

**Successful startups: do their entrepreneurs share a common characteristic?\***

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**Abstract:**

It is challenging to define what makes a startup successful and which factors determine the success of a startup. In this paper, we define successful startup those that survived at least three years and made at least one sale during that period. Looking to discuss which of the founders' characteristics explain the success of a startup, we assessed the characteristics of the key individuals who run startups in Brazil to validate their profiles as entrepreneurs according to SEBRAE (2018). The survey and this study evidenced interesting characteristics of founders of Brazilian startups and one common characteristic among successful startups founders: successful founders are less worried than unsuccessful founders to get other stakeholders' support. This study identifies important research questions to be developed.

**Keywords:** Entrepreneur profile, startup, success, entrepreneurship

## 1. INTRODUCTION

Entrepreneurship is vital for economic growth. The role of the innovative entrepreneur is to break market paradigms and establish new economic and technological features to support increase in productivity, aiming at professional and individual achievements and profit (Schumpeter, 1982). Brazil is not different. It is keen to promote innovative entrepreneurship to foster job creation, technological progress and economic development.

It is easy to name successful startups not because they are abundant but because we forget those that did not succeed. In Brazil, only 58% of companies were active on their second anniversary (IBGE, 2014). Failure is easy to recognize, but success is far more complex and subjective.

For startup companies, defining and recognizing success can be even more complicated. We have seen many promising high-growth companies that ultimately failed. Several received

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external funding from savvy investors who believed in them. The success of a startup is subjective and depends on the entrepreneur's perspective and time frame.

In this paper, we define a successful startup as a startup that survives three years and completes at least one sale during that period. This definition is advantageous because it is based on two objective metrics that can be measured and represents two landmarks in the life cycle of a startup: i) the startup survived a more extended period than most companies will and ii) the startup managed to convince a third party to acquire its services or products. Another convenience of this definition is that its criteria remain achievable to all remaining operating startups.

The purpose of this paper is to build a profile of the entrepreneur and to identify common main characteristics shared by entrepreneurs who managed to keep their startups alive for three years or more and succeeded in selling their product or service at least once during that period. Based on those shared characteristics, we should be able to assess the likelihood that other entrepreneurs will complete these same achievements. We should also be able to rank the entrepreneurs/startups based on the implied probability of surviving three years and closing a sale.

We have applied a survey on a group consisted exclusively of entrepreneurs and controlled success for the startup's and founders' characteristics. The differences between the sample and the entrepreneurs flagged as successful are very subtle.

Successful founders seem to rely less on persuasion and network than unsuccessful entrepreneurs, possibly because they don't need, or don't feel the need for other stakeholders' support. Interestingly, this is only statistically significant when the model combines persuasion with outside support, goals setting and planning and control, which indicates these variables are somehow related.

The remainder of this paper proceeds as follows: in Section 2, we review the literature available on startups, success and entrepreneurship characteristics. In section 3, we present the methodology we have used to derive our conclusions. In section 4, we depict the data and results of our analysis; and in section 5, we present our conclusions and the limitations of our study.

## **2. LITERATURE REVIEW**

### **2.1 Startup and entrepreneurs' characteristics**

The term startup designates a human institution intended to create new products and services under conditions of uncertainty (Ries, 2012) and is linked to scalable service models with the potential to grow that are intensive and profitable (Blank & Dorf, 2012).

Numerous studies identify factors determining startups survival and success. For some researchers, success is determined by the company's behavior, as well as its leader's entrepreneurial characteristics (Cooper & Bruno, 1977; Duchesneau & Gartner, 1990; Watson & Scott, 1998) and the firm's motivations (Watson & Scott, 1998). According to Drover (2018), "Hill and Birkinshaw (2014) found success to be dependent on a unit's ability to build strong relationships internally (i.e., with senior executives as well as business unit managers) and externally (i.e., with independent VC funds)". For Watson and Scott (1998), survival was considered a success factor.

Other authors proposed different approaches to success. Cooper and Bruno (1977) defined the success of a company based on its sales volume. Duchesneau and Gartner (1990) determined successful ventures based on financial performance. Harada (2003) proposed measuring success based on economic performance indicators: i) economic surplus, ii) actual versus expected sales, and (3) actual versus expected net income.

Nonsuccess is not the same as failure. A company that has not succeed may not have failed yet. The same rationale is valid to the factors: a factor (or characteristic) that is not a success factor (or characteristic) will not necessarily impose or be associated with failure.

Investors continuously search for attractive investments. Hall and Hofer (1993) have identified that investors' main criteria when assessing target investment companies combine i) the company's long-term growth prospects, ii) the profitability of the industry in which the new venture intends to operate and iii) the analyst's confidence in the target market of the company.

Various studies and economic theories emphasize the entrepreneurial individual (Casson, 1982; Kirzner, 1992, 1979, 1973; Schumpeter, 1934) with economic purpose (Amit, Mueller & Cockburn, 1995; Reynolds, 1988; Shane and Venkataram, 2000). In his original theory, Schumpeter saw the entrepreneur as a "solitary hero" with exceptional abilities to explore and exploit opportunities to revamp whole industries. Casson (1982) views entrepreneurs as individuals, not as a team, a committee or an organization. Kirzner (1973) states that the discovery of an opportunity is a singular act occurring in the mind of an individual in an unplanned and spontaneous way. However, the entrepreneur should consider the value of creating something new versus exploiting a product or service that already exists. The entrepreneur should engage when it makes economic sense to do so (Amit, Mueller & Cockburn, 1995; Reynolds, 1988). The entrepreneur has to engage with and explore the idea commercially, with profit as a goal (Shane and Venkataram, 2000).

Specific characteristics of the entrepreneur seem to be more critical than others. Aldrich and Zimmer (1986) show that resourceful social networks increase the likelihood of entrepreneurship. Cooper, Woo and Dunkelberg (1989) have found that people are more likely to exploit an opportunity if they already have useful information from their previous job, since already possessing knowledge reduces the opportunity cost. Individuals that have a comparative advantage over other entrepreneurs tend to assess their chances of success more positively (Cooper et al. 1988, Palich and Bagby 1995). Harada (2003) suggests that founder's experience is positively related to a startup's success, but age is inversely related to success. Harada (2003) also indicated that female founders were less prone to success than male founders in Japan.

Some studies of entrepreneurial characteristics are built on the personality of the founder based on the Myers-Briggs Type Indicator (Ginn & Sexton, 1990) According to Ginn & Sexton (1990), growth-oriented founders privileged an intuitive approach to information gathering, and a planned and systematic approach to conclusion making.

According to Hsu (2007), venture capitalists' investment decisions take into account the characteristics of the founder and the new venture's team, which in turn are reflected in the perceived risk, performance expectation and consequently valuation.

## **2.2 External support for startup development**

According to Drover (2017), "equity investors trade capital for a portion of company ownership, several types of equity funding are based on the stage of investment focus, amounts invested, strategic objectives, geographic concentration, and the nature of involvement beyond the provision of capital".

The main external supporters for early startup development are accelerators, incubators and angel investors. "Accelerators are cohort-based programs that trade a configuration of mentorship, workspace, and/or funding, often in exchange for equity" as per Drover (2017).

Accelerators programs offer various growth opportunities to participating startups. Accelerators, incubators and angel investors have common features to help and finance nascent ventures (Cohen and Hochberg, 2014). However, accelerators differ in some ways, with the fundamental difference being the limited duration of accelerator programs compared to the continuing nature of incubators and angel investments. There are other relevant differences as shown in Table 1:

Table 1. Differences among accelerators, incubators and angel investors

	<b>Accelerators</b>	<b>Incubators</b>	<b>Angel Investors</b>
Duration	3 months	1-5 yrs	Ongoing
Cohorts	Yes	No	No
Business Model	Investment; nonprofit	Rent; nonprofit	Investment
Selection frequency	Competitive, cyclical	Noncompetitive	Competitive, ongoing
Venture stage	Early	Early, or late	Early
Education offered	Seminars	Ad hoc, hr/legal	None
Venture location	Usually on-site	On-site	Off-site
Mentorship	Intensive, by self and others	Minimal, tactical	As needed, by investor

Source: Cohen and Hochberg (2014)

Incubators, in general, aim to "nourish nascent ventures by protecting them from the environment, giving them space to grow in a space protected from market forces" (Cohen and Hochberg, 2014). Accelerators, on the other hand, are designed to "accelerate market interactions to help nascent enterprises quickly adapt and learn." Primarily, accelerators differ from incubators in four essential dimensions: duration, cohorts, incentives, and educational programs (Cohen and Hochberg, 2014).

Angel investors primarily help ventures by providing funding. According to Cohen and Hochberg (2014), angel investors can be defined as individual investors who provide start-up capital investments and advice to young companies. Angel investors differ from accelerators in three main ways: in the duration of support, in the business model, and finally in education, orientation and placement.

### 2.3 Characteristics of the entrepreneurial profile

Muraro and Verruck (2012) show that although there is no universal definition of the characteristics of the entrepreneurial profile, there is some agreement on its main attributes (Beverland, Lockshin, 2001; Carland, 2001; Carland, 1996). Muraro and Verruck (2012) present the main recurring characteristics of the entrepreneurial profile, cited by most of the scholars in this area, as shown in Table 2:

Table 2. Main recurrent characteristics of the entrepreneurial profile

<b>Characteristics</b>	<b>Reference</b>
Autonomy and self-confidence	Malheiros <i>et al.</i> (2005); Dolabela (2002); Dornelas (2005); Filion (1999); Kilby (1971); SEBRAE (2018)
Search for opportunities and vision	Malheiros <i>et al.</i> (2005); Degen (2009); Dolabela (2002); Dornelas (2005); Filion (1999); SEBRAE (2018); Timmons (1994)
Ability to take moderate risks	Carland & Carland (1996); Degen (2009); Dolabela (2002); Dornelas (2005); Drucker (1967); Filion (1999); McClelland (1972); SEBRAE (2018)
Energy and commitment frequency	Malheiros <i>et al.</i> (2005); Dolabela (2002); Dornelas (2005); Filion (1999); Kuip & Verheul (2003); SEBRAE (2018)

Ability to innovate	Carland & Carland (1996); Degen (2009); Dolabela (2002); Dornelas (2005); Drucker (1967); Filion (1999); McClelland (1972); Schumpeter (1934)
Leadership and need for power	Malheiros <i>et al.</i> (2005); Dolabela (2002); Dornelas (2005); Filion (1999); McClelland (1972); SEBRAE (2018)
Obstinacy and need for achievement	Carland & Carland (1996); Malheiros <i>et al.</i> (2005); Dolabela (2002); Dornelas (2005); McClelland (1972); Schumpeter (1934); SEBRAE (2018)
Systematic planning	Carland & Carland (1996); Dolabela (2002); Dornelas (2005); Filion (1999); McClelland (1972); SEBRAE (2018)

Source: Adapted from Muraro and Verruck (2012)

On this basis, SEBRAE - Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (Brazilian Service of Support to Small and Micro Enterprises) has developed a tutoring program called EMPRETEC, which was developed by the United Nations (UN) and promoted in over 40 countries. This program seeks to develop characteristics of the entrepreneurial behavior profile and to identify new business opportunities (SEBRAE, 2018). The work developed by EMPRETEC identified the following characteristics of entrepreneurs, as presented in Table 3.

Table 3. EMPRETEC's entrepreneurial profile

Characteristics	Statement	Key Word
Opportunity search and initiative	<ul style="list-style-type: none"> <li>- Is proactive, anticipates situations</li> <li>- Looks for opportunities to expand the business</li> <li>- Leverages uncommon situations to make progress</li> </ul>	<ul style="list-style-type: none"> <li>- Proactive</li> <li>- Expand</li> <li>- Leverage</li> </ul>
<b>Persistence</b>	<ul style="list-style-type: none"> <li>- Does not quit when challenged</li> <li>- Re-evaluates, insists or changes plans to surpass goals</li> <li>- Makes an extraordinary effort to achieve goals</li> </ul>	<ul style="list-style-type: none"> <li>- Does not quit</li> <li>- Flexible</li> <li>- Effort</li> </ul>
<b>Take Calculated Risk</b>	<ul style="list-style-type: none"> <li>- Looks for and assesses alternatives for decision making</li> <li>- Tries to reduce the probability of a mistake</li> <li>- Accepts moderate challenges, with reasonable chances of success</li> </ul>	<ul style="list-style-type: none"> <li>- Alternative</li> <li>- Error</li> <li>- Challenge</li> </ul>
Demands quality and <b>efficiency</b>	<ul style="list-style-type: none"> <li>- Continually improves the business/ products</li> <li>- Meets or exceeds client's expectations</li> <li>- Creates procedures to meet deadlines and quality standards</li> </ul>	<ul style="list-style-type: none"> <li>- Improve</li> <li>- Client expectation</li> <li>- Quality</li> </ul>
<b>Commitment</b>	<ul style="list-style-type: none"> <li>- Takes responsibility for success and failure</li> <li>- Works with the team to deliver results</li> <li>- Prioritizes relationship with clients over short-term needs</li> </ul>	<ul style="list-style-type: none"> <li>- Responsibility</li> <li>- Teamwork</li> <li>- Client</li> </ul>
<b>Information gathering</b>	<ul style="list-style-type: none"> <li>- Gets involved with market assessment</li> <li>- Always investigates new products/services offerings</li> <li>- Consults a specialist in the decision-making process</li> </ul>	<ul style="list-style-type: none"> <li>- Market assessment</li> <li>- New Offering</li> <li>- Specialist</li> </ul>
<b>Goals Setting</b>	<ul style="list-style-type: none"> <li>- Targets goals that are challenging and important for him/herself</li> <li>- Has a clear long-term vision</li> <li>- Proposes tangible goals, with performance indicators</li> </ul>	<ul style="list-style-type: none"> <li>- Goals</li> <li>- Long Term</li> <li>- KPI goals</li> </ul>
Systematic <b>planning</b> and monitoring	<ul style="list-style-type: none"> <li>- Faces big challenges by breaking them into steps</li> <li>- Quickly adapts plans to market changes and value drivers</li> <li>- Monitors financial KPIs and takes them into account in the decision-making process</li> </ul>	<ul style="list-style-type: none"> <li>- Face challenges</li> <li>- Adapt plans</li> <li>- Financial KPI</li> </ul>
<b>Persuasion</b> and network	<ul style="list-style-type: none"> <li>- Comes up with a strategy to gain support for projects</li> <li>- Gathers support for projects from key people</li> </ul>	<ul style="list-style-type: none"> <li>- Project support</li> <li>- Key people</li> </ul>

	- Develops networks and builds good commercial relationships	- Network
<b>Independence</b> and self- confidence	- Trusts own opinion more than others - Is optimistic and determined, even when confronted - Conveys confidence in own ability	- Self-aware - Determined - Ability

Source: SEBRAE (2018)

For the purpose of this paper, we have considered the EMPRETEC entrepreneur profile SEBRAE (2018), which is consistent with Muraro and Verruck's (2012) approach.

### 3. METHODOLOGY

#### 3.1 Sample selection and survey

Considering the research objective – to determine whether there are common main characteristics shared by successful startup entrepreneurs – we chose a quantitative approach that allows gauging, through a sample, the characteristics, actions or descriptive opinions of a target population (Freitas et al., 2000).

The survey is used in conclusive quantitative research of a descriptive character whose primary purpose is to describe a phenomenon or singularity related to the research object (Gil, 2008; Marlhorta, 2006).

For the development of this research, the survey elaborated was adapted from the forms prepared by the Brazilian Service of Support to Micro and Small Enterprises (SEBRAE, 2018) as well as contributions and theoretical underpinnings in the several authors cited throughout the literature review: Ries (2012), Blank & Dorf (2012), Casson (1982), Kirzner (1973), Kirzner (1979), Bygrave & Hofer, (1991), Shane e Venkataram (2000), Cohen & Hochberg (2014), Harada (2003), Vicenzi & Bulgacov (2013), Dourado (2017), Machado & Gimenez (2000), Santos (2002) and Batistella et al. (2012).

To improve the research procedure (Babbie, 1999), the questionnaire was pretested before its official distribution with ten startup entrepreneurs. According to Malhotra (2006), the pretest consists of a test of the survey with a small sample of interviewees to identify and eliminate potential problems.

The survey had 61 questions divided into seven pages and took, on average, eleven minutes to complete. The survey comprised the following sections: understanding the startup (name, foundation date, stake ownership, first sale, revenue expectation); the entrepreneurial profile (the EMPRETEC profile); the individual profile (past experience, contribution to the startup, number of dependents); startup support (accelerators, incubators, angel investor); commitment to entrepreneurship (would open a new startup, would work for competition); and qualification of the entrepreneur (name, age, education).

To evaluate the characteristics of entrepreneurs proposed by the EMPRETEC program, we used a 1-10 scale, with 1 for totally disagree and 10 for totally agree for each characteristic. We have also transformed some affirmative sentences into negative sentences to force the respondent to evaluate the question before answering, avoiding automatic, nonmeaningful, responses.

For comparison, we have translated the negative sentences in the EMPRETEC entrepreneur profile into affirmative sentences. For example, “Does not quit when challenged” became “Quit when challenged”, which forced responses ranging from 1-4 in disagreement. We have translated this back to “Does not quit when challenged” with grades ranging from 6-10.

IBEVARLab is an initiative from IBEVAR – Instituto Brasileiro de Executivos de Varejo & Mercado de Consumo (Brazilian Institute of Retail and Consumer Executives, in a free translation); it is dedicated to promoting and facilitating any startup that operates in the Retail & Consumer ecosystem, fostering networks among them and with retailers (IBEVAR, 2018).

We reached almost 80 startups that operate in the Retail & Consumer ecosystem associated with IBEVARLab. We have also included other startups in our network, as well as startups that we were able to contact through LinkedIn, expanding the survey to 400 executives. We attended a startup conference to approach other executives but were not successful because the organization of the event barred us. After repeated follow-up and continued persistence, we collected 106 responses from June 10<sup>th</sup>, 2018 until July 10<sup>th</sup>, 2018.

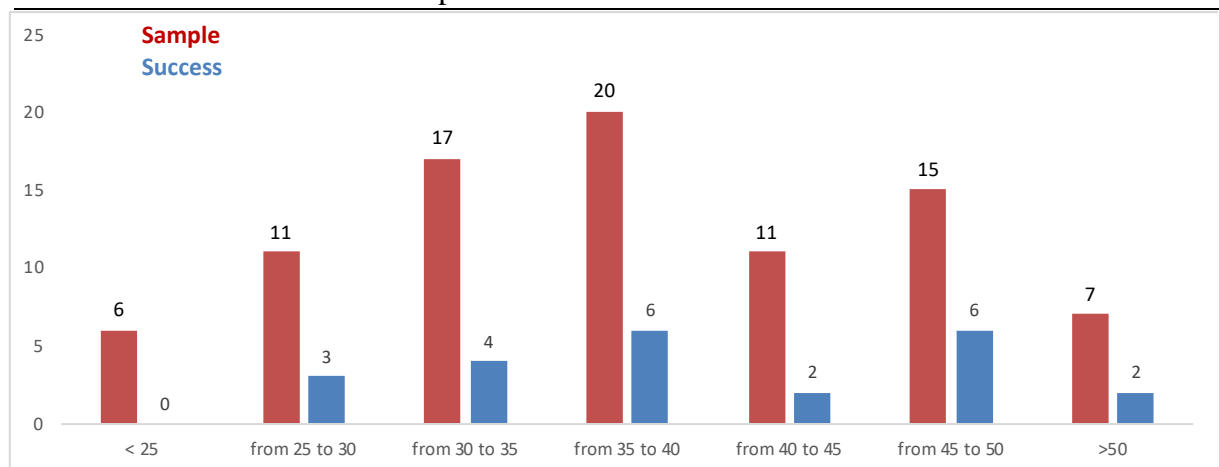
We used the SurveyMonkey electronic form to administer the survey, and we communicated by email. A mobile survey proved to be the most effective way to apply it, followed by LinkedIn messaging. Our relationships and personal approach were instrumental in collecting responses. The first email introducing our research with a link to the survey was sent to members of IBEVARLab and several startup entrepreneurs in our network, for a total of 144 emails. We created another link to the survey that was sent to the IBEVARLab's WhatsApp Group and other entrepreneurs in our network via WhatsApp, yielding 77 responses. We also created two additional links to the survey that were sent via LinkedIn to approximately 300 entrepreneurs to whom we were not yet connected, generating 16 responses, and to some 50 entrepreneurs in our network that we had not previously approached, yielding 9 responses. The QR code we used to approach the entrepreneurs at the conference until we were barred by the organization was never applied.

Out of the 106 responses we collected, we excluded 16 that were incomplete and another 4 that did not qualify because they were one employee, one company that was older than 10 years and two non-Brazilian startups; thus, we had a total qualified sample of 86 entrepreneurs. Among those, 30 were working in startups that were 3 years or older, of which 28 also completed a sale during this period and thus qualify as successful startups. The successful subgroup was thus 33% of the qualified sample.

### 3.2 Results, analysis and discussion

At the time of the survey, the age of the entrepreneurs in our sample averaged 37.8 years, ranging from 21-61 years old. The successful group averages 37.4 years old, ranging from 26.5-56.5 years old. As depicted in Table 4, there is no clear pattern regarding the age of the entrepreneur in either group. The average age of the entrepreneurs in our sample is in line with the average entrepreneur's age of 41.9 years, observed in a study of 2.7 million company founders who hired at least one employee between 2007 and 2014 (Azoulay et al., 2018).

Table 4. How old is the entrepreneur?

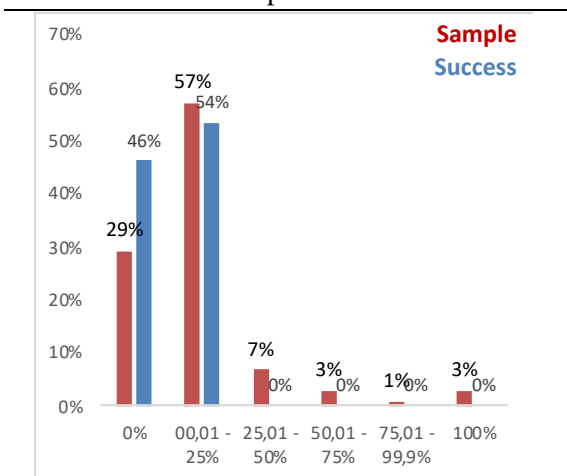


Source: Authors

Approximately 80% of the entrepreneurs are from the states of São Paulo or Rio de Janeiro, depicting a bias toward the SP-RJ axis, Brazil’s economic center and where the authors of this study are from.

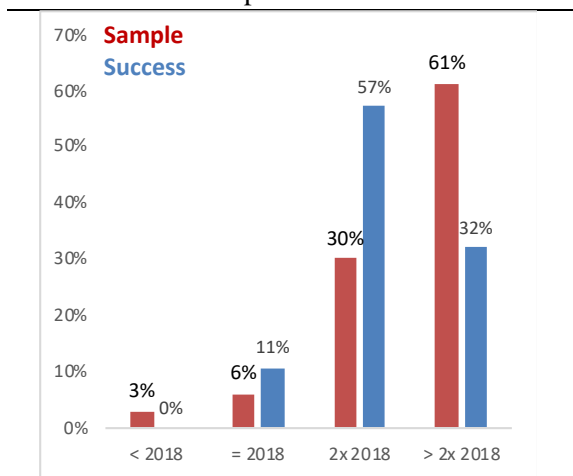
Most of the startups (71% of the sample and 81% of successful startups) target clients in the retail and consumer sector or operate in the retail ecosystem. Most companies (85% of the sample and 100% of successful startups) have already completed their first sale, mainly in the first year of operation (71% of the sample and 81% of successful startups). The first client is irrelevant for both startups in the sample and the successful startups as most of the startups have posted less than 25% of their revenues coming from this client at the date of the survey.

Table 5. How much of current sales does the first client represent?



Source: Authors

Table 6. How much will the startup grow in 2019 compared with 2018?



Source: Authors

As depicted in Table 6, most companies were optimistic about their 2019 sales and growth prospects: 91% of the sample and 89% of the successful startups expected 2019’s sales to be higher than 2018’s. However, the sample startups and successful startups have a different perspective about the immediate future. Nonsuccessful startups were more optimistic about 2019 sales than the successful startups. There are at least three possible explanation for this difference in expectations: i) nonsuccessful startups are more confident, ii) nonsuccessful startups are trying to compensate for a lackluster performance or iii) nonsuccessful startups are not very good in making estimates.



Table 7. Qualified sample versus successful subgroup

Sample	Successful	
3.5	4.7	startup years, on average
53%	51%	are controlling shareholders
27%	35%	are part of IBEVARLab
71%	81%	are part of the Retail Ecosystem
85%	100%	have completed a sale
71%	81%	have completed a sale in the first year
86%	100%	have less than 25% of sales from the 1st client
91%	89%	expects to post higher sales in 2019 compared to 2018
31%	35%	Have already participated in a company that offers similar services or products
69%	70%	Have any past experience with the products or services offered by the startup
72%	56%	are from SP
7%	7%	are from RJ
8%	2%	are from MG
2%	0%	are from BA
10%	35%	are from other states
37.8	37.4	age of entrepreneur in years, on average
57%	49%	have a strategy role
23%	30%	have a commercial role
58%	63%	are married
47%	44%	have at least one dependent
64%	53%	have more than an undergrad degree
31%	35%	have participated in another business before
41%	51%	have had support from third-party investor

Source: Authors

Note: Sample is the average of the sample or the frequency of the variable considering the sample. Successful is the average of the successful group or the frequency of the variable considering the successful group.

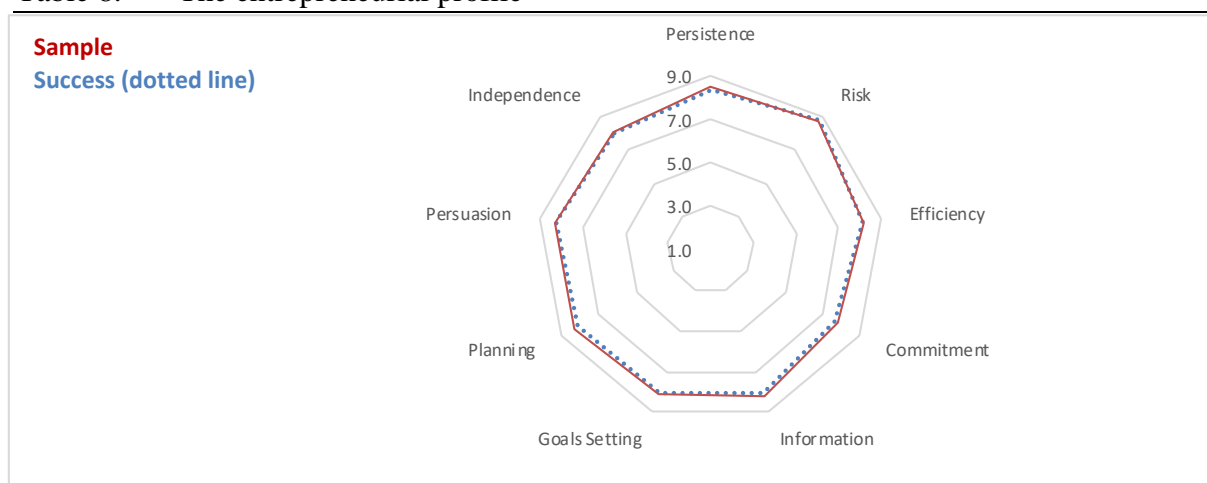
A total of 69% of the sample and 70% of the successful subgroup have past experience with the products or services offered by the startup. This prior knowledge is key to reducing opportunity costs and maximizing the longevity of the startup, as depicted Cooper, Woo and Dunkelberg (1989).

Comparing the sample with the successful subgroup, completing a sale in the first year seems to be relevant. Completing a sale is relevant because it requires two major milestones in the evolution cycle of a new venture: i) there is a product or service to be sold, and ii) someone else – the client – also believed in the entrepreneur's product or service. Posting revenues is unquestionably important and according to Kohn (2018) and expected to have a positive impact on valuation. However, to our knowledge, little research has been done regarding the timing of sales. The first hypothesis we tested involves the concept of the first sale.

DeTienne (2015) investigates the role of family and having dependents on founder's exit strategies. The second and third set of hypotheses investigate the relation of success and survival or success of startups. We observed that most successful entrepreneurs are married, but not all of them have dependents. Marital status and number of dependents could influence entrepreneur's maturity, and financial dependency on the startup and availability of time to dedicate to the startup may impact the overall performance of the founder.

The entrepreneurial profile of the respondents confirms the SEBRAE (2018) criteria for defining the ideal entrepreneur. The high average grades we have collected classify the whole sample as entrepreneurs. This finding either validates our sample (if you assume the test is valid) or confirms the test (if you consider the sample is consistently composed of entrepreneurs). The sample and the successful group have extraordinarily high and similar average grades, 8.3/10 and 8.2/10, respectively. Analyzing each macro characteristic individually leads to similar conclusions, as depicted in Table 8.

Table 8. The entrepreneurial profile



Source: Authors

To understand the subtle difference between the sample and the successful group requires a more detailed analysis. In order to quantify the difference between the grades of the sample and the successful group, we followed Sharpe (1966) and assessed the success' premium/discount relative to its standard deviation. A Scaled Difference is calculated as follows:

$$\text{Scaled Difference} = \frac{\text{Average}_{\text{Success}} - \text{Average}_{\text{Sample}}}{\text{Standard Deviation of the sample}}$$

Scaled Difference measures by how many standard deviations the successful group is larger than the sample. A negative Scaled Difference indicates the average success is lower than the average sample. The Scaled Difference is an adaptation of the reward-to-variability ratio introduced by Sharpe (1966): the average of the variable of interest minus the average of the benchmark in the numerator, divided by the standard deviation of the benchmark.

In absolute terms, a higher Scaled Difference indicates that the difference between the success group and the sample is more meaningful. **Persistence** (-16%) and **Planning** (-15%) posted the largest absolute Scaled Difference, followed by **Information** (-13%) and **Persuasion** (-12%). Out of the ten founder's characteristics we have assessed, only the **Risk** posted a positive Scaled Difference, meaning the average for the success group was higher than the sample, and only **Independence** posted a zero Scaled Difference, meaning the difference between the two groups is immaterial and is unlike to influence success.

We derived our final set of hypotheses based on the suggestion that success might be more correlated to Persistence and/or Planning and/or Information and/or Persuasion than the other characteristics of the entrepreneur.

Table 9. The entrepreneurial profile

Sample	Successful	Scaled Difference	
7.9	7.8	-7%	Does not quit
8.5	8.3	-16%	Flexible
9.2	9.1	-9%	Effort
* <b>8.5</b>	<b>8.4</b>	<b>-14%</b>	<b>Persistence</b>
8.6	8.5	-2%	Error
8.8	8.9	3%	Alternatives
8.8	8.9	10%	Challenges
<b>8.7</b>	<b>8.8</b>	<b>6%</b>	<b>Risk</b>
8.9	9.0	7%	Improve
8.0	7.9	-8%	Client expectation
7.8	7.6	-12%	Quality
<b>8.2</b>	<b>8.2</b>	<b>-7%</b>	<b>Efficiency</b>
9.0	9.0	-1%	Responsibility
6.6	6.4	-11%	Client
<b>7.8</b>	<b>7.7</b>	<b>-10%</b>	<b>Commitment</b>
8.8	8.8	-2%	Market assesment
8.7	8.6	-7%	New offerings
7.1	6.9	-12%	Specialist
* <b>8.2</b>	<b>8.1</b>	<b>-11%</b>	<b>Information</b>
8.5	8.5	-2%	Goals
8.1	8.0	-6%	Long Term
7.7	7.7	1%	KPI goals
<b>8.1</b>	<b>8.1</b>	<b>-2%</b>	<b>Goals Setting</b>
8.3	8.2	-12%	Face challenges
8.4	8.5	3%	Adapt plans
8.1	7.8	-17%	Financial KPIs
* <b>8.3</b>	<b>8.1</b>	<b>-14%</b>	<b>Planning</b>
8.2	8.1	-5%	Project support
8.2	8.0	-17%	Key people
8.6	8.7	4%	Network
* <b>8.3</b>	<b>8.2</b>	<b>-8%</b>	<b>Persuasion</b>
6.4	6.3	-7%	Self-aware
9.0	9.0	8%	Determined
8.7	8.8	3%	Ability
<b>8.0</b>	<b>8.0</b>	<b>-1%</b>	<b>Independence</b>

Source: Authors

#### 4. HYPOTHESES DEVELOPMENT

Although our sample is composed exclusively of entrepreneurs who have very similar characteristics, especially in terms of the Entrepreneurial Profile, we have identified some subtle differences between the sample and the successful group.

Our goal is to test if we can derive a multivariable regression that can determine if an entrepreneur belongs to the successful group. It is essential to highlight that not being in the successful group does not mean failure but rather that the success factor has not yet been fulfilled.

Although we are interested in all variables and their correlations, we have derived the following hypotheses, some of them counterintuitive:

H1: Completing a sale in the first year is positively correlated with success.

H2: Being married is positively correlated with success.

H3: Having no dependents is positively correlated with success.

H4: Founders' persistence is negatively correlated with success.

H5: Planning and Monitoring are negatively correlated with success.

H6: Being persuasive and developing its network is negatively correlated with success.

We have run a logit regression using STATA software with success as the dependent variable and one variable for each hypothesis to be tested. As depicted in Table 10, none of the variables explains the dependent variable success with statistical significance. However, **Persuasion** is the variable with the lowest *p* factor.

Table 10. Success versus various variables run at a logit regression using STATA

Logistic regression		Number of obs	=	73		
		LR chi2(11)	=	7.99		
		Prob > chi2	=	0.7144		
Log likelihood = -44.608075		Pseudo R2	=	0.0822		

Success	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
Anyoutsidesupport	1.330503	.7857755	0.48	0.629	.4181276	4.233728
Anysale	1 (omitted)					
styearsale	.5294976	.3726741	-0.90	0.366	.1332804	2.103593
Persistency	.8355814	.2776233	-0.54	0.589	.435688	1.602514
Risk	1.148803	.3178269	0.50	0.616	.6679635	1.975778
Efficiency	1.212537	.4354906	0.54	0.592	.5997641	2.451374
Commitment	.9819861	.2348179	-0.08	0.939	.6145558	1.569095
Information	.7886816	.2741703	-0.68	0.495	.3990227	1.558856
AG	1.364706	.4494103	0.94	0.345	.7156996	2.602242
Planning	1.30385	.4227372	0.82	0.413	.6906363	2.461536
Persuasion	.6384969	.2144746	-1.34	0.182	.3305488	1.233338
Independency	1.270526	.4304342	0.71	0.480	.654048	2.468068
_cons	.1116583	.3979078	-0.62	0.538	.0001034	120.5728

Legend: \* *p* < 5%, \*\* *p* < 1%, \*\*\* *p* < 0.1%

Notes: **\_cons** estimates baseline odds

Anysale dropped and 13 observations were not used by STATA

Source: Authors

We have run different information trees and additional logit regressions using different variables with the same result. We were not able to identify any variable that was statistically relevant in explaining success as we have defined it. We performed a sensitivity analysis that changed the definition of success, increasing and decreasing the survival period of 3 years, and we obtained the same results.

**Persuasion and network** are only statistically significant to explain success in a regression that includes **outside support** (anyoutsidesupport), **goals settings** (AG), **planning and control** (planning) and **persuasion and network** (persuasion) as depicted in Table 11.

Table 11. Success versus selected variables run at a logit regression using STATA

Logistic regression		Number of obs	=	86		
		LR chi2(4)	=	5.36		
		Prob > chi2	=	0.2521		
Log likelihood = -51.585316		Pseudo R2	=	0.0494		

Success	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
Anyoutsidesupport	1.683652	.8901183	0.99	0.324	.5973609	4.745349
AG	1.350897	.3710832	1.09	0.274	.7885016	2.31442
Planning	1.220571	.320004	0.76	0.447	.7301278	2.040457
Persuasion	.6173221*	.145235	-2.05	0.040	.3892718	.978973
_cons	.3547817	.8686729	-0.42	0.672	.0029229	43.06297

Legend: \* *p* < 5%, \*\* *p* < 1%, \*\*\* *p* < 0.1%

Note: **\_cons** estimates baseline odds

Source: Authors

This result confirms our last hypothesis “Being persuasive and developing its network is negatively correlated with success” indicating a possible correlation between the variable **Persuasion** with success at a factor lower than 1 when the other variables are considered. We have assessed the founder’s **Persuasion** through three questions: i) does the founder come up with a strategy to gain support for projects (Projectsupport), ii) does the founder gather support for projects from key people (Keypeople), and iii) does the founder develop networks and builds good commercial relationships (Network). A possible explanation of this phenomena is that successful founders believe in their vision and are less worried than unsuccessful founders regarding gaining other stakeholders’ support. This is consistent with the view of the founder as a confident individual and less of a team member (Casson, 1982; Kirzner, 1973; Cooper et al., 1988; Palich and Bagby, 1995, Ginn & Sexton, 1990).

We have also tested success for each individual metric we used to measure **Persuasion** (Projectsupport, Keypeople, Network) to assess if any metric would stand out. No metric came up as statistically significant, as depicted in Table 12.

Table 12. Success versus selected variables run at a logit regression using STATA

Success	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
Anyoutsidesupport	1.503827	.8146912	0.75	0.451	.5200722 4.348428
AG	1.322337	.3750629	0.99	0.325	.7584212 2.305547
Planning	1.193784	.3265028	0.65	0.517	.6984251 2.040475
Projectsupport	.8741605	.1098765	-1.07	0.285	.6832828 1.118361
Keypeople	.7622757	.1241251	-1.67	0.096	.5539961 1.04886
Network	1.013609	.1910651	0.07	0.943	.7005181 1.466634
_cons	.2356956	.5800795	-0.59	0.557	.0018942 29.32756

Legend: \* p < 5%, \*\* p < 1%, \*\*\* p < 0.1%

Note: \_cons estimates baseline odds

Source: Authors

## 5. FINAL CONSIDERATIONS AND LIMITATIONS

Our study validates SEBRAE (2018) and Malheiros et al.’s (2015) main characteristics of an entrepreneur. These characteristics, however, do not necessarily reflect the unique profile of a startup that has survived over three years and has completed at least one sale during that period. In this study, we labeled successful entrepreneurs the founders of those startups.

We were able to identify **Persuasion** as an individual characteristic that is inversely proportional to success, with statistical significance, when this construct is combined with **outside support, goals settings and planning and control**. This indicates that these variables are correlated. The systematic planning and monitoring characteristic contradict the results from Ginn & Sexton (1990), which highlighted the relevance of strategic planning for growth-oriented founders. However, the view of the founder as a confident individual and less of a team member has been solidly documented (Casson, 1982; Kirzner, 1973; Cooper et al., 1988; Palich and Bagby, 1995, Ginn & Sexton, 1990).

Characteristics such as age, past experience, percentage ownership in the company and number of dependents, to name a few, did not add information that explained a successful entrepreneur. Neither did the timing of the first sale nor the importance of the first client. Startup survival seems to be a much more complex problem to investigate, and it probably depends on additional factors other than the characteristics of the individuals behind it.

Our analysis is limited by the size of the sample and the size of the subgroup qualified as successful. Our sample is not random, imposing the limitations of sampling by convenience,

although we have tried to reach all individuals who could be labeled as startup entrepreneurs, our universe for analysis. Another limitation stems from the fact that we observed some concentration in the retail and consumer ecosystem, which is evidence that fintechs and healthcare startups are underrepresented in our sample.

This paper should be considered an initial investigation. One could expand the survey to include additional entrepreneurs, which we expect will improve the quality of the results. In this analysis, we have excluded entrepreneurs from countries other than Brazil. One could expand the survey to other countries in Latin America, for example, to conduct a cross-sectional analysis. Therefore, we could enable access to different entrepreneur characteristics across countries.

A further improvement would be a deeper understanding of **Persuasion** and how all the variables are inter-related and impact startup performance. Outside support, especially venture capital funding, is of particular interest as it is intrinsically related to success in the long run.

Alternatively, one could consider the collection and analysis of financial and operational quantitative data of startups to measure their business performance and the entrepreneur profile. This is expected to be very challenging due to confidentiality issues, but worthwhile.

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