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Evolutionary Paths of Digital Ventures

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Master Thesis

presented as partial requirement for obtaining a Master's Degree in Data-Driven Marketing

NOVA Information Management School
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EVOLUTIONARY PATHS OF DIGITAL VENTURES

by

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STATEMENT OF INTEGRITY

I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism, any form of undue use of information or falsification of results along the process leading to its elaboration. I further declare that I have fully acknowledged the Rules of Conduct and Code of Honor from the NOVA Information Management School.

[Lisboa, December 3rd, 2023]

ABSTRACT

The unicorn companies and its performance have attracted increasing interest due to its rarity and the need to stand out from the thousands of startups that emerge every day, in order not to fail prematurely like the majority of these companies. Keeping this in mind, this project seeks to understand the performance of these companies between the pre-and post-IPO periods, that is, during the transition process to becoming a public company. Eight US companies have been analyzed using data available on platforms such as Yahoo Finance and Stock Analysis. The results show that the companies are able to achieve financial stability after this transition, but that they find it more difficult to increase their market value in the years following the IPO.

KEYWORDS

Digital Venture; Startup; Private Investments; Unicorn Company; Initial Public Offering.

Sustainable Development Goals (SDG):

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LIST OF ABBREVIATIONS AND ACRONYMS

IPO	Initial Public Offering
VC	Venture Capital
OCF	Operating Cash Flow

1. INTRODUCTION

Achieving a unicorn status is the goal of many companies. However, not all of them succeed. Approximately 0.00006% of the startups that are founded achieve this status (Cremades, 2019). Becoming a unicorn company seems easy as companies rely on available knowledge to implement their strategies and become competitive in their markets (Dalmarco et al., 2017), but companies need to reach a valuation of $1 billion through private investment (Brown & Wiles, 2020). Frameworks such as SWOT analysis and industry structure analysis, among others (Okumus, 2003), are part of available knowledge that companies can use to make decisions and seek success, but their use is not consensual.

Since the end of the last century, startups have been a priority for social and economic development (Passaro et al., 2020), which is an incentive for startuppers (founders or co-founders of a startup) to bring different ideas to the market. At the same time, it is an incentive for investors who accompany these organizations through their growth during different stages over their lifetime (Cavallo et al., 2019). The group of unicorn companies controls a substantial amount of financial capital (Brown & Wiles, 2020), but the tendency, particularly in the technology sector, is to become an IPO (Initial Public Offering) in three to five years (Brown & Wiles, 2020), average time for companies to reach maturity (Kartanaite & Krusinskas, 2022). In 2021, more than 120 companies went through the process of transitioning from a unicorn to a public company via an IPO, a record number at this level (Alsever, 2023). Companies that were previously listed as unicorn companies can also become public companies through a merger with another company that is already listed on the stock exchange, through a takeover bid by another public company, with the unicorn company becoming a subsidiary of the acquiring company, among other ways. However, the most common way for a unicorn company to enter the public market is through an IPO, as it is one of the best ways out for startups, along with the option of acquisition (Kartanaite & Krusinskas, 2022) and for this reason, the companies that were analyzed in this paper became public companies through IPO.

This research aims to fill the gap in the academic literature of not having published studies related to the evolution of companies in the period of becoming public companies after being considered unicorn.

The research question that will be conducted in this thesis is: how do companies behave, according to an analysis of several variables, after becoming IPOs? To be able to answer this main question, the following sub-questions (SQ) were created: i) after being listed on the stock exchange, do companies achieve financial stability and increase their value? ii) is there a pattern for companies that had lost the nomination of unicorn company by going public?

The purpose of the SQi is to understand whether the various companies studied have been able to achieve financial sustainability and maintain (or increase) their value in the marketplace, to understand why companies, remain in the private investment space for only three to five years.

To obtain all the necessary information, a few companies were selected to obtain the data on the variables required for the study. Thus, it is therefore a quantitative study, through the collection of data on public platforms, where the evolution of the company can be monitored according to various variables.

This paper is organized into five sections. The first section is this introduction; the second is an overview of the literature about digital ventures, startups, different types of private investment,

unicorn companies, and initial public offering, followed by the conceptual framework with an overview of the ecosystem. The third section has the methodology used in the analysis, where the companies studied, and the study variables were mentioned. In the fourth section the results are presented and discussed. The study ends in the fifth section, with the conclusions drawn from the results obtained and from previous studies and finally a perspective on future work.

2. LITERATURE REVIEW AND RESEARCH HYPHOTESES

2.1. DIGITAL VENTURE

A digital venture is when an entrepreneur or team of entrepreneurs undergoes a risky journey of bringing an idea into existence through a digital artifact (Amann, 2021), been an essential phenomenon in the global economy (von Briel et al., 2018). However, because they are new ventures, they are dependent on support from third parties (Wesley II et al., 2022).

One of the significant differences between digital and non-digital ventures is that digital ventures iterate their business on the market before looking for investment (König et al., 2019) and non-digital ventures require financial investments in the early stages so the product can be tested in the market (König et al., 2019). These digital ventures typically start as dumb, crazy, or not-that-important ideas (Lee, 2013) but in some cases, and depending on their location (Callery, 2023), end up becoming successful companies (Badenhausen, 2016). Among these successful companies, some achieve the status of unicorns, a status achieved by only a small number of startups before their shares are publicly traded (Kartanaite & Krusinskas, 2022). Nevertheless, some do not aspire to become it, some cannot meet all the requirements, and others have failed, which happens with more than 90% of startups (Konya-Baumbach et al., 2019).

2.2. STARTUP

A startup is a temporary organization designed to search for a repeatable and scalable business model (Blank, 2012), that creates new value for the customers and increases competition in the economy (Malyy et al., 2021). It is often described as a subset of small-medium enterprises that conduct entrepreneurship-related activities for approximately three to five years (Haase & Eberl, 2019). At an early stage, the type of business refers to a cognitive schema or belief about the activity system that could potentially create and capture value (Burnell et al., 2023). These companies are oriented to rapid growth, as they can receive investments from business angels, seed capital companies, and crowdsourcing (Rodrigues & Noronha, 2022).

There are several theories and ways of analyzing the different phases of a startup, depending on the authors, where each one not only identifies different phases but also describes them in its own way. In Marmer et al. (2011) research, they describe that there are six stages of a startup: discovery, validation, efficiency, scale, sustain, and conservation. Jeong et al. (2020), refer that there are five stages of a startup, which can be described as the seed stage, early stage, expansion stage, later stage, and exit stage. Paternoster et al. (2014), conclude in their research that there are four stages of a startup: the startup phase, the stabilization phase, the growth phase, and the phase where the startup evolves into a mature organization. Finally, Marcon & Ribeiro (2021) described in their report, based on the studies that they have analyzed, that startup companies go through three phases during their growth cycle: creation, development, and market phases.

Nevertheless, the reality is that more than two-thirds of the startups created never provide a return to investors (Eisenmann, 2021).

Excluding the one-third of startups that succeed, the failure of the others can be explained by the lack of capabilities to enter the market, negotiate with investors, select the appropriate supplier, or internationalization business (Passaro et al., 2020).

2.3. DIFFERENT TYPES OF PRIVATE INVESTMENT

For most startups, it is impossible to become competitive in the market through self-financing (Brown & Wiles, 2020). Because of that, companies usually resort to different types of funding, being a risk not only for investors but also for investee companies since, in some cases, in the early rounds of investment there is not even a finished product or technology (Casnici, 2021), and they are less likely to receive private investment when the company has already reached the break-even point (Díaz-Santamaría & Bulchand-Gidumal, 2020). However, companies are not dependent on their location for financial support (Díaz-Santamaría & Bulchand-Gidumal, 2020), which encourages companies not to locate only in the countries where the largest investors are.

The risk for the investors is related to the fact that no one invests based solely on what they see in the presentation made by the company owner, they invest in the potential of what they see (Pimentel, 2021), and is usually done in several rounds of investment. At the same time, it represents a risk because they are investing in companies that generally do not yet show a profit (Eisenmann, 2021) and, in some cases, never return the money invested (Eisenmann, 2021).

Some types of investment companies that could appeal to get the investment privately are venture capital, business angels, seed capital, and crowdsourcing.

Venture capital (VC) is used by startups that are in the early stages and do not have any sign of success (Hellmann & Puri, 2002), as their success depends not only on technological innovations or business models but also on joint and persistent efforts by entrepreneurs and venture capitalists to execute and promote their development and growth (Miglo & Miglo, 2019). Because of that, VC is a significant intermediary in financial markets for companies that have difficulty attracting financing (Gompers & Lerner, 2001) and exists in significant volumes in the various financial markets at the international level, especially in the United States (Bethlendi & Szőcs, 2022). Nevertheless, only a few startups have successfully attracted VC investment (Jeong et al., 2020), as many investors only consider investing in early-stage companies that have the potential to become unicorns (Jinzhi & Carrick, 2019). The VC investors often negotiate to obtain part of the company, be one of the directors, and/or have an active role in managing the company's operations (Rydin, 2022).

Another type of private investment is business angel, which is characterized by private investors directly investing in private equity (Caselli & Negri, 2021), having a high risk (Caselli, 2010) since they are doing it in an early stage.

The seed capital or seed money is the initial money the startupper uses to start a new company (What Is Seed Capital, 2020) and is usually given by family or friends.

Finally, crowdsourcing or crowdfunding is the practice of financing a startup company by gathering funds from a huge number of people and is normally made online (Miglo & Miglo, 2019).

The following table systematizes the main aspects of each type of investment since private companies can use any of the four:

	The phase of growth in which the company resorts to this type of investment, most of the time:	Risk level for investors:	Key negotiation highlights:
Venture Capital	Early Stage	High	Acquisition of part of the company under discussion.
Business Angel	Early Stage	High	They become sponsors of the companies in which they invest.
Seed Capital	Early Stage	High	It's done by family or friends.
Crowdsourcing	In the different phases, there is no indication that a more common state is used.	Lower because it is performed by multiple people or entities.	It is conducted by a large number of companies and is usually done online.

Table 1: Overview of different types of investment

The more money investors put into startups privately, the more they are worth (Pimentel, 2021) since the company's value is calculated based on the investment made (Pimentel, 2021).

Later, at a time when they are no longer considered unicorn companies, they use investments made by public companies in order to obtain large-scale financing, and the necessary financing for their long-term expansion needs (Brown & Wiles, 2015).

2.4. UNICORN COMPANY

A unicorn company is a company with a valuation of at least $1 billion (The Complete List Of Unicorn Companies, 2022) without access to public capital (Brown & Wiles, 2020), which does not automatically mean that there are profits or financial sustainability (Pimentel, 2021), since the company's valuation is calculated based on different rounds of financing (Correia et al., 2021).

Usually, unicorn companies achieve the necessary market value by the expected earnings they will generate in the future, as they are considered disruptive and scalable technologies (Po Yim, 2021). Nevertheless, the possibility of companies being unprofitable and generating negative returns (Kartanaite & Krusinskas, 2022) does not usually 'scare' investors, nor does the possibility of companies going bankrupt, as they base the value of the company on its potential to create a new paradigm (Cowden et al., 2020). This term was used for the first time in 2013 by Eileen Lee, who used this fictitious animal to symbolize a unique environment and the rarity of such a successful company (Kulakova et al., 2021). Around that time, becoming a unicorn was the new standard for high-growth startups (Ratzinger et al., 2018). This type of venture gets big fast (De Massis et al., 2016), but it is practically impossible for them to attain a $1 billion valuation with internal growth, which explains the reasons why they need external financial help (Brown & Wiles, 2020) to create their path on the market.

Primarily, it was thought that only technology companies born in the US after January 2003 and which had seen their business valued at least $1 billion in private markets (Pimentel, 2021) were

interesting for the unicorn club and that only American companies would be able to achieve this "status" (Rottenberg, 2022). Therefore, in 2013, only 39 companies could become unicorns. In December 2022, there were almost 1,200 companies that were considered unicorn companies and were collectively worth more than $3 thousand billion (The Complete List Of Unicorn Companies, 2022). The fact that 2021 was the year of new unicorns may help explain this high number since a new startup reached the magical milestone of a $1 billion valuation almost daily (Rottenberg, 2022). According to some studies, the 340 new unicorn companies in 2021 represent a higher number in only one year than the five previous years combined (Zalatimo, 2022), which could be explained by two factors: increased venture capital activities and the global pandemic (Zalatimo, 2022).

Nowadays, the US accounts for approximately 54% of the total unicorn companies, Asia owns 27%, and the remaining 19% are from the rest of the world, as we can see in figure 1.

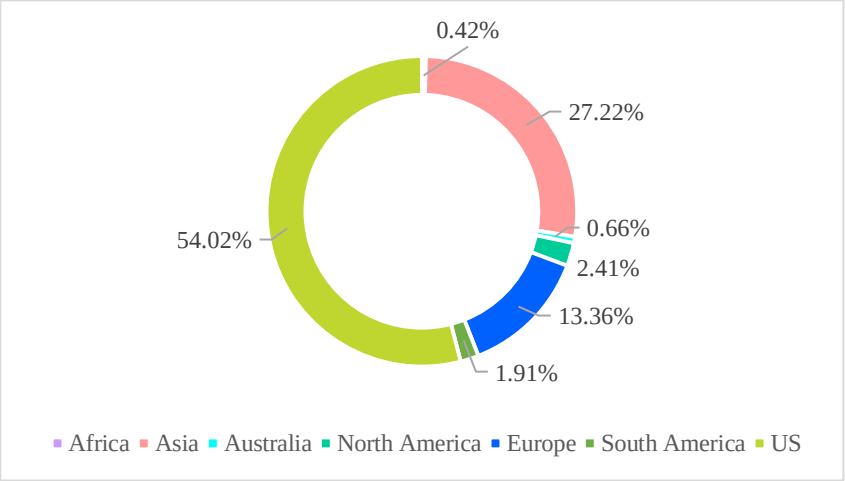

Figure 1: Distribution of unicorn companies worldwide. Source: CB Insights (2023)

Contradicting initial projections that said only American companies could achieve this status, the number of unicorn companies from China is increasing faster than any other country (Ratzinger et al., 2018), thus becoming a significant country in creating successful companies, although most of the companies are unknown to people outside of China (Marrugo-Salas et al., 2018). Some factors, such as industrial agglomeration and immigrant culture, as well as the perceived performance of local companies, can help explain why China is becoming a valley for unicorns and growing so fast (Marrugo-Salas et al., 2018). In addition, another factor that may help in understanding the importance of Chinese companies in the unicorn club is that the most valuable company on the unicorn list at the end of 2022 was Byte Dance (CB Insights, 2023), a Chinese artificial intelligence company responsible for the success of the platform Tik Tok. China has thus become the country with the second largest number of unicorn companies.

All unicorn companies have created something innovative in creating their product/service or have a completely different approach to something unfamiliar to everyone (Kulakova et al., 2021) but have achieved the status of a unicorn company does not guarantee that they will always be one. At some point, some companies have reduced their market value (Brown & Wiles, 2020), some have died out financially (Callery, 2023), and some have become public companies. Nevertheless, it is possible to see features that are common to practically all unicorns (De Massis et al., 2016), and they are:

- Small in size, with small teams, the top manager is directly and deeply involved in almost all decisions. This will facilitate strategic decision-making and will also speed up the implementation of measures (Bethlendi & Szőcs, 2022).
- They are led by serial entrepreneurs who have experienced business failures professionally.
- Financed by VC firms creates considerable pressure to quickly create a successful new business, chiefly after knowing that only 1% of startups funded by VCs had ever reached unicorn status (The Venture Capital Funnel, 2018).
- Narrowly focused on digital innovations that require smaller efforts and investments in marketing and commercialization than traditional products.

Based on the final report for 2022 made by CB Insights (2023), the principal sector was Fintech, followed by Internet software and services.

2.5. INITIAL PUBLIC OFFERING (IPO)

An IPO occurs when a company sells its shares to a regulated market for the first time (Correia et al., 2021; Ritter et al., 1998) and is an important milestone in a company's financial strategy (Yalçin & Ünlü, 2018). Through this process, many companies enter the public market after being considered unicorns, looking to expand, diversify, or even develop new technologies and products (Correia et al., 2021).

Although becoming an IPO company is one of the most critical decisions a company makes, as it involves changing both its structure and ownership, there are many benefits such as the prestige associated with companies that have their shares listed being one of the most important (Yalçin & Ünlü, 2018).

This shift to the public company market is often made possible by lower costs, increased speed, and ease of entry due to the availability of open-source software, digital platforms, and cloud computing (Kenney & Zysman, 2019).

In a systematic way, companies have a pre-IPO period, which in the case of our study is the period when the companies are unicorns, and a post-IPO period (Kim & Heshmati, 2010) where it is possible to analyze the evolution of the company since it went public and lost its unicorn status.

According to the Jain & Kini (1994) research, companies that have gone through the IPO process show poorer results between the year before and the five years after the transition process.

2.6. RESEARCH HYPOTHESES

The literature review allowed us to develop hypotheses that permitted us to analyze the companies studied in greater depth. The hypotheses are therefore:

As we saw in the study by Callery (2023), there is a correlation between the location of a company and its success, which allowed us to formulate the first hypothesis tested in the study.

H1: The location of a company is dependent of its overall performance.

In the study conducted by Diaz-Santamaría & Bulchand-Gidumal (2020), which analyzed various factors that influence the success of companies, we were able to derive the second hypothesis analyzed in our study, regarding the likelihood of obtaining financing.

H2: The probability of obtaining financial support its not dependent of the location of the company.

Finally, the study by Jain & Kini (1994) addresses the development of companies in the periods before and after the company goes public through an IPO, which allows us to formulate the third and final hypothesis of the study.

H3: Post-IPO companies perform poorly both in the year before the IPO and in the following years after the transition.

3. METHODOLOGY

3.1. SAMPLE

For the purposes of this study, only companies that were previously considered unicorns and are currently publicly traded through IPOs were considered. In addition, the companies had to have provided data on their performance for at least the two years prior to going public and the two years after.

3.2. DATA COLLECTION PROCEDURES

Out of a universe of 2,796 companies (Unicorns and $1B+ exits, 2023) that were once considered unicorns, more than 1,220 companies still held this status in the final report for 2022 (The Complete List Of Unicorn Companies, 2022). Since it was not possible to count exactly how many companies lost their unicorn status through an IPO, we analyzed American companies that are on the public market with published data and that achieved this new status through an IPO. The decision to analyze only American companies, the country with the largest number of unicorns, was based on the fact that companies located in a single country reduce external influences, as they are also exposed to the same external factors (Casnici, 2021), such as culture (Cukier & Kon, 2018), inflation or gross domestic product, for example.

Thus, eight companies were selected to represent this universe, as there is limited access to data from companies that meet all the above requirements during the period when they were considered unicorns. Therefore, companies that were never considered unicorns, even if they are successful companies, are not relevant to the study, while companies that are still private were also not considered for the research. The companies that met all study requirements were Dropbox, Pinterest, Uber, Lyft, Airbnb, Palantir, Zoom and Snowflake. In order to make the study more consistent and to be able to compare companies, variables were selected that allowed us not only to analyze the companies but also to compare their performance with the others.

3.3. DATA ANALYSIS

The analysis was based on the evolution of the company's cash flow, which allowed us to determine the value of the company through cash flow projections (Bozovic, 2017), the growth of its sales (through total revenue), and the growth of its market cap (Malyy et al., 2021). The analysis of total revenue is relevant to the study because, by increasing sales, the company's earnings will also increase, as well as its ability to reinvest in its expansion or development of resources (Malyy et al., 2021). Finally, the age of the company was studied, through the year it was founded (Brown & Wiles, 2015) as well as the year it became a unicorn company and IPO (Díaz-Santamaría & Bulchand-Gidumal, 2020), in order to understand at what stage the company is in, although, as mentioned above, different authors may assign different stages to the same company. The location should also be considered (Díaz-Santamaría & Bulchand-Gidumal, 2020), but since only companies based in the United States were considered, it was not a factor for the study. In terms of macroeconomic factors, the size of the local economy has been taken into account through gross domestic product (Bethlendi & Szőcs, 2022), inflation or geopolitical tensions (Five Q&As about the Unicorn Startup and Other Entrepreneurial Species, 2023), which help explain some fluctuations in both the number of new IPO companies and their performance in the

market, unemployment, the consequences caused by the covid-19 pandemic and the war in Ukraine have also been analyzed, since they affect the performance of companies in the market.

In general, the time used in the existing literature to analyze the performance of companies before and after their IPO is between one (Kartanaite & Krusinskas, 2022) and three years (Kim & Heshmati, 2010). In both studies, companies were analyzed according to the year in which they went public, rather than according to the year in which they were studied (Kartanaite & Krusinskas, 2022). In this way, the external factors analyzed in each company may be different, even if they are in the same country. The short study period is related to the fact that there is a short period of time between being considered a unicorn company and becoming a public company through an IPO (Kartanaite & Krusinskas, 2022).

4. RESULTS AND DISCUSSION

As described in previous studies, for five of the eight companies selected, the data analyzed refers to the three years before the company became public and listed on the stock exchange. Since these years cover the period when the company was still considered a unicorn and therefore a private company, the companies were not legally required to publicly disclose its annual data and results. Therefore, for Pinterest, Palantir, and Snowflake, only two years before they became public companies were analyzed due to the lack of necessary data.

4.1. DROPBOX INC.

Dropbox is a cloud service for storing or hosting files (Definition: Dropbox, 2022) created in June 2007, based in San Francisco, California, United States of America. According to the company, the platform already has 700 million users in more than 180 countries (Dean, 2023). Dropbox was one of the first companies to meet all the requirements to be named a unicorn, in the first list compiled by Aileen Lee in 2013 (Lee, 2013). Five years later, in 2018, and with a market value of $6,231,424,000 the company went public (Dropbox, Inc. (DBX), 2023).

	IPO -3	IPO -2	IPO -1	IPO 0	IPO +1	IPO +2	IPO +3	IPO +4
Operating Cash Flow	0.01	0.25	0.33	0.43	0.53	0.57	0.73	0.7973
Market Cap				8.31	7.44	9.18	9.64	8.12
Total Revenue	0.6	0.84	1.11	1.39	1.66	1.91	2.16	2.32

Table 2: Evolution of different variables in billion dollars_Dropbox. Source: Stock Analysis (2023)

As we can see in table 2, and because Dropbox presented decreases in its market cap values in IPO+1 (2019) and IPO+4 (2022), while it presented improvements in its OCF value, the company went through a period of undervaluation by the market in relation to its value and potential, since, as we can see, an increase in the company's cash flow was not accompanied by an increase in its market value.

4.2. PINTEREST INC.

In December 2007, the social network Pinterest was created, which differs from other existing social networks in that it is a visual discovery engine for finding ideas such as recipes, home, style inspiration, and more (All about Pinterest, 2018). Based in San Francisco has more than 465 million monthly users (Audience - Business Pinterest, 2019). Along with Dropbox, Pinterest was also included in the first list of companies considered to be unicorns (Lee, 2013). It was only in 2019, when the company was valued on the market at $10,817,496,000 (Pinterest, Inc. (PINS), 2023), that it was listed on the stock exchange.

	IPO -2	IPO -1	IPO 0	IPO +1	IPO +2	IPO +3
Operating Cash Flow	-0.12	-0.06	0.00066	0.029	0.75	0.47
Market Cap			10.41	40.73	23.71	16.47
Total Revenue	0.47	0.76	1.14	1.69	2.58	2.8

Table 3: Evolution of different variables in billion dollars _Pinterest. Source: Stock Analysis (2023)

Looking at the year IPO+3 (2022), we can see in table 3 that the value achieved in the OCF, and market cap factors has decreased, but the total revenue value has increased. This phenomenon is normally associated with investments made by companies and is therefore no cause for concern for the company.

4.3. UBER TECHNOLOGIES INC.

Uber is a technology company that aims to connect the physical and digital worlds to make it easier for its users to get around (About Us - Uber, 2020). Founded in March 2009 and headquartered in San Francisco, Uber was also on the first list of unicorn companies in 2013 (Lee, 2013) a status it left when it became a public company through an IPO in 2019, when it was worth $46,171,965,280 (Uber Technologies, Inc. (UBER), 2023). It is estimated that there are 130 million monthly users of the platform, spread across the 72 countries where Uber operates, with more than 5 million active drivers (Shewale, 2023).

	IPO -3	IPO -2	IPO -1	IPO 0	IPO +1	IPO +2	IPO +3
Operating Cash Flow	-2.9	-1.42	-1.54	-4.32	-2.75	-0.45	0.64
Market Cap				50.73	89.95	81.35	49.32
Total Revenue	3.85	7.93	10.43	13	11.14	17.46	31.88

Table 4: Evolution of different variables in billion dollars _Uber. Source: Stock Analysis (2023)

In IPO–1 (2018) and IPO 0 (2019), years in which there was a decrease in the value of the OCF but an increase in total revenue, we can conclude that Uber had difficulties in converting its revenue into available cash flow, which may be related, for example, to an increase in the cost of providing the service. In IPO +2 (2021) and IPO +3 (2022), we can see that there was an increase in OCF and a decrease in market cap, which shows that the market underestimated the company's value in the market.

4.4. LYFT INC.

Lyft aims to reduce the number of cars on the road by offering rides in minutes through an app (How Lyft Works: 6 Things to Know Before Your First Ride, 2016). Founded in 2012 in San Francisco, it became a unicorn company in 2016 (Louise, 2018), a status it maintained for three years when it became a publicly traded company in 2019, with a market value of $1,836,605,110 (Lyft, Inc. (LYFT), 2023). Although it only operates in the United States and Canada, it has more than 20 million users (Iqbal, 2023).

	IPO -3	IPO -2	IPO -1	IPO 0	IPO +1	IPO +2	IPO +3
Operating Cash Flow	-0.49	-0.39	-0.28	-0.11	-1.38	-0.1	-0.24
Market Cap				12.81	15.6	14.56	3.98
Total Revenue	0.34	1.06	2.16	3.62	2.36	3.21	4.1

Table 5: Evolution of different variables in billion dollars _Lyft. Source: Stock Analysis (2023)

Thus, since in IPO +3 (2022), we can see in table 5 that, Lyft presented a decrease in OCF and market cap in a year in which it increased its total revenue, showing that the company has, among other things, low-profit margins, making other investments, or presents difficulties in its financial management.

4.5. AIRBNB INC.

Airbnb, founded in August 2008 and based in San Francisco, is a platform that allows anyone to stay anywhere (About Airbnb: What It Is and How It Works, 2023). The company, which has more than 150 million users (Woodward, 2023a), achieved unicorn status in 2013 (Lee, 2013) and became a public company in 2020 when it had a market value of $40,626,481,068 (Airbnb, Inc. (ABNB), 2023).

	IPO -3	IPO -2	IPO -1	IPO 0	IPO +1	IPO +2
Operating Cash Flow	0.25	0.6	0.22	-0.74	2.31	3.43
Market Cap				87.71	105.79	54.92
Total Revenue	2.6	3.6	4.81	3.38	5.99	8.4

Table 6: Evolution of different variables in billion dollars _Airbnb. Source: Stock Analysis (2023)

In 2022 (IPO+2), we can see in table 6, that the company showed an increase in the value of OCF and total revenue, but a decrease in market cap, which can be explained by investors' concerns about the future of the brand.

4.6. PALANTIR TECHNOLOGIES INC.

Palantir is a technology company founded in May 2003 and based in Denver, Colorado, United States of America, which aims to develop software focused on creating the world's best user experience for working with data (About Palantir, 2023; Lee, 2013). It also made the first list of unicorn companies in 2013 (Lee, 2013), a status it maintained until 2020 when it had a market value of $15,757,743,985 (Palantir Technologies Inc. (PLTR), 2023).

	IPO -2	IPO -1	IPO 0	IPO +1	IPO +2
Operating Cash Flow	-0.04	-0.17	-0.3	0.33	0.22
Market Cap			41.03	36.51	13.35
Total Revenue	0.6	0.74	1.09	1.54	1.91

Table 7: Evolution of different variables in billion dollars _Palantir. Source: Stock Analysis (2023)

Using the data collected in table 7, we can see that in IPO –1 (2019) and IPO 0 (2020), years in which a decrease in the value of OCF coincides with an increase in the value of total revenue, Palantir had difficulty converting its sales into available cash flow, which could be due to high production costs, for example. In IPO +1 (2021), a year in which there was an increase in OCF and total revenue but a decrease in market cap, it was shown that there was a concern or uncertainty on the part of investors about the future of the company, which led them not to increase its market value, even though it had increased its cash flow and revenues. Finally, in the year IPO +2 (2022), there was a decrease in both OCF and market cap, while there was an increase in total revenue, which can be explained by the fact that Palantir has low profit margins on its services, other investments made by the brand in 2022, problems with financial management, among others. In conclusion, we can verify that the market is distrustful, which leads to an undervaluation of the company, even if it shows positive results in the other factors analyzed.

4.7. ZOOM VIDEO COMMUNICATIONS INC.

Zoom is a platform that allows video calls to be made for various purposes, from calls between friends to classes or company meetings (Cortes, 2023), and which has more than 300 million users (Woodward, 2023b). Founded in 2011 and based in San José, California, United States of America, the company has expanded greatly during the covid-19 pandemic and has been the tool used by many educational and business institutions to continue their activities. As a result, it was the only company of the eight studied, with the highest market value in 2020, reaching a market value of $161,853,573,630 (Zoom Video Communications, Inc. (ZM), 2023). In 2017 the company met all the requirements to become a unicorn company (Desjardins, 2017), a status it maintained for two years when, in 2019 it became a public company listed on the stock exchange with a market value of $6,801,951,676 (Zoom Video Communications, Inc. (ZM), 2023).

	IPO -3	IPO -2	IPO -1	IPO 0	IPO +1	IPO +2	IPO +3
Operating Cash Flow	0.009	0.019	0.05	0.15	1.47	1.61	1.29
Market Cap				18.81	96.48	54.8	19.8
Total Revenue	0.06	0.15	0.33	0.62	2.65	4.1	4.39

Table 8: Evolution of different variables in billion dollars _Zoom. Source: Stock Analysis (2023)

In IPO +2 (2021), as we saw an increase in OCF and a decrease in market cap (with the help of table 8), we may be facing another case of market underestimation of Zoom's value and potential.

4.8. SNOWFLAKE INC.

Snowflake is a technology company that enables its users to collaborate locally and globally through a data cloud to discover new knowledge, create previously unseen business opportunities, and identify and learn about their current customers (Why Snowflake, 2023). The company, based in Bozeman, Montana, United States of America, was founded in July 2012 and was only considered a unicorn company between 2018 (55 US Companies That Became Unicorns In 2018, 2019) and 2020, when it became a public company with a value of $33,453,379,440 (Snowflake Inc. (SNOW), 2023).

	IPO -2	IPO -1	IPO 0	IPO +1	IPO +2
Operating Cash Flow	-0.14	-0.18	-0.045	0.11	0.55
Market Cap			79.66	103.76	46.16
Total Revenue	0.1	0.26	0.59	1.22	2.07

Table 9: Evolution of different variables in billion dollars _Snowflake. Source: Stock Analysis (2023)

Thus, and given that in IPO – 1 (2019) a fall in the value of OCF coincides with an increase in total revenue, we can see in table 9 that the company was having difficulty converting its sales into available cash flow, which is ultimately a warning sign for investors, since the company's inability to generate cash flow may have a negative impact on its ability to finance the company's growth activities, for example. In IPO +2 (2022), a year in which there was an increase in OCF and total revenues, but a decrease in market value, there was concern or uncertainty on the part of investors about the company's future.

4.9. MACROECONOMIC FACTORS

As it was possible to verify in some results presented by the companies, there are macroeconomic situations that can affect the results obtained by the companies but that cannot be controlled by them. Thus, and as mentioned before, factors such as inflation, the war in Ukraine, unemployment, the covid-19 pandemic, and GDP, even if indirectly, influence not only the valuation of the companies but also the total revenue earned. These factors were analyzed using data from the United States of America. The study was carried out by looking at the evolution of the results since 2015.

From the point of view of economic impact, a war can impact directly, or indirectly various metrics related to business growth, whether inflation, the number of jobs, or the per capita GDP of each country, among others (Lim et al., 2022), however, there is limited literature related to the actual impacts (Abbassi et al., 2022). Based on calculations made by the Federal Reserve Board, and analysis by Caldara et al. (2022), countries in Europe, with special attention to countries bordering either Ukraine or Russia, are the ones that are more exposed and concerned about the repercussions that war might bring. Given that the companies analyzed are in the United States of America this factor, while not having as much impact directly, could impact the results obtained by the companies in the future. The war has also delayed the recovery of the labor market in the post-pandemic covid-19 due to not only because of the economic slowdown in some countries but also the increasing migratory flow in many of them (Prohorovs, 2022), which caused more instability in the labor market.

The covid-19 pandemic continues to have an impact on companies as it has led to a reduction in revenue for several of them, as we have seen in the analysis above.

When a country's GDP increases, companies can benefit from new business opportunities as well as a more favorable investment environment. On the other hand, increasing GDP may also increase the number of competing firms competing for the fewest customers. GDP developed positively in most of the years analyzed (GDP (Current US$) - United States, 2023), and only decreases in 2020, which can be explained by the global pandemic in that year, which ended up affecting the economies of all countries.

Another macroeconomic factor that we have considered is inflation because this is a major problem in most countries as it leads to less purchasing power while the prices of goods and services increase (Ali & Ibrahim, 2018), and therefore has an impact not only on profits but also on the companies' performance in the market. Even if it initially seems that there are more positive effects of inflation for companies than negative ones, the truth is that after entering the inflation cycle, it is quite difficult to get out of it without causing major effects on the country's economy (Pidun et al., 2010), which harms the companies in the market. Inflation thus affects consumers' purchasing power and production costs, decreasing the profits of companies, and causing higher costs for companies, especially in cases where there is a need to import any kind of resource. According to public reports, the United States experienced inflation rates of approximately 2-3% from 2017 to 2019 (U.S. Inflation Rate 1960-2023, 2023). Thus, the remaining years produced negative results for the national economy.

Another factor that was studied was unemployment, which has a significant impact on the company’s sales in countries where there is a high unemployment rate, which leads to fewer sales of products considered non-essential. There is also a drop in productivity as it causes instability among workers who are worried about their jobs, and a greater number of people looking for work, which can lead to a decrease in wages and, consequently, in purchasing power. Analyzing the published data (U.S. Unemployment Rate 1991-2023, 2023), the unemployment rate has seen improvement in every year except for 2020. As with GDP and inflation, the year 2020 shows negative results, proving once again that this was an atypical year for the North American economy (and beyond) due to the lockdown of the population because of the covid-19 pandemic.

4.10. COMPARATIVE ANALYSIS

For the eight companies that met the study requirements of having at least two years of pre-IPO history and available post-IPO performance data, we were able to make some comparisons and conclusions.

	2015	2016	2017	2018	2019	2020	2021	2022
Dropbox	0.01	0.25	0.33	0.43	0.53	0.57	0.73	0.8
Pinterest			-0.12	-0.06	0.00066	0.029	0.75	0.47
Uber		-2.9	-1.42	-1.54	-4.32	-2.75	-0.45	0.64
Lyft		-0.49	-0.39	-0.28	-0.15	-1.38	-0.1	-0.24
Airbnb			0.25	0.6	0.22	-0.74	2.31	3.43
Palantir				-0.04	-0.17	-0.3	0.33	0.22
Zoom		0.009	0.019	0.05	0.15	1.47	1.61	1.29
Snowflake				-0.14	-0.18	-0.045	0.11	0.55

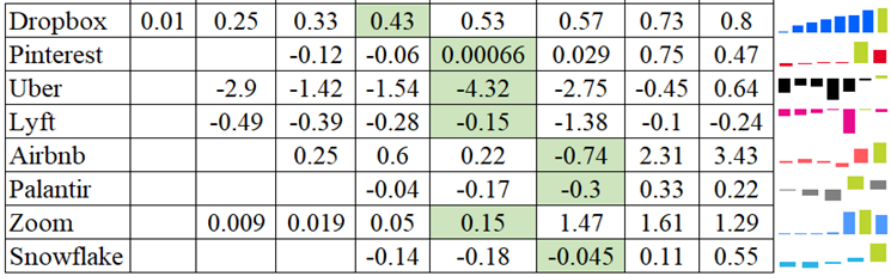

Table 10: Evolution of OCF in billions of dollars. Source: Stock Analysis

With respect to the operating cash flow variable, we can see in table 10 that five of the eight companies studied had consistently negative results in their pre-IPO period, and that two of these five companies maintained this negative record in their post-IPO period. As a result, we can see that Pinterest, Palantir, and Snowflake reversed their trend after entering the public company market and began to show consistently positive results during this period. On the other hand, Lyft never achieved positive results in the period analyzed. Table 10 also shows that a larger number of the analyzed companies decreased their OCF value in 2019 and 2022, which coincides with the beginning of the conflict in Ukraine and the achievement of less desirable inflation values. On the other hand, all analyzed companies showed an improvement in value in 2021 compared to 2020, which marks the beginning of a new post-covid-19 pandemic phase.

	2018	2019	2020	2021	2022
Dropbox	8.31	7.44	9.18	9.64	8.12
Pinterest		10.41	40.73	23.71	16.47
Uber		50.73	89.95	81.35	49.32
Lyft		12.81	15.6	14.56	3.98
Airbnb			87.71	105.79	54.92
Palantir			41.03	36.51	13.35
Zoom		18.81	96.48	54.8	19.8
Snowflake			79.66	103.76	46.16

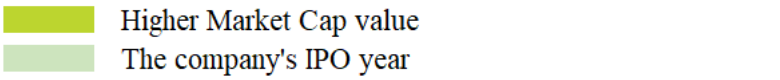

Table 11: Evolution of Market Cap in billions of dollars. Source: Stock Analysis

Table 11 shows that, regarding the market cap variable, only five of the eight companies analyzed (Uber, Lyft, Airbnb, Zoom, and Snowflake) showed an increase in value in their first year as a public company, and only Pinterest did not show a decrease in value in 2022.

	2015	2016	2017	2018	2019	2020	2021	2022
Dropbox	0.6	0.84	1.11	1.39	1.66	1.91	2.16	2.32
Pinterest			0.47	0.76	1.14	1.69	2.58	2.8
Uber		3.85	7.93	10.43	13	11.14	17.46	31.88
Lyft		0.34	1.06	2.16	3.62	2.36	3.21	4.1
Airbnb			2.6	3.6	4.81	3.38	5.99	8.4
Palantir				0.6	0.74	1.09	1.54	1.91
Zoom		0.06	0.15	0.33	0.62	2.65	4.1	4.39
Snowflake				0.1	0.26	0.59	1.22	2.07

Higher Total Revenue value
The company's IPO year

Table 12: Evolution of Total Revenue in billions of dollars. Source: Stock Analysis

Finally, regarding the total revenue variable, we can see from table 12 that the only companies that showed a decrease in their value during the years analyzed were Uber, Lyft, and Airbnb, coinciding with the year 2020, when the world faced a general lockdown due to the covid-19 pandemic. As a result, the three companies analyzed, which depend on the mobility of their consumers, were deprived of them and their registrations decreased.

4.11. DISCUSSION

From the analyses, we can conclude that the performance of a company is directly linked to its location, which is why more than 50% of unicorns are based in the United States, confirming the assertion of Callery (2023) as hypothesis 1. Among other factors that vary depending on the companies' strategies and industries, the majority end up being based in the United States after becoming an IPO to take advantage, for example, of the fact that it is the country with the highest market cap, and home to nine of the ten companies with highest market cap (Largest Companies by Market Cap, 2023), as well as being a country where there is a significant concentration of potential customers, combined with the fact that the United States has the highest GDP in the world, resulting in greater revenue potential. In addition, the fact that many companies choose to become IPO companies to expand their operations (Draho, 2006), and the fact that they are based in a country whose native language is the same as the standard language used in business turns out to be another advantage. Finally, the location of Silicon Valley, known as one of the world's largest technology centers and home to major technology companies, also attracts companies to San Francisco, where most of the companies analyzed are located.

The analysis carried out did not allow us to draw any conclusions regarding the second hypothesis. However, in 2021, the countries with the largest investments were the United States, China, and the United Kingdom (Glasner, 2021), and the countries with the greatest attraction of VC investments (The State of Global VC, 2023) were the United States, China, and India. Thus, we can see that those who invest the most are those who attract the most investment. Nevertheless, location did not prove to be an obstacle to large investments in the two major powers in terms of unicorns (USA and China), confirming what was said by Díaz-Santamaría & Bulchand-Gidumal (2020).

Regarding the statement of Jain & Kini (1994) in the third hypothesis, we can see that in the companies analyzed and in the years in which we were able to perform this analysis, the hypothesis does

not hold among the variables studied. For example, even if Uber had worse results in the year before its IPO and in the year, it became a public company, this was not the case in the years in which we were able to analyze its post-IPO performance. In terms of total revenue, most of the companies studied continued to perform well and improved their numbers. The same cannot be said for OCF, as most companies had at least one year in which their performance deteriorated. Nevertheless, this was a sporadic situation, and it cannot be concluded that the performance of the companies analyzed, and the variables studied were worse between the year before becoming a unicorn and the following years.

5. CONCLUSIONS

5.1. RESEARCH CONTRIBUTIONS

Although the topic of "unicorns" is increasingly being discussed, at the time of this study, the existing approaches focused on analyzing the performance of different companies without the need for them to belong to the group of unicorns or, even less, to have gone through the IPO process. In this sense, the aim of this study was to provide insights into the performance of companies after they have gone through the process of going from private to public company, with all the implications that may entail, in order to understand whether companies have been able to achieve financial stability, whether they have been able to improve their valuations, or whether there are patterns associated with companies that go through this process.

The results obtained show that, in the case of the companies analyzed, we can verify through the OCF that the only company with complete financial stability among those analyzed is Dropbox. Companies such as Uber, Airbnb, or Snowflake achieved stability after becoming public companies, while Lyft and Palantir recorded unstable results after becoming public companies. Finally, Pinterest and Zoom recorded financial stability, except for the last year analyzed in this variable. About the valuation of companies by market cap, the analysis showed that none of the companies studied improved their value. Finally, due to the lack of available data, it was not possible to establish a pattern for these companies once they went public.

5.2. MANAGERIAL IMPLICATIONS

Despite the sample limitations described below, which affected the conclusions drawn from the study, it allowed us to verify that the majority of the companies analyzed improved their performance in their period after entering the public market, with the exception of the market capitalization variable, where this improvement did not occur. However, these conclusions cannot be generalized to all companies in the public market that were previously considered unicorns, since these restrictions reduced the sample of companies that met the necessary requirements for the study by a large number.

5.3. LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Regarding the limitations encountered in the development of this study, we would like to highlight the very limited access to data for the period in which the companies were in private markets, which limited the study of several companies from the outset and forced a smaller selection. In addition, the fact that many companies block access to their results on the variables analyzed, even if they are public, limited the selection and the conclusions drawn from it.

In future studies, the possibility of analyzing companies located in different countries could lead to new insights and deeper conclusions. In addition, the possibility of conducting qualitative studies through interviews with the companies studied will make it possible to obtain new variables and help clarify any doubts that may have remained unexplained. Finally, the impact of the global crises caused by the various conflicts between countries in recent years, with consequences for the various economies, as well as the bankruptcy of the Silicon Valley Bank (an important bank for technological startups),

which directly affect not only companies already on the market but also those that are emerging. Since the two situations mentioned occurred during this study, it is still too early to draw any relevant conclusions.

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