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RESOURCES AS SUCCESS FACTORS OF UNICORN STARTUPS: A CROSS-COUNTRY COMPARATIVE ANALYSIS BETWEEN THE UNITED STATES AND CHINA

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A B S T R A C T

Purpose – Unicorns, or privately held companies valued at over $1 billion, have gained significant attention in recent years due to their potential for high growth and disruptive impact on various industries. This research aims to understand how social, human and financial resources contribute to the success of unicorn startups in general and specifically between the two most producing unicorn countries: the United States and China.

Design/methodology/approach – Relying on the Resource-Based View (RBV), we conduct the analysis of 1665 unicorns located in the United States and China collected from Dealroom database to determine which resources (i.e., financial, human and/or social) represent success factors of unicorn startups.

Findings – Our results show that different entrepreneurial resources act as antecedents of success of unicorn startups in the United States and China. While financial resources are identified to be the most important for unicorns in China, the success of the U.S. unicorns is built upon the interconnectedness of financial, human and social resources.

Originality – This study contributes to embryonic entrepreneurship research focused specifically on the evolution of unicorn startups. To the best of our knowledge, this is the first study that looks into differences in success factors across two countries that produce most of the global unicorns – the United States and China. In our study we investigate the role of different resources as success factors for unicorn startups across these two countries.

1. INTRODUCTION

Research suggests that for a company to sustain a competitive advantage it should maintain a set of resources with specific properties (Barney, 1991). These resources should be Valuable, Rare, Costly to imitate and Organized to capture value. These properties constitute a VRIO framework and are derived from the classic Resource Based View (RBV) approach. RBV views companies' operation through the lens of these resources. It further elaborates that these resources are immobile, meaning they do not move from company to company and heterogenous, meaning that these capabilities differ from company to company (Mahoney & Pandian, 1992). Since its inception in 1991 the RBV approach gained a lot of popularity in the research and in the recent years there have been multiple studies that were aimed at applying RBV to a modern startup world (Zahra, 2021). However, there has not been comprehensive data-driven research that bridges the gap between RBV, unicorn formation and unicorn success factors.

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In our research we rely on the theory of RBV to determine social, financial, and human resources represent the factors that lead to success of 1665 unicorns from the United States and China—the two countries that produce most of the global unicorns—based on the data available from the Dealroom database. We define success as the maximum valuation reached by a unicorn company. Financial resources include the total amount of funding, human resources include the number of job openings which is correlated with the size of the overall talent pool (Davidsson & Henrekson, 2002), social resources include the number of investors (Hallen et al., 2014), which is correlated with the overall access to a startup's network.

RBV can help analyze the success factors for unicorn formation by examining startup resources and capabilities in detail. For example, a firm with strong social resources may have a large network of contacts and partners, which can help it secure funding and access to new markets. A firm with strong financial resources may be able to invest in research and development, product development, and marketing campaigns that can help it gain a competitive advantage. A firm with strong human resources may have a highly skilled and experienced team of managers and employees who can innovate, develop new products, and adapt to changing market conditions (Ahn et al., 2022).

Our research is built on the previous studies that argue that the unique combination of founders' background, strategic alliances and access to financial resources builds a foundation for unicorn formation (Jinzhi & Carrick, 2019). It was also previously established that there is a connection between founders' human capital and the performance of technological companies (Hemmert et al., 2022). The goal of our research was to dive deeper into social, financial and human factors on a large scale data set of publicly available data and bridge the gap between the theoretical foundation of RBV and its implications for a successful unicorn formation by investigating success criteria measured in terms of the valuation by using social, financial and human resources. Our research additionally contributes to most recent studies that demonstrate differences in funding attained by the U.S. and Chinese based companies as well as their time to attain unicorn status (Kotha et al., 2022). We further explore this idea and analyze social, human and financial factors in our cross-country perspective. Our study includes data analyses of the independent variables across these groups to offer insights into unicorns valuation. Our study builds on the results of the two most recent study of unicorns (Kotha et al., 2022; Lehmann et al, 2019) and introduces new results with respect to social, human and financial resources in the U.S. and China.

This article proceeds as follows. We first cover a theoretical background of RBV followed by its applications towards unicorn formation. We then provide an overview on the quantitative approach for success factor analysis followed by our framework on social, financial, and human resources with regards to the success of a unicorn enterprise. Finally, we discuss managerial and theoretical contribution followed by discussion and potential for the future research.

2. THEORETICAL BACKGROUND: RESOURCE BASED VIEW IN A UNICORN FORMATION

The Resource Based View (RBV) is a popular framework for analyzing a company's internal resources and capabilities in order to understand its potential for sustained competitive advantage. This framework has been widely used in the fields of entrepreneurship and strategic management.

In the context of a startup, the RBV can be used to identify and leverage the unique resources and capabilities that the company possesses in order to gain a competitive edge in the market. This can include things like intellectual property, proprietary technology, brand reputation, and the skills and expertise of the founding team (Alsos & Carter, 2003). In our research we will specifically focus on the financial, social and human resources in the context of RBV.

One key aspect of the RBV is the idea of resource heterogeneity, meaning that different companies possess different resources and capabilities that are unique to this specific organization (Grant, 1991). For startups, this can be especially relevant, as new, and emerging companies often have unique resources and capabilities that can give them an advantage over established players in the market (Alhusaini et al., 2022; Brown & Wiles, 2020).

One example of a startup leveraging a unique resource is a company developing a new technology in a specific field. They may leverage its proprietary technology to gain a competitive advantage over existing companies in the market by creating new revenue streams, or by reducing costs. By having the technology that others don't, this company can stand out (Burvill et al., 2018).

Another example is a startup that has a unique business model or distribution channel that sets it apart from competitors. This can be used as a key resource to gain a competitive edge, by reaching customers in a way that traditional players in the market are not able to (Kelliher & Reinl, 2009). It is also important to consider the sustainability of the resources. A startup needs to invest in resources that will be hard to imitate or substitute by competitors. Among those resources are a strong company culture, a powerful brand reputation, or a loyal customer base (Newbert, 2007).

As a part of RBV there is a VRIN framework, which stands for Valuable, Rare, Inimitable, and Non-substitutable later transformed to VRIO, adding Organization. It's a complementary framework to the Resource Based View, that aims to identify a company's resources and capabilities that can provide a sustained competitive advantage (Barney, 1991). Valuable refers to how a resource or capability helps the company create value for its customers and shareholders. Rarity means how difficult it is for competitors to acquire or imitate the

resource or capability. Inimitability refers to how hard it is for competitors to imitate or substitute the resource or capability. And Organization means how well the company can exploit and manage the resource or capability.

A resource or capability that is valuable, rare, inimitable, and well-organized is considered to be a "core competence" that can provide a sustained competitive advantage. A company's core competencies are the foundation of its strategy and can be used to create a competitive advantage (Teece, 2010).

Applying the VRIO framework can help a company to identify its core competencies, and to focus its resources on those areas that are most likely to provide a sustained competitive advantage (Barney, 1991). This is a valuable tool for companies, especially start-ups, to understand their potential for sustained competitive advantage and to make strategic decision.

RBV and VRIO both provide a useful framework for startups to analyze their internal resources and capabilities in order to understand their potential for sustained competitive advantage (Grant, 1991). By identifying and leveraging unique resources, startups can gain a competitive edge and position themselves for long-term success in the market (Baum & Locke, 2004). In this study we apply the ideas from the RBV and analyze which social, human and financial resources act as the success factors of a unicorn startup.

Several studies have examined the role of financial resources in the formation of unicorn startups (Baum & Korn, 1997). One key finding is that unicorn startups are more likely to have received venture capital funding. Venture capital firms provide not only financial support, but also expertise and mentorship to startups, which can be critical to their success. Additionally, unicorn startups are more likely to have undergone an initial public offering (IPO), which can provide a significant infusion of capital. Other studies have found that the amount of funding raised by unicorn startups is positively correlated with their valuation (Burvill et al., 2018). This suggests that access to larger amounts of financial resources may enable startups to achieve higher valuations.

Regarding human resources, previous research shows that unicorn startups are more likely to have experienced founders and management teams (Jinzhi & Carrick, 2019). Founders with advanced degrees and previous entrepreneurial experience may be more likely to lead successful ventures, and to attract and retain top talent. Studies have found that the size and diversity of the team may also be important factors in unicorn startup success (Wise et al., 2022). Startups with larger teams may be better equipped to handle the demands of rapid growth, and diverse teams may bring a wider range of perspectives and expertise to the table.

In the literature Smeltzer et al. (1991) and Sharchilev et al. (2008) are two studies that have categorized human and social resources in different ways. Smeltzer et al. (1991) identified four categories of human resources that can contribute to a firm's competitive advantage: skills and abilities of individual employees, the firm's collective knowledge and experience, the firm's ability to attract and retain talent and the firm's ability to motivate and develop its employees. Sharchilev et al. (2018) also identified four categories of human resources but from a different angle: managerial resources, which includes the skills and experience of the firm's management team; intellectual resources, which includes the firm's intellectual property, patents, and other forms of knowledge; human resources, which includes the skills, knowledge, and experience of the firm's employees; cultural resources, which includes the firm's organizational culture, values, and norms.

In terms of social resources, Smeltzer et al. (1991) identified three categories: relationships with suppliers, customers, and other stakeholders, the firm's reputation and brand image, the firm's access to information and knowledge networks. On the other hand, Sharchilev et al. identified three categories: external networks, which includes the firm's relationships with suppliers, customers, and other external stakeholders, market orientation, which includes the firm's understanding of customer needs and preferences and reputation, which includes the firm's brand image and reputation in the market. Other studies have also examined the role of social resources in the formation of unicorn startups. One key finding is that unicorn startups are more likely to have strong networks of investors, including venture capital firms and angel investors (Sharchilev et al., 2018**).** These investors can provide not only financial support, but also expertise and mentorship, which can be critical to the success of startups. Additionally, unicorn startups are more likely to have connections to accelerators, which can provide access to valuable resources such as mentorship, networking opportunities, and office space (Baum et al., 2000).

3. METHODOLOGY

3.1 Resource Classification

In our research we introduce a comprehensive framework for a startup success criteria based on financial, social, and human resources for a successful unicorn company. We used the data available from the Dealroom database on 2584 unicorn companies around the world. Dealroom is data management company that provides data and analytics on startups and venture capital allocation around the world (Dealroom, 2023).

3.2 Data Collection

Most of the companies in the Dealroom database turned out to be from the United States (1341 companies) and China (324). This data is highly correlated with the total amount of venture funding raised by the U.S. based unicorns ($500 bln) which is greater than all other countries combined followed by China at $222 billion. We then analyzed the startups in the U.S. and China with the aim to determine what resources matter the most in these two countries that produce the greatest number of global unicorns (1665 in total).

Our final sample includes unicorns from a variety of industries, such as fintech, education, gaming and biotech among others. The city that produced the largest number of the U.S. unicorns is San Francisco (268 companies) followed by New York City (169), while in China it was Beijing (120) and Shanghai (69). Most of the unicorns in China (189 out of 228) are coming from these two cities, while in the U.S. it is more spread out. Top 10 U.S. unicorn producing cities give slightly more than a half of all the U.S. based unicorns in our sample (683 out of 1123). The most successful companies by valuation in our sample are Rivian, Airbnb, DataDog, DocuSign, Instacart among others in the U.S. as well as NIO, Bilibili, Ximalaya in China.

3.3 Data Analysis

In this study we ran a regression analysis on the data set of 1665 startups across the U.S. and China to determine the influence of financial, human and social resources on their success. We conducted data processing of normalizing dependent and independent variables by subtracting the mean and dividing by the standard deviation.

As success metrics (i.e., dependent variable) in our study we use a company valuation, while independent variables represent social resources (measured as the number of investors who invested in the company), human resources (measured as available job openings in the company) and financial resources (measured as the total amount of funding invested in the company). In our methodology we classified human resources as the number of job openings which serves as a proxy to the size of the company and the number of investors as a social resource.

Table 1. Descriptive statistics

	Min	Max	Mean	Median	St.Dev
The United States					
Company valuation	$1 000 000 000	$14 760 000 000	$3 430 836 491	$2 293 181 818	$2 868 369 211
Number of investors	0	5	4.59	5	1.08
Number of job openings	0	678	21.27	6	47.35
Total funding	$0	$5 363 636 363	$347 141 962	$244 999 999	$435 967 178
China					
Company valuation	$1 000 000 000	$13 906 000 000	$4 108 390 124	$2 840 700 000	$3 334 015 797
Number of investors	0	5	4.37	5	1.18
Number of job openings	0	499	2.58	0	33
Total funding	$0	$5 759 090 909	$574 843 584	$359 715 909	$727 721 764

The descriptive statistics of our final data set is presented in Table 1.

4. RESULTS

Even though the United States are the most unicorn producing country, China appears as a fruitful context for new venture growth and scale-up. In this section we dive deeper into resource-based antecedents of unicorn success in these two countries. Success is defined as the maximum valuation attained by a unicorn company.

4.1. Role of financial resources for the unicorn success in the U.S and China

One key aspect of unicorn startups is the role of financial resources in their formation. Financial resources, including capital, credit, and investment, are critical for startups to fund their operations, scale their businesses, and pursue growth opportunities. Without sufficient financial resources, startups may struggle to survive and thrive.

Table 2 shows min and max distribution for the total funding raised by the U.S. and Chinese based startups. We can see that the Chinese unicorns raise more funding than their U.S. based counterparts Mean ($574 843 584 vs $347 141 962) and Median ($359 715 909 vs $244 999 999). This is a really critical insight that shows how Chinese companies are utilizing their access to the investors in their location.

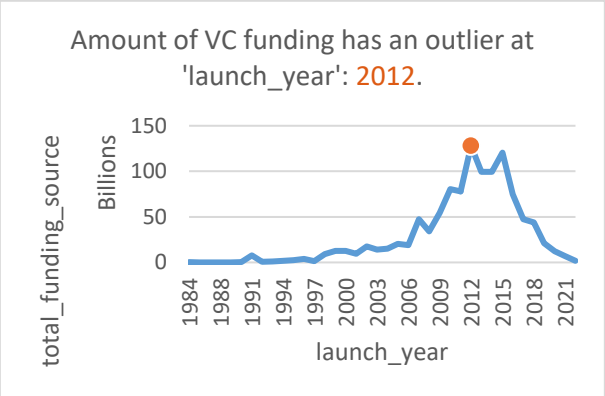

Figure 1. VC funding by the launch year

Indeed, the amount of funding is the most critical success factor for startups in China regardless of social and human resources. Unlike in the U.S. where

companies raise less than in China but yet utilize other resources as our subsequent analysis shows.

Table 2. Top unicorn producing cities in the U.S. and China

United States	Boston	35
	Cambridge	33
	Chicago	29
	Mountain View	26
	New York City	169
	Palo Alto	47
	Redwood City	25
	San Francisco	268
	San Mateo	26
	Seattle	25
China	Beijing	120
	Chongqing	3
	Guangzhou	12
	Hangzhou	22
	Nanjing	9
	Shanghai	69
	Shenzhen	24
	Suzhou Shi	5
	Wuhan	6
	Zhuhai	3

Another variable to consider here is timing. The amount of VC funding depends on the launch year (Da Rin et al., 2006). It was clearly the case that during COVID-19 pandemic the amount of VC funding increased; therefore overwhelming the market of IPOs and acquisition. In our analysis we determined a few outliers in terms of the launch year between 2012 and 2015. Figure 1 in the Appendix shows these outlier years. Startups launched at that time received the most funding.

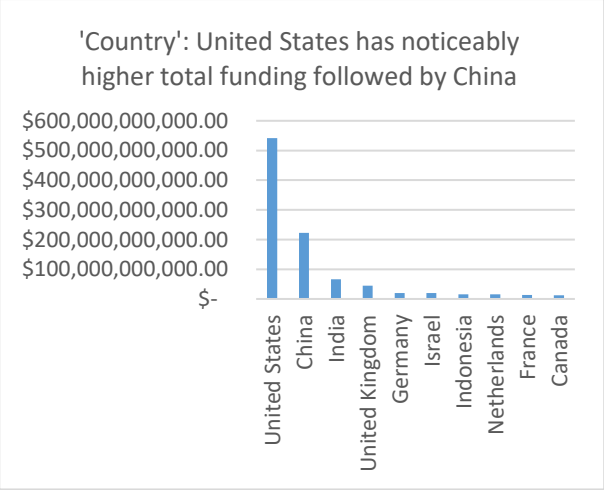

Figure 2. Funding by Country

Further research might be needed to understand the exact reasons for these outliers but the timing also determines success of a startup. In terms of valuation we also see an outlier. This is time it is 2021 where the explanation is more evident in the literature in terms of the record low interest rates and the availability of funding in the startup market (Hura et al, 2022).

Figure 3 in the Appendix depicts a massive increase in valuation in 2021.

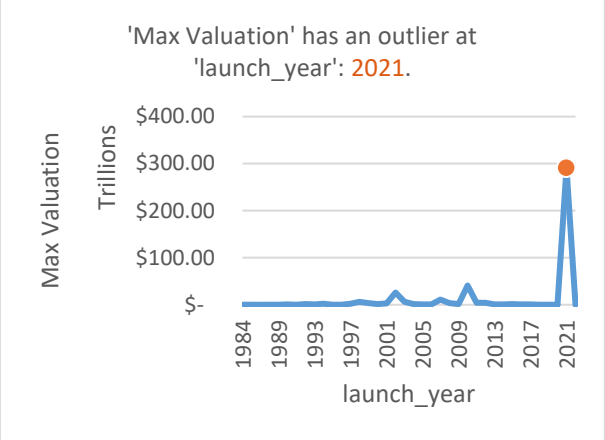

Figure 3. Max valuation by launch year

Another factor that determines startup funding and valuation is startup location. Based on the data startups from the United States receive significantly higher amounts of funding followed by China. Figure 2 in the Appendix shows this distribution. Traditionally the U.S. is the leader in the startup funding (Manigart & Sapienza, 2017) but, as our analysis shows, we can see the emerging economies such as China are also catching up in terms of the funding for their respective startups.

Overall, financial resources appear to be a critical factor in the unicorn formation, confirming the insights from previous research (Kenney & Zysman, 2019). Startups that can access financial resources, particularly venture capital and IPO funding is more likely to achieve higher valuation.

Based on our cross-country analysis between the U.S. and China, unicorns in China rely on the financial resources the most, while in the U.S. total funding as a financial resource is one of the factors among others. See Tables 3 and 4 that demonstrate the result of our statistical analysis and the associated p-values.

4.2. Role of human resources for the unicorn success in the U.S and China

One key aspect of unicorn startups is the role of human resources in their formation. Human resources, including employees, advisors, mentors and employees can be critical for startups to develop and execute their business plans, and to achieve growth and success.

In our cross-country analysis between China and the U.S. we gather data on job openings which correlates with the employee pool of the company. This variable turned out to be insignificant in China (p-value = 0.67) as opposed to be important in the U.S. (p-value ≈ 0).

Table 3. Various success factors for unicorn formation in the U.S.

Linear Regression										
Dependent variable		valuation								
Independent variables		number of investors, total_funding, job_openings								
N		1122								
Regression Statistics										
R		0.3346	***R-Squared***		**0.1120**	*Adjusted R-Squared*		0.1096		
MSE		0.8354	***S***		**0.9140**	*MAPE*		168.7705		
Durbin-Watson (DW)		0.2124	*Log likelihood*		-1,489.1222					
Akaike inf. criterion (AIC)		2.6615	*AICc*		2.6616					
Schwarz criterion (BIC)		2.6794	*Hannan-Quinn criterion (HQ*		2.6683					
PRESS		955.6100	*PRESS RMSE*		0.9229	*Predicted R-Squared*		0.0913		

valuation = - 0.0232 - 0.1101 * number of investors + 0.2964 * total_funding + 0.1575 * job_openings

ANOVA										
	d.f.	*SS*	*MS*	*F*	*p-value*					
Regression	3.	117.7416	39.2472	46.9827	0.0000					
Residual	1,118.	933.9266	0.8354							
Total	1,121.	1,051.6682								
	Coefficients	*Std Err*	*LCL*	*UCL*	*t Stat*	*p-value*	*H0 (5%)*	*VIF*	*TOL*	*Beta*
Intercept	-0.0232	0.0275	-0.0772	0.0308	-0.8447	0.3985	*Accepted*			
number of investors	-0.1101	0.0284	-0.1658	-0.0543	-3.8733	0.0001	*Rejected*	1.0463	0.9558	-0.1117
total_funding	0.2964	0.0327	0.2322	0.3606	9.0600	0.0000	*Rejected*	1.0745	0.9307	0.2647
job_openings	0.1575	0.0268	0.1049	0.2100	5.8808	5.3878E-9	*Rejected*	1.0277	0.9730	0.1680
T (5%)	1.9621									
LCL - Lower limit of the 95% confidence interval										
UCL - Upper limit of the 95% confidence interval										

Table 4. Various success factors for unicorn formation in China

Linear Regression										
Dependent variable		valuation								
Independent variables		job_openings, total_funding, number of investors								
N		227								
Regression Statistics										
R		0.3111	***R-Squared***		**0.0968**	*Adjusted R-Squared*		0.0847		
MSE		1.1602	***S***		**1.0771**	*MAPE*		142.5687		
Durbin-Watson (DW)		0.1710	*Log likelihood*		-336.9438					
Akaike inf. criterion (AIC)		3.0039	*AICc*		3.0044					
Schwarz criterion (BIC)		3.0643	*Hannan-Quinn criterion (HQ*		3.0283					
PRESS		371.7140	*PRESS RMSE*		1.2797	*Predicted R-Squared*		-0.2977		

valuation = 0.0633 - 0.0417 * job_openings + 0.2439 * total_funding - 0.1338 * number of investors

ANOVA										
	d.f.	*SS*	*MS*	*F*	*p-value*					
Regression	3.	27.7300	9.2433	7.9672	4.5403E-5					
Residual	223.	258.7186	1.1602							
Total	226.	286.4486								
	Coefficients	*Std Err*	*LCL*	*UCL*	*t Stat*	*p-value*	*H0 (5%)*	*VIF*	*TOL*	*Beta*
Intercept	0.0633	0.0819	-0.0981	0.2247	0.7730	0.4403	*Accepted*			
job_openings	-0.0417	0.0988	-0.2363	0.1529	-0.4221	0.6734	*Accepted*	1.0054	0.9947	-0.0269
total_funding	0.2439	0.0512	0.1430	0.3448	4.7631	3.4339E-6	*Rejected*	1.0644	0.9395	0.3127
number of investors	-0.1338	0.0691	-0.2699	0.0023	-1.9376	0.0539	*Accepted*	1.0636	0.9402	-0.1272
T (5%)	1.9707									
LCL - Lower limit of the 95% confidence interval										
UCL - Upper limit of the 95% confidence interval										

It appears that in the U.S it is hard to recruiter a technical talent for startups (Andersen et al., 2022) causing these human resources to be a major variable together with other resources such as financial.

4.3. Role of social resources for the unicorn success in the U.S and China

Social resources, including networks of investors, connections to accelerators, and position in leading ecosystems, can be critical for startups to access capital, expertise, and support. For our analysis we selected the number of investors as a social resource. In our analysis the number of investors serves as a proxy for social resources. Using the access to investors as mentors and advisors startups are able to scale, attract more customers and partners (Baum et al., 2000).

In our research we determined top 10 unicorn producing cities in the U.S. Based on our review 5 out 10 cities are located in the Silicon Valley region in California. The position of startups within leading ecosystems seems to be an important factor in unicorn startup success. Leading ecosystems tend to have a favorable environment for startups, including access to capital, talent, and supportive regulations. In total top 10 U.S. based cities produced a record number of 683 unicorns or 27% of our entire pool of 2500 unicorn startups. Table 1 in the Appendix shows this distribution. This can be attributed to the extensive network opportunities in these locations including access to talent, investors, and social ties within these ecosystems (Noelia & Rosalia, 2020). In our cross-country analysis we identified that social resources are not significant in China (p-value = 0.0539), while in the U.S. it appears to be significant (p-value = 0.0001). We argue that the startups in the U.S. can attract more expertise as advisors and mentors, while in China this market for startup expertise is still developing.

Overall, the role of social resources in the formation of unicorn startups appears to be significant in the U.S. but not in China where just the funding remains the main success criteria. Startups that are able to build strong networks of investors, connections to accelerators, and position themselves within leading ecosystems may be more likely to achieve higher valuation. Further research is needed to better understand the complex relationship between social resources and unicorn startup success.

5. DISCUSSION

5.1. Theoretical contribution

The Resource-Based View (RBV) of the firm provides a useful framework for analyzing the competitive advantage of a startup and its potential for growth. The RBV asserts that a company's unique resources and capabilities, such as its technology, brand reputation, and business model, determine its competitiveness and ability to create value. In the context of unicorn startup development, the RBV helps us to identify the resources that act as key success factors that may inform startups' strategies for leveraging these assets to achieve long-term success defined in our study as a unicorn status.

Among those resources are the experience of founders whether they founded a successful company before, the number and the quality of the investors, the amount of funding raised as well as the last round and the industry where a company operates. Human factors provide a foundation in terms of the quality of the startup's leadership, the expertise and skills of its employees, and its organizational culture are critical factors in its success. A strong organizational culture can promote innovation, employee engagement, and customer satisfaction. Our research shows that serial entrepreneurs raise 17 times more funding compared to the first-time founders which in turn translates in the higher valuation. Finally, location of the company also plays a significant role in obtaining venture capital funding and accessing resources that are needed for developing product-market fit.

While those homogeneous factors are important it is also necessary to acknowledge some external factors for startup's success such as company's location. As we mentioned, the total amount of venture funding, which is a very important success factor, is greater in the U.S. than all the other countries combined. Since some of the independent variables will be correlated with the geographical location it is important for founders and venture capitalists to be aware of their environment and possible opportunities and limitations of their market. On the other hand, we see a growing number of unicorn companies in the developing markets such as China.

Our research adds to the previous analysis (Kotha et al., 2022; Lehmann et al., 2019) by adding a unique resource-based perspective across social, human and financial resources of extended sample of unicorns across the U.S. and China. Previous research was mostly focused on the total funding raised by the U.S. and Chinese based companies, which was also confirmed in our analysis as well. We added social and human resources to demonstrate the difference between these two countries in terms of what resources matter the most. As it turned out, the combination of all three groups of resources matter in the U.S., while in China the focus is mainly of the financial resources.

The consideration of these success factors provides a comprehensive and integrated approach to the development of a unicorn startup. By balancing social, financial, and human resources, the startup can build a competitive advantage, achieve sustainable growth, and ultimately reach a higher valuation.

5.2. Practical implications

We argue that our findings are applicable not just to unicorn companies but to any aspiring venture since the RBV framework is a universal tool for succeeding in the market competition. Companies should be able to prioritize social, financial, and human resources that we identified as they key success factors in the unicorn formation. In the U.S. all three groups of resources play a critical role, while in China startups mostly rely on the financial resources from the resource-based perspective.

Therefore, venture capitalist and startup founders can decide where to put an emphasize in terms of the resource allocation. Startups from the U.S. should focus on all three groups of resources attracting funding, expanding their network of investors and keeping competitive talent pool while companies in China should maintain their key advantage of utilizing financial resources.

Financial factors, such as access to capital, budgeting, and risk management, are critical for ensuring the financial stability and growth of the startup. The insights from our study can be used to guide financial planning, inform investment decisions, and assess the company's financial position.

The importance of human factors, such as leadership quality, employee expertise and skills, and organizational culture, cannot be overstated. The framework can be used to inform human resource management decisions, such as recruitment, training, and employee engagement strategies, and to ensure that the startup has the talent and resources it needs to succeed. This is especially relevant for the U.S. based companies as discussed in our analysis.

Finally, social factors, including networks of investors, connections to accelerators, and position in leading ecosystems, can also be of critical importance for startups to access capital, expertise, and support. Perhaps as access to accelerator programs and mentorship evolves in China, this factor can play a critical role over there as well as it currently does in the U.S.

In conclusion, the combination of the RBV and social, financial, and human factors provides a robust framework for the development of a successful unicorn startup. By taking a comprehensive approach that considers both internal resources and capabilities, as well as the external environment, startups can increase their chances of success and achieve long-term growth in their respective geographical location.

5.3. Limitations and future research

While our results provide a comprehensive overview of resources that act as key factors for developing a successful unicorn startup, there are limitations to this perspective that should be considered.

The framework may not be generalizable to all startups or all industries, as the specific resources and capabilities, social, financial, and human factors that contribute to success can vary depending on the industry and business context.

Our framework involves complex interactions. The relationship between the RBV, social, financial, and human factors is complex, and it is not always clear how these factors interact and influence one another. Further research is needed to better understand these interactions and to develop a more nuanced understanding of the factors that contribute to startup success.

RBV and the integration of social, financial, and human factors is a relatively new area of research, and there is room for continued theoretical development. This could include incorporating other theories and perspectives, such as network theory or the dynamic capabilities perspective, to provide a more complete and nuanced understanding of startup success.

While our study focused on the companies in the U.S. and China, it might be beneficial to compare across other up and coming startup ecosystems such as India. Including other locations can help researchers to draw more insight from the unicorn formation in these countries.

Finally, while our framework provides a useful starting point for understanding the development of unicorn startups, further research is needed to test its validity, to understand its limitations, and to inform the development of more comprehensive and nuanced approaches.

6. CONCLUSION

Our study is based on a comprehensive framework that combines the Resource-Based View (RBV) of the firm with the consideration of social, financial, and human factors, to provide a robust approach for analyzing the competitive advantage of a startup and its potential for growth in the U.S. and China. The RBV highlights the importance of a firm's unique resources and capabilities, while considering social, financial, and human resources allows for a more well-rounded assessment of a company's strengths and weaknesses. By combining these two perspectives, firms can make informed decisions about how to allocate resources and prioritize investments to maintain and enhance their competitive advantage. This framework provides several managerial applications that can be used to support the development of a unicorn startup, including resource assessment, market analysis, financial planning, and human resource management. In our research we identified that only financial resources play a critical role in the unicorn formation in China, while all groups of resources including financial, social and human play a critical role in the U.S. However, it is important to note that our framework has limitations, including limited generalizability, a lack of empirical evidence, complex interactions between factors, and room for theoretical development. Further research is needed to better understand the impact of this framework on the development of unicorn startups across multiple locations.

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