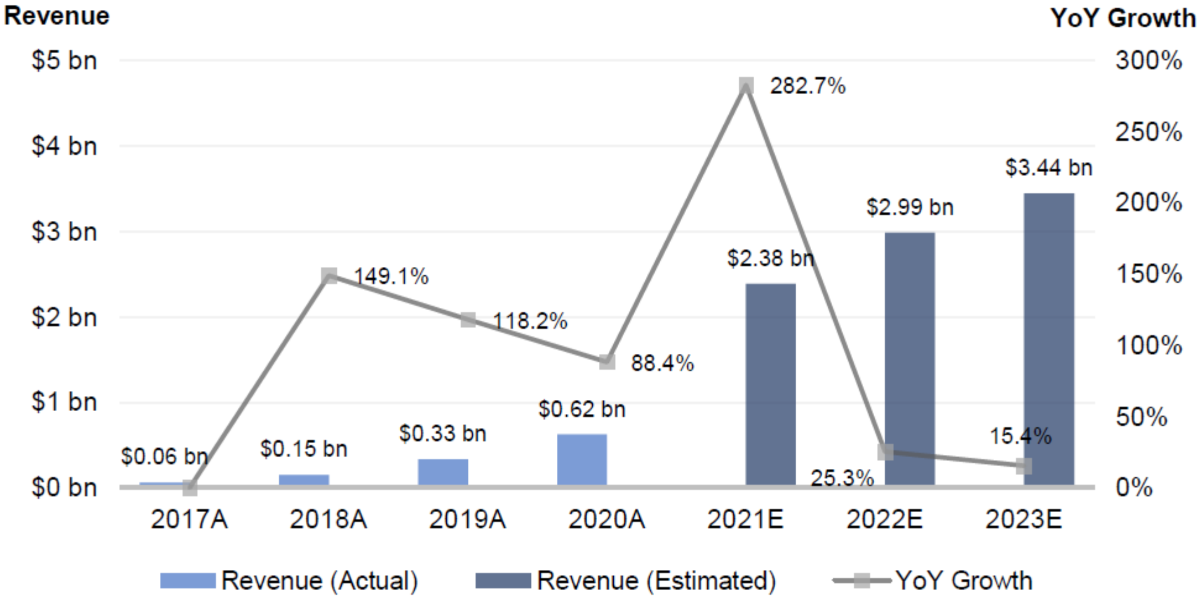

Figure2.3. Zoom Revenue at the end of the fiscal year

Source: Company Annual Reports. Estimations from Morgan Stanley Analyst Reports

The revenue distribution between Zoom's two distinct customer segments is also important to see. In the past, customers with fewer than 10 employees have generally contributed between 30% and 20% of the company's income. However, a larger portion of the consumer base consists of these kinds of clients.

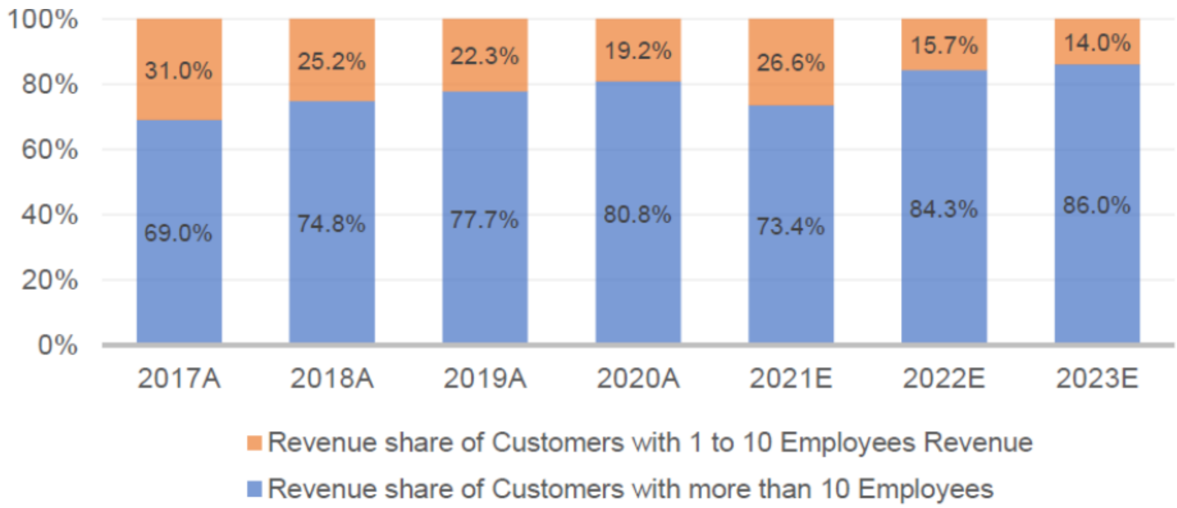

Figure2.4. Revenue split by type of customer

Source: Morgan Stanley Analyst Reports and Zoom Annual Reports

C.Cost of Goods Sold and Operating Expenses:

Cost of Goods Sold (COGS) is the cost of hosting Zoom's video-first communications platform and providing general operating support services to customers. Operating Expenses are divided into three components: Sales and Marketing (S&M), Research and Development (R&D) and General and Administrative (G&A). S&M

Expenses are related to personnel of the sales team, R&D expenses are personnel-related expenses associated with the research and development organization, and G&A expenses are costs related to finance, legal, and human resources teams.

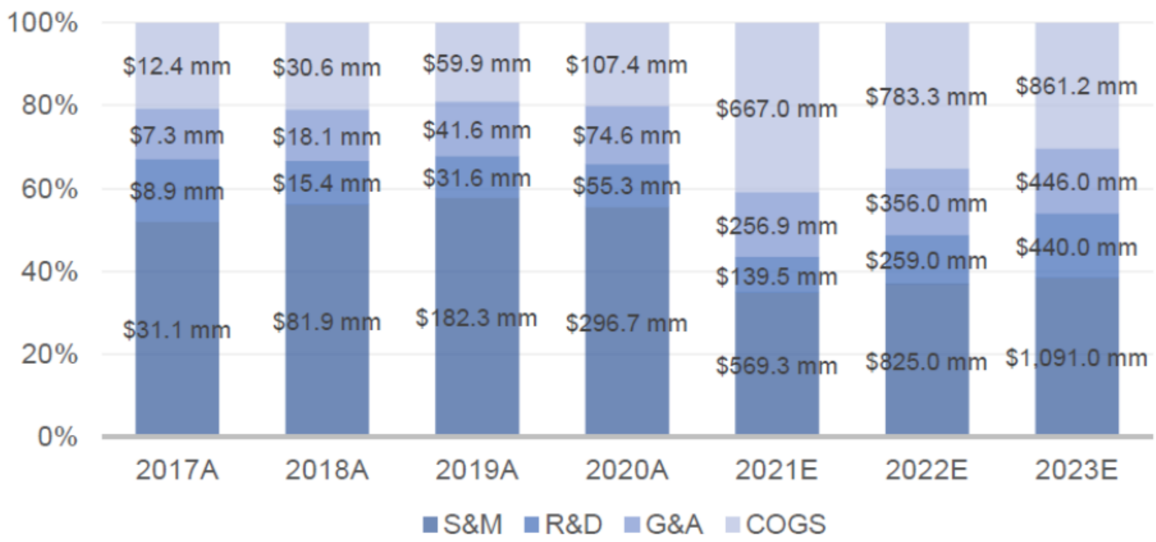

Figure2.5Cost Structure of Zoom
Source: Morgan Stanley Analyst Reports and Zoom Annual Reports

COGS increased from 2020A to 2021E due to the expansion of Zoom's data centers and hosting services. However, COGS is expected to decrease as Zoom scales its data centers to accommodate usage from its increased customer base.

D.EBIT and Gross Margin:

Zoom's operating margin increased from 14.2% in 2020A to 31.3% in 2021E due to a decrease in S&M expenses. This can be seen in Figure 17, where S&M expenses decreased from 47% to 23%.

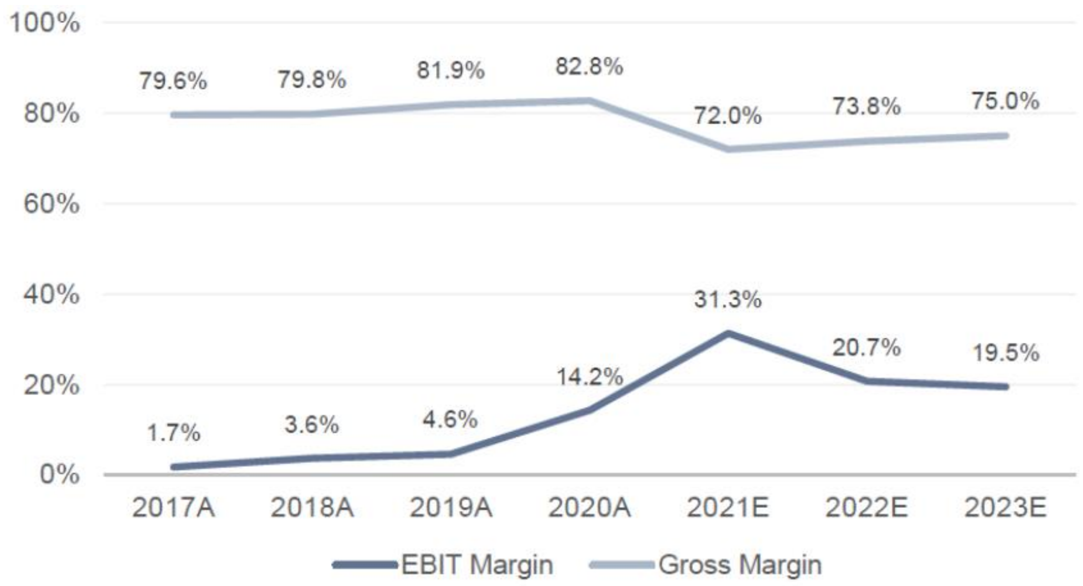

Figure2.6.EBIT Margin and Gross Margin
Source: Morgan Stanley Analyst Reports and Zoom Annual Reports

F. Capital raised during finding rounds:

Although the firm received its initial investment round (Pre Seed) in February 2010, raising $500,000, Zoom was only formally founded in 2011. They secured $3m in a Seed Round less than a year after the company was formally created. After thereafter, the company underwent Series A, B, C, and D Rounds, raising $6 million, $6 million, $3 million, and $100 million from various investors, including Qualcomm Venture and Sequoia Capital, respectively.

Date	Round Type	Share Value ($mm)	Pre-Money Valuation ($ mm)	Post-Money Valuation ($ mm)	Investor level % ownership
Dec-31-2019	Growth	-	-	-	-
Oct-11-2018	Growth	-	-	-	-
Dec-01-2016	Series D	666.21	550.97	666.21	17.30
Dec-23-2014	Series C	127.69	97.69	127.69	23.49
Aug-20-2013	Series B	28.13	21.63	28.13	23.11
Jan-28-2013	Series A	12.91	2.84	12.91	77.96

Table.2.2. Zoom Seed and Growth Funding Rounds
Source:Crunchbase and Capital IQ

1.4.Shareholder structure:

Shareholder composition with a $9.2 billion valuation and a share price of $36 in April 2019, Zoom completed its first public offering. After that, the company's ownership diversified among different categories of public and private investors.

The stakeholder structure of Zoom is summarized in the following chart as of September 30, 2020, when the company had a market value of $133.71 billion and a share price of $470.11. The founder and CEO of Zoom, Eric Yuan, had the largest percentage of the outstanding shares, 15.2%, with a market value of $20.37 billion. With 4.2% and 3.8% of the market capitalization, respectively, Emergence Equity Management and The Vanguard Group are his immediate competitor’s shares respectively

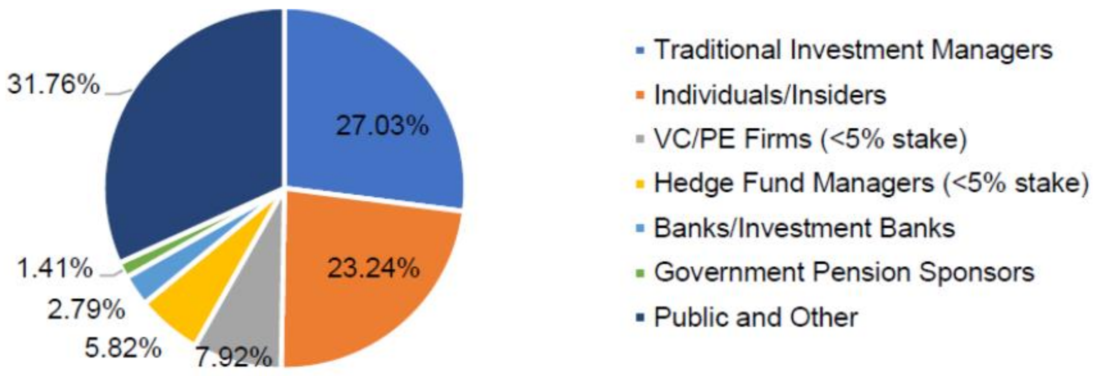

Figure2.7:Zoom Shareholder Structure Summary in September 2020
Source:S&P Capital IQ

1.5.Company Risks:

The author has identified 10 potential hazards connected to Zoom's business model, market, competition, and valuation that are and will influence the company in the near future in terms of internal and external threats to the company from a financial and business perspective:

1. Vulnerability and security issues:

Zoom's "zoombomb ng" was a privacy risk in 2020, but there is a potential risk that it will become popular among unwanted users as it grows in terms of scalability and functionality.

2. Privacy issues:

Due to allegations that Zoom's iOS app sent user data to Facebook and Google, a class action complaint was eventually filed. Furthermore, Zoom misled its clients about providing end-to-end encryption. Finally, Zoom consented to settle claims for $85 million.

3. Outages:

In order to maximize performance, Zoom creates private links across its 13 co-located data centers to serve its clients. Data center outages may have an influence on performance and the company's reputation. Additionally, the co-located data center facilities are exposed because Zoom has no influence over how they are run. For instance, the business experienced a brief outage in January 2019 that lasted under two hours.

4. “Back to Normal ”scenario:

The virus increased Zoom's share price (up 510%) and sales growth. The issue is that there is little information available about the post-virus scenario, which raises concerns about how much in-person interaction (such as corporate meetings, conferences for teachers, hospital visits, etc.) will be replaced by online interactions.

5. Service diversification:

For its business to be profitable, Zoom might need to gain market share in other segments like phone or non-video. By entering new markets, the corporation needs to offset the effects of its declining videoconferencing business.

6. Interoperability with external platforms:

The interoperability of Zoom's platform with other third-party applications that Zoom does not control is essential to the experience of its consumers. Zoom may see a decline in the number of clients if it is unable to maintain and grow its agreements with third parties to integrate its platform with their products.

7. Competition:

Cisco WebEx, Microsoft Skype, Microsoft Meeting, and Google Meet are all tough competitors for Zoom because they are a part of larger organizations and are therefore better funded and hedged. Furthermore, Facebook and Amazon have both invested in video communication solutions.

8. High Valuation and financials fluctuation:

Zoom must meet investor expectations for growth and profitability to avoid a decline in stock price, and its key metrics may vary significantly in the future due to factors outside of Zoom's control.

9. Performance of the top management team:

Recently joined senior management of Zoom have limited operating history, with Kelly Steckelberg joining as CFO in November, Harry Moseley as CIO in March 2018, and Aparna Bawa as General Counsel in September 2018.

10. Geopolitics and Macro trends:

Zoom's R&D spending in China could be increased due to the US-China trade war, which could lead to increased scrutiny of data security features.

1.6.Key Performance Metrics:

As with other subscription-based business models, Zoom assesses its performance using a number of indicators including DAU (Daily Active Users) or MAU (Monthly Active Users). Some of these indicators are displayed in this section from December 2019 to October 2020.

A.Monthly Active Users (MAU):

MAU is the unique number of active users on a platform in a specific month. Zoom's MAU reached its maximum on September 13th of 2020, then decreased to 196 million users on October 9th. It is expected to stabilize or increase in the future.

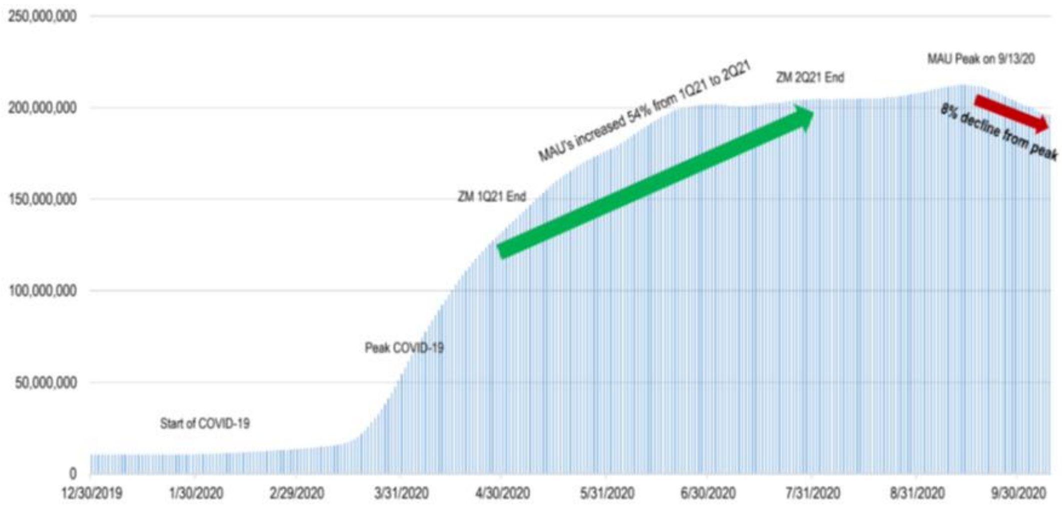

Figure2.8:Zoom Monthly Active Users
Source:JP Morgan Research Reports

Analyzing MAU by nation is fascinating. Figure 21 below demonstrates that MAU appears to be dropping from its peak in September 2020 in the majority of countries. Nearly 40% of Zoom's monthly active users are from the United States and India, where there have been reductions of 4% and 10%, respectively, from the high.

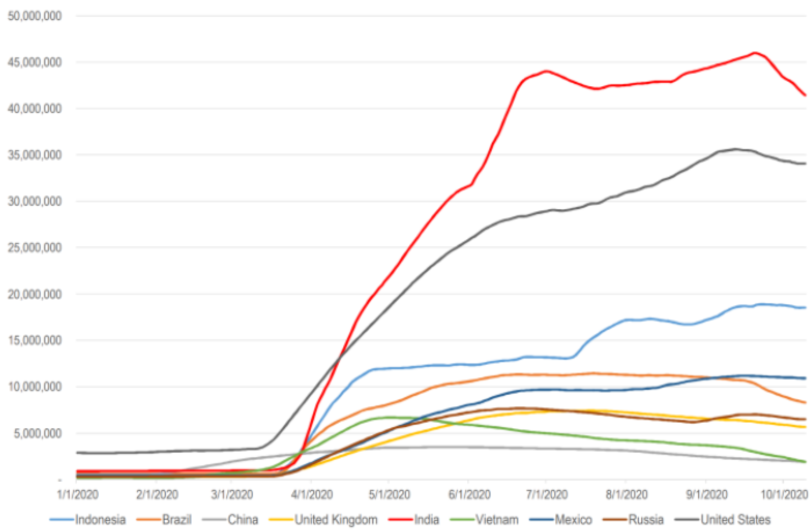

Figure2.9:Monthly Active Users Breakdown by Country
Source:JP Morgan Research Reports

B.Daily Active Users (DAU) and Stock Price:

Companies use this metric to measure service usage among customers, while DAS only counts users once per day. Zoom's stock price also follows a similar growth trend, but with a few months of delay.

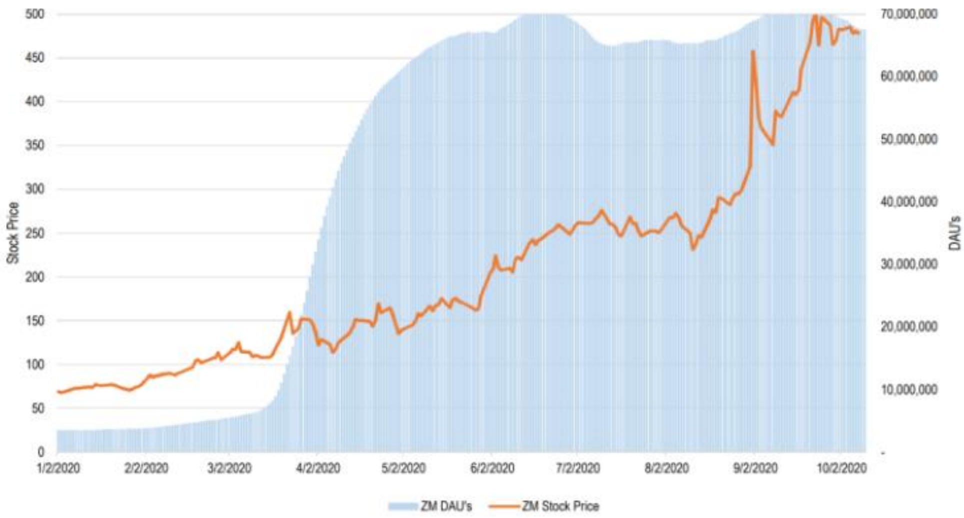

Figure2.10:Zoom Daily Active Users
Source:JP Morgan Research Reports

The DAU/MAU Ratio is a metric used by startups and venture capital firms to measure how active monthly users are on a daily basis. At October 2020, the DAU/MAU Ratio was around 30%. This metric is used to measure customer engagement or the number of days in each month that users use the platform.

C.Daily Downloads:

Zoom has been popularized due to pandemic lockdowns, reaching its peak in March 2020. Average daily downloads YTD is 1.7 million, expected to be stable around 1.4 million. Decline is due to new downloads from other competitors.

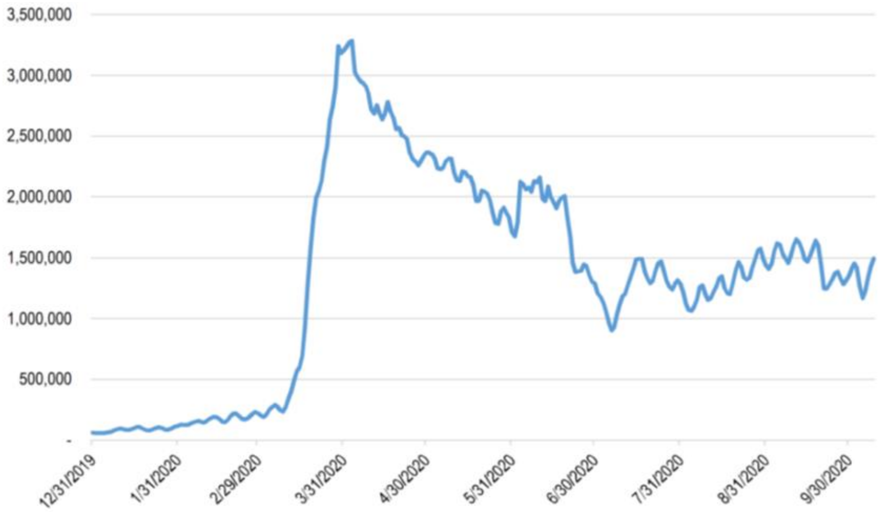

Figure2.11:Zoom Number of Daily Downloads
Source:JP Morgan Research Reports

1.7.Industry Overview:

Zoom is part of the Video Conferencing Industry, which has a market size of $6 bn in 2019. It is expected to grow at 24% CAGR from 2020 to 2030, reaching a value of $16 bn. The sub sector, represented by the S&P 500 Application Software Sub Industry Index, performed better than the whole industry, performing much better in relative terms.

Companies in the Application Software industry are seeing improved pricing and gross margins due to the rise of cloud offerings and acquisition activity. However, this has a negative impact on operating margins.

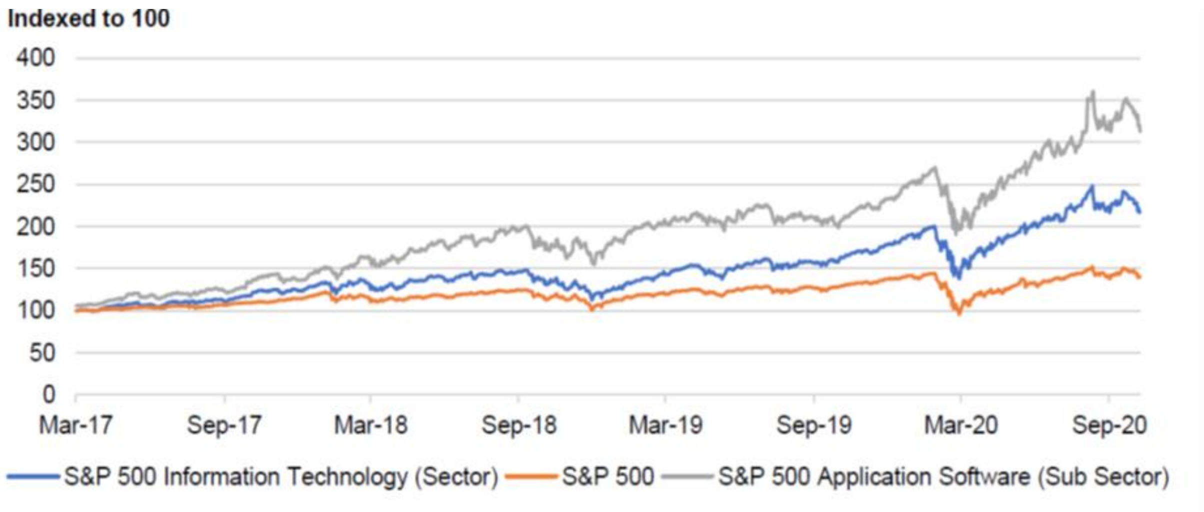

Figure2.12:Industry and Sub Sector Performance (Indexed to 100)
Source:JP Morgan Research Reports

1.7.1.Industry Trends:

Video conferencing platforms experienced a boom due to lockdowns during the pandemic, allowing professionals and students to meet with clients, conduct legal proceedings, and move to telehealth models.

1. Cloud-based videoconferencing :

Cloud-based videoconferencing solutions are becoming increasingly popular due to cost efficiency and convenience. They provide all the benefits of videoconferencing without having to invest in hardware and network deployment. Team members can participate in calls, chats, send shared documents, and log into video conferences without location barriers.

2. Web communication via browser-based access :

Browser-based video conferencing applications are becoming increasingly popular due to their simplicity and ease of use. Some services are based on WebRTC technology, allowing users to join and share a video conference right away.

3. Unified Communications integration:

Unified communications (UC) is a concept used to integrate enterprise communication services such as instant messaging, voice, mobility and video conferencing. It enables users to initiate video calls instantly and enable chat, video, audio and other features in a single application.

4. Company-wide conferencing:

Companies are deploying video and audio-conferencing services for both internal and external communications, adapting to meet new customer demands. External communication allows companies to conduct interviews, collaborate with remote experts, call clients or share documents.

5. Mobile friendly platforms :

Video conferencing platforms are moving to a mobile environment and increasing the number of functionalities that users can execute from their smartphones, allowing them to join a call or share a document at any time.

6. Content Management :

Companies use videoconferencing software to manage audio and video recordings, file sharing, and collaborative workspace. Cloud-based platforms offer video content management, which allows companies to have a centralized location for meeting recordings, with improved search capabilities and analytical tools to understand employee and customer engagement.

1.8 Competitive Landscape:

Zoom faces competition from desktop and web-based meeting providers, bundle productivity solutions providers, and one-off solutions providers. These include Cisco WebEx, Google Meet, Microsoft Teams, Google Chat, and GoToMeeting.

Main Competitors:

- Cisco WebEx Meetings:

Webex by Cisco is an American company founded in 1995 that develops and sells videoconferencing solutions, Unified Communications services, and contact center as a service application. They target US-based companies and the computer software industry, and had a DAU market share of 5.0% in October, making them the fifth player in the industry.

- Microsoft Teams:

Microsoft Teams is a business communication platform developed by Microsoft, released in 2017 and part of the Microsoft 365 suite of products. It is the third player of the videoconferencing market in terms of MAU and DAU market share, with a 13.8% and 12.9% market share, respectively.

- Microsoft Skype:

Skype was created in 2003 and acquired by Microsoft eight years later. In July 2019, Microsoft announced that the end-of-life for Skype for Business would be July 31st, 2021. It is best known for its VoIP calls, but also offers videoconferencing services. Skype is simpler and with less features than Zoom, offering voice and video services with a limited number of extra features.

- Google Meet:

Google Hangouts Meet is a video communication service released in 2017 as the mobile friendly version of Google Hangouts. It is part of Google's premium workspace, formerly known as G Suite, and is available on iOS, web, and Android devices.

- Google Chat:

Google Hangouts Chat is a paid chat service provided by Google G Suite. It was initially launched for business users, but is now available for general customers with a Gmail account. It includes direct messaging, threaded team channels, task creation, and file sharing.

- Slack:

Slack was developed in 2013 and launched to the public in 2013. It went public in 2019 and Salesforce acquired it two years later. Its main capability was the introduction of threaded channels, which allowed users to split conversations by topic. It also offers chat and file sharing, as well as video conferencing services.

- GoToMeeting:

Slack was developed in 2013, launched to the public in 2013, and went public in 2019. Its main capability was threaded channels, which allowed users to split conversations by topic. It also offers chat and file sharing, video conferencing services, and is known for its security and privacy. Its target market is professional, business, and enterprises.

Market Share:

Zoom is the clear market dominant, with a DAU's market share of 48% and a MAU's market share of 44% at 9th of October 2020. Google Meet is the second main player, followed by Microsoft Teams (12.8%), Skype (6.6%) and Cisco WebEx (5.0%). MAU's market share follows a similar trend.

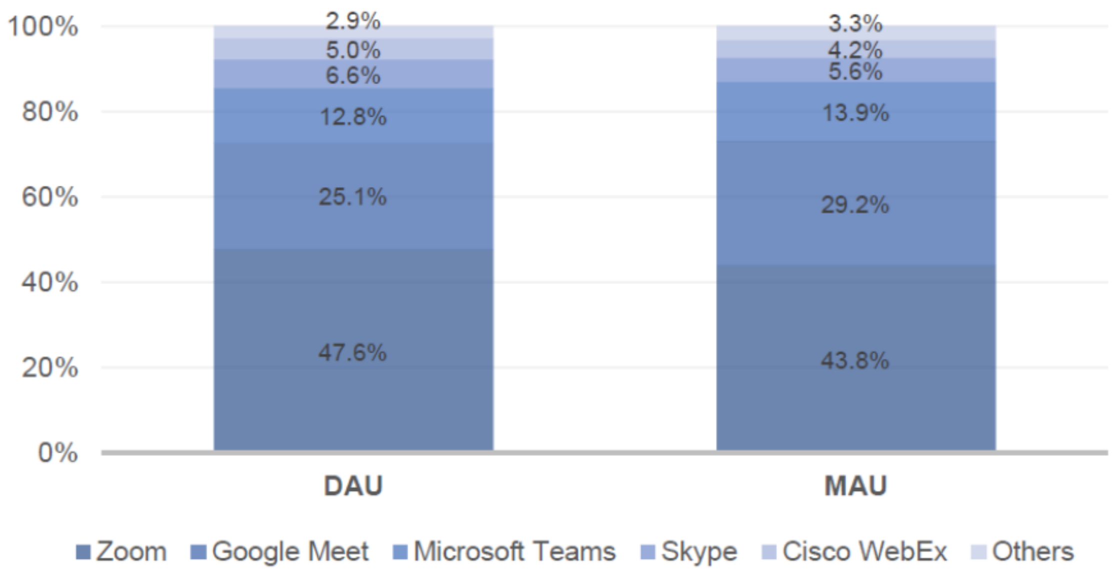

Figure2.13:DAU and MAU Videoconferencing Market Share in October 2020
Source:JP Morgan Analyst Reports

Zoom's primary competitors are Cisco Systems, Microsoft, and Google. Zoom's main focus segments are Cloud-based solutions, Unified Communications, and Collaborative Applications. However, if the big incumbents focus on these niches, it could put pressure on Zoom's penetration. Smaller players like LogMeIn also compete in the same space, but with lower market share.

Zoom should consider the low switching costs in the industry, which used to be an advantage in the past. However, this can lead to competitors improving their product and service offer. Zoom has a strong competitive lead at the moment, and new features and updates will strengthen its leadership.

2.Company Valuation:

The valuation of Zoom in this case study will be performed as of October 2020, when the company was at its peak in terms of share price. The financial data and forecasts used come from various analyst and broker reports developed by several investment banks. Morgan Stanley's forecast is the most accurate and realistic.

2.1.Discounted Cash Flow Analysis:

The Discounted Cash Flows Analysis (DCF) is the main methodology used to value stable and mature companies. Zoom is considered a mature company as of October 2020, and the time horizon used in the forecast period is 12 years. This is because Zoom is in an extremely fast-growing state, so a 12-years DCF is used in this case study to capture its full growth potential. This short time horizon is only optimal for mature companies that have reached a steady state.

A. Income Statement:

Zoom's financial forecast shows positive free cash flows and solid revenues, and is expected to grow at 77% CAGR from 2020A to 2023E due to the pandemic. Table 8 shows the Income Statement and its forecasts used in the model.

mm$	*2019A*	*2020A*	*2021E*	*2022E*	*2023E*	*2024E*	*2025E*	*2026E*	*2027E*	*2028E*	*2029E*	*2030E*	*2031E*	*2032E*
Income Statement - Morgan Stanley														
Revenue	330.5	622.7	2,383.0	2,986.2	3,444.7	4,823.0	6,510.0	8,789.0	11,865.0	16,018.0	20,823.0	24,155.0	27,537.0	30,841.0
%Growth		*88.4%*	*282.7%*	*25.3%*	*15.4%*	*40.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*	*30.0%*	*16.0%*	*14.0%*	*12.0%*
COGS	59.9	107.4	667.0	783.3	861.2									
Gross Margin	**270.6**	**515.3**	**1,716.0**	**2,202.9**	**2,583.5**									
Opex	255.5	426.6	971.0	1,584.9	1,911.8									
EBIT	15.1	88.7	745.0	618.0	671.7	965.0	1,302.0	1,846.0	2,492.0	3,684.0	5,206.0	6,522.0	7,986.0	9,561.0
D&A	6.8	16.4	36.4	100.3	163.2	266.0	432.0	703.0	1,145.0	1,862.0	2,142.0	2,356.0	2,592.0	2,851.0
Other Amortization	23.1	37.1	71.9	95.2	131.1	177.0	238.9	322.6	435.4	587.9	793.6	1,071.4	1,446.3	1,952.6
EBITDA	**45.0**	**142.2**	**853.3**	**813.5**	**966.0**	**1,408.0**	**1,972.9**	**2,871.6**	**4,072.4**	**6,133.9**	**8,141.6**	**9,949.4**	**12,024.3**	**14,364.6**
Net Interest	2.2	13.6	12.3	11.8	19.9									
EBT	**40.4**	**139.4**	**829.2**	**725.0**	**822.7**									
Net Interest	0.8	1.1	14.7	31.5	172.9									
Net Income	**39.6**	**138.3**	**814.5**	**693.5**	**649.8**									
EPS (in $)	0.06	0.35	2.9	2.89	2.97									
NSHO (in Millions)	*254*	*297.2*	*297.2*	*297.2*	*297.2*									

Table2.3:Zoom Income Statement Forecasts

Source: Company Annual Reports and JP Morgan Analyst Reports

B.Free Cash Flows:

The average scenario for Free Cash Flow has been computed to better represent both optimistic and pessimistic forecasts. The Optimistic Scenario is provided by JP Morgan Analyst Reports, while the Pessimistic Scenario is provided by Morgan Stanley Analyst Reports. The following table summarizes both scenarios used to develop the model.

Base Case - Morgan Stanley														
EBIT	15	89	745	618	672	965	1,302	1,846	2,492	3,684	5,206	6,522	7,986	9,561
Effective Tax Rate (%)	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*
NOPAT	**11**	**67**	**559**	**464**	**504**	**724**	**977**	**1,385**	**1,869**	**2,763**	**3,905**	**4,892**	**5,990**	**7,171**
D&A	7	16	36	100	163	266	432	703	1,145	1,862	2,142	2,356	2,592	2,851
CAPEX	31	38	136	257	297	341	357	413	454	500	550	605	665	732
Change in WC	27	41	328	10	113	69	68	68	-31	-42	-48	-33	-34	-33
FCF	**15**	**86**	**787**	**316**	**483**	**718**	**1,120**	**1,743**	**2,529**	**4,083**	**5,449**	**6,610**	**7,883**	**9,257**
Bull Case - JP Morgan														
Revenue	**331**	**623**	**2,577**	**3,527**	**4,393**									
FCF	**21**	**114**	**1,174**	**1,221**	**1,622**	**2,141**	**2,784**	**3,563**	**4,490**	**5,667**	**6,792**	**8,219**	**9,862**	**11,736**

Table2.4:Zoom Free Cash Flows Scenario Calculation

Source: Company Annual Reports, Morgan Stanley, and JP Analyst Reports

C. Discount Rate:

The Weighted Average Cost of Capital (WACC), which was calculated with a 100% equity assumption and is used as the discount rate for the free cash flows, is equal to the cost of equity.

WACC Calculation	
Risk-free Rate of Return	0.8%
Equity Risk Premium	6.50%
Company Beta	1.12
Cost of Equity	8.1%
Weighted Average Cost of Capital	**8.1%**
Pre-tax Cost of Debt	2%
Tax Rate	25%
After-tax Cost of Debt	1.5%

Table2.5:Zoom WACC Calculation
Source: Own Elaboration and Morgan Stanley Analyst Reports

The 10-Year Treasury Yield, which was at its lowest point in mid-2020 as a result of pandemic effects, is equal to the risk-free rate of return. The corporate beta and the equity risk premium are provided by Morgan Stanley Analyst Reports.

D.Terminal Value:

The Terminal Value, which captures value beyond the twelve-year forecast period, has been determined as of October 2020 using the Gordon Growth Model as follows:

WAAC	
Discount rate	8.1%
Perpetuity growth	3.0%
Free Cash Flow at 2032	10,496
Terminal Value as of 2032	**187,686**

Table 2.6:Zoom Terminal Value Calculation
Source: Own Elaboration and Morgan Stanley Analyst Reports

A constant growth rate of 3% was used, per Morgan Stanley Analyst Reports. The WACC and the discount rate, which have both been discussed previously, are equivalent.

F.DCF Analysis:

Following the description of the financial predictions, discount rate, and terminal value, the following formula is used to calculate the DCF analysis:

Average Scenario - DCF Analysis														
Bull and Base Weights: 50%														
FCF	18	100	981	769	1,053	1,430	1,952	2,653	3,509	4,875	6,120	7,414	8,872	10,496
Terminal Value														187,686
Discount period			1	2	3	4	5	6	7	8	9	10	11	12
Discount rate			8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Discount factor			0.93	0.86	0.79	0.73	0.68	0.63	0.58	0.54	0.50	0.46	0.43	0.39
PV of FCF + TV			907	658	834	1,048	1,323	1,664	2,037	2,618	3,041	3,409	3,774	78,005

Table 2.7:Zoom DCF Analysis
Source: Own Elaboration and Morgan Stanley Analyst Reports

Once the present value of the free cash flows and the terminal value have been calculated, the enterprise value of Zoom can be obtained by just adding them up:

Implied Valuation	
PV of Cash Flows (in mm$)	99,319
Enterprise Value (in mm$)	**99,319**
Net Debt (in mm$)	-754
Equity Value (in mm$)	**100,073**
Shares Outstanding (in Millions)	*297.20*
Share Price (in$)	**336.72**

Table 2.8:DCF Analysis - ValuationOutcome
Source:Own Elaboration and Morgan Stanley Analyst Reports

The enterprise value obtained by the DCF Analysis computed is $101,330mm. However, as some of the assumptions used in the analysis were taken from Morgan Stanley Analyst Reports and they slightly vary from other broker reports, the following sensitivity table helps to capture these variations in terms of growth rate for the terminal value and WACC.

Sensitivity of EV: WACC vs Perpetuity Growth							
		WACC					
		6.5%	7.0%	7.5%	8.0%	8.5%	9.0%
Perpetuity Growth	2.0%	127,367	111,540	98,700	88,096	79,208	71,665
	2.5%	140,229	121,313	106,296	94,111	84,046	75,607
	3.0%	156,766	133,529	115,581	101,330	89,763	80,206
	3.5%	178,815	149,235	127,186	110,152	96,624	85,641
	4.0%	209,684	170,177	142,107	121,180	105,009	92,164
	4.5%	255,987	199,496	162,003	135,359	115,491	100,135
	5.0%	333,159	243,474	189,856	154,264	128,967	110,100

Table 2.9:DCF Sensitivity Analysis for Enterprise Value
Source:Own Elaboration and Morgan Stanley Analyst Reports

2.2.Comparable:

The comparable analysis is a relative method used to value a company based on similar peers in terms of size, industry, and financial metrics. In the case of Zoom, there are not many public companies that can be compared to it due to its direct competitors being part of larger corporations. The analysis has been structured into three main blocks of comparable companies.

1.Sub-Industry Peers in the Cloud Software Application:

A number of businesses in the aforementioned subindustry are included in this group, including Atlassian Corporation, Datadog, and Cloudflare.

2. Fast-growing SaaS Peers:

includes SaaS firms that are expanding quickly and those investors anticipate will continue to do so. Here are a few instances: Coupa, Slack, or Everbridge.

3. Large Cap Internet Peers:

Although Zoom does not operate in the same industry as the companies in this group, they are still an excellent resource. Amazon, Alphabet, and Twitter are a few instances. But it is anticipated that this group will provide lower multiples numbers.

There are no comparable public companies in the sub-industry growing as quickly as Zoom, which is why the comps analysis has been divided into three sections. The goal is to create a model that captures both the sub-industry's optimistic growth as a result of the pandemic and the likelihood that working from home will decline in the future.

1) Sub-Industry Peers in the Cloud Software Application:

When determining Zoom's enterprise value, the first set of comparable companies is the most representative and pertinent. All seven businesses are in the same industry as Zoom and have seen significant growth as a result of the pandemic lockdowns. They all exhibit high EV/Revenue multiples in this regard, which may imply that they are overvalued, similar to Zoom's predicament.

Sub-Industry Peers - Could Software Applications	Ticker	Country	Price (in $)	Market Cap	EV	Revenue			EV/Revenue		
Zoom	**ZM**	**US**	**491.54**	**139,800**	**143,800**	**622.7**	**2,383.0**	**2,986.2**	**230.9x**	**60.3x**	**48.2x**
Datadog	DDOG	US	112.2	34,150	36,800	362.9	570.5	769.9	101.4x	64.5x	47.8x
Cloudflare	NET	US	57.01	17,500	18,500	287.3	406.6	534.7	64.4x	45.5x	34.6x
Atlassian Corporation	TEAM	UK	194.27	48,410	46,700	1,415.2	1,762.3	2,103.6	33.0x	26.5x	22.2x
Mongodb	MDB	US	263.3	15,490	18,100	421.9	553.5	696.2	42.9x	32.7x	26.0x
Crowdstrike	CRWD	US	145.96	32,030	33,400	481.3	820.6	1,109.6	69.4x	40.7x	30.1x
Zscaler	ZS	US	151.15	20,090	21,700	359.9	508.2	667.7	60.3x	42.7x	32.5x
Okta	OKTA	US	245.55	31,450	36,400	587.1	803.5	1,037.0	62.0x	45.3x	35.1x
Average									**61.9x**	**42.6x**	**32.6x**
Median									**62.0x**	**42.7x**	**32.5x**

Table 2.10: Zoom Sub-Industry Peers in the Cloud Software Application
Source: Own Elaboration and Credit Suisse Analyst Reports

The following table illustrates the range of enterprise value, which is between $38,607 mm and $105,892 mm. However, because Zoom revenue was still relatively low in 2020A, the enterprise value obtained at that time is not indicative.

mm$	2020A	2021E	2022E
Enterprise Value from Sub-Industry Peers Average	**EV/Revenue**		
Revenue - Average (in mm$)	623	2,480	3,257
Peer's Average	61.9x	42.6x	32.6x
Implied Zoom EV (in mm$)	**38,554**	**105,537**	**106,215**
Peer's Median	62.0x	42.7x	32.5x
Implied Zoom EV (in mm$)	**38,607**	**105,892**	**105,843**
Net Debt (in mm$)	-754.1	-1528.2	-1884.9
Equity Value (in mm$)	**39,362**	**107,420**	**107,728**
Shares outstanding (in Millions)	*297.2*	*297.2*	*297.2*
Share Value (in $)	**132.44**	**361.44**	**362.48**

Table 2.11:Enterprise Value from Sub-Industry Peers
Source: Own Elaboration and Credit Suisse Analyst Reports

In terms of share price, it falls between $361.44 and $362.48 after subtracting the value for 2020A.

2) Fast-growing SaaS Peers :

The second set of comparisons consists of a collection of SaaS companies that grew significantly as a result of the pandemic lockdowns.

Fast Growing SaaS Peers	Ticker	Country	Price (in $)	EV/Revenue		
Bill.com	BILL	US	116.44	55.6x	44.8x	34.2x
Elastic	ESTC	US, NL	120.14	22.9x	18.1x	15.0x
Everbridge	EVBG	NL	129.27	19.0x	15.1x	11.8x
Smartsheet	SMRT	US	55.42	18.3x	14.6x	11.6x
Coupa	COUP	US	306	42.7x	32.8x	25.2x
MonogoDB	MDB	US	269.8	34.5x	27.2x	20.6x
Slack	WORK	US	32.57	21.7x	16.8x	13.1x
ZoomInfo	ZI	US	42.77	39.0x	31.0x	25.0x
Average				**31.7x**	**25.1x**	**19.6x**
Median				**28.7x**	**22.7x**	**17.8x**

Table 2.12Zoom Fast-growing SaaS Peers
Source: Own Elaboration and Credit Suisse Analyst Reports

The enterprise value calculated from this second group of peers' EV/Revenue multiple ranges from $56,170 mm to 57,969 mm, which is much lower than the enterprise value produced from the first group of peers due to a higher multiple. This is because the companies in this category are not as overvalued as the ones in the preceding one.

mm$	2020A	2021E	2022E
Enterprise Value from Fast Growing Peers Average	**EV/Revenue**		
Revenue - Average (in mm$)	623	2,480	3,257
Peer's Average	31.7x	25.1x	19.6x
Implied Zoom EV (in mm$)	**19,747**	**62,121**	**63,709**
Peer's Median	28.7x	22.7x	17.8x
Implied Zoom EV (in mm$)	**17,871**	**56,170**	**57,969**
Net Debt (in mm$)	-754.1	-1528.2	-1884.9
Equity Value (in mm$)	**18,626**	**57,698**	**59,854**
Shares outstanding (in Millions)	*297.2*	*297.2*	*297.2*
Share Value (in $)	**62.67**	**194.14**	**201.39**

Table 2.13: Comps Analysis 2: Enterprise Value from Fast-Growing Peers Average
Source: Own Elaboration and Morgan Stanley Analyst Reports

3) Large Cap Internet Peers :

Finally, several of the major "tech gants" are included in the final group used for the comparative analysis. They are all mature businesses, and while they have all done well, their growth has lagged behind Zoom's. The average EV/Revenue multiples are consequently substantially smaller (42.6x vs. 9.8x).

Large Cap Internet Comparables	Ticker	Country	Price (IN $)	Market Cap	EV/Revenue		EV/EBITDA		P/E	
Amazon	AMZN	US	3,176	1,619,170	3.8x	3.2x	24.1x	19.6x	79.2x	62.5x
Alphabet	GOOGL	US	1,607	1,122,343	4.6x	3.8x	13.0x	11.1x	28.2x	25.3x
Snapchat	SNAP	US	39.0	58,064.0	16.9x	12.6x	NA	NA	NA	NA
Twitter	TWTR	US	50.3	39,496.0	8.8x	7.1x	26.9x	22.2x	71.4x	56.0x
Pinterest	PINS	US	50.8		14.7x	11.2x	NA	NA	NA	NA
Average					**9.8x**	**7.6x**	**21.3x**	**17.6x**	**59.6x**	**47.9x**
Median					**8.8x**	**7.1x**	**24.1x**	**19.6x**	**71.4x**	**56.0x**

Table 2.14:Zoom Large Cap Internet Peers
Source: Own Elaboration and Morgan Stanley Analyst Reports

The average EV/Revenue multiple obtained in terms of enterprise value is significantly lower than in the prior set of peers. In actuality, Zoom's enterprise value is relatively low when all the multiples calculated from this set of peers are combined. The fact that Zoom's multiples are significantly lower than those from major tech companies suggests that Zoom is currently overpriced and that its worth will decline in the future.

mm$	2021E	2022E	2021E	2022E	2021E	2022E
Enterprise Value from Large Cap Internet Comps	**EV/Revenue**		**EV/EBITDA**		**P/E**	
Peer's Average	9.8x	7.6x	21.3x	17.6x	59.6x	47.9x
Implied Zoom EV (in mm$)	**23,258**	**22,635**	**18,204**	**14,345**	**51,368**	**41,170**
Peer's Median	8.8x	7.1x	24.1x	19.6x	71.4x	56.0x
Implied Zoom EV (in mm$)	**20,970**	**21,202**	**20,565**	**15,945**	**61,538**	**48,099**
Net Debt (in mm$)	-1,528	-1,885	-1,528	-1,885	-1,528	-1,885
Equity Value (in mm$)	**22,499**	**23,087**	**22,093**	**17,830**	**61,538**	**48,099**
Shares outstanding (in Millions)	*297.2*	*297.2*	*297.2*	*297.2*	*297.2*	*297.2*
Share Value (in $)	**75.70**	**77.68**	**74.34**	**59.99**	**207.06**	**161.84**

Table 2.15: Comps Analysis 3: Enterprise Value from Large Cap Internet Peers
Source: Own Elaboration and Morgan Stanley Analyst Reports

2.3.Real Options:

First, the current stock price (so) is required, therefore the stock value as of September 15, 2020, is used:

On the 15th of September 2020	
Equity Value	122,131,368
NSHO	297,200
Share Value	**410.94**

Table 2.15: Zoom Current Share Price
Source: Company Annual Reports and Own Analysis

Analysis of Discounted Cash Flows The findings for both scenarios are shown in the following table, along with minimum and maximum value for each:

	Down State		Up State	
Future Stock Value	Max	Min	Max	Min
Enterprise Value (in mm$)	96,022	84,616	167,525	159,595
Net Debt (in mm$)	-754.1	-754.1	-754.1	-754.1
Equity Value (in mm$)	95,268	83,862	166,771	158,841
Shares outstanding (in Millions)	*297.2*	*297.2*	*297.2*	*297.2*
Share Value (in $)	**320.55**	**282.17**	**561.14**	**534.46**

Table 2.16: Real Options Share Price for each state
Source: Company Annual Reports and Own Analysis

The assumption used to determine the stock's striking price (K) is that a potential investor would only invest if the return exceeded Zoom's cost of equity, or 8.1%. As a result, the (minimum) strike price is determined as follows:

Srike Price Calculation	
Share Value	410.94
Investor expected rate of return (Ce)	*8.1%*
Strike Price	**444.23**

Table 2.17: Zoom Strike Price Calculation
Source: Own Analysis

Finally, using the binomial model, the enterprise value computation ranges from $99,288 mm to $138,995 mm, as shown in the following table

Real Options Method	Min	Max
Risk-free rate of return (Rf)	0.80%	0.80%
Current stock value (So)	410.94	410.94
Stock value at Up-State (Su)	534.46	561.14
Stock value at Down-State (Sd)	282.17	320.55
Strike price (K)	444.23	444.23
Investor expected rate of return (Ce)	*8%*	*8%*
Up-State factor (u)	1.30	1.37
Down-State factor (d)	0.69	0.78
Option value at Up-State (Cu)	90.23	116.91
Option value at Down-State (Cd)	0.00	0.00
Stock portfolio allocation (a)	0.4	0.5
Bond portfolio allocation (b)	189.6	270.5
Share Price - Real Options Valuation (in $)	**336.6**	**470.2**
Shares outstanding (in Millions)	*297.2*	*297.2*
Equity Value (in mm$)	**100,042**	**139,749**
Net Debt (in mm$)	-754	-754
Enterprise Value (in mm$)	**99,288**	**138,995**

Table 2.18: Real Options Valuation Analysis
Source: Own Analysis and Morgan Stanley Report

2.4.Book Value:

The calculation of Zoom's book value is shown in the following table, which makes the assumption that Zoom's enterprise value is equal to its assets less its liabilities:

Book Value Method	
Total Assets (in mm$)	1,290
Total Liabilities (in mm$)	456
Book Value (in mm$)	**834**
Net Debt (in mm$)	-754
Equity Value (in mm$)	1,588
Shares outstanding (in Millions)	*297.2*
Share Value (in $)	**5.34**

Table 2.19: Book Value Valuation Method
Source: Own Elaboration and company Annual report

2.5.Venture Capital:

As with other techniques, the Venture Capital Method has two scenarios (i.e., optimistic and pessimistic) that have been outlined. First, as was done with the Real Options, the terminal value at the time of exit must be calculated using a three-year investment horizon and an estimated return of 8.1%.

ROI Calculation	
ROI	**126.3%**
Expected annual rate of return	8.1%
Investment Horizon (years)	3

Table 2.20: Venture Capital Method ROI Calculation
Source: own Elaboration and Morgan Stanley Analyst Reports

The post-money valuation can then be calculated using the terminal value and the ROIC. To establish the pre-money valuation, it is necessary to remove the Investment or Money Raised. The method is described in the following table:

Weighted Average EV	EV/Revenue
Comps multiple	42.7x
Terminal Value (in mm$) (2023)	167,339
Post-Money Valuation (in mm$)	132,471
Expected capital raised	0
Pre-Money Valuation (in mm$)	**132,471**
Net Debt (in mm$) (2020)	-754.1
Equity Value (in mm$)	133,225
Shares outstanding (in Millions)	297.2
Share Value (in $)	**448.3**

Table 2.21: Venture Capital Valuation Method
Source Own Elaboration and Morgan Stanley Analyst Reports

2.6.First Chicago:

Defining the scenarios is the initial stage in the initial Chicago approach valuation computation process. A best-, mid-, and worst-case scenario have all been established in this example, each of which is connected to a probability and a separate business strategy. The Terminal Value is then calculated using the Venture Capital Method as the next step. Two groups of peers have also been added to the model for the multiple EV/Revenue in order to provide a more thorough value.

Scenatrio 1: Best-Case (JP Morgan)	EV/Revenue Sub-Industry Peers	Fast Growing SaaS Peers
Probability	25%	25%
Revenue (2023)	4,393	4,393
Comps Multiple	32.5x	17.8x
Terminal Value	**142,779**	**78,199**

Scenatrio 2: Mid-Case (Credir Suisse)	EV/Revenue Sub-Industry Peers	Fast Growing SaaS Peers
Probability	25%	25%
Revenue (2023)	3,649	3,649
Comps Multiple	32.5x	17.8x
Terminal Value	**118,595**	**64,954**

Scenatrio 3: Worst-Case (Morgan Stanley)	EV/Revenue Sub-Industry Peers	Fast Growing SaaS Peers
Probability	50%	50%
Revenue (2023)	3,445	3,445
Comps Multiple	32.5x	17.8x
Terminal Value	**111,953**	**61,316**

Average Scenario	EV/Revenue Sub-Industry Peers	Fast Growing SaaS Peers
Terminal Value	**121,320**	**66,446**

Table 2.22: Frist Chicago Terminal Value Calculation
Source :Own Elaboration and Morgan Stanley Analyst Reports

The enterprise value, which varies between $83,936 mm and $153,253 mm depending on the group of peers chosen, may be determined after the terminal value and assuming an investment horizon of three years and an expected return of 8.1%

First Chicago - Implied Valuation	EV/Revenue Sub-Industry Peers	Fast Growing SaaS Peers
Annal Return Expected	8%	8%
Investment Horizon	3	3
Enterprise Value (in mm$)	**153,253**	**83,936**
Net Debt (in mm$)	-754	-754
Equity Value (in mm$)	154,007	84,690
Shares outstanding (in Millions)	*297.2*	*297.2*
Share Value (in $)	**518.19**	**284.96**

Table 2.23: First Chicago Valuation Method
Source: own Elaboration and Morgan Stanley Analyst Reports

2.7.Risk Factor Summation:

The Risk Factor Summation is the final valuation technique employed. First, as shown in the accompanying table, the hazards identified by the approach must be rated on a scale from -2 to +2.

Risk Assessment	Grade	Adjustment
Management	1	125,000
Stage of the business	2	250,000
Legislation/Political risk	0	0
Manufacturing risk	0	0
Sales and marketing risk	1	125,000
Funding/capital raising risk	2	250,000
Competition risk	-2	-250,000
Technology risk	-1	-125,000
Litigation risk	0	0
International risk	0	0
Reputation risk	2	250,000
Potential lucrative exit	0	0
Total Adjustment		**625,000**

Table2.24: Risks Grading for Risk Factor Summation

Source : own Elaboration

After that, the value of the Total Adjustment must be added to the PE's valuation, which was determined from the previous multiple EV/Revenue calculation:

Risk Factor Summation Method	EV/Revenue
Revenue (in mm$)	623
Comps multiple	42.7x
Peers Valuation (in mm$)	26,589
Total Adjustment (in mm$)	0.625
Enterprise Value (in mm$)	26,590
Net Debt (in mm$)	-754.1
Equity Value (in mm$)	27,344
Shares outstanding (in Millions)	297.2
Share Value (in $)	**92.01**

Table 2.25: Risk Factor Summation Valuation Method

Source :Own Elaboration and Morgan Stanley Analyst Reports

2.8.Valuation Methods Comparison: Football Field:

The best approach to compare all of the valuation methods used to determine Zoom's enterprise value and share price is to plot them on a football field chart. It is an effective tool to spot outliers and evenly weigh the most pertinent valuation techniques for a particular firm.

A.Enterprise Value:

The following table lists each of the valuation techniques used to determine Zoom's value in this case study, along with minimum and maximum values and two scenarios for weighted average valuation:

Valuation Methods - Enterprise Value (in mm$)	Min	Max	Diff	Weight 1	Weight 2
Discounted Cash Flow Alaysis	101,330	115,581	14,251	25%	25%
Public Comparables	101,754	114,634	12,880	25%	25%
Real Options	99,288	138,995	39,707	25%	25%
Book Value	834	834	0	0%	0%
Venture Capital	116,440	148,502	32,062	15%	25%
First Chicago	83,936	153,253	69,318	10%	0%
Risk Sum Factor	26,590	26,590	0	0%	0%
Valuation 1	**101,452**	**129,903**	**28,451**	**100%**	**100%**
Valuation 2	**104,703**	**129,428**	**24,725**	**100%**	**100%**

Figure 2.26: Zoom Valuation Overview (Enterprise Value)

Source: Own Elaboration, JP Morgan and Morgan Stanley Analyst Reports

First off, compared to the others, the Book Value and Risk Factor Summation techniques offer a far higher enterprise value. Since the Book Value only considers the company's assets less its liabilities, it ignores potential future growth.

Zoom offers a very low enterprise value despite its potential. Second, the Risk Factor Summation is not relevant for this case study because it is primarily intended to appraise firms that are in the very early stages of development and have received little funding. In light of the foregoing, the football field chart appears as follows (in mm$):

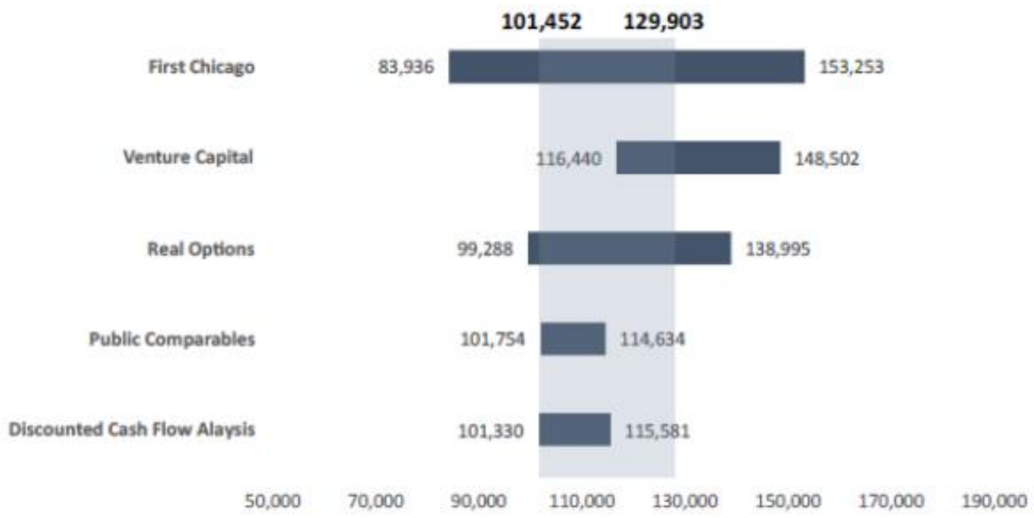

Figure 2.14: Zoom Football Field Valuation Overview (Enterprise Vale)
Source: own Elaboration, JP Morgan and Morgan Stanley Analyst Reports

The enterprise value provided by this case study ranges from $101,425 mm to $129,903 mm. Additionally, an accuracy study has been created to determine which method yields the most accurate findings compared to the estimated final valuation:

Accuracy of the Method - Enterprise Value	Average	Error	Error (%)
Discounted Cash Flow Alaysis	108,455	-7,223	-6.2%
Public Comparables	108,194	-7,484	-6.5%
Real Options	119,141	3,464	3.0%
Venture Capital	132,471	16,793	14.5%
First Chicago	118,594	2,917	2.5%
Valuation 1	**115,678**	**0**	**0.0%**

Table 2.27: Zoom Valuation Accuracy Analysis (Enterprise Value)
Source: own Elaboration, JP Morgan and Morgan Stanley Analyst Reports

B.Share Value:

The following graphic illustrates the value that was generated for Zoom's estimated share value using each valuation method, using the same process as was used for the enterprise value in this case study:

Valuation Methods - Share Price (in $)	Min	Max	Diff	Weight 1	Weight 2
Discounted Cash Flow Alaysis	343.5	391.4	48.0	25%	25%
Public Comparables	347.5	392.1	44.5	25%	25%
Real Options	336.6	470.2	133.6	25%	25%
Book Value	5.3	5.3	0.0	0%	0%
Venture Capital	394.3	502.2	107.9	15%	25%
First Chicago	285.0	518.2	233.2	10%	0%
Risk Sum Factor	92.0	92.0	0.0	0%	0%
Valuation 1	**344.5**	**440.6**	**96.0**	**100%**	**100%**
Valuation 2	**355.5**	**439.0**	**83.5**	**100%**	**100%**

Table 2.28: Zoom Valuation Overview (Share Value)
Source: Own Elaboration, JP Morgan and Morgan Stanley Analyst Reports

The Football Field Chart for the share price appears as follows after eliminating the Book Value and Risk Factor Summation methods for the same reasons as above:

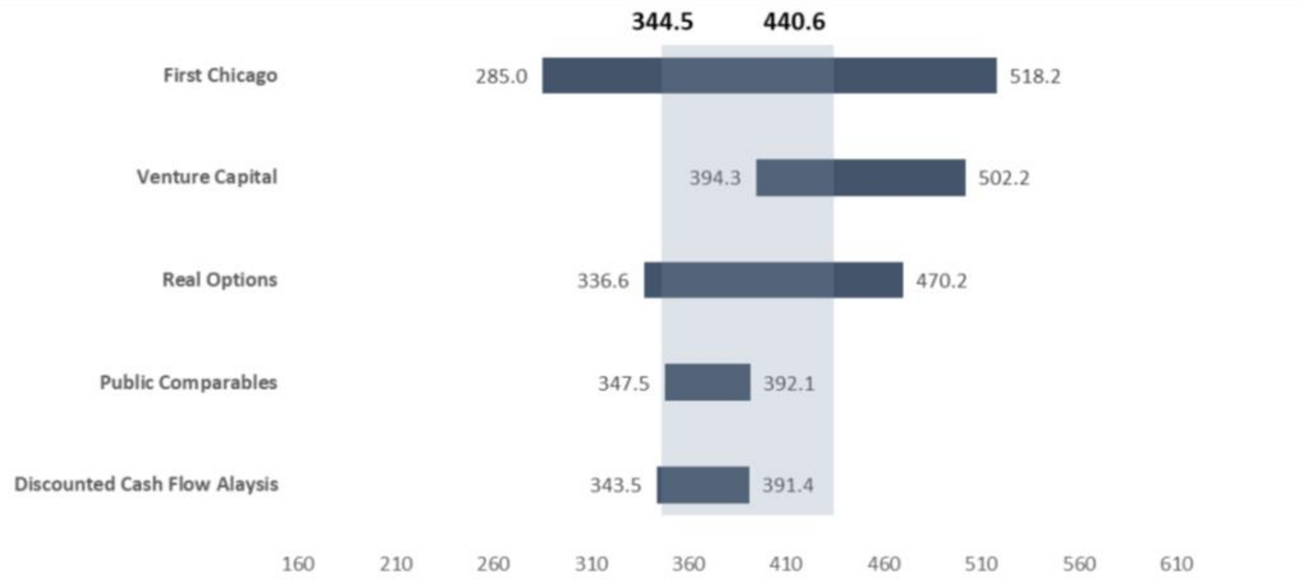

Figure2.15: Zoom Football Field Valuation Overview (Share Vale).
source: own Elaboration ,JP Morgan and Morgan Stanley Analyst Reports

3. Conclusions:

- The fundamental traits of a startup are described in depth in the first section of this thesis: limited availability, high risk of failure, operational losses, and equity financing. Then, the key operational trends in the startup industry, which demonstrate that the industries that startup founders are most drawn to are technology and finance, as well as the fact that the number of unicorns declared each year is increasing exponentially, with the majority of them occurring in the United States and China. The startup's maturity stages are also written out, along with the primary sources of funding that correlate to each level.

- Given Zoom's advanced stage of development and the fact that the valuation in this case study was completed in October 2020, when Zoom was already fully developed and publicly traded, the Discounted Cash Flow and the Public Comparable analysis seem to be the most appropriate to value Zoom. Real Options analysis and the Venture Capital approach seem to be the most suitable and consistent with the results of the aforementioned conventional methodology when it comes to alternative valuation methods.

- This paper attempts to explain the current financial context of rising interest rates, which have a significant negative impact on a company by lowering its valuation even though in October 2020 they were at historically low levels in order to keep borrowing costs low with the intention of boosting the economy and helping governments to roll out large fiscal stimulus packages. A company's cost of capital rises due to the current climate of rising interest rates, which leads to falling valuations and a vicious cycle of weak economic performance, low share prices, and low profitability.

- Prior to the valuation case study, the thorough market and industry analysis demonstrated that Zoom was the market leader in terms of users in October 2020, far ahead of its main rivals, who have the advantage of having the support of big businesses. Additionally, Zoom not only outperformed rival direct videoconferencing companies, but also outgrew its SaaS industry counterparts in terms of growth.

- The final section of this essay attempts to value Zoom using the valuation approaches discussed, outlining their output as well as their benefits and drawbacks. The approaches that rely on qualitative criteria (like Berkus and Risk Factor Summation, for example) are primarily designed for businesses that are still in the very early stages of development, which do not fit the timeframe in which Zoom was valued for this case study. On the other hand, Zoom is priced more consistently but excessively according to conventional valuation methods (such as DCF and Comparable analysis) and the other alternative valuation methodologies (Real Options, First Chicago, and Venture Capital method). The weighted average enterprise value valuation produced using the aforementioned methodologies, in particular, falls between $101,452 mm and $129,903 mm as between $344.5 and $440.6 per share as of October 2020.

References :

- Business valuation for company Decision Making case Study of :PT HIJ review.
- Zero to one book
- مذكرة ماستر المؤسسات الناشئة كمحفز لإنشاء مؤسسات ابتكارية دراسة حالة
- The Startup Owner ' Manual
- The lean start -up
- المؤسسات الناشئة بالجزائر في قرار إنشاء الصندوق التمويل المؤسسات الناشئة
- دراسة ميدانية لواقع إنشاء المؤسسات الناشئة في الجزائر
- قراءة تجربة يسير كنموذج واعد للشركات الناشئة في الجزائر قراءة تحليلية
- التحديات التي تواجه المؤسسات الناشئة في الجزائر
- مقاربات ومعايير التقييم المالي المؤسسة الاقتصادية دراسة تحليلية
- كتاب التحليل المالي
- مقالات مكيال طرق التقييم الشركات أثناء مرحلة التمويل التأسيسي
- Discount cash flow " international monetary fund " article.
- Master thesis Valuation of a startup zoom case study