

The initial survival of the Unicorns: a behavioral perspective of Snapchat

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Abstract

Purpose – Unicorn companies, such as Facebook, Uber, and Airbnb, significantly impact our economies. This happens although they had a dramatic initial start – at least in terms of financial performance – that would have let any other “conventional” business close. In other words, Unicorns challenge the start-ups’ problems traditionally associated with early failure (liability of newness). This paper aims to understand what helps Unicorn firms initially survive despite huge losses.

Design/methodology/approach – By adopting a behavioral lens, this historical case study article focuses on key strategic decisions regarding the famous social media Unicorn Snapchat from 2011 to 2022. The case combines secondary data and a thematic analysis of Snapchat founders’ and investors’ interviews/comments to identify the behavioral antecedents leading to Snapchat’s honeymoon.

Findings – Snapchat network effect triggered cognitive biases of Snapchat founders’ and investors’ decisions, leading them to provide initial assets (i.e. beliefs/goodwill, trust, financial resources and psychological commitment) to the nascent Unicorn. Therefore, the network effect and biases resulted in significant antecedents for Snapchat’s honeymoon.

Originality/value – The authors propose a general, theoretical framework advancing the possible impact of biases on Unicorns’ initial survival. The authors argue that some biases of the Unicorns’ founders and investors can positively support a honeymoon period for these new ventures. This is one of the first case studies drawing on a behavioral approach in general and on biases in particular to investigate the liability of newness in the Unicorns’ context.

Keywords Behavioral strategy, Unicorns, Biases, Liability of newness, Case study, Management history

Paper type Research paper

1. Introduction

Created in 2004 by Mark Zuckerberg, the famous social network Facebook had a dramatic initial start, at least in financial performance. Despite its 350 million users, the company lost \$300m across its four years of life (Cristofaro, 2017a). In 2021, Facebook users were around 3 billion and profits reached \$40bn. Uber, the transport service provider, has *continuously* accumulated losses over its life (except for 2018; WSJ, 2022a). Although with these bad performances, in 2021, Uber reached an outstanding market value of \$81bn and 118 million



people used the service. Why did these “exceptional” companies not fail in the initial stage of their life, as happens for more “conventional” businesses?

Understanding the reasons behind the survival or failure of new ventures has always attracted scholars and practitioners in management, organization and entrepreneurship theory (Abatecola *et al.*, 2012; Josefy *et al.*, 2017). Over time, the literature has broadly accepted that the high failure rate for new-born firms can be explained through the *liability of newness* hypothesis, seminally advanced by the famous American sociologist Arthur Stinchcombe (1965). According to Stinchcombe, in their first three/four years of existence, new ventures are often, more likely to die than established firms. This mainly happens because new ventures lack experience, coordination, customers and solid trust relationships. Stinchcombe’s assumptions have been largely confirmed by past (Audretsch and Mahmood, 1995) and recent (Soto-Simeone *et al.*, 2020) studies, resulting in the current focus on how to countervail the liability of newness (Cristofaro, 2017a; Yang and Aldrich, 2017).

On this premise, the traditional knowledge associated with new ventures’ survival or failure is, to date, challenged by “new” entrepreneurial species such as Unicorns. Unicorns are a “start-up with an evaluation of over \$1 billion (Lee, 2013) and a high *game-changing* potential” (Mollick, 2020) [1]. Although small- and medium-sized enterprises account for over 90% of businesses and 50% of employment of the worldwide population, now the emphasis is slightly shifting to understanding how exceptional companies are formed (Kuratko and Audretsch, 2022; Kuckertz *et al.*, 2023). In this regard, Unicorns’ extraordinary impact – that gained increased attention from the media, analysts, regional politicians and the public – seems due to breakouts from traditional life cycle phases and progressive approaches to valuation that do not apply to more conventional businesses (DeSantola and Gulati, 2017; Aldrich and Ruef, 2018).

Understanding what factors facilitate Unicorns to overcome early failure easily constitutes a research gap. Indeed, despite practitioner and media interest in unicorn ventures, little academic research has focused on the Unicorns phenomenon (Kuratko and Audretsch, 2022). The few academic contributions dealing with Unicorns formation were more interested in the objective founders’ and firm’s characteristics (e.g. age, size, industry, etc.; e.g. Kotha *et al.*, 2022) explaining their great evaluations, not investigating *how* Unicorns elements at the basis of their *honeymoon* – i.e. that initial time, in its life cycle, in which the new venture is relatively shielded from negative outcomes (Fichman and Levinthal, 1991) – are practically formed. Yet, this is also important from a practical point of view because:

- the 1,404 Unicorns currently active worldwide have a collective market value of \$822bn (Crunchbase, 2022); and
- people’s lives are significantly affected daily, by their products/services (e.g. Facebook, Airbnb, etc.).

To address this gap, we study the 10-year performance of the social platform Snapchat; specifically, we combine anecdotal evidence, to retrieve the elements leading to this Unicorn’s honeymoon, with a thematic analysis of its founders’/investors’ interviews/comments, to identify the possible antecedents of these elements.

In line with some recent research (Cowden *et al.*, 2020; Abatecola *et al.*, 2022), through this historical case, we advance that there can be an integrative, behavioral explanation for Unicorns easily overcoming the liability of newness despite their bad performances. In particular, and drawing on behavioral decision theory (BDT; Simon, 1947; Slovic *et al.*, 1977; Einhorn and Hogarth, 1981; Cristofaro, 2017b; Cohen *et al.*, 2019), we argue that the network

effect – which is proper of some high-tech companies and by which the value a user derives from a good/service depends on the number of users (Shapiro *et al.*, 1999) – triggers some cognitive biases (hereafter biases) of the Unicorns' founders and investors. These biases, then, positively support a *honeymoon* period by pushing them to provide needed initial assets to Unicorns.

The remainder of our article is as follows. We first introduce our theoretical framework in Section 2, followed by an explanation of our methods associated with the historical case design in Section 3. We then present our case findings in Section 4, which focus on key strategic decisions taken by Snapchat in three separate chronological phases of its life cycle. We finally explain the main theoretical contribution of our work in Section 5 and discuss key implications for the research and practice about the liability of newness and honeymoon in Section 6. The conclusion is present in Section 7.

2. Theoretical background

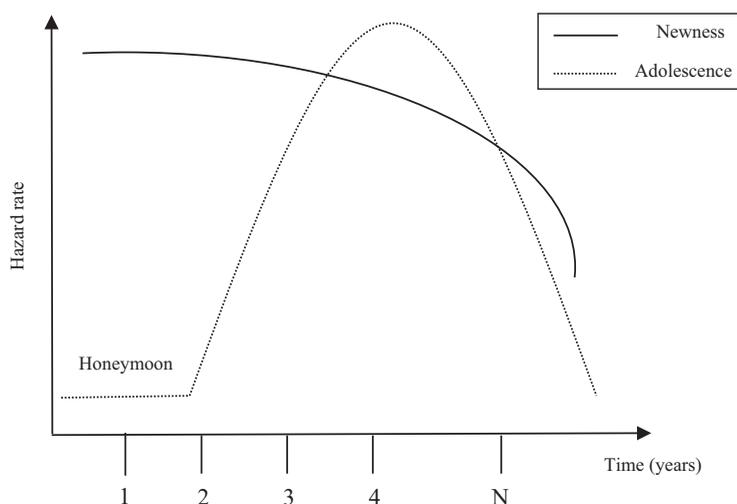
2.1 Liability of newness

A pioneer in the study of why new ventures mostly die young, Stinchcombe coined the term *liability of newness* in 1965. Together with particular social conditions, which could serve as a specific survival/failure factor, the liability of newness includes four recurring gaps in the failed start-ups:

- (1) *Lack of experience*: start-ups need to create and learn new roles, with the consequence of spending time and resources to teach new workers how to execute duties. In mature firms, conversely, older workers transfer abilities to newcomers.
- (2) *Lack of coordination*: forming new roles requires coordination with others, which leads to vulnerability, relational clashes and wasteful aspects.
- (3) *Lack of stable ties*: start-ups find difficulties in establishing relationships with external stakeholders, including potential clients/providers. Mature counterparts, instead, benefit from established stable ties, including knowing whom to call upon regarding any activity.
- (4) *Precarious trust relationships*: when a start-up is established, new workers are usually unfamiliar with each other, with no activity history in common. Furthermore, their relational trust is, at first, low. Thus, their integration is limited.

Stinchcombe's ideas have been supported theoretically and empirically (Abatecola *et al.*, 2012; Josefy *et al.*, 2017; Soto-Simeone *et al.*, 2020). In the case of *traditional* start-ups, and although fragmentally, studies have also found some factors able to contrast newness (or to foster early failure, if absent). Some of these, for example, relate to the entrepreneur, such as founding experience, conscientiousness, intuition, opportunity recognition and networking capability (Tomczyk *et al.*, 2013). Others, instead, relate to the environment, such as economic expansion, uncertainty and innovation-based competition (Murphy, 2011; Guckenbiehl *et al.*, 2021). Some factors even relate to start-ups themselves, such as size, financial/human resources, ability to execute routines and high absorptive capacity (Pugliese *et al.*, 2016).

In the case of traditional start-ups, scholars have also implemented financial indicators to predict newness, such as grade of capitalization, liquidity, leverage and profitability (Wiklund *et al.*, 2010). Yet, we argue, these indicators do not seemingly hold when Unicorns are considered, mainly because of these ventures' inner characteristics, especially their network effect (Metcalf and Boggs, 1976) [2]. In the Facebook case, the increasing number of users (representing the network size) attracted the initial involvement of investors within



Source: Elaboration on Abatecola *et al.*, (2012, p. 407)

Figure 1.
Newness, adolescence
and honeymoon

the entrepreneurial team. Investors helped to sustain Facebook's rapid growth, even during substantial continuous initial losses (Cristofaro, 2017a) caused by the quadratic growth of their operational costs (Zhang *et al.*, 2015), thus guaranteeing a honeymoon.

Honeymoon, as introduced, is that possible initial period of "peace" for start-ups (Fichman and Levinthal, 1991), after which that period of increasing mortality rates, called *liability of adolescence*, starts (Figure 1).

Fostered by the introduction of a break-through product, or by the founder's notoriety, the honeymoon is explicitly supported by the initial existence of some among the following assets (Fichman and Levinthal, 1991):

- *beliefs/goodwill*, i.e. stakeholders' disposition to initiate a relationship with the start-up because of positive expectations;
- *trust*, i.e. presence of already strong ties between the start-up and some stakeholders;
- *financial resources*, i.e. allocation of a good founding amount by key stakeholders; and
- *commitment*, i.e. stakeholders' willingness to increasingly provide resources (e.g. time, human/financial capital) continuously.

The above explained, we argue that searching for those factors catalyzing honeymoon for Unicorns can also benefit from a more specific behavioral perspective.

2.2 Behavioral decision theory, bounded rationality and cognitive biases

BDT represents an overarching umbrella that seeks to explain how individuals *actually* make decisions (Kahneman, 2011), characterizing the many ways in which individuals breach rational norms in their decision-making processes (Edwards, 1961; Einhorn and Hogarth, 1981). Within this wide-ranging literature, scholars have principally identified two chief factors for which individuals depart from formal axioms of rationality in their actual decision-making:

bounded rationality (Simon, 1947) and cognitive biases (Hammond *et al.*, 1998; Tversky and Kahneman, 1974; Abatecola *et al.*, 2018).

In particular, Simon (1947) specifies that the human being, whom he calls the *administrative man*, is limited in the attempt to act rationally by his: computational capacity, impossibility of access to all information and biological limits. These limits determine the occurrence of three *facts*: incompleteness of human knowledge, difficulties in forecasting the consequences of decisions and impossibility of knowing all the possible behaviors to be adopted. In other words, Simon's economic agent has limitations in the perception, memorization and representation of alternatives, as well as a cognitive architecture that does not allow them to formulate and compare all the possible options; this is also because of the significant scarcity of information (Cristofaro, 2017b).

Because of the milestone concept above, it has been advanced that cognitive biases – unconscious divergence from (at least intended) economic rationality in decision-making – significantly influence the decision-making processes of the upper echelons in organizations (Tversky and Kahneman, 1974; Hammond *et al.*, 1998). We believe these biases (that can also have a positive effect under some conditions; Luan *et al.*, 2019; Cristofaro and Giannetti, 2021), rooted in the intuitive thinking of humans, can ultimately play a key role in directing and shaping enterprises' evolution (Abatecola, 2014; Abatecola *et al.*, 2022).

3. Methods

Because of the still fragmented research on Unicorns (Aldrich and Ruef, 2018), and especially on the behavioral dynamics affecting their evolution (Lehmann *et al.*, 2019), this research stream can still be considered nascent from many aspects. In these contexts, in-depth qualitative analyses are preferred (Edmondson and McManus, 2007; Lee and Saunders, 2017).

To explain what behavioral dynamics can support the Unicorns' honeymoon, we chose a historical case design (Bowden and Insch, 2013; Bowden *et al.*, 2020; Muldoon, 2020). Become a popular post-Second World War methodology developed through Harvard University's planning for science in general education (Petrina, 2020), the historical case is a research strategy that analyses cases from the distant past to the present, and it uses "eclectic" data sources to produce both idiographic and nomothetic knowledge (Widdersheim, 2018). This method is at the intersection of history and case study strategies since it is based on a retrospective analysis of the case using source materials from the distant past (as usual for historical research) and a prospective analysis of the case made possible by observing the case as it unfolds (as usual for case study research). We followed the historical case method proposed by Widdersheim (2018), which is composed of three steps:

- (1) source collection and analysis;
- (2) data collection and analysis, and
- (3) data interpretation.

In the *first* step, the researcher must identify the case (including spatial and temporal boundaries), the used theoretical perspective, the source materials, the temporal units used for comparison, the method for describing and comparing *how* temporal units varied and the method for explaining *why* temporal units varied. Our case study regards Snap. Inc, better known as Snapchat, from its foundation in 2011 till 2022 to investigate its infancy, directly and retrospectively. We chose Snapchat because intuition (i.e. unconscious thinking) is the "standard" way to decide for the top decision-makers. In fact, Snapchat's co-founder/CEO Evan Spiegel declared that he and his team explicitly do not rely *only* on data to make

decisions: “We use a combination, obviously, of data and also our intuition about the underlying problem” (Recode, 2018). This lack of total adoption of rational thinking fits our behavior-focused line of inquiry to deepen the liability of newness phenomenon for Unicorns. Consistent with the historical case method, we combined anecdotal with textual evidence derived from multiple sources covering Snapchat’s story and evolving performance. These include balance sheets/financial statements, analysts’ coverage, stock prices, books (Gallagher, 2018) and articles from business newspapers/magazines/blogs. To identify what, in Snapchat, fostered the bundle of “honeymoon initial assets”, we collected and analyzed many interviews (393 pages) and videos (166 min) released by Spiegel and key investors. We used the rise, decline and refocus of Snapchat as temporal units for our analyses. To explain *how* these temporal units varied, we adopted a narrative approach to the main business events/financial changes (Section 4) – that helped distinguish temporal units – and a mixed thematic analysis (Braun and Clarke, 2006), focused on some behavioral elements (i.e. biases) (Section 5).

Results emerging from data collection and analysis compose the *second* step of the adopted historical case method, based on using the research framework (BDT) to describe the case over time, using the source materials as an evidentiary basis.

Concerning the pieces of evidence, we coded transcripts regarding the interviews/videos using a deductive and inductive analysis focused on individuating those behavioral elements when coding statements (Appendix 1). In deductive analysis, communication messages are thematized according to an initial codebook, while new themes are free to emerge in inductive analysis.

For the deductive analysis, we used widespread definitions of biases (Tversky and Kahneman, 1974; Hammond *et al.*, 1998) to code the transcripts. We then selected the themes emerging from this coding to identify the influence of these biases on the evolution of Snapchat. In particular, like other works recently investigating the potential occurrence of biases in strategic/managerial decision-making (Cristofaro, 2017c), we derived the initial codebook for the thematic analysis from the *checklist* by Kahneman *et al.* (2011; see Appendix 2). With its fast-growing use in the business community, this checklist is a recent, important tool developed to help practitioners identify potential cognitive deviations in their decision-making. The checklist comprises 12 questions aimed at verifying the reliability of the decision-maker’s choices. Each question recalls a specific potential distortion unconsciously occurring when deciding.

We detected and thematized other codes not included in the inductive analysis’s initial codebook. First, two of us analyzed transcripts individually, with high inter-rater reliability (Cronbach’s alpha = 0.92). Second, when disagreeing, the analysis was also jointly intensified to develop a shared vision of the sentence’s meaning and related theme. Thus, we quantified codes according to the number of appearances in each transcript while we calculated the frequency of themes according to the sum of the codes’ frequencies pointing to them. The thematic analysis results were finally discussed with another expert academic in organizational behavior, external to the research team, to double-check the interpretation of biases.

The historical narrative of the main business events and the mixed thematic analysis formed the basis for providing an interpretation of the development of the Snapchat case over time (Section 6). This is the third step of the historical case method, where patterns in the similarities and differences of the temporal units are deciphered to construct a theory for why the case developed as it did. In particular, we developed a behavioral explanation for how unicorns can initially survive despite huge losses.

4. Snapchat: rise, decline and refocus

Snap Inc. is a US social media provider founded on September 2011 by Evan Spiegel and Bobby Murphy, with its headquarters in Venice, CA. Under the brand Snap, the company provides four products/services: Snapchat, Spectacles, Bitmoji and Zenly. Snapchat is the main product: a social network working through a smartphone application and allowing users to send/receive ephemeral pictures. As a distinctive feature, the photographs are available to users only for a short time (from a couple of seconds to one day). [Table 1](#) synthesizes Snapchat's distinctive characteristics as a Unicorn.

The popularity quickly gained, among teenagers, by the mobile application very soon caused Snapchat to become of interest to venture capitalists. A partner at the venture capital firm Lightspeed Venture, Jeremy Liew is the first to invest seriously (\$485,000) in the company. The first financial round is thus intended to support the technological investments needed not to interrupt its presumed network effect: the social network growth – about 20 million pictures shared daily – was accompanied by huge operational investments. In December 2012, Benchmark Capital, one of the venture capital funds previously financing Instagram, also supported Snapchat with an investment of \$10m, which takes the company's valuation to around \$70m. In March 2015, after another four rounds of investment, Snapchat saw its market value shift to about \$15bn.

This narrated, also thanks to the Initial Public Offering (IPO) in 2017, the company reached a market value of \$24bn, with more than 1,859 employees in 19 countries and 187 million daily active users. In 2021, Snapchat's value was around \$91bn ([Table 2](#)).

In about 10 years of existence, however, the company has also accumulated several losses ([Table 3](#)). This may be a direct consequence of the Snapchat network effect, as happened for Facebook and Tencent when their costs dramatically escalated according to users' growth ([Zhang et al., 2015](#)). Only in 2021, Snapchat reached positive results in operating and free cash flows ([Snap Inc, 2022](#)).

All the above introduced, the following pages illustrate vital strategic decisions made over Snapchat's life cycle.

4.1. 2011–2013: users, users . . . and users

Snapchat's strategic direction seems clear from the beginning: pushing the network effect. Thus, attracting as many users as possible and raising as much money as possible to continue to scale their foothold on the short net. To accomplish that, Lightspeed, a Silicon Valley venture capital firm, is the first institution to invest in Snapchat (i.e. \$485,000), attracted by the rapid increase of users. The terms of the founding "gave Mr Liew outsize power over the company's future financing round. That ended up irking Snapchat's CEO, Spiegel, who took steps to reassert control over the company ([NY Times, 2017](#)).

After Facebook's initial extensive public offering in 2012 (\$104bn evaluation), the interest in social media platforms reached its peak; Snapchat surfed this wave – substantiating positive beliefs/goodwill from the market and stakeholders – and raising, in that year, a funding round led by Benchmark Capital. Thanks to this investment, the company could continue supporting its R&D activities (i.e. buying servers and developing the software behind the mobile app). Again, this investment allocation was made to catch more users and avoid acquisition by other prominent players in the social media market ([Colao, 2013](#)). This is in line with a network growers' model of scaling up for start-ups ([Piaskowska et al., 2021](#)) [3].

Like Facebook ([Cristofaro, 2017a](#)), however, for the first two years Snapchat did not have a monetization strategy for its service; for example, the founders avoided inserting advertisements because they want to be unobtrusive in the users' experience. Despite

Feature	Unicorns' distinctive features	Snapchat's characteristics
Location	Metropolitan areas, dense clusters (Lehmann <i>et al.</i> , 2019)	"Evan chose Venice because Snapchat is primarily an entertainment company, not a technology company. And Southern California is the perfect place to start a popular entertainment company" (Gallagher, 2018, p. 94)
Financial Capital	Equity based (De Massis <i>et al.</i> , 2016)	"The engagement and retention showed an uncommon excitement around Snapchat. Just ten days after meeting Evan, Liew convinced his partners, and Lightspeed invested \$485,000 in Snapchat, valuing the young company at \$4.25 million" (Gallagher, 2018, pp. 73–74)
Human Capital	Technology specific, high turnover rate (Lehmann <i>et al.</i> , 2019)	"Sehn's (a longtime Amazon engineer) recruitment was crucial, and his willingness to join Snapchat showed the hiring power Evan and Bobby enjoyed as the hottest new startup in the tech world. The hiring spree would continue into 2014, as Peter Magnusson, a former engineering director at Google, left Google App Engine to become a VP of engineering at Snapchat. Mike Randall followed White from Facebook to become Snapchat's VP of business and marketing partnerships" (Gallagher, 2018, p. 128)
Leadership	Charismatic (Lehmann <i>et al.</i> , 2019)	"Mr Spiegeel, 26, . . . has since built a budding digital empire based on that initial unconventional insight — and has continued upending the tech industry with his different way of seeing the world, often with a touch of ego. Rather than accept the norms of the social networking ecosystem, he has stuck to atypical viewpoints on matters from mobile video to video-recording spectacles. . . . «If you want to understand Snap, look at Evan Spiegeel» said Todd Chafee, a partner at IVP, one of Snap's three largest venture capital investors. . . . «He is the visionary who drives that company.» (Benner, 2017)
Competitive advantage	Ubiquity in matching markets (Lehmann <i>et al.</i> , 2019)	"Why did Poke fail? It failed to solve any problems for young users, who were more than happy with Snapchat, and it solved a problem that didn't exist for older users, who still didn't get the appeal of disappearing content" (Gallagher, 2018, p. 99)
Growth opportunities	High scalable business model through platform (Acs <i>et al.</i> , 2017)	"This is great news for Snapchat as you are mobile first and mobile only and if the user base on mobile is bigger than desktop (which I think it is by a magnitude or more) then you will be valued more favorably than before in absolute terms, and long term at scale you will be more valuable than desktop companies at scale." (Gallagher, 2018, p. 149, quoting Anthony Noto, the co-head of Goldman Sachs's Global Tech, Media, and Telecom Investment Banking division, and an expert on the way Wall Street valued social media companies)
Waiting time before IPO	Around 7 years (Lee, 2013)	Founded in 2011; IPO in March 2017
Founding team	Young; prior start-up or high-tech experience (De Massis <i>et al.</i> , 2016)	"Evan was born on June 4, 1990. . . he was attracted to technology early on, building his first computer in sixth grade and experimenting with Photoshop in the Crossroads computer lab. . . . Evan dove into journalism as well, writing for the school newspaper, Crossfire. Evan's outsized personality could rub people the wrong way at times, but his energy, organizing skills, and enthusiasm made him an exceptional party thrower" (Gallagher, 2018, pp. 16–17)
Orientation	Long-term (Stadler, 2016)	"I think we're all really a group of people that are extremely motivated by the long-term potential of what Snap is doing, and so that's remained a focus of ours through the last eight years, since the beginning, is this longer-term mindset" (Wilson, 2019)

Source: Our elaboration

Table 1. Unicorns' distinctive features and Snapchat's characteristics

this, and the suffered heavy losses, at the end of 2013, Snapchat was evaluated at \$1.4bn and had about 46 million engaged users (Statista, 2022a); the latter is the primary metric for assessing the business potential of social media platforms.

4.2. 2013–2015: “Facebook? No Thanks”

Around November 2013, Facebook’s interest in the short net caused the company to allow people to send messages through Instagram, launch its instant messaging (i.e. Messenger) service and attempt to purchase Snapchat with an offer of \$3bn. Snapchat rejected the offer because its founders believed that, shortly, their company could be valued even more, thus following the positive evolutionary path of Facebook itself, LinkedIn and Twitter (Blodget, 2013). The rush towards the highest possible value seemed to be the only weapon to attract more and more users (71 million in 2014), especially in a business situation in which, as explained, monetization mechanisms were scarcely implemented (at least until the end of 2014). All this narrated, Snapchat’s market value grew, from \$1.4bn in 2013 to around \$15bn in 2015.

4.3. 2015–2022: no users . . . no party

After the refusal, in 2015 Snapchat attempted to review its app’s business model and settled up strategies to monetize the engagement of the increasing number of users (107 million); for example, the app was updated through the inclusion of the option to create Snapchat stories, i.e. a type of video-sharing, allowing users to build chains of shared content that can be viewed an unlimited number of times over 24 hours. The decision to introduce this new feature, allowing the building of a timeline full of users’ updates, seems to be an imitating move concerning Facebook and Twitter. They had already established their timelines to add brand content and advertising. Further, another feature added to increase revenues was the possibility of in-app purchasing, which allows users to buy premium content, such as funny elements to add to their pictures.

Table 2.
Snapchat’s business metrics

Business’ metric	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Daily active users (in million)	n.a.	46	71	107	158	187	186	210	265	319
Revenue per user (\$)	0	0	0	0.31	1.05	1.53	2.09	2.58	3.44	4.06
Valuation (in million \$)	70	1,400	10,000	14,800	17,500	24,000	10,600	20,440	19,400	90,900
Funding (in million \$)	10	140	490	200	1,800	2,000	250	1,265	1,000	1,150

Notes: Funding to 2018 is mainly attributable to investors’ ang rounds; from 2019 to 2022, we refer to debt financing (convertible notes issued)

Source: Crunchbase (2019); Snap Inc. (2018, 2019, 2022); Statista (2022a, 2022b)

Table 3.
Snapchat’s financials

<i>In million \$</i>	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Revenues	n.a.	n.a.	n.a.	59	404	825	1,180	1,715	2,506	4,117
Costs	n.a.	n.a.	n.a.	431	918	4,270	2,436	2,336	1,561	3,629
Net income	n.a.	n.a.	n.a.	−372	−514	−3,445	−1,256	−1,033	−945	−488

Source: Snap Inc. (2018, 2019, 2022); Statista (2022a, 2022b)

However, even if the app was then able to support advertising and In-App purchases for Snapchat's users (158 million in 2016), the company continued to burn cash (−\$372 and −\$514m, respectively, in 2015 and 2016 [NASDAQ, 2018]) while, conversely, being increasingly evaluated (\$17.5bn in 2016). Because of these contrasting results, Snapchat began a growth strategy by selling hardware accessories and opening new headquarters. In particular, in 2017, the company introduced the “Spectacles” sunglasses-video camera for its 187 million users, which could be connected to smartphones and send video and photos to Snapchat's app. Further, it expanded its activities in Europe by establishing a second office in London. These actions, pushed by the increase of users, brought the R&D expenditures and general and administrative costs to account for more than 90% of the total costs (BBC, 2017).

This explained, the illustrated growth also ran in parallel with the rebrand from Snapchat to Snap Inc., and this was seemingly the field prepared by the company to achieve its IPO in March 2017 (\$24.4 per share), which was another action allowing Snapchat to raise funds and support the cash burnt (around −\$3.5bn of net income in 2017). However, the company's market capitalization tremendously decreased from \$24bn to \$10.6bn in 2018 (\$7.4 per share in October [Yahoo Finance, 2018]). At first glance, this significant fall seems to be mainly driven by the stabilization of the number of engaged users (186 million in 2018); to make a comparison, in its seventh year of existence, Facebook still had an increasing number of users (i.e. 457 million in 2011) and, in 2018, its amount of daily users increased by 5% (from 1.40 billion in 2017 users to 1.47 users in 2018). In the case of Snapchat, the stagnation of users (i.e. stop of the network effect) and the continuing absence of a solid, reliable monetization mechanism harmed the already dramatically negative net income, discouraging new investors from entering the company's equity.

In contrast to the decline above, in an internal memo, Spiegel declared that Snapchat:

Will raise \$1 billion in short-term debt and plans to invest in more media content, augmented reality features and may also buy other companies [...] We will continue to focus on developing our content, gaming, and augmented reality platforms to enhance the Snapchat experience for our community (Dang, 2019).

In this regard, despite COVID-19 pushing the increase in social media users in 2020–2021, in 2022 (similar to Facebook) Snapchat witnessed a slowdown in advertisement revenues (WSJ, 2022b). Caused by the emergence of macro-economic pressures such as war, high inflation and resource/energy cost increase, the slowdown was also the consequence of TikTok's fast growth (i.e. 755 million users in less than four years [Statista, 2022c]) in the social media industry [4].

The combination of the pressures above ultimately caused Snapchat to develop a new plan called “Adapt and Overcome”. This plan aimed to refocus the business on three strategic priorities: community growth, revenue growth and augmented reality. To support revenue growth, Snapchat focused on reducing operating costs (in 2020, around 1,200 of its 6,400 employees are laid off). “We must reduce our cost structure to avoid incurring significant ongoing losses” (Heath, 2022), Spiegel said in an internal memo. As for community growth and augmented reality, the company introduced a Snapchat Plus subscription, which gave users early and exclusive access to features for \$3.99 a month, including changing the app icon and seeing who re-watched stories, and Snapchat Lens Studio, which allowed users to create and launch their augmented reality lenses on Snapchat.

5. Findings

Stemming from the preceding historical narrative, in this section, we analyze evidence regarding key biases potentially connected to Snapchat's evolution (Table 4).

In the following sub-sections, we explain the results from our mixed thematic analysis (see also Table 4).

5.1 Spotting the Unicorn: recallability and anchoring?

The first significant conundrum is seemingly the attempt to explain why a start-up (Snapchat) has been able to increasingly attract investors and increment its market capitalization massively despite having yet to produce real profits from its foundation. On this side, we should again highlight that a similar evolutionary path, featured by a tremendously increasing amount of engaged users over time, young founders and a lack of monetization mechanisms, has been followed by other famous Unicorns born before Snapchat, with Facebook being probably the most famous (Cristofaro, 2017a).

On this premise, we might hypothesize that investors, triggered by the Snapchat network effect, made a parallelism between Snapchat and prior successful Unicorns (e.g. Facebook, as stated, but also Twitter and YouTube). This *recall* led investors to mentally *anchor* (Table 4) their supposed gain expectations from Snapchat to the excellent performance of other similar Unicorns. These biases could also be captured from the venture capitalist Dennis Phelps, partner of the Institutional Venture Partners fund, who listed the reasons that guided his fund's decision to invest in Snapchat:

We love companies that benefit from network effects. Google, Facebook, and Twitter all enjoy them [. . .] Similar to these companies, Snapchat becomes increasingly valuable to each of its users as more and more of their friends and acquaintances sign up [. . .] such is the nature of social/mobile networks. Think Twitter [. . .] Think Instagram [. . .] Think Pinterest [. . .] and Snapchat is just getting started (Phelps, 2013).

Additional support, in this sense, also comes from the words of another crucial early investor, Mitch Lasky from Benchmark Capital:

I started hearing Snapchat in the same context as Twitter, Instagram, and Facebook. That got me curious [. . .] Snapchat's ramp reminded us of another mobile app, Benchmark, that had the good fortune to back at an early stage: Instagram (Kern, 2013).

For others, like Jeremy Liew from Lightspeed Venture, who has been recognized as Snapchat's first investor:

Facebook is the journal of record for our real lives. By its nature, it needs to tie users to their real identities. It also aspires to host everything its users publish forever. That creates an opportunity for start-ups to host temporary content or to thrive on anonymity [. . .] If you flip Facebook's need for permanence to impermanence, you get Snapchat (Shontell, 2013).

On different occasions, Liew talked about the investment in Snapchat, saying that it had not been downloaded many times. Still, the engagement metrics were very encouraging because "people are using it [Snapchat] like crazy and staying for a long time" (Shontell, 2017). For example, when Spiegel pitched the app in front of him, Liew said:

What I could do was open up the Flurry analytics dashboard with Evan and look at the numbers and see 50 % month-on-month growth and see engagement and retention metrics. There were multiples of what we might expect from other companies. Something was working. It didn't matter that I didn't understand it right away. It didn't matter that my intuition was bad. What mattered was the data; uncommon excitement precludes uncommon growth. Snapchat had struck a chord (Gallagher, 2018, pp. 73-74).

Bias	Definition	Example(s)	N.	%
<i>Recallability</i>	When making predictions about future events, decisions makers are largely based on their memory of past events	“We thought Facebook wasn’t going to be able to build a mobile advertising business”, Williamson said. “We had egg on our faces because Facebook became one of the largest mobile ad publishers in the world . . . Snap is in a similar position”, she added. “They have a lot of expectations and they’re working really hard to build an ad tool and measurement abilities like their competitors” (Pierson, 2017)	25	30
<i>Anchoring</i>	The decision maker makes the decision, taking into consideration some initial reference data without adjusting its estimates according to the new information gained	“Market pundits have been comparing Snapchat’s IPO to Facebook’s IPO” she observed. “But investors should keep in mind that Facebook saw its share price dip below its IPO price in the months following the IPO at \$38 per share in May of 2012. It took some time for Facebook to find its footing before it moved significantly higher over the next several years to today’s \$130 price . . . The lesson here for investors is that it may take some time before Snapchat can be qualified as a success or not” (Pennsylvania Trust, 2017)	20	24
<i>Confirming</i>	The decision maker tends to elaborate only one alternative for which s/he tries to find confirming data	“The company beat Wall Street’s expectations for the second quarter, posting an 8% increase in daily active users to 203 million and better-than-expected revenue. That resulted in a healthy 12% boost. Spiegel attributed Snap’s recent good fortune to the firm’s recent investments and, surprisingly, the redesign” (Hamilton, 2019)	13	16
<i>Herd behavior</i>	The decision maker does others are doing instead of using their own information or making independent decisions	“The investors are just looking around to say “I guess it sounds good because everyone’s telling me it is”” (MarketWatch, 2017)	7	8
<i>Self-reinforcing</i>	A psychological path-dependent process for which choices made are preserved and reinforced	“We will continue to put out new versions of our glasses, it’s really a question of the scale: how many of those glasses do we make; and how do we distribute them? We won’t make a very large volume of them, or distribute a large volume of them, until we’re a bit further along. But, in the meantime, we’ve actually found it’s been quite effective to continue to create new versions of our glasses, because then developers can use them to build all these experiences” (FT, 2022)	18	22
<i>Total</i>			83	100

Notes: Among all those in the checklist, the table reports only the biases that emerged in our analysis
Source: Our elaboration

Table 4.
Biases in snapchat:
thematic analysis
through the checklist
by Kahneman *et al.*
(2011)

In another interview, talking about the reason that guided his investment in Snapchat, Liew said:

We're usually looking for some indication that companies can become part of popular culture in the future. We're looking for some signal that the company is not niche and that it will expand beyond what everyone will be doing in the future. Snapchat was highly engaging with young women, which is predictive of something being used broadly in the future. It showed incredible growth, incredible engagement, and incredible retention. That caught our attention because we look for something that has a scalable, repeatable way of growing, and this appeared to be doing so through word of mouth. Snapchat was creating a habit because we could tell from the engagement and retention that people were using the app several times a day (Marinova, 2017).

5.2 Deal or no deal: Confirming evidence?

We could hypothesize that a decision-making process similar (in many aspects) to the above was followed by Snapchat's founding team in 2013 when it rejected Facebook's "buy" offer of \$3bn. In this regard, first of all, we should remember that, in 2006, Mark Zuckerberg himself rejected a \$1bn offer from Yahoo to buy Facebook, which, at that time, was the Unicorn with the highest valuation; in this case, Zuckerberg believed that Yahoo was fundamentally underestimating Facebook's potential (Hoefflinger, 2017).

Accordingly, Spiegel refused Zuckerberg's offer to buy Snapchat, arguing that "trading for some short-term gain isn't exciting" (Fiegerman, 2014). In this case, the rejection of Facebook's offer by Snapchat appears to be driven by the same reasons that Zuckerberg had in refusing Yahoo's offer, i.e. believing that the company had more significant potential, caused by the network effect, than that implicit in the offer request itself. In this regard, Gallagher, who closely followed the potential deal between Facebook and Snapchat, reported that:

On November 28, Mark Zuckerberg [...] emailed Evan, saying he was interested in Snapchat [...]. Days later, Evan and Bobby travelled to a private apartment in Los Angeles to meet Zuckerberg in secret. Zuckerberg asked probing questions about Snapchat's vision for the product and company. He then wondered aloud what Snapchat might look like as a Facebook-owned company [...]. Evan explained that they weren't interested in selling the company. In response, Zuckerberg showed Poke, a new Facebook app that would be released in a few days. What was it? A messaging app for disappearing photos and videos. The message was clear: join us, or we will crush you. [However] Evan believed he knew what users wanted better than Zuckerberg – or anyone at Facebook, for that matter (Gallagher, 2018, pp. 94-95).

Based on what is evidenced above, we believe that, together with the very high market evaluation received and the tremendously increasing number of Snapchat users, Spiegel found another *confirming evidence* (Table 4) of the connection with the successful evolutionary path of Facebook. This bias could also be captured from Spiegel's words, who said that:

Whether or not you sell, you will learn something very valuable about yourself: if you sell you will know immediately that it wasn't the right dream [...], and if you don't sell you're probably onto something. Maybe you have the beginning of something meaningful (Bloomberg, 2015).

Thus, again, supporting the apparent connection between the case of Facebook and that of Snapchat, a connection also elicited to key stakeholders (Galgani, 2018).

5.3 Market value up ... market value down: herd behavior and self-reinforcing

Having refused Facebook's offer, Snapchat continued to develop its business through the investors' funds. Since the beginning, several investors followed the first venture capitalists

by buying Snapchat shares even in the presence of negative financial information, stimulating a herd behavior. This can be seen, for example, in the Snapchat report elaborated by [Kailash Concept Research \(2021\)](#), who stated, “Snapchat may have been an outsized beneficiary of herding. In our view, many investors are creating narratives to justify a valuation we believe is simply untenable”. This herd behavior led the company to culminate in a market evaluation of \$24bn after the IPO, while the financials, as narrated, did not improve. The same occurred to the number of users, which became stable in recent years (while the most relevant social platforms increased their user base). Thus, the network effect seemed to stop. Consequently, the company evaluation dropped dramatically to \$10.6bn in 2018. Only after that drop, as illustrated, Spiegel refocused on Snapchat’s business strategy by introducing original shows hosted on the platform (i.e. “Snap original”; shows from some of the world’s greatest storytellers). In other words, this important strategic decision was not taken until the considerable decrease in the company evaluation in 2018.

How can we theoretically interpret the above? Before the drastic drop in the evaluation, for many years, Spiegel *self-reinforced* (Table 4) his belief that his choices were right because of the continuing positive feedback coming both from the consequences of the network effect: the increase of the users’ basis, and the increase of business value assigned by investors. These lead to the massive amount of losses taking a back seat. In fact, despite the \$514m losses in 2016, Spiegel declared:

As we’re approaching 100 million daily active users in developed markets, the thing that’s most exciting and most interesting is that 65% of those daily active users are creating content every day. So that’s an indicator of engagement. I guess the CEO of Vodafone said recently that 75% of the upload traffic in the United Kingdom is Snapchat. So that gives you some sense of the investment that Snapchatters are making [. . .] ([Recode, 2016](#)).

The *self-reinforcing* bias also seemingly emerged from Liew:

What Snapchat did [. . .] was to bring back the spontaneity and emotion and authenticity of communication that people have always had with their close friends [. . .] We saw this amazing engagement, people were using the app many days a week and many times a day: today people are opening the app 18 times a day. When you see that it’s become a daily habit for people [. . .] you can build exciting and powerful companies ([Bloomberg Technology, 2017](#)).

In other words, the number of daily active users was the primary metric looked at, while economic and financial indicators were almost entirely discarded. Again, support for this statement directly comes from Liew, who explained:

I don’t think about the company’s performance since it went public. I think about the performance since it was founded. That, to me, is the more relevant metric. When we invested in the spring of 2012, it had tens of thousands of users. Today, it’s in the hundreds of millions. It employs tens of thousands of people, generates hundreds of millions of dollars, and touches the lives of a good portion of the Western world daily. That’s pretty remarkable ([Marinova, 2017](#)).

With all the above reported, the continuous positive feedback coming from the number of users and their engagement, both leading to the attraction of new investors, have seemingly *reinforced* over time the first strategic decisions by Spiegel, which changed only after a disruptive event (i.e. the 2018 massive decrease of Snapchat’s evaluation). From a theoretical perspective, it can happen that the initial choice of a decision maker self-reinforces over time because of circular and *selected* positive feedback ([Sydow and Schreyögg, 2013](#)). This, in turn, increasingly caused her/him to discard pieces of information that do not reinforce the circular mechanism, thus ultimately leading to a decisional lock-in and escalation of

committed resources. The lock-in can be interrupted only because of massively negative feedback, which provokes a massive shock in the information base owned by the decision maker. This can be seen in Spiegel's declaration despite the company's decline:

As I'm looking at the next decade, great products that we're trying to develop, I think the timing is a funny thing. That's probably what I'll have my eye on as we continue to develop products, and we're willing to wait to get them right, but that's probably the risk (Constine, 2018).

6. Discussion

Through the historical case of Snapchat, we provide both scholars and practitioners interested in understanding how Unicorns can countervail the liability of newness with an explanation of why biases must be appropriately considered in the debate.

From the presented historical case study, it can be derived that founders and investors are the key *elements of impact* when one looks at how Unicorns come to light and, especially at the beginning of their life cycle, evolve (Aldrich and Ruef, 2018). We argue that the degree of this impact can derive from cognitive biases, mainly triggered by their potential network effect. These biases, as seen in Snapchat, can ultimately raise the status of talented start-ups to that of Unicorns. In particular, the interplay of the founders' and investors' biases allows the formation of Fichman and Levinthal's (1991) *honeymoon*, i.e. (as explained) that initial stock of assets, such as beliefs, goodwill, trust, financial resources and/or psychological commitment, needed to overcome the liability of newness.

Based on our case findings, Figure 2 presents a general, theoretical framework advancing the possible impact of biases on Unicorns' initial survival. This framework is ideally organized into three interrelated steps.

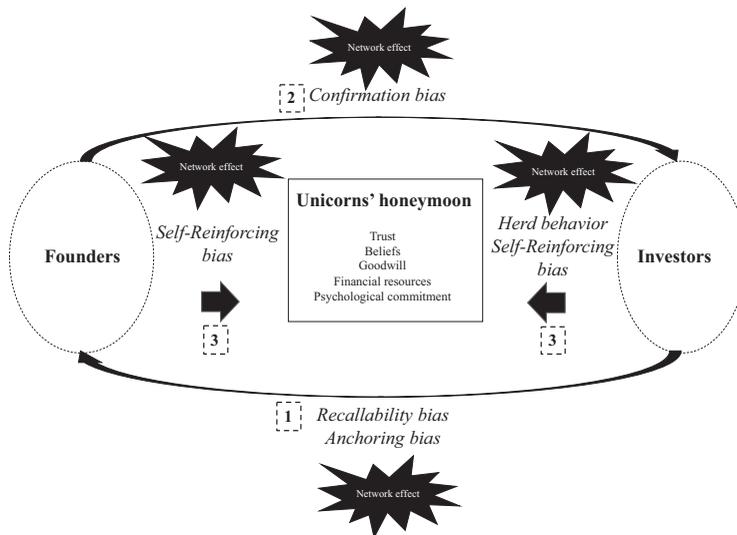


Figure 2. Unicorns' honeymoon was fostered by biases of the Unicorns' founders and investors

Note: The numbers in the Figure indicate the biases' assumed temporal sequence

Source: Our elaboration

First, when deciding on what attractive start-ups to invest in, investors initially search for what business models *recall* those of prior, successful Unicorns. They look for similar companies within the same industry (Abatecola *et al.*, 2022; Cristofaro, 2017a; Lehmann *et al.*, 2019) and compare their network effects when possible. In other words, prior Unicorns and their metrics can work as an *anchor* for their initial investment decision for investors.

Second, founders may make decisions based on evidence – usually the number of users for network-effect-driven companies – that implicitly *confirms* the validity of the investors' prior recall. This is the case, for example, of investing more in marketing activities, at the expense of others, to increase users' metrics to reach values like those of successful Unicorns. Developmentally interacting, the biases above can ultimately “elevate” the promising start-ups to Unicorns, with collected investments and market evaluation continuously growing (Abatecola *et al.*, 2022), because of the network effect (Metcalf, 2013). Therefore, having received the initial funding, the founders of the new, potential Unicorns “forge the anchor” to further increase the credibility of their start-ups in the investors' eyes (Cowden *et al.*, 2020).

Third, once this shift has been concluded, investors and founders appear almost forced to support the Unicorns' rapid growth (De Massis *et al.*, 2016; Acs *et al.*, 2017). In fact, not only do they have to remunerate the goodwill and financial resources already invested, but they also must attract new investors to support the scalability of volumes regarding users and transactions (DeSantola and Gulati, 2017). The herd behavior of investors facilitates this. Indeed, investors are attracted not only by the company's outstanding performance but also by the presence of other (usually renowned) investors who have already bet on the company (Hirshleifer and Hong Teoh, 2003). This may explain, for example, why Theranos, a Unicorn company in the health technology sector, was able to survive for 15 years while never delivering the promised marketable technology. The funder Elizabeth Holmes was able to raise \$945m from high-profile investors. Among the first, there was Rupert Murdoch, who led a \$5.8m Series A in February 2005, and Oracle Executive Chairman and founder Larry Ellison. Their presence formed a guarantee of the company's reliability itself and other investors followed. In fact, with the need for an outstanding reputation continuously constituting a necessary condition, *self-reinforcing* can finally affect both founders and initial investors during their Unicorns evaluation process and escalation of commitment. Current, positive metrics (e.g. a fast-growing number of users) are likely to become the only *driver* of reliability to identify the degree of the network effect; on the contrary, negative metrics (e.g. worsening financial indicators) are likely to be neglected.

6.1 Theoretical implications

In the liability of newness research stream, our case findings (and associated deriving framework) can constitute one initial answer to those current claims for more research on the relationship between cognitive variables and enterprise survival/failure (Soto-Simeone *et al.*, 2020). At the same time, our findings can present implications for the management research on biases. In the past, biases have been primarily considered to lead to sub-optimal choices; our work, instead, supports some recent views (Vitanova, 2021) because it unveils their positive potential, at least if the initial survival of peculiar start-ups (such as Unicorns) is under investigation.

The above is in contrast with the recent work by Cohen *et al.* (2019), who leveraged a novel organizational sponsor, accelerator programs, to address bounded rationality gaps of Unicorns. They generally argue that these programs can help access external information by embedding ventures in information-rich environments, advancing that mitigating bounded rationality and cognitive biases is helpful to survive start-ups' (dramatic) initial

phases. A similar recommendation is provided by [Kuratko and Audretsch \(2022\)](#), who highlight the importance of coaching entrepreneurs in the realm of accelerators (the same seems not to be verified for “gazelles” [5]; [Croce et al., 2021](#)). However, it is maybe the lack of symmetry in the information (mainly regarding the potential of the network effect and other metrics) owned by funders and investors – as advanced in our study – that gives light to Unicorns. This last vision is aligned with the ecological rationality model of [Gigerenzer \(Gigerenzer et al., 1999; Gigerenzer and Gaissmaier, 2011\)](#), who advanced and proved how heuristics (a typology of biases) could lead to better decisions if adapted to the environment than would be the case if decision-makers used one of the more complicated methods of decision making (e.g. logistic regression; [Luan et al., 2019](#)). In brief, biases are not always detrimental and bounded rationality should be always mitigated, as in the case of Unicorns for surviving the liability of newness.

6.2 Limitations, implications for practice and future research

This article is not exempt from limitations. In this historical case illustration, we acknowledge that our predominant use of public sources to comment on biases can represent a limit. Specifically, we are aware that, in the future, in-depth interviews with the key figures in a case may also help deepen key cognitive issues, from which the proposed framework would also surely benefit. Yet, although the thematic analysis on biases from secondary sources has been conducted in line with other recent and similar solid works ([Cristofaro, 2017c; Hristov et al., 2022](#)), there is a limit in not having directly administered the [Kahneman et al.’s \(2011\)](#) checklist. However, although aware of the limitations above, we believe that some valuable evidence has already emerged from our article.

In terms of implications for practice, the results of our work implicitly suggest that the sum of cognitive biases of investors and founders explain how Unicorns survive the liability of newness. Here, however, we need again to highlight that these firms’ intensive growth requires continuous and massively sustained by investors and founders, who often tend to discard financial measures in favor of other business metrics. Thus, we cannot state that the aggregation of these biases is always beneficial and we recognize, and alert strategists, that they can lead to Unicorns’ “bubbles” such as for the case of [Theranos \(Straker et al., 2021\)](#). This can create a high risk of forming business bubbles potentially dramatically impacting the ecosystems in which both Unicorns and investors are embedded. Thus, to reduce this risk, we do believe that nascent Unicorns and their investors should, in no way, discard more traditional financial measures of business performance. From the beginning, in parallel, they should carefully craft their prospective monetization mechanisms. In addition, founders and investors should try reducing biases impacting their strategic actions. This can be done via proper de-biasing tools (e.g., [Kahneman et al., 2011; Klein, 2007](#)) and, generally, by escalating the decision-making process from the individual to the collective.

In terms of future research, and based on all the evidence discussed above from the world of Unicorns in general, and the Snapchat case study in particular, we believe that the (fast) growing field of *behavioural strategy* can represent an essential move towards the scientific call raised, from the beginning, in our article. As [Powell et al. \(2011, p. 1374\)](#) first defined, behavioural strategy:

Merges cognitive and social psychology with strategic management theory and practice. Behavioural strategy aims to bring realistic assumptions about human cognition, emotions, and social behaviour to the strategic management of organizations and, thereby, to enrich strategy theory, empirical research, and real-world practice.

This emphasized, we also believe that behavioural strategy itself, as a *per se* research field and line of inquiry, can even strengthen its conceptual underpinnings (and ambitions) if embracing some *evolutionary* logics in its theoretical constructs (Breslin, 2011; Hodgson, 2013).

Evolutionary theory, in particular, could serve as a valuable bridge to connect the studies about the rationality of individual decision-making (e.g. game theory, prospect theory) with those about collective decision-making (e.g. behavioral theory of the firm, negotiation theory) – which is also a recent call by the behavioral strategy scholars (Abatecola and Cristofaro, 2020; Cristofaro and Lovallo, 2022). It can be studied under which ecological rationality conditions (mainly in terms of informational environment) the sum of funders and investors' biases can lead to positive or negative results for Unicorns' liability of newness. In the same vein, how biases are varied, selected and retained by funders and investors can be investigated.

Finally, we outline how extreme outliers, like Unicorns and other “fantastic” new ventures, should be investigated without positive or negative prejudices by studying their overall effects, also on all relevant stakeholders and society, such as job creation, crowding out, market concentration and many more (Kuckertz *et al.*, 2023). Regarding teaching, educators should instruct students – thus, the prospective entrepreneurs – about the conditions from which these firms are born, without over-emphasizing entrepreneurial intuition at the expense of rational reasoning for their emergence. This is also needed to form savvy entrepreneurs that do not pose valuation over value creation: reaching the former must be a consequence of the latter.

7. Conclusions

Entrepreneurs must follow their ambitions of building successful and fast-growing companies. We encourage building that success by using rational thinking and being aware of the pros and cons of intuitive reasoning and related cognitive biases. These can be beneficial or not according to the context, consequently influencing the new venture evolution. This is linked with Nelson and Winter's (1982), seminal contribution which is about evolutionary mechanisms primarily originating in bounded rationality and related behavioral mechanisms (Cyert and March, 1963). Accordingly, we can accept that organizations seem to be, in practice, ecologies containing populations of individuals who carry particular *modes of thought*; these modes affect each other and, in turn, the organizations' results (Alexander and Price, 2012; Cristofaro, 2020). But, if we do not accept the idea that many differences also exist in how organisms and organizations *decide* (Cafferata, 2016), we do not believe that studies around the liability of newness in general, and new ventures' survival or failure in particular, will actually *evolve*.

Notes

1. The finance-based definition of a Unicorn is the most adopted and largely criticized because ambiguous and subject to manipulation (Kotha *et al.*, 2022; Kuckertz *et al.*, 2023).
2. During the 1980s, Robert Metcalfe, invented the Ethernet and proposed a formulation of network value in terms of the network size (i.e. the number of nodes of the network). This was later named as Metcalfe's law: the value V of a network is proportional to the square of the size n of the network, i.e. $V \propto n^2$. Metcalfe's law has been influential and an embodiment of the network effect concept, also generating many controversies (Metcalfe, 2013).
3. “Network growers' start-ups that have a rapid scale up prioritize digitization activities while also showing high levels of activity in acquisitions, financing, and innovation. [...] Network

growers' business models are relatively the lightest in terms of human capital. This is consistent with the emphasis on digitization-enabled growth among these scale-up firms" (Piaskowska *et al.*, 2021; p. 9).

4. TikTok, as written, is a service provided by ByteDance, the most valued Unicorn in 2022. TikTok is a video-sharing mobile application that allows users to create and share short-form videos of any topic. It is a mobile application allowing users to create short clips of variable length (from 15 to 600 s) and possibly change the playback speed, add filters, special effects and sounds to their videos.
5. Gazelles are a type of high-growth firm. Like Unicorns, they are defined according to financial parameters – to which no consensus exists. Henrekson and Johansson (2010) state that gazelles usually have a base-year revenue of at least US\$100,000, with an annual 20% sales growth. Partially in contrast, González-Urbe and Reyes (2020) frame gazelles as firms with average annual revenue growth of 68% in three years.

References

- Abatecola, G. (2014), "Untangling self-reinforcing processes in managerial decision making, co-evolving heuristics?", *Management Decision*, Vol. 52 No. 5, pp. 934-949.
- Abatecola, G. and Cristofaro, M. (2020), "Hambrick and mason's upper echelons theory: evolution and open avenues", *Journal of Management History*, Vol. 26 No. 1, pp. 116-136.
- Abatecola, G., Cafferata, R. and Poggessi, S. (2012), "Arthur Stinchcombe's liability of newness: contribution and impact of the construct", *Journal of Management History*, Vol. 18 No. 4, pp. 402-418.
- Abatecola, G., Caputo, A. and Cristofaro, M. (2018), "Reviewing cognitive distortions in managerial decision making: toward an integrative co-evolutionary framework", *Journal of Management Development*, Vol. 37 No. 5, pp. 409-424.
- Abatecola, G., Cristofaro, M., Giannetti, F. and Kask, J. (2022), "How can biases affect entrepreneurial decision making? Toward a behavioral approach to unicorns", *International Entrepreneurship and Management Journal*, Vol. 18 No. 2, pp. 693-711.
- Acs, Z.J., Stam, E., Audretsch, D.B. and O'Connor, A. (2017), "The lineages of the entrepreneurial ecosystem approach", *Small Business Economics*, Vol. 49 No. 1, pp. 1-10.
- Aldrich, H.E. and Ruef, M. (2018), "Unicorns, gazelles, and other distractions on the way to understanding real entrepreneurship in the United States", *Academy of Management Perspectives*, Vol. 32 No. 4, pp. 458-472.
- Alexander, K. and Price, I. (2012), (Eds), *Managing Organizational Ecologies: Space, Management and Organizations*, Routledge, New York, NY.
- Audretsch, D.B. and Mahmood, T. (1995), "New firm survival: new results using a hazard function", *The Review of Economics and Statistics*, Vol. 77 No. 1, pp. 97-103.
- BBC (2017), "Snapchat Owner worth Up to \$25bn despite making losses", available at: www.bbc.com/news/business-38850229 (accessed 31 October 2022).
- Benner, K. (2017), "Snap's Success could be due to Evan Spiegel's philosophy of showing «who I am now»", available at: www.cnn.com/2017/02/02/snaps-success-could-be-due-to-evan-spiegels-philosophy-of-showing-who-i-am-now.html (accessed 29 October 2022).
- Blodget, H. (2013), "Snapchat will probably be glad it turned down Facebook's \$3 billion – but it was definitely a bold bet!", available at: www.businessinsider.com/snapchat-facebook-offer-2013-11?IR=T (accessed 31 October 2022).
- Bloomberg (2015), "Snapchat CEO explains why he didn't sell to Facebook", available at: www.youtube.com/watch?v=LJ5Aef2zrBI (accessed 2 November 2022).
- Bloomberg Technology (2017), "What Snapchat's first investor saw in the company", available at: www.youtube.com/watch?v=6l-3G9OeZKE (accessed 2 November 2022).

- Bowden, B. and Insch, A. (2013), "A study of resource dependency: the coal supply strategy of the Japanese steel mills–1960-2010", *Journal of Management History*, Vol. 19 No. 1, pp. 73-86.
- Bowden, B., Muldoon, J., Gould, A.M. and McMurray, A. (2020), (Eds), *The Palgrave Handbook of Management History*, Palgrave Macmillan, London.
- Braun, V. and Clarke, V. (2006), "Using thematic analysis in psychology", *Qualitative Research in Psychology*, Vol. 3 No. 2, pp. 77-101.
- Breslin, D. (2011), "Reviewing a generalized Darwinist approach to studying socio-economic change", *International Journal of Management Reviews*, Vol. 13 No. 2, pp. 218-235.
- Cafferata, R. (2016), "Darwinist connections between the systemness of social organizations and their evolution", *Journal of Management and Governance*, Vol. 20 No. 1, pp. 19-44.
- Cohen, S.L., Bingham, C.B. and Hallen, B.L. (2019), "The role of accelerator designs in mitigating bounded rationality in new ventures", *Administrative Science Quarterly*, Vol. 64 No. 4, pp. 810-854.
- Colao, J.J. (2013), "In Less than two years, snapchat is an \$860 million company", available at: www.forbes.com/sites/jjcolao/2013/06/24/snapchat-raises-60-million-from-ivp-at-800-million-valuation/#4f428564677d (accessed 31 October 2022).
- Constine, J. (2018), "Snapchat is stuck in the uncanny valley of AR glasses", available at: https://techcrunch.com/2018/03/04/the-face-race/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xiLmNvbS8&guce_referrer_sig=AQAAAlY-Mlll4zMIrKKXv15EQyESNC5kf7xM0r-hLF4N84PmTl974_kXeIXWhlJBJAKYDI_QhlyE0Hmh7CsjkFLK3AbHEHne2iDHkwFa5R-SOBMx1VSmP4ockIQ1OecvNDYGzKi6xv6l1dSXz1YxLtqa7-sjZhWD_pH5ISzGo-9g1M3 (accessed 2 November 2022).
- Cowden, B.J., Bendickson, J.S., Bungcayao, J. and Womack, S. (2020), "Unicorns and agency theory: agreeable moral hazard?", *Journal of Small Business Strategy*, Vol. 30 No. 2, pp. 17-25.
- Cristofaro, M. (2017a), "Countervailing the liability of newness by bringing in active initial investors: the case of Facebook", *Strategic Direction*, Vol. 33 No. 8, pp. 1-3.
- Cristofaro, M. (2017b), "Herbert Simon's bounded rationality: its evolution in management and cross-fertilizing contribution", *Journal of Management History*, Vol. 23 No. 2, pp. 170-190.
- Cristofaro, M. (2017c), "Reducing biases of decision-making processes in complex organizations", *Management Research Review*, Vol. 40 No. 3, pp. 270-291.
- Cristofaro, M. (2020), "I feel and think, therefore I am: an affect-cognitive theory of management decisions", *European Management Journal*, Vol. 38 No. 2, pp. 344-355.
- Cristofaro, M. and Giannetti, F. (2021), "Heuristics in entrepreneurial decisions: a review, an ecological rationality model, and a research agenda", *Scandinavian Journal of Management*, Vol. 37 No. 3, p. 101170.
- Cristofaro, M. and Lovallo, D. (2022), "From framework to theory: an evolutionary view of dynamic capabilities and their microfoundations", *Journal of Management and Organization*, Vol. 28 No. 3, pp. 429-450.
- Croce, A., Ughetto, E., Bonini, S. and Capizzi, V. (2021), "Gazelles, ponies, and the impact of business angels' characteristics on firm growth", *Journal of Small Business Management*, Vol. 59 No. 2, pp. 223-248.
- Crunchbase (2019), "Snapchat>funding rounds", available at: www.crunchbase.com/organization/snapchat/funding_rounds/funding_rounds_list#section-funding-rounds (accessed 29 October 2022).
- Crunchbase (2022), "The crunchbase unicorn board", available at: <https://news.crunchbase.com/unicorn-company-list/> (accessed 29 October 2022).
- Cyert, R.M. and March, J.G. (1963), *A Behavioural Theory of the Firm*, Prentice Hall, Englewood Cliffs.
- Dang, S. (2019), "Snap to raise \$1 billion to invest in AR, possible acquisitions", available at: www.reuters.com/article/us-snap-convertible-notes-idUSKCN1UW1OB (accessed 31 October 2022).

- De Massis, A., Frattini, F. and Quillico, F. (2016), "What big companies can learn from the success of the unicorns", *Harvard Business Review*, pp. 1-5.
- DeSantola, A. and Gulati, R. (2017), "Scaling: organizing and growth in entrepreneurial ventures", *Academy of Management Annals*, Vol. 11 No. 2, pp. 640-668.
- Edmondson, A.C. and McManus, S.E. (2007), "Methodological fit in management field research", *Academy of Management Review*, Vol. 32 No. 4, pp. 1246-1264.
- Edwards, W. (1961), "Behavioral decision theory", *Annual Review of Psychology*, Vol. 12 No. 1, pp. 473-498.
- Einhorn, H.J. and Hogarth, R.M. (1981), "Behavioral decision theory: processes of judgement and choice", *Annual Review of Psychology*, Vol. 32 No. 1, pp. 53-88.
- Fichman, M. and Levinthal, D.A. (1991), "Honeymoons and the liability of adolescence: a new perspective on duration dependence in social and organizational relationships", *The Academy of Management Review*, Vol. 16 No. 2, pp. 442-468.
- Fiegerman, S. (2014), "Snapchat CEO reveals why he rejected Facebook's \$3 billion offer", available at: <https://mashable.com/2014/01/06/snapchat-facebook-acquisition-2/?europa=true> (accessed 2 November 2022).
- FT (2022), "Evan Spiegel: Snap's ad slowdown does not blur vision of augmented reality", available at: www.ft.com/content/b48c1f99-70c2-44fa-8111-56ac24c04a4d (accessed 10 October 2022).
- Galgani, M. (2018), "Snap Vs. Facebook: Can Snapchat's parent Zoom Like Zuckerberg?", available at: www.investors.com/research/ibd-stock-analysis/snap-vs-facebook-can-snapchats-parent-zoom-like-zuckerberg/ (accessed 2 November 2022).
- Gallagher, B. (2018), *How to Turn Down a Billion Dollars: The Snapchat Story*, St. Martin's Press, New York, NY.
- Gigerenzer, G. and Gaissmaier, W. (2011), "Heuristic decision making", *Annual Review of Psychology*, Vol. 62 No. 1, pp. 451-482.
- Gigerenzer, G. and Todd, P.M. and The ABC Research Group (1999), *Simple Heuristics That Make Us Smart*, 1st ed., Oxford University Press, New York, NY.
- González-Urbe, J. and Reyes, S. (2020), "Identifying and boosting 'gazelles': evidence from business accelerators", *Journal of Financial Economics*, Vol. 139 No. 1, pp. 260-287.
- Guckenbiehl, P., de Zubielqui, G.C. and Lindsay, N. (2021), "Knowledge and innovation in start-up ventures: a systematic literature review and research agenda", *Technological Forecasting and Social Change*, Vol. 172, p. 121026.
- Hamilton, I.A. (2019), "Evan Spiegel doesn't regret the snapchat redesign that tanked snap's stock and pushed Kylie Jenner to quit", available at: www.businessinsider.com/evan-spiegel-doesnt-regret-the-disastrous-snapchat-redesign-2019-11?r=US&IR=T (accessed 2 November 2022).
- Hammond, S., Keeney, R. and Raiffa, H. (1998), "The hidden traps in decision making", *Harvard Business Review*, Vol. 76 No. 5, pp. 118-126.
- Heath, A. (2022), "This is snap's turnaround plan", available at: www.theverge.com/2022/9/7/23340157/snapchat-evan-spiegel-leaked-memo-turnaround (accessed 31 October 2022).
- Henrekson, M. and Johansson, D. (2010), "Gazelles as job creators: a survey and interpretation of the evidence", *Small Business Economics*, Vol. 35 No. 2, pp. 227-244.
- Hirshleifer, D. and Hong Teoh, S. (2003), "Herd behaviour and cascading in capital markets: a review and synthesis", *European Financial Management*, Vol. 9 No. 1, pp. 25-66.
- Hodgson, G.M. (2013), "Understanding organizational evolution: toward a research agenda using generalized Darwinism", *Organization Studies*, Vol. 34 No. 7, pp. 973-992.
- Hoefflinger, M. (2017), *Becoming Facebook: The 10 Challenges That Defined the Company That's Disrupting the World*, AMACOM, Amsterdam.
- Hristov, I., Camilli, R. and Mechelli, A. (2022), "Cognitive biases in implementing a performance management system: behavioral strategy for supporting managers' decision-making processes", *Management Research Review*, Vol. 45 No. 9, pp. 1110-1136.

- Josefy, M.A., Harrison, J.S., Sirmon, D.G. and Carnes, C. (2017), "Living and dying: synthesizing the literature on firm survival and failure across stages of development", *Academy of Management Annals*, Vol. 11 No. 2, pp. 770-799.
- Kahneman, D. (2011), *Thinking, Fast and Slow*, Farrar, Straus and Giroux, New York, NY.
- Kahneman, D., Lovallo, D. and Sibony, O. (2011), "The big idea: before you make that big decision", *Harvard Business Review*, Vol. 41 No. 6, pp. 1-10.
- Kailash Concept Research (2021), "SNAP Price predictions: are you an investor or speculator?", available at: <https://kailashconcepts.com/snap-price-predictions-are-you-an-investor-or-speculator/> (accessed 4 January 2023).
- Kern, E. (2013), "Snapchat Raises \$13.5 million series a led by benchmark capital", available at: <https://gigaom.com/2013/02/09/snapchat-raises-13-5-million-series-a-led-by-benchmark-capital/> (accessed 2 November 2022).
- Klein, G. (2007), "Performing a project premortem", *Harvard Business Review*, Vol. 85 No. 9, pp. 18-19.
- Kotha, S., Shin, S.J. and Fisher, G. (2022), "Time to unicorn status: an exploratory examination of new ventures with extreme valuations", *Strategic Entrepreneurship Journal*, Vol. 16 No. 3, pp. 460-490.
- Kuckertz, A., Scheu, M. and Davidsson, P. (2023), "Chasing mythical creatures – a (not-so-sympathetic) critique of entrepreneurship's obsession with unicorn startups", *Journal of Business Venturing Insights*, Vol. 19, p. e00365.
- Kuratko, D.F. and Audretsch, D.B. (2022), "The future of entrepreneurship: the few or the many?", *Small Business Economics*, Vol. 59 No. 1, pp. 269-278.
- Lee, A. (2013), "Welcome to the unicorn club: learning from billion-dollar start-up", available at: <https://techcrunch.com/2013/11/02/welcome-to-the-unicorn-club/> (accessed 29 October 2022).
- Lee, B. and Saunders, M. (2017), *Conducting Case Study Research for Business and Management Students*, Sage, London.
- Lehmann, E.E., Schenkenhofer, J. and Wirsching, K. (2019), "Hidden champions and unicorns: a question of the context of human capital investment", *Small Business Economics*, Vol. 52 No. 2, pp. 359-374.
- Luan, S., Reb, J. and Gigerenzer, G. (2019), "Ecological rationality: fast-and-frugal heuristics for managerial decision making under uncertainty", *Academy of Management Journal*, Vol. 62 No. 6, pp. 1735-1759.
- Marinova, P. (2017), "Snap's first investor: CEO evan spiegel is not 'a naive founder'", available at: <https://fortune.com/2017/11/08/snapchat-evan-spiegel-investor/> (accessed 2 November 2022).
- MarketWatch (2017), "Snapchat still a mystery to investors, and that is a problem for SNAP IPO", available at: www.marketwatch.com/story/snapchat-still-a-mystery-to-investors-and-thats-a-problem-for-snap-ipo-2017-02-28 (accessed 4 January 2023).
- Metcalfe, B. (2013), "Metcalfe's law after 40 years of ethernet", *Computer*, Vol. 46 No. 12, pp. 26-31.
- Metcalfe, R.M. and Boggs, D.R. (1976), "Ethernet: distributed packet switching for local computer networks", *Communications of the ACM*, Vol. 19 No. 7, pp. 395-404.
- Mollick, E. (2020), *The Unicorn's Shadow: Combating the Dangerous Myths That Hold Back Startups, Founders, and Investors*, Wharton School Press, Philadelphia.
- Muldoon, J. (2020), "Methodologies within management history", in Bowden, B., Muldoon, J., Gould, A. M. and McMurray, A. (Eds), *The Palgrave Handbook of Management History*, Palgrave Macmillan, London, pp. 67-86.
- Murphy, P.J. (2011), "A 2x2 conceptual foundation for entrepreneurial discovery theory", *Entrepreneurship Theory and Practice*, Vol. 35 No. 2, pp. 359-374.
- NASDAQ (2018), "SNAP Company financials", available at: www.nasdaq.com/symbol/snap/financials?query=income-statement (accessed 31 October 2022).

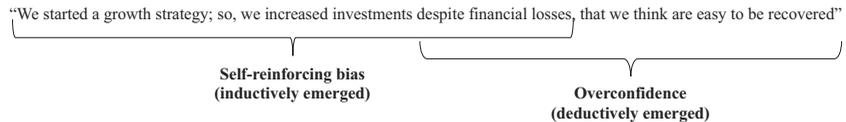
- Nelson, R.R. and Winter, S.G. (1982), *An Evolutionary Theory of Economic Change*, Harvard University Press, Cambridge.
- NY Times (2017), "Snapchat Founders' grip tightened After a spat with an early investor", available at: www.nytimes.com/2017/02/23/technology/snap-founders-evan-spiegel-bobby-murphy.html (accessed 9 October 2022).
- Pennsylvania Trust (2017), "Is Snapchat's IPO the next facebook – or the next twitter? Pennsylvania trust's Tara Hedlund weighs in", available at: www.globenewswire.com/news-release/2017/02/03/913907/0/en/Is-Snapchat-s-IPO-the-Next-Facebook-or-the-Next-Twitter-Pennsylvania-Trust-s-Tara-Hedlund-Weighs-In.html (accessed 30 October 2022).
- Petrina, S. (2020), "Methods of analysis. Historical case study", available at: <https://blogs.ubc.ca/researchmethods/files/2020/11/Historical-Case.pdf> (accessed 2 January 2023).
- Phelps, D. (2013), "Ten Reasons why IVP invested in snapchat", available at: www.ivp.com/news/press-release/ten-reasons-why-ivp-invested-in-snapchat/ (accessed 2 November 2022).
- Piaskowska, D., Tippmann, E. and Monaghan, S. (2021), "Scale-up modes: profiling activity configurations in scaling strategies", *Long Range Planning*, Vol. 54 No. 6, p. 102101.
- Pierson, D. (2017), "Investors ask: will snap inc. become Facebook or Twitter?", available at: www.latimes.com/business/la-fi-tn-snap-earnings-preview-20171107-story.html (accessed 2 November 2022).
- Powell, T.C., Lovallo, D. and Fox, C.R. (2011), "Behavioural strategy", *Strategic Management Journal*, Vol. 32 No. 13, pp. 1369-1386.
- Pugliese, R., Bortoluzzi, G. and Zupic, I. (2016), "Putting process on track: empirical research on start-ups' growth drivers", *Management Decision*, Vol. 54 No. 7, pp. 1633-1648.
- Recode (2016), "Snapchat's three-part business model with CEO evan spiegel (2015 code conference)", Day 1, available at: www.youtube.com/watch?v=AqPFHordzhdw (accessed 2 November 2022).
- Recode (2018), "Snap CEO evan spiegel | full interview | 2018 code conference", available at: www.youtube.com/watch?v=SQYBLEV6sbM&t=777s (accessed 29 October 2022).
- Shapiro, C., Varian, H.R. and Carl, S. (1999), *Information Rules: A Strategic Guide to the Network Economy*, Harvard Business Press, Boston.
- Shontell, A. (2013), "How Snapchat's first investor found snapchat before anyone else", available at: www.inc.com/alyson-shontell/how-snapchat-investor-found-snapchat-before-anyone-else.html (accessed 2 November 2022).
- Shontell, A. (2017), "How Snapchat's first investor – whose stake is now worth \$2 billion – found snapchat when it had less than 100,000 users", available at: www.businessinsider.com/how-lightspeeds-jeremy-liew-became-snapchats-first-investor-2017-2?IR=T (accessed 2 November 2022).
- Simon, H.A. (1947), *Administrative Behavior*, The Free Press, NY.
- Slovic, P., Fischhoff, B. and Lichtenstein, S. (1977), "Behavioral decision theory", *Annual Review of Psychology*, Vol. 28 No. 1, pp. 1-39.
- Snap Inc (2018), "2017 annual report", available at: <https://investor.snap.com/events-and-presentations/events/event-details/2018/2017-Annual-Report/default.aspx> (accessed 4 November 2022).
- Snap Inc (2019), "Q4 and full year 2018 earnings slides", available at: <https://investor.snap.com/events-and-presentations/events/event-details/2019/2018-Annual-Report/default.aspx> (accessed 4 November 2022).
- Snap Inc (2022), "Snap Inc, announces fourth quarter and full year 2021 financial results", available at: <https://investor.snap.com/news/news-details/2022/Snap-Inc.-Announces-Fourth-Quarter-and-Full-Year-2021-Financial-Results/default.aspx> (accessed 10 March 2022).
- Soto-Simeone, A., Sirén, C. and Antretter, T. (2020), "New venture survival: a review and extension", *International Journal of Management Reviews*, Vol. 22 No. 4, pp. 378-407.

- Stadler, C. (2016), "What large companies can learn from successful unicorns", available at: www.forbes.com/sites/christianstadler/2016/07/06/what-large-companies-can-learn-from-successful-unicorns/#48385b66ad52 (accessed 29 October 2022).
- Statista (2022a), "Number of daily active snapchat users from 1st quarter 2014 to 2nd quarter 2022", available at: www.statista.com/statistics/545967/snapchat-app-dau/ (accessed 7 October 2022).
- Statista (2022b), "Snap's Average revenue per user from 1st quarter 2016 to 2nd quarter 2022", available at: www.statista.com/statistics/780448/snapchat-quarterly-revenue-per-user-arpv/ (accessed 7 October 2022).
- Statista (2022c), "TikTok: Number of global users 2020-2025", available at: www.statista.com/statistics/1327116/number-of-global-tiktok-users/ (accessed 31 October 2022).
- Stinchcombe, A.L. (1965), "Social structure and organizations", in March, J. (Ed.), *Handbook of Organizations*, Rand McNally, Chicago, IL, pp. 142-193.
- Straker, K., Peel, S., Nussem, E. and Wrigley, C. (2021), "Designing a dangerous unicorn: lessons from the Theranos case", *Business Horizons*, Vol. 64 No. 4, pp. 525-536.
- Sydow, J. and Schreyögg, G. (2013), (Eds), *Self-Reinforcing Processes in and among Organizations*, Palgrave, New York, NY.
- Tomczyk, D., Lee, J. and Winslow, E. (2013), "Entrepreneurs' personal values, compensation, and high growth firm performance", *Journal of Small Business Management*, Vol. 51 No. 1, pp. 66-82.
- Tversky, A. and Kahneman, D. (1974), "Judgment under uncertainty: heuristics and biases", *Science*, Vol. 185 No. 4157, pp. 1124-1131.
- Vitanova, I. (2021), "Nurturing overconfidence: the relationship between leader power, overconfidence and firm performance", *The Leadership Quarterly*, Vol. 32 No. 4, p. 101342.
- Widdersheim, M.M. (2018), "Historical case study: a research strategy for diachronic analysis", *Library and Information Science Research*, Vol. 40 No. 2, pp. 144-152.
- Wiklund, J., Baker, T. and Shepherd, D. (2010), "The age-effect of financial indicators as buffers against the liability of newness", *Journal of Business Venturing*, Vol. 25 No. 4, pp. 423-437.
- Wilson, M. (2019), "Snap secret weapon speaks", available at: www.fastcompany.com/90382260/snaps-secret-weapon-speaks (accessed 29 October 2022).
- WSJ (2022a), *Uber Technologies Inc.*, available at: www.wsj.com/market-data/quotes/UBER/financials/annual/income-statement (access 29 October 2022).
- WSJ (2022b), "Snap Hits reverse after expansion drive, cutting 20% of staff", www.wsj.com/articles/snap-plans-to-slash-20-of-staff-in-cost-cutting-drive-11661951700 (accessed 31 October 2022).
- Yahoo Finance (2018), "Snap Inc", available at: <https://finance.yahoo.com/quote/SNAP/key-statistics?p=SNAP> (accessed 31 October 2022).
- Yang, T. and Aldrich, H.E. (2017), "The liability of newness revisited: theoretical restatement and empirical testing in emergent organizations", *Social Science Research*, Vol. 63, pp. 36-53.
- Zhang, X.Z., Liu, J.J. and Xu, Z.W. (2015), "Tencent and Facebook data validate Metcalfe's law", *Journal of Computer Science and Technology*, Vol. 30 No. 2, pp. 246-251.

Further reading

- Russell, A.L., Pelkey, J.L. and Robbins, L. (2022), "The Business of internetworking: standards, start-ups, and network effects", *Business History Review*, Vol. 96 No. 1, pp. 109-144.

Figure A1.
Latent bias
identification



Appendix 2

No.	Bias	Statement helping to detect the bias
1	Self-interested bias	Check whether the decision maker(s) made the recommendation because motivated by self-interest
2	Affect heuristic	Check whether the decision maker(s) fallen in love with its proposal
3	Groupthink	Check whether there were dissenting opinions among decision makers
4	Saliency bias/recallability bias	Check whether a diagnosis of situation was overly influenced by an analogy to a memorable success
5	Confirmation bias	Check whether decision makers looked for confirming information to a preidentified option
6	Availability bias	Check whether decision maker(s) relied on information that comes readily to mind when evaluating situations or making decisions
7	Anchoring bias	Check whether decision maker(s) relied too heavily on the first piece of information given about a topic
8	Halo effect	Check whether decision maker(s) assumed that a person, organization, or approach that is successful in one area will be just as successful in another
9	Sunk-cost bias	Check whether decision maker(s) elaborated a decision solution overly attached to a history of past decisions/investments
10	Planning fallacy/ overconfidence/optimism	Check whether decision maker(s) elaborated a too-optimistic forecast linked with the solution
11	Disaster neglect	Check whether decision maker(s) elaborated a bad-enough forecast linked with the solution
12	Loss aversion	Check whether decision maker(s) preferred avoiding losses to acquiring equivalent gains

Table A1.
Kahneman et al.'s
(2011) checklist for
detecting cognitive
bias affecting
decision-making
processes

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