NFTs & Augmented Reality

The development of a new business model

Lope Calvo de Quinto

Lope Calvo de Quinto

DEGREE THESIS	
Arcada	
Degree Programme:	International Business
Identification number:	8466
Author:	Lope Calvo de Quinto
Title:	NFTs & Augmented Reality - The development of a new business model
Supervisor (Arcada):	
Andreas Stenius	
Commissioned by:	

Abstract:

Through 2020 and 2021 there has been an increase in the number of projects using blockchain technology. The high return of investment of many cryptocurrencies have made their popularity surge and with this the number of start-ups. In this environment the author examines and collaborates with a start-up combining blockchain technology with AR to create a platform in which interactions are possible through the metaverse with animal companions. This collaboration will be for the development of the business model. However, questions arise whether the development of such a venture is possible, whether the market is ready for it and what objectives and challenges the start-up might face in the future. For this the author develops a series of investigations ranging from situational, internal and financial analyses, combining numerical and non-numerical data. The results indicate a market where VCs are investing heavily, there is one significant competitor in a similar stage and a potential mature competitor that could enter the market at any minute. The situation of the start-up is positive due to the funding, project development and technological edge. Nevertheless, due to the early stage, lack of revenue might pose a threat in the future. This study successfully documents and evaluates key factors surrounding the start-up.

Keywords:	AR (augmented reality), VR (vitual reality), blockchain, NFT (non fungible token), early-stage startup
Number of pages:	34
Language:	English
Date of acceptance:	

CONTENTS

FIGURES

FOREWORD

1 INTRODUCTION

1.1 Background of the topic and motivation

The blockchain technology has enabled new ways in which digital information, transactions and many other interactions are made and secure. That is thanks to the immutable and allotted ledger that allows you to track anything, such as tangible or intangible items. In this environment has appeared cryptocurrencies and many other products… However, there has been a new concept in the industry since 2014 that has grown in popularity, to the fact that products based in this technology has been listed in the most prestigious auctions in the world, as Beeple's "Everydays: The First 5000 Days" NFT that was sold in Christie´s for $69 million (Reyburn. S. 2021).

But what are NFTs? Well in summary and well described by Robyn Conti and John Schmidt by Forbes:

"An NFT is a digital asset that represents real-world objects like art, music, in-game items and videos. They are bought and sold online, frequently with cryptocurrency, and they are generally encoded with the same underlying software as many cryptos."

(Conti. R & Schmidt. J. 2021)

After this sale many start-ups, creators and third parties have begun to have an interest in this sector, investing a considerable part of their resources into creating and selling NFTs. Although some might classify this industry as a bubble, the aim of this thesis is not to discuss whether it is a bubble or not, but to explore the reality and develop the business model of a specific start-up in this niche combining this technology with AR (Augmented Reality). Seeking what factors and key objectives are crucial to raise funds, become sustainable and profitable.

1.2 Briefly previous research

Before going in depth on the research aim and questions we need to comprehend different technologies that are fundamental to understand later on the business model development.

1.2.1 How does blockchain technology work?

The blockchain as IBM defines it is a shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a business network. An asset can be tangible (a house, car, cash, land) or intangible (intellectual property, patents, copyrights, branding). Virtually anything of value can be tracked and traded on a blockchain network, reducing risk and cutting costs for all involved. (IBM, 2021)

This means a reduction of the middleman, where in the past you will need the approval of a third entity to verify and approve the transaction such a bank in a financial transaction. Nowadays you can accomplish that by recording that transaction in a "block" of data and this being verify by a decentralized network, which approves and connects it to an irreversible chain. This provides advantages compared to the previous system as now not only more than one entity controls the verification and approval of a transaction, but it ensures the data is immutable, as well as increases efficiency with the ledger that all members of the network have, record reconciliation is eliminated and implementing smart contracts can be stored and executed automatically.

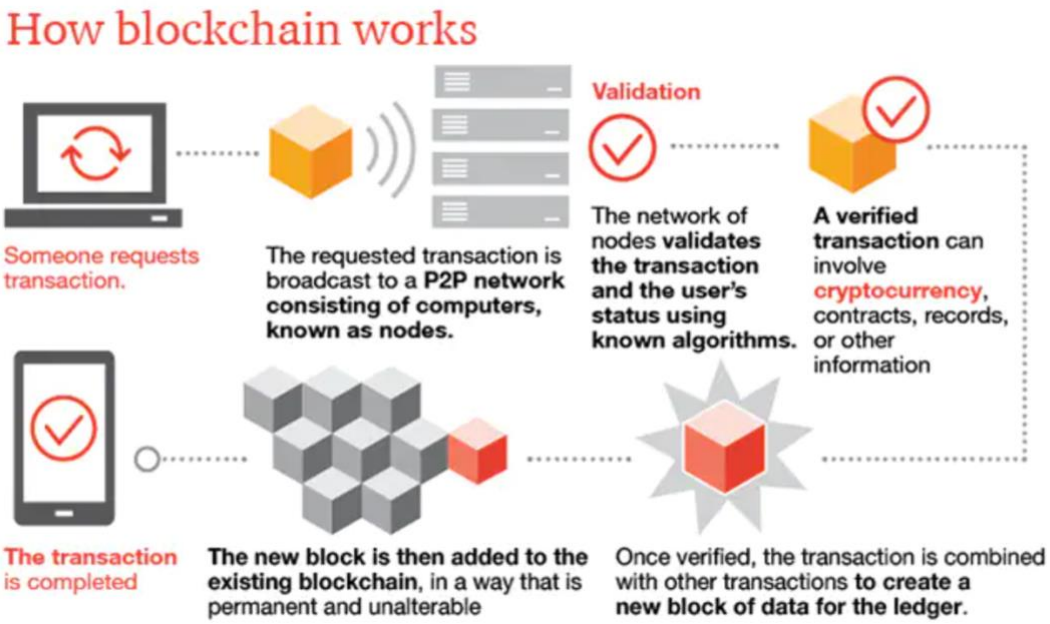

Figure 1. How Blockchain works (Likens. S. 2021)

1.2.2 What is AR (Augmented Reality)?

AR was first invented by Ivan Sutherland at Harvard in 1968 (Burton. R. 2019). It is a technology that has been developed through many years, however thanks to the increased capabilities of computing and software updates this technology has seen a surge being the most popular and world known Pokémon GO phenomenon. This technology allows you to interact at the same time with the real and digital world through a set of cameras being the latest innovation, the smart glasses, a product that Google already tested with in 2012 and now many technological companies seek to launch and introduce into the mass market.

1.2.3 What is AI (Artificial Intelligence)?

The term Artificial Intelligence or AI has been talked about for over seven decades. But what is it?

"A field, which combines computer science and robust datasets, to enable problem-solving. It also encompasses sub-fields of machine learning and deep learning, which are frequently mentioned in conjunction with artificial intelligence. These disciplines

are AI algorithms which seek to create expert systems which make predictions or classifications based on input data.” (IBM 2020)

1.2.4 The start-up

Now understanding these essentials, what the start-up aims to develop are AI companions that will allow interactions through AR, combining this with the uniqueness of an NFT. This companion will have an exclusive identity thanks to the blockchain technology, and each will be considered as an NFT making possible the interaction with it via smartphones as well as by future hardware currently being developed such as the Apple glasses. Through this, the start-up aims to populate the world with virtual animals embodying the first truly social AR experience and develop an app for these interactions to be possible.

1.3 Research aim

The research aim of this thesis is to explore, discuss and conclude whether the start-up using this technology combined with AR is able to develop a profitable business model. Entering and disrupting the market as well as raising funds from investors and untimely generating a profit. This thesis research could be applied as an analysis of the start-up for a possible investment, as well as to acquire a better understanding of the business in this growing industry for future entrepreneurs…

1.4 Research questions

This thesis is focused on the analysis of the start-up, the market and the opportunities that they offer.

- Is the start-up viable and if so how?
- What are the main objectives and challenges that faces the company?

1.5 Limitations

Now, it is to consider that due to the nature of the thesis and close collaboration with the start-up it exists lack of sensitive information that is confidential and will not be included in the thesis.

These limitations are mainly significant numerical figures which might pose a risk for the competitiveness of the company as the competition is very intense in the industry. We will cover that aspect in a broad view which doesn´t compromise the start-up and makes possible the understanding and comprehension of the situation of the start-up

1.6 Expected results

The expected results that we aim to get is a positive outcome for the development of the start-up, having results of whether the start-up can continue growing and what factors should be taken into account.

The hypothesis due to the nature of the industry, the product, the development of the business and the factors surrounding the start-up, is to set the fundamentals for a positive outcome in terms of future profitability as well as create awareness for certain elements we will establish for the start-up.

Furthermore, we aim to create a blueprint for start-ups in a similar situation in this industry. Showing the different stages and components to consider when embarking into this market.

1.7 Structure of the thesis

The structure that this thesis is composed of is an introduction, theoretical framework, methods, results and discussion. Beginning with the introduction of the topic, developing fundamental knowledge of the technology as well as presenting what is the aim of the research and its limitations.

In addition, the literature review section covers the essential terms and models needed to develop the different objectives of this thesis, going over the theory and a practical study.

Moreover, the methodology section covers the different approaches that are used to develop this research. In addition, the results segment focuses on the empirical data gathered and developed through this collaboration.

As a discussion, we will encompass a synopsis of the main conclusions arrived after the research and collaboration. Evaluating whether the aims and research questions were answered and whether were positive or negative.

2 THEORETICAL FRAMEWORK

This section discusses and reviews the theory that is used for the thesis, going over the models, concepts and theories that will forge the foundations of this research. Due to the nature of this thesis we will be focusing on the studies made for different cases and/or circumstances key elements can be taken into account.

2.1 Models, analyses and statements

2.1.1 The SWOT analysis

This analysis is a strategic planning technique that provides assessment tools. By analysing the strengths, weaknesses, opportunities and threats that the company has, to evaluate their competitive position, analysing internal and external elements. By assessing these factors, it is possible to develop a long-range plan for the effective management of opportunities and threats, in light of corporate strengths and weaknesses. It includes defining the corporate mission, specifying achievable objectives, developing strategies, and setting policy guidelines. This development is not conceived in the study as the start-up continues to develop nowadays. However, the

analysis of the factors is performed for the start-up to consider. (Wheelen. T and Hunger. D, 2011, p. 176)

2.1.2 The PEST analysis

The political, economic, sociocultural and technological analysis or commonly known as PEST is a management method in which a company can evaluate major external factors that have an influence in its performance.

Some of the main factors to consider in the economic sphere for example are GDP trends, interest rates, money supply inflation rates… (Wheelen. T and Hunger. D, 2011, p. 101)

2.1.3 Porter´s 5 forces

Michael Porter, an authority on competitive strategy, contends that a company is most concerned with the intensity of competition within its industry. By carefully scanning its industry, a business must assess the importance to its success of each of five forces: threat of new entrants, rivalry among existing firms, threat of substitute products or services, bargaining power of buyers and bargaining power of suppliers. By identifying and analysing these forces one can understand the industry in more detail. (Wheelen. T and Hunger. D, 2011, p. 110)

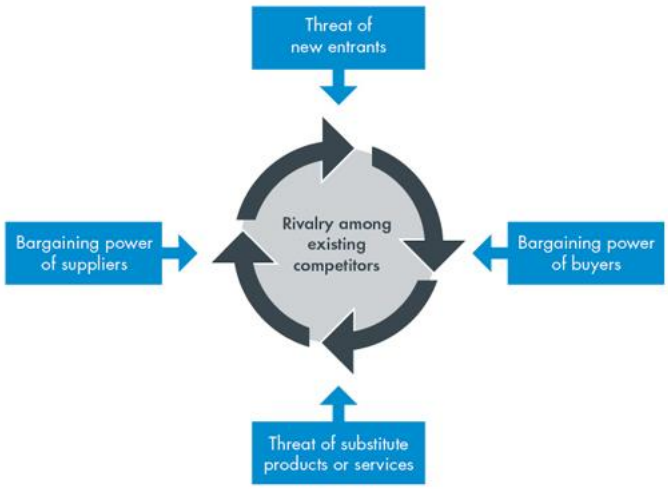

Figure 2. Porter´s 5 forces (Investopedia)

2.1.4 The P&L analysis

The P&L or income statement provides an overview of all the income and costs the company produces through a certain time. Important metrics to consider are the gross margin, a result of the revenue minus the costs of goods sold, the Earnings Before Interest Taxes Depreciation and Amortization commonly known by EBITDA. This data is used to measure the performance of the company as well as to visualize possible problems with over expenses… (Miller. L and Mattison. B. 2018, p. 827)

2.1.5 Vertical analysis of the balance sheet

The balance sheet is an overview of the company´s assets and liabilities as well as equity. This statement shows what the company currently owns and how they financed those assets whether that was with debt or equity and whether they were current or non-current. (Miller. L and Mattison. B. 2018, p. 835)

2.1.6 The burn rate

The burn rate is used to understand how long the start-up would last before using all its cash. There are 2 types, the gross burn takes into consideration the total amount of operating costs. While the net burn rate is the total amount of money the company loses each month. (Kenton. W. 2021)

2.2 Valuations and studies

As this is not the first neither the last time that a start-up is being evaluated, we will look at the theories behind the valuation of a start-up and different examples like the "Case: Consolite" from Nguyen Huyen Trang as well as "Evaluation of young companies / start-ups based on the multiples approach and DCF method" by Abdürrahim Derin. In addition, the article "Interdisciplinarity in tech start-ups

development: Case study of unistartapp project" will serve us to understand certain points that an early stage and non-so early stage start-up should be considering.

2.2.1 Theories

The cost-to-duplicate approach involves calculating the costs that would take to duplicate the business "For a high-technology start-up, it could be the costs to date of research and development, patent protection, and prototype development. The cost-to-duplicate approach is often seen as a starting point for valuing start-ups since it is fairly objective. After all, it is based on verifiable, historic expense records.". However, it doesn´t take into account the possible future revenue or intangible assets. (Mcclure. B. 2021)

In addition, the market multiple method analyses acquisitions for similar organizations. Understanding the price paid for an acquisition by dividing that price by the revenue obtaining the multiple by which you can value a company. An example is, if a company very similar to the one you aim to value has been sold by 1.000 million you can divide that by the revenue being 100 million you get that the company is being valued 10 times their revenue, thus you can value the company multiplying their revenue 10 times. (Mcclure. B. 2021)

The DCF aims to forecast the cash flow that the company will generate in the long-term, then by using an expected rate of investment return it calculates how much that cash flow is worth. As Mcclure describes "A higher discount rate is typically applied to start-ups, as there is a high risk that the company will inevitably fail to generate sustainable cash flows. The trouble with DCF is the quality of the DCF depends on the analyst's ability to forecast future market conditions and make good assumptions about long-term growth rates." (Mcclure. B. 2021)

2.2.2 Case: Consolite

This research covers many of the key elements of canvases that are necessary to develop a correct understanding of a start-up, in the case of the research, for evaluating Consolite. From the business model such as customer segment, value proposition, channels…and many components that compose the canvas to comprehend the factor of a business model. Giving an example of the business model of Apple iPod/iTunes. These known business model canvas will be later used for the understanding of the start-up.

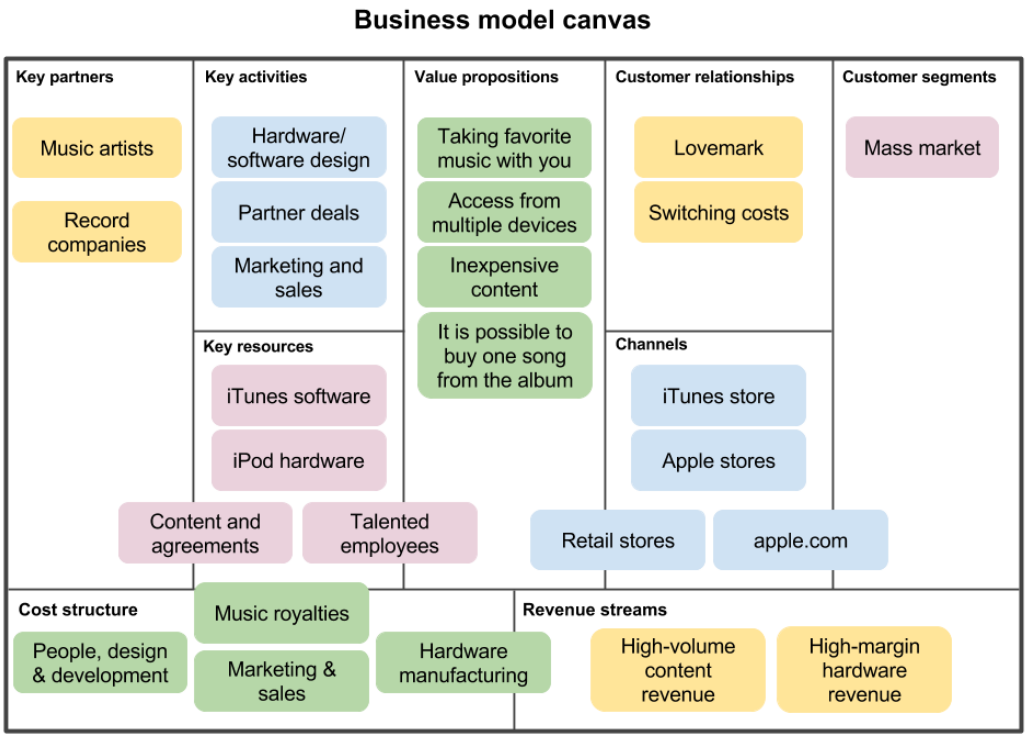

Figure 3. Apple iPod/iTunes Business Model Canvas (Trang. H 2018)

In addition, for the project developed in the study that considers the timeline, key metrics that for a business would be sales revenue, gross margin, retention rate, nevertheless due to the early stage of the start-up being studied it cannot be applied by the author.

2.2.3 Evaluation of young companies

In this research by Abdürrahim Derin it takes a theoretical approach based on statistical data. Addressing the importance of a correct early assessment of a start-up as well as the problems faced when evaluating an early-stage company. Explaining the financing of it, the investment criteria and main valuation methods such as:

- Discounted cash flow analysis (DCF). This analysis is used to estimate the money that the investor would receive adjusted for the time value of money. The time value of money is an assumption that a euro today is worth more than a euro in the future as it can be invested.

$$EV_{wacc} = \sum_{t=1}^{T} = FCF \frac{FCF_t}{(1 + c_{wacc})} + \frac{TV_T}{(1 + c_{wacc})}$$

Figure 4. DCF Formula (Abdürrahim Derin 2018)

- The multiplier approach is described by the author as:

  "Multiplier approach is a market-oriented procedure in which the enterprise value sought is determined by comparison with known enterprise values (target companies) of comparable companies (reference companies/ peer groups).123 However, the latter method also requires that the comparable companies are listed on the stock exchange…"

  Due to this last reason is not used as the company we are researching is a start-up

- The comparable company method is comparing key elements and figures such as revenue, profit, EBIT… In difference with the previous analysis, as the author explains, a start-up might not have those elements but can have KPI such as research development and innovation intensity or in the case being studied in this research, active users, activation rate (a percentage of the users that

completes a milestone in the onboarding, this can be the people that joint the discord community surrounding the project).

In addition, Abdürrahim Derin points out how VCs discount the range for early stage start-ups from 40%-70% in the USA due to the high risk involved in investing in a start-up.

Another topic that the Abdürrahim Derin covers is the financing and development phases of a start-up, describing each stage as summed in the figure below. In the case of this thesis the stage that the start-up is in the present moment is the early stage.

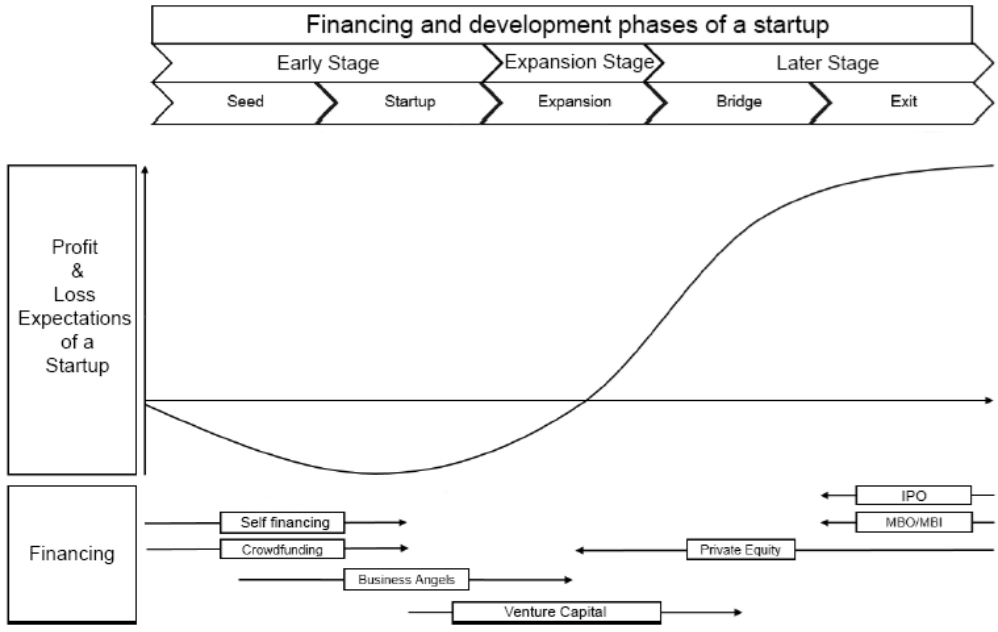

Figure 5. Financing and development phases of a start-up (Abdürrahim Derin 2018)

In conclusion, Abdürrahim Derin discusses a study that explains the investment criteria for early investors such as VCs. Key elements that will be taken into consideration in this research are KPIs as the relevance of founders, the team and financial considerations such as the high value growth possibility and liquidity. These elements were considered by VCs questioned being collected from the empirical research of MacMillan and Brettel and can be found in page 14 of Abdürrahim Derin´s investigation.

3 METHODOLOGY

The method behind this thesis will vary depending on the stage of it, that's why we will break down each stage defining the methods used. It is important to understand this thesis as a collaboration of the author with the start-up, conducting analyses for future development.

3.1 Research and Analysis

In the first stage the start-up is approached by gathering primary data with a qualitative technique regarding the understanding of the product, vision, mission etc… Nevertheless, a quantitative approach takes place mainly with the financial data to understand the current expenses and other figures. The non-numerical data is gathered through an analysis of the different documents such as the white paper, presentations and diagrams. Moreover, the numerical data is mainly gathered through bank statements and excels sheets that the start-up has already in place.

The second stage of the thesis is focused on the study of the company, product proposal and environment, developing commonly known analyses like PEST using data from government sources, respected newspapers such as The wall street journal and reports from consulting companies such as Deloitte, moreover a SWOT is developed from the understanding of the start-up to the comparison of certain characteristics such as the number of members in the community or the technological edge to competitors. In addition, Porter´s 5 forces are developed with the same approach as the PEST. The business model innovation from the Boston Consulting Group (BCG) is elaborated following a business canvas using the same categories as (Trang. H 2018).

Furthermore, a series of financial models are created such as a burn rate and others like the income statement and the balance sheet are analysed. Moreover, market analyses with secondary data in different segments that we consider extremely valuable are performed to understand the potential market and key data from segments of the population.

3.2 Projection and Interpretation

Once gathered and analysed the information, a discussion is presented aiming to have a better understanding of the start-up and the environment through the financial models and analyses previously mentioned. Models like the burn rate that indicates how long the start-up has until we run out of cash and the analysis of the P&L, to better comprehend the expenses. These results are to be presented to the board directors for a deeper conclusion and future implementation of suggestions.

3.3 Validity and Reliability

Does the author stay impartial? This question might arise when approaching this thesis as doing a close collaboration with a company might lead to create a false image of the company for the good or bad of it. That´s why this thesis should be read as a report made from the collaboration of a third party to understand, analyse and project financial and strategic aspects of the start-up in this developing industry. Something similar to what a consulting company will perform in a similar situation.

The opinion of the author will not be taken into consideration, nor any manipulation or influence in the data gathered and the analyses and projections from it.

4 RESULTS

4.1 Situational Analysis

The market in which the start-up is being developed was defined by the PEST below, describing and categorising each factor by importance towards the start-up:

PEST - DEC 2021	External Factors	Influencing the industry	Importance
Political	· Goverment policies · Change in taxation · Covid restrictions	· The instability due to the tensions inside the U.S, between the U.S and China, between EU members can lead to extreme policies affecting blockchain technological projects, such is the ban of Bitcoin in China (Zhong. R and Lee.S.2021) & (BBC News. 2021) · The taxation and regulation of cryptos and NFTs (Davison. L. 2021) · Government imposed lockdowns or restrctions due to the new Covid variant (Specia. M. 2021)	· High · High · Medium
Economic	· Economic trend · Global supply chain crisis · Inflation	· Because of the stimulus packages due to Covid towards companies and individuals and the interest rates worldwide at minimum or even negative in some countries, the market is experiencing historic highs · Due to the recovery of the economy supply chains can´t put up with all the new demand creating bottle necks (Gamio. L and S. Goodman. P. 2021) · The creation of 20% of the current dollars in circulation added to the recovery of the demand and lack of supply in the economy resulting in inflation (Romei. V. 2021)	· Medium · Low · High
Social	· Digital transformation · FOMO	· Major activities from working on distance, to purchasing online has surge during the lockdowns and has been stablish as a new norm. Moreover, house related industries such as the pet industry has seen a significant growth (LaBerge. L, O'Toole. C. 2020) · Due to the rise of cryptos and NFTs many people fear of missing out an opportunity to get "rich" and are risking considerable savings in projects without proper valuation or knowledge on the topic. As well, retail traders are being organise increasing the phenomenon called "pump and dump" becoming common (Wigglesworth. R. 2021)	· Medium · High
Technological	· Smart glasses · Metaverse	· Thanks to the increase of computing power and software development the interaction between the virtual world and the physical is about to increase, having Meta (known previosly as Facebook) done a collaboration with Ray-Ban although lacking augmented reality features (Gurman. M and Nix. N. 2021) · The digital enviroment is seeing the development of the Metaverse making the virtual reality something that anyone with VR glasses is able to experience (Carlton. B. 2021)	· High · Medium

Figure 6. PEST Analysis

The key elements are that although the policy making is unknown for many blockchain related projects, people are more willing to take a riskier approach when investing due in part to record lows in interest rates, inflation and the proof of ROI that some crypto assets have shown. Moreover, the digital transformation is opening new forms of consumer behaviour and easing new technology to daily life.

These factors can play an important role for the company, a ban of NFTs over the world, although very unlikely, could pose a significant threat to the business model.

In addition, to better comprehend the situation regarding players around the start-up the Porter´s 5 forces were developed.

As industry rivalry one factor to consider and understand is that most projects before launching a beta they create a community based on discord, a free voice, video, and text chat platform that's used by tens of millions of people ages 13+. It was found with direct competitors developing pet AR games based in the blockchain in a very similar development stage. Major ones to highlight are Tontachi (Tontachi), a virtual pet game that was created by Urban Electronic Games, players can collect them and interact with them through AR, currently in pre-alpha testing and with 49 discord members. A similar game called Vrumble (Vrumble) was developed by Tesuji Games, with 28 members and launching their NFTs by the 13 of December.

Now besides these competitors the major direct competitor due to their community and concept is Dogami (Dogami). Currently developing the same concept but with a number of discord members over 20.000, planning to launch and list their token by Q1 of 2022 and launch their beta by Q2 of 2022. Nevertheless, there is no actual proof of their AR capabilities, although they count with an alum from Marvel Comics for the story development and important partners such as The Sandbox, a virtual world where players can build, own, and monetize their gaming experiences in the Ethereum blockchain. Last but not least is Pokémon Go, although not based on any blockchain technology, is a game that created sensation and that currently stands with 800.000 active daily players and a revenue of $1.3 Billion in 2020 (C. Chapple). The game has very similar characteristics than the ones previously described and could pose a threat if the AR technology was improved and incorporated NFTs as a Pokémon and cryptocurrency. To understand better the competitors are advised to go through their websites listed on the references.

Moving on, the threat of new entrants is large as the barrier of entry is very low specially for the early phase. Due to the state of the market nowadays it is very easy to

announce a project, develop a website, a white paper and get funding from doing an Initial Coin Offering or commonly known as ICO, attracting investors since there is a common sentiment of FOMO due to the possibilities that this market can offer. In addition, many projects try not to launch their product or service due to the simple reason that once there is, it can be evaluated, and funding might decrease dramatically. It has become common for many projects in this environment to raise funds, create fraudulent updates or get phishing attacks that vanish the money that investors had pulled in, an example is the AnubisDAO project (Harrison. K. 2021). Because of this the possibility of new competitors is high but for them to actually pose a threat with a real team backing the project and a competitive product is low. However, Niantic the AR partner of Nintendo announced that it was aiming to build a Metaverse, and although it didn´t mention anything explicit regarding if it was going to implement any aspects of blockchain technology, non-fungible tokens (NFT) or cryptocurrencies the possibility of this happening is significant. If applying this technology and features could become a major player in the industry.

Regarding the threat of substitute products, we can classify 2 major actors. The product that the start-up is offering is a platform through which you can interact and build a relationship with a virtual companion becoming your pet. A substitute product is the actual real pet, that although it carries many more responsibilities, many people, especially the public that finds it difficult to use smartphones will find it challenging to interact with virtual companions.

The second substitute product is virtual reality companions. This topic hasn´t been developed fully, at least in the VR industry. There has been one company that has successfully launched a pet VR videogame called Pets VR. Moreover, there are already important projects such as Axie Infinity (Axie Infinity) or MyDefiPet (MyDefiPet), games you can play on smartphones and PC. Its core gameplay draws heavily from Pokémon having a team with various skills, which you battle with, against either computer-controlled opponents or other real-life players. Nevertheless, there has not been any project combining the VR experience of playing with a pet with blockchain technology. This is something that will most likely be developed in the near future, due to the popularity and potential that the metaverse has. A solution for this last entrant

could be the implementation of a VR space for the companions making possible the interaction through VR and AR.

Moving on, the bargaining power of major suppliers is low as most of the services being bought by the start-up can be easily found in competitors for a resembling price, such as web services. Nevertheless, there are two non-conventional suppliers to highlight. Unity and Unreal Engine provide the start-up with software solutions for the creation and construction of the platform, the place where the interactions with the virtual companions will take place. Both are well established companies in their industry and provide these tools to many other companies. For example, 5 billion downloaded apps were made with Unity in 2020. (Unity). Their bargaining power is high as they do have a large share of the market, for anyone to understand, 93 of the biggest 100 game studios are Unity customers, this is a very important factor to consider as an increase of prices in their products and services most likely wouldn´t affect their churn rate and would not be negotiable (NAAVIK).

Lastly, the bargaining power of customers is yet to be seen, as a beta hasn´t been launched yet and the only community that is in place is the discord community with a total of 1.633 members. Nevertheless, from what the market is showing the bargaining power is normal, is a matter of supply and demand regarding the hopes and promises that the project has made. A key factor to consider is that there is direct communication from the founders and employees of the start-up to the current community being the request and implementation of different features of the game, something that traditional gaming companies lacked most of the time.

4.2 Internal Analysis

For a general overview of the business model a canvas was designed with the main factors of it.

<table>
<tr><th>Key Partners</th><th>Key Activities</th><th>Value Proposition</th><th>Customer Relationship</th><th>Customer Segment</th></tr>
<tr><td>· Auki Labs - Software provider
· Unity - Software provider
· Unreal Engine - Software provider</td><td>· Software development
· Community growth
· Story creation
Key Resources
· Precise and efficient software
· Qualified and creative team
· Story line
· Community</td><td>AI companions with unique personalities, traits and identity. Each being an NFT secured by blockchain technology. Being possible to have multiple interactions at the same time through AR. Being able to play, teach and compete with them.</td><td>· Digitally
· Animal related
· Game oriented
Channels
· Social Media
· Environmental NGOs
· Influencers
· Investment Partners</td><td>· People interested in animals
· Gamers
· Kids</td></tr>
<tr><th colspan="2">Cost Structure</th><th colspan="3">Revenue Streams</th></tr>
<tr><td colspan="2">· Staff
· Rent
· General & Administrative Expenses
· Software</td><td colspan="3">· Token sale
· Transsaction fee
· Accessory sale</td></tr>
</table>

Figure 7. Business Model Canvas

The key partners are their software providers as their main activity is based on developing the platform. In addition, being digital, many of their channels, customer relationships and segments are dependent on this factor. The revenue stream is based on the purchase of the token, the transactions inside the game and the sale of in-game products or services. Once the platform is developed the business will begin to function until then the value proposition is a promise and the revenue stream depends on the launch token sale.

On top of this, for a deeper understanding of the start-up a SWOT matrix was performed.

The strengths that compose the company are their high skilled team, as throughout the past months they have contracted more people, summing a team of over 25 employees, skilled, with over 5 years of experience in their domain and highly motivated in the project. The idea in which they are working has been developed and currently it is the major drive towards the fundraising and community development. The technology developed for instant calibration, interaction between multiple devices and efficiency for the AR software assures certain technological advantage in comparison to other companies developing a similar concept.

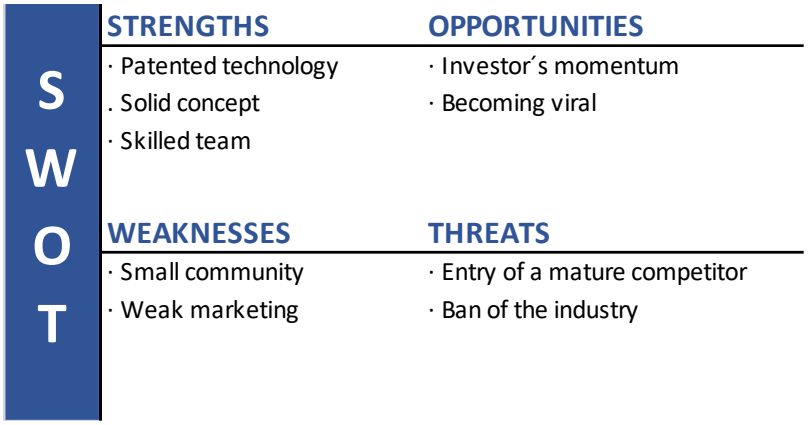

Figure 8. SWOT

Regarding the weaknesses, it has been identified the small size of the community as a major weakness. Compared to the direct competitor, it has fallen behind, and if no action is taken it could stagnate. That connects with the second weakness, weak marketing. Due to the development of the start-up, the project, funding rounds, recruiting and other activities, the project doesn´t have a clear marketing plan backing the project, something that is resulting evident in the number of discord members.

In addition, the threats that the company faces are as previously mentioned in Porter´s 5 forces analysis the entry of a mature competitor that would be Pokémon Go at the hand of their partner Niantic. This entry doesn´t need to pose a direct threat and failure of the start-up. However, if Niantic would be able to replicate the AR technology evading copying the patents and blockchain technology was introduced to the game in the form of each Pokémon being an NFT the brand awareness and fan based already establish would difficult greatly the growth of any project with similar characteristics. Furthermore, the threat of an international or national ban on crypto related projects is concerning as China has already banned all crypto-transactions illegal and without it it is much harder for NFTs to be bought and sold. Despite this, there has been put into place different solutions as “Alibaba and Tencent have abandoned Ethereum and turned to their own, semi-private blockchain infrastructure. Both companies said the NFT artworks they are selling are minted on their respective "alliance chains," a form of hybrid blockchain that isn't completely decentralized but instead controlled by a selected group of members.” (Z.Yang. 2021).

Lastly, the opportunities that the start-up has are the momentum that the industry is seeing. Any game, platform or project that is being developed with blockchain

technology or that is based on blockchain technology has many more possibilities of getting funded than one without these characteristics. This is an opportunity the start-up is utilising being able to get different rounds of funding in a very limited amount of time.

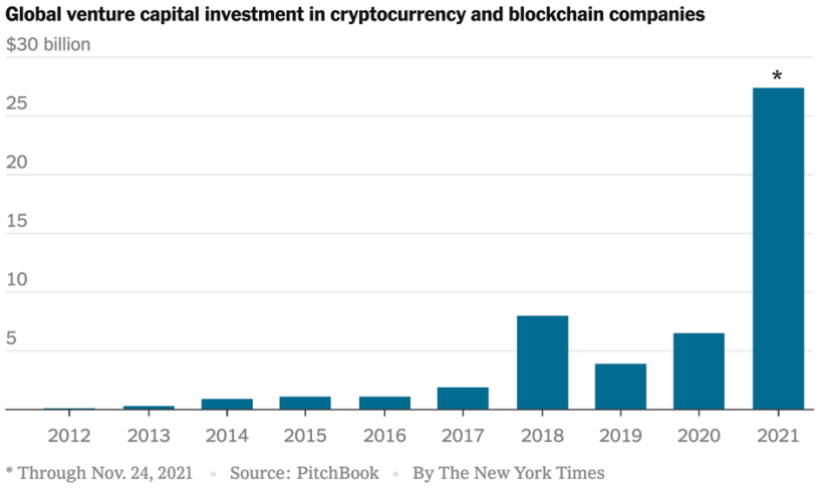

Figure 9. VC investment in crypto (The New York Times)

As well, an additional analysis was made for the opportunities this a small study of 5 pages was performed, concluding the existence of opportunities in the female segment of young population with access to smartphones, the potential of creating a beta with similar characteristics to the viral phenomenon that occurred with the Tamagotchi in the 90s or the surge of Pou in the early 2010s. Moreover, the close collaboration with NGOs like WWF or companies like National Geographic could be an excellent trampoline for the awareness of the star-up, as the young generations from Millennials to Gen-Z show great concern on sustainability and climate change. Collaborations in the form of donations from transactions were already being thought in the board of directors. Lastly, a collaboration with influencers in the topics of pet care, sustainability and gaming showed a considerable potential due to the trust and awareness that they could share, especially niche influencers that have an authentic and engaged audience. (Target Demographic)

4.3 Financial Analysis

Now due to the early stage of the start-up, there is no revenue, however, funding still occurs. For this reason, the company has a limited amount of liquidity it can use before it goes bankrupt. It is very important to know what period of time that is. A burn rate was performed to measure and project this element. Taking into consideration an average growth of expenses over time and no additional funding or revenue, the result was positive as it has until early July to generate revenue or gather additional funding.

Another analysis that was done was in the P&L. Despite the start-up not having any revenue it is possible to analyse the expenses that are occurring, as it indicates whether resources are being allocated correctly or they are being misused. Extracted from the financial data and P&L performed, the data was converted into a graph for a better understanding.

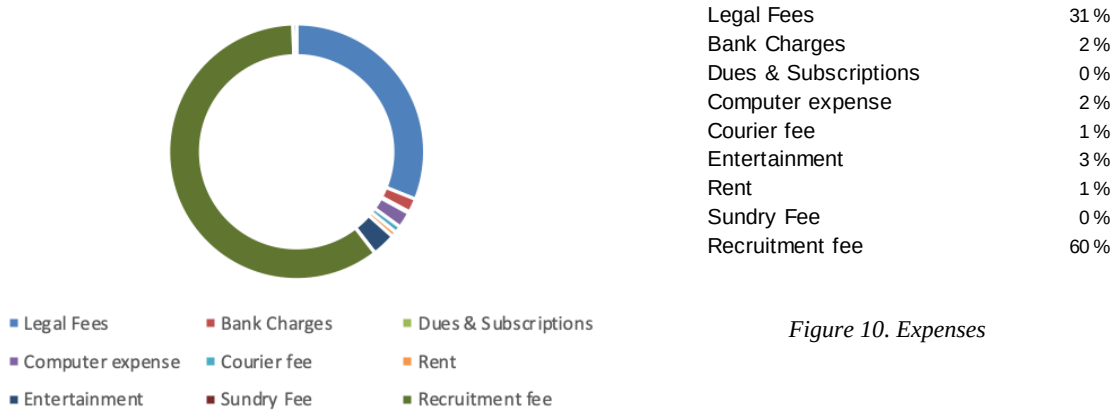

Figure 10. Expenses

The result was that a majority of the expenses that the start-up was having were for the positive development of it. The largest, a recruitment fee, a fee paid to an external company for them to reach and present highly talented professionals in their industry to the start-up, for the start-up to employ the best candidates. And the second one, representing legal fees such as the patents of their technology and lawyers. This illustrates the correct use of funding for the development of the projects.

Lastly, regarding the balance sheet, it was obtained that all the assets that the company had were current assets, having a cash on hand representing 98% of their assets and not having any liabilities basing all their funding in capital raise. This meant that all their

assets were financed by equity. This indicates an extreme liquidity that can be used towards the development of the project.

5 DISCUSSION

5.1 Conclusion

The stage at which the start-up is being developed at the present moment is very early, due to this reason many of the characteristics surrounding the start-up might dramatically change.

The conclusion is that the company would be viable with the current funding and expenses until early July of 2022, where if no revenue or additional funding was achieved the start-up would go bankrupt. For it to be viable it should begin to produce revenue that could be achieved through a sale of tokens, a beta with transaction fees or additional funding among other solutions.

They have internal and external challenges to solve. Internally due to the lack of revenue that if extended over a long period of time it could result negatively for the company and investors. As well as the community and marketing plan are very weak at the present moment. Externally due to the conditions that projects related to crypto and NFTs are suffering at the hand of government policies, the threat of Dogami overcoming the start-up and Pokémon Go launching a similar app.

Lastly, the main objectives that the company should aim, are two. The first medium term oriented is to develop a marketing plan not to lose their market share to competitors and to begin creating a community strong enough that when a beta is launched, they will be able to monetize it or gain more credibility for future investment rounds as well as the potential of the product becoming a similar phenomenon as Pokémon Go was. The second would be to continue working on a high-quality product, something that they have been doing since the beginning. This over the long term will prove extremely valuable as currently there are many empty projects in the market that

have made many promises that won´t be able to be fulfilled. If this continues, the funding opportunities will increase in parallel.

Deeper analyses such as Customer Acquisition Cost (CAC), Life Time Value (LTV) and churn rate might be considered in the future, however, due to the early stage of the start-up there is not possible for such metrics and KPIs to be in place.

REFERENCES

Abdürrahim Derin. 2018. Evaluation of young companies / startups based on the multiples approach and DCF method. Berlin School of Economics and Law: https://www.theseus.fi/bitstream/handle/10024/154384/BA_ARBEIT_FINAL.pdf?sequence=1&isAllowed=y

Allegra Frank. Pokémon Go Is Still Great, Actually. Slate. July 20 th: https://slate.com/culture/2021/07/pokemon-go-fest-2021-still-great.html#:~:text=The%20game's%20community%20is%20still,annual%20Pok%C3%A9mon%20Go%EF%BB%BF%20Fest

Axie Infinity: https://axieinfinity.com/

BBC News. China declares all crypto-currency transactions illegal. September 24th. 2021: https://www.bbc.com/news/technology-58678907

Bobbink. W. 2019. The ultimate guide to financial modeling for startups. Ernst & Young (EY): https://www.ey.com/en_nl/finance-navigator/the-ultimate-guide-to-financial-modeling-for-startups

Bobrowsky. M. Metaverse Emerges as Promising Yet Uncertain New World for Investors. The Wall Street Journal. December 2nd: https://www.wsj.com/articles/investors-see-promising-new-world-in-metaverse-11638455401

BCG (Boston Consulting Group). 2009. Business Model Innovation: https://image-src.bcg.com/Images/BCG_Business_Model_Innovation_Dec_09_tcm56-121706.pdf

Burton. R. 2019. Ivan Sutherland. ACM: *https://amturing.acm.org/award_winners/sutherland_3467412.cfm*

Carlton. B. VR Metaverse 'Horizon Worlds' Now Open, Get Started Here. VR Scout. 2021: https://vrscout.com/news/vr-metaverse-horizon-worlds-now-open-get-started-here/

Chapple. C. Pokémon GO Catches $5 Billion in Lifetime Revenue in Five Years. Sensor Tower. July 6th: https://sensortower.com/blog/pokemon-go-five-billion-revenue

Conti. R & Schmidt. J. 2021. What You Need to Know About Non-Fungible Tokens (NFTs). Forbes. 14th of May: *https://www.forbes.com/advisor/investing/nft-non-fungible-token/*

Davison. L. How Taxing Crypto Got Changed by Biden's Infrastructure Law. Bloomberg. November 17th. 2021: https://www.bloomberg.com/news/articles/2021-11-17/how-taxing-crypto-got-changed-by-infrastructure-law-quicktake

Deloitte. A call for accountability and action. 2021: https://www2.deloitte.com/content/dam/Deloitte/global/Documents/2021-deloitte-global-millennial-survey-report.pdf

Dogami: https://dogami.com/

Gamio. L and S. Goodman. P. How the Supply Chain Crisis Unfolded. The New York Times. December 6th. 2021: nytimes.com/interactive/2021/12/05/business/economy/supply-chain.html

Gurman. M and Nix. N. Facebook's Smart Glasses Can Take Calls and Photos, Lack AR. Time. 2021: https://time.com/6096715/facebook-ray-ban-smart-glasses/

Harrison. K. A crypto project that raised $60 million overnight using a dog meme saw all of that money go missing in what may have been a phishing attack. Market Insider. October 31 th: https://markets.businessinsider.com/news/currencies/crypto-project-phishing-attack-anubisdao-olympusdao-token-sale-2021-10

IBM. Artificial Intelligence. 2020: *https://www.ibm.com/cloud/learn/what-is-artificial-intelligence*

Kasumov. A and Smith. C in New York, Rovnick. N in London. How the Biden $1.9tn stimulus has poured fuel on a global market shake-up. Financial Times. March 14th. 2021: https://www.ft.com/content/d6ec60dc-f110-4c84-9229-d516372f5511

Kenton. W. 2021. Strength, Weakness, Opportunity, and Threat (SWOT) Analysis. Investovedia: https://www.investopedia.com/terms/s/swot.asp

Kenton. W. Burn rate. Investopedia. 2021: https://www.investopedia.com/terms/b/burnrate.asp

LaBerge. L, O'Toole. C, Schneider. J and Smaje. K. How COVID-19 has pushed companies over the technology tipping point—and transformed business forever. McKinsey & Company. 2020: https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever

Likens. S. 2021. Making sense of bitcoin, cryptocurrency and blockchain. PWC: *https://www.pwc.com/us/en/industries/financial-services/fintech/bitcoin-blockchain-cryptocurrency.html*

Mcclure. B. Valuaing start-up ventures. Investopedia. 2021: https://www.investopedia.com/articles/financial-theory/11/valuing-startup-ventures.asp

Miller. L and Mattison. B. Horngren's Financial & Managerial Accounting, The Financial Chapters, Global Edition. Perlego. 2018: p. 101, 110, 176

MyDefiPet: https://mydefipet.com/

Nuttall. C. Goggle this — AR makes a spectacle. Financial Times. 2021: https://www.ft.com/content/cd741a76-fc8f-4833-b173-1f43226994a6

Pearson. Horngren´s Financial & Managerial Accounting. The Financial Chapters. 2018. 827 and 835

Reyburn. S. 2021. JPG File Sells for $69 Million, as 'NFT Mania' Gathers Pace. The New York Times. 11th of March: https://www.nytimes.com/2021/03/11/arts/design/nft-auction-christies-beeple.html

Romei. V The unexpected surge in inflation, in charts. Financial Times. November 21th. 2021: https://www.ft.com/content/9c4b162a-63d3-44cb-9a47-8a38565b0cae

Scott. G. 2020. Porter´s 5 forces. Investopedia: https://www.investopedia.com/terms/p/porter.asp

Singer. P Investors piling on risk are setting themselves up for a fall. Financial Times. December 6th. 2021: https://www.ft.com/content/32e000cf-c95a-4940-8985-f67ca6170ae8

Specia. M and Kwai. I Spike in Omicron Variant Cases Puts Europe on Edge. The New York Times. December 5th. 2021: https://www.nytimes.com/2021/12/05/world/europe/virus-europe-omicron-variant-restrictions.html

Target Demographic: https://arcadauas-my.sharepoint.com/:w:/g/personal/calvolop_arcada_fi/ESP5JVDNN6NBhp9njVItRbUBpFjo5mkf3QNY-KW2exSF5g?e=Eoluhe

Tontachi: https://urbanelectronicgames.com/tontachi/

Trang. H. 2018. Documenting and Validating the Business Model of a Startup. Case Consolite. LAMK: https://www.theseus.fi/bitstream/handle/10024/149755/Nguyen_Trang.pdf?sequence=2&isAllowed=y

NAAVIK. Unity - Analysing the First Game Engine IPO. 2020: https://naavik.co/business-breakdowns/unity-analysing-the-first-game-engine-ipo

Unity: https://unity.com/our-company

Vrumble: https://www.vrumble.io/mint

What is blockchain technology? IBM. 2021: https://www.ibm.com/topics/what-is-blockchain

Wheelen. T and Hunger. D. Strategic Management and Business Policy. Pearson. 2011

Wigglesworth. R Martin. K and Steer. G. The Fomo rally: 'fear of missing out' helps fuel soaring markets. Financial Times. November 12th: https://www.ft.com/content/637b2a59-f64d-46b6-a8a8-0072e3a936d2

Young. J. 2021. NFT Market Rages On: NFTs Market Cap Grow 1,785% In 2021 As Demand Explodes. Forbes. 29th of March: *https://www.forbes.com/sites/youngjoseph/2021/03/29/nft-market-rages-on-nfts-market-cap-grow-1785-in-2021-as-demand-explodes/?sh=579c1c6e7fdc*

Z. Yang. Can NFTs happen in a crypto-less China? Amazingly, yes. Protocol. September 24th: https://www.protocol.com/china/china-nft-crypto-workarounds

Zhong. R and Lee.S. Taiwan, Trade, Tech and More: A Tense Era in U.S.-China Ties. The New York Times. 2021: https://www.nytimes.com/article/us-china-tensions-explained.html