

Vining in the Blind: The Perils of Survivorship Bias

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Abstract: Survivorship bias frequently engenders an inclination to disproportionately concentrate on instances of achievement while inadvertently disregarding the less conspicuous instances of failure; within the realm of new enterprises, where aspirations for achievement permeate, this cognitive bias can engender excessive self-assurance and disregard for the genuine obstacles at hand. This article examines the prevalence of survivorship bias in the context of startups when most newly established enterprises experience failure. It also underscores the significance of mitigating survivorship bias by drawing upon historical and present business illustrations. This study delves into the narrative of Vine, a social media platform that, despite its initial potential, fell short of attaining the level of success achieved by its counterparts. This case study highlights the importance of examining successful and unsuccessful initiatives to develop a comprehensive grasp of the obstacles and possibilities within the realm of entrepreneurship. Moreover, survivorship bias has implications that extend beyond the realm of startups and can significantly impact decision-making processes inside financial institutions. This is particularly evident in evaluating investment groups, where performance assessments sometimes exclusively consider the entities that have managed to survive. Consequently, this approach has the potential to introduce a bias that may lead to an excessively optimistic interpretation of the data. This paper proposes the adoption of a complete methodology that considers both successful and unsuccessful cases in order to enhance decision-making in the field of entrepreneurship, thereby mitigating the potential biases associated with survivorship bias.

Keywords: Survivorship bias, Startups, Historical, Business illustrations, Decision-making methodology

1. Introduction

Survivorship prejudice, alternatively referred to as survival bias, denotes a cognitive fallacy when attention is disproportionately directed towards individuals or items that have successfully endured a selection process, while disregarding those that have not, primarily due to their limited visibility. According to current estimates, the number of newly established enterprises in 2022 amounted to 5.0 million, reflecting a substantial 42% surge compared to the levels observed prior to the onset of the pandemic [1]. Despite concerns about a recession and uncertainties in the labor market, a significant number of Americans maintain the belief that the current conditions are favorable for initiating a business venture. It is plain to see that an increasing number of individuals are interested in the

possibility of beginning their own company. The ability to launch a new business and see it through to profitability lends a person additional prestige. In spite of this, there are a great many more considerations that must be made before a new business can be established with any degree of success in the sector. For this reason, Survivorship bias manifests itself in a particularly noticeable manner in the world of startups. According to the research, around ninety percent of new businesses fail [2]. For today's business owners, one of the most difficult challenges they face is recognizing and overcoming the need to avoid survivorship bias.

2. Literature Review

It is reasonable to deduce that starting a company is a very effective technique for gaining success, as seen by renowned and successful startups such as Google, Facebook, and Amazon. These companies all got their starts as individuals. In spite of this, it is essential to note that failure and unfulfilled potential are experienced by a sizeable percentage of new businesses in their early stages. Those plagued with survival bias may have a propensity to exaggerate the possibility of obtaining success, while simultaneously underestimating the inherent risks and difficulties associated with starting and running a business entity. This prejudice can be detrimental to entrepreneurs. In addition, this tendency may persuade investors to prioritize their attention on well-established and prosperous businesses, rather than on start-ups and new businesses, which may expose them to a greater risk of potential dangers and difficulties. Although the phenomenon of survival bias does not have a significant amount of explanatory power in the context of failure, it does influence our explanations about the success of certain organizations compared to others. This is because survival bias has an influence on our explanations about the success of certain companies.

There is a historical example from World War II that can best demonstrate why avoiding survivor bias can be such an important thing for individuals to undertake. During World War II, researchers proposed the addition of enhanced defensive armor in their proposal. However, there was a maximum quantity of armor that could be added to an aircraft without exceeding its maximum weight capacity and rendering it incapable of flight. Certain sections of the aircraft were chosen for fortification, whereas others were left unarmored on purpose. Researchers analyzed the distribution of gunshot holes on all aircraft upon their return by analyzing the bullet hole distribution. It was determined that the wings and fuselage contained more bullet wounds per unit of surface area than the engine and fuel system. It was indicated that the incorporation of armor in these particular regions would be suitable. The average for the entire fleet revealed that these regions had the maximum concentration of bullet impacts. It follows logically that armor should be adhered to these particular areas. Abraham Wald, a mathematician, held a dissenting viewpoint. He recommended installing armor in locations with few or no bullet holes. The bullet wounds observed on aircraft that successfully returned to base did not contribute to their destruction. Wald proposed an alternate rationale, suggesting that the absence of damage in certain regions of the returned aircraft indicated that these regions were where the less fortunate aircraft had sustained fire damage. This insightful revelation altered the military's approach to aircraft armor significantly, resulting in the unquestionable saving of numerous lives. This oversight led to the loss of lives [3]. The significance of the survivorship bias first came to the attention of the general public once it was demonstrated with the inaugural case. The matter of what caused this to occur and how it may be resolved began to receive increased focus from industry professionals. In today's world, an increasing number of situations show out to imply survivorship bias.

2.1. Survivorship Bias for Startups

Nowadays, there are also many startup businesses that have failed, and many inspirational slogans on websites, such as “Follow your dream, follow your heart, follow what you love.” More and more people are inspired by those sentences and start to do something special to chase their dreams. One example that can best be the negative example of survivorship bias is the startup called Vine. Vine is a social media company that started in 2012 and closed in 2017. The social networking platform Vine allowed users to publish and share videos with a duration of 6 seconds [4]. In certain aspects, it has a resemblance to TikTok. In order to provide a contextual framework, it may be observed that Twitter's impact on the digital landscape parallels the endeavor of Vine to disrupt conventional blogging in a manner akin to YouTube's influence on video blogging. Twitter positions itself as a microblogging social media network, emphasizing its concise nature and incorporation of social media aspects. Similar to Vine, which imposed a restriction on video duration and incorporated analogous social features, Vine can be classified as a microblogging platform. Initially, similar to Instagram's focus on photo sharing, Vine was designed with the intention of being utilized as a video editing platform. Twitter was initially launched in the year 2006 [5]. People are able to stay in touch with one another, establish new acquaintances, and organize upcoming activities efficiently and effectively thanks to this wonderful place. In the same period of time when Vine was being developed, Facebook emerged as another essential capability for the company. The team ultimately came to the conclusion that it would be beneficial to the application to include a social component after doing preliminary testing with a sample group that consisted of friends and family members. Facebook made its first public offering of shares on May 18, 2012, to the general public. According to the research, the well-known social networking firm had one of the most momentous and highly anticipated first public offerings in the annals of recorded history. Nearly one-third of the world's population is now connected over Facebook [6].

After looking at the success of both Facebook and Twitter, Vine came out as the newest short video platform. Vine is a similar kind of social media website that has shorter looping video clips. However, Vine did not do it successfully for multiple reasons. The discontinuation of Vine can be attributed to its failure to adequately support its content creators, which can be attributed to various factors, including intense rivalry, limited opportunities for monetization and advertising, frequent turnover of people, and challenges faced by its parent company, Twitter. In the end, Vine did not reach the level that it wanted to be in 2016 and failed [7]. There are so many other social media company want to become the next Twitter, Facebook, and Instagram but fail in the end. According to Prateek Saxena, “many other businesses started taking this as an opportunity to make social media startups to enable and grow online communities, making people meet and interact online, on a real-time basis; many of such websites were successful, however, 90% of them failed” [8]. It is not possible to keep people away from risk when chasing their dreams. Risk is also vital for the society to keep moving forward. However, it is hard for people to recognize those factors and methods to help people avoid some of the survivorship bias.

2.2. Survivorship Bias for Investment Groups

Individuals evaluate the performance outcomes of investment groups, such as mutual funds, only based on the data pertaining to surviving entities at the completion of a specific time period, which is an example of the phenomenon known as "survivorship bias." This bias can also arise in financial institutions. This method does not take into account any funds or organizations that have since become defunct. Due to the poor performance of mutual funds, it is common practice to ignore their presence in research. As a result, this practice has the potential to introduce bias into the data, which could lead to an overly optimistic interpretation. The evolutionary path taken by the hedge fund

industry has resulted in a number of unavoidable outcomes, one of which is survivor bias. When a subset of hedge funds is investigated, namely those that are still operating at the end of the sample period, the phenomena are observed. Those hedge funds whose operations were halted within the timeframe of the study are omitted from the investigation [9].

Furthermore, in the context of an unstable economic climate, the existence of survivorship bias has the potential to skew the evaluation of the relative performance of fund managers, as well as the following comparisons made with their contemporaries. This can result in a distortion of the data. The impending withdrawal of underperforming funds by asset managers has the potential to skew the overall performance representation of a peer group as a result of the continued participation of the other participants. This is because of the presence of the withdrawing funds. As a result, it is not recommended to base investment decisions solely on this criterion because the dataset may provide an unduly favorable representation of the situation. However, it is possible that this is the case.

When we look at those who have already achieved success in their lives, we have a tendency to predictably and consistently overestimate the likelihood that we will also achieve success in our own lives. Only through careful examination is it possible to acquire a comprehensive understanding of the tremendous influence that is caused by outstanding possibilities that are hidden from view. When presented with examples of success, it can be challenging to avoid harboring survivorship bias in one's thinking. It is not easy to pause, ponder, and critically evaluate the base rate probabilities of success, as well as to differentiate between an outlier and the anticipated outcome. On the other hand, one could have cognitive limitations if they lack information about the true probability and the ability to determine whether or not a certain case displays survivorship bias. It is vital to examine companies that have been successful as well as organizations that have been unsuccessful and to take into consideration the factors that contributed to either success or failure in order to prevent the influence of survivorship bias. Only then can the problems caused by survivorship bias be resolved. This can help entrepreneurs and investors make better-informed decisions, as well as allow a more realistic and nuanced picture of the challenges and opportunities connected with startups and entrepreneurship.

3. Conclusion

In conclusion, survivorship bias, which refers to the cognitive bias of emphasizing successful outcomes and disregarding failures, is a prevalent misconception that manifests in several domains of human activity, ranging from entrepreneurial endeavors to investing choices. The phenomenon distorts our cognitive understanding of success by engendering an inflated notion of its attainability, frequently to the detriment of acknowledging the inherent difficulties and potential hazards associated with its pursuit. The aforementioned bias is particularly conspicuous within the domain of startups, as the appeal of success narratives can overshadow the stark fact that a substantial proportion of nascent enterprises ultimately meet with failure.

The significance of tackling survivorship bias is exemplified by the case of World War II, wherein the failure to include armor in susceptible sections of aircraft resulted in catastrophic outcomes. Likewise, recent instances such as the ascent and decline of Vine serve as illustrations of how even initiatives with good intentions can succumb to the constraints imposed by competition and evolving environments. The phenomenon of survivorship bias is not limited to entrepreneurship alone but rather applies to investing decisions, specifically in the assessment of mutual funds and hedge funds. Disregarding the information pertaining to defunct funds can result in excessively positive evaluations and incorrect investment decisions.

In order to address the impact of survivorship bias, it is imperative to develop a balanced perspective that takes into account both instances of success and failure. Gaining insight into the factors contributing to both success and failure can offer a more comprehensive and nuanced perspective on the obstacles and possibilities inherent in different undertakings. This methodology

not only facilitates entrepreneurs in making well-informed judgments but also assists investors in evaluating the actual performance of investment opportunities. In a society characterized by individuals' aims and ambitions, recognizing the presence of survivorship bias is a crucial undertaking to facilitate more logical and efficient decision-making processes. By adopting a holistic comprehension of the complete range of potential results, individuals can effectively negotiate the intricacies associated with entrepreneurship, investing, and decision-making, enhancing their level of discernment and ability to anticipate future developments. What's more, one should consider the potential variability in the effectiveness of strategies or approaches between individuals. It is advisable to adopt a highly critical stance towards individual gurus, as well as many sources such as books, podcasts, and other resources that purport to offer a definitive 'solution' or 'secret formula' for attaining financial success, personal fulfillment, and other desirable objectives. It is crucial for nowadays people to know how to avoid survivorship bias although it is not possible to eliminate the possibility.

When making a decision, it is important to look at the outliers with authorized data. The data always show an accurate reflection of the event. Also, the factor of luck needs to be thought about before making an impulse decision. To be more specific, acquire a comprehensive comprehension of the key attributes pertaining to your outliers. The exclusion of outliers is a critical component of the data preprocessing phase; nevertheless, there is a potential drawback of losing important insights if we lack a comprehensive comprehension of the significance of these outliers. It is advisable to engage in collaborative efforts with subject matter specialists since they possess the highest level of knowledge and expertise pertaining to the given topic. Data scientists may not necessarily be directly involved in the process of data acquisition. To enhance comprehension of the proximity between the data and its original state before commencing any analysis, it is imperative to assess whether any preprocessing or aggregations have been conducted previously. The examination of boundary conditions and their reflection in the data is a crucial step. It is important to acknowledge that luck exerts a substantial influence on an individual's achievements, even though the hindsight perspective often allows for the identification of a clear road to success. People widely acknowledged that individuals who have achieved success sometimes fall victim to the narrative fallacy, wherein they tend to overemphasize the role of their own skills in their accomplishments, while simultaneously downplaying the influence of luck in their achievements.

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