

# **New Required Characteristics for Entrepreneurs Trans-COVID-19 Vis-a-Vis Pre-COVID-19**

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*This qualitative systematic study analyzes the entrepreneur concept and its transformation during the COVID-19 pandemic. The study reports the results of a metasearch of keywords such as entrepreneurial traits, entrepreneur's characteristics, business adaptations due to COVID-19, COVID-19 protocols, management responses to COVID-19, and entrepreneurship during COVID-19, among others. It has fulfilled the objective of confirming the presence of an adaptation and transformation process of the skill set and traits of a successful entrepreneur Trans-COVID-19 vis-a-vis Pre-COVID-19. Prevalent characteristics during the COVID-19 pandemic include adaptability, technological knowledge, creativity, innovation, ability to network, and creating new relationships. These characteristics suggest avenues for further investigation. Research opportunity lies in examining potential shifts in strategic orientations that may arise from the post-traumatic effects on organizations due to the profound changes brought about by the COVID-19 pandemic. Furthermore, the recognition of these new traits and shifts in managerial paradigms during the Trans-COVID-19 period raises significant questions about potential changes in academic processes aimed at developing future entrepreneurs.*

*Keywords: entrepreneurship, entrepreneurial characteristics, COVID-19, Trans-COVID-19, pre-Covid-19*

## **INTRODUCTION**

The higher-education institutions, the financial, economic, and political sectors, and the new professionals, are facing unprecedented challenges due to the global financial crises and the increasingly limited job opportunities, especially for recent graduates. These challenges create a need and trend towards creating new businesses to fulfill personal and professional goals. The 2020 World Economic Forum (WEF) forecasts that as early as the year 2027, half of the labor force will depend on *self-management*. 2020 WEF also predicts that by the year 2025, 52% of today's manual tasks will be automated or performed by robots.

The emergence of the COVID-19 pandemic will accelerate these forecasts in terms of percentages and years of the automated and digital economy, as well as the number of self-managed jobs. Universities,

governments, and the education sector in general will have to redesign their curricula and professional development programs, as well as their strategic plans to include essential entrepreneurship elements and components. New academic programs will focus on entrepreneurship with emphasis and incorporation of curricular networks and continuous revision to create cutting-edge curricula. In addition, organizations will create incentives that promote entrepreneurial activities and mindset. These initiatives take on a renewed sense of urgency and commitment to develop to implementation and execution. With new economic development models, entrepreneurship endeavors become an increasingly viable alternative (Hernández, 2021). According to Sunter (2000), Levin (1998), and Luchen & Barrón (1998), the entrepreneurial spirit plays a fundamental role in the contemporary global economy, and it is considered a major developmental force for economic growth and job creation (Eeden et al., 2005). Furthermore, entrepreneurship has been considered a major social and since Max Weber (1934), who considered the “entrepreneurial spirit” the direct result of the education based on the Protestant work ethic (Luca, 2017). Berríos Lugo, establishes that entrepreneurship is a powerful force that plays a critical role in contemporary global economies (Eeden et al., 2005).

In the process of identifying the traditional characteristics required of successful entrepreneurs in the context of traditional academic metrics and criteria, we could identify that based on recent publications that detail these required traits; there is a wide spectrum of new traits that the traditional literature had not included in the last decade before the start of the COVID-19 pandemic. Therefore, the analysis is divided in three parts. The first part includes a comparative review of the new caricaturists required to be a successful entrepreneur. Then, there is a literature review of the traditional characteristics of an entrepreneur to establish the comparative review. The objective is to establish the new trends at the beginning and during the pandemic, the periods denoted as TRANS-COVID-19 (T-COVID-19). The TRANS-COVID-19 denomination is due to a public health crisis expected to last for many years. That is the primary reason it is not referred to as Post-COVID-19, since it has not ended and will most likely stay with us for a relatively long period. Most countries during this period experienced a lockdown to protect lives and public health, but many entrepreneurs continued their endeavors, especially around essential activities such as food and nutrition, as well as other limited but allowed services such as transportation for medical care, education, and many others. Therefore, given the emerging needs for these services, companies reengineered the necessary institutional entrepreneurship to adapt their activities to the new context of social interaction during the pandemic. Entrepreneurs also showed their creativity and ingenuity during the T-COVID-19. Thus, this study of effective and successful processes will provide valuable information to entrepreneurs, governments, academics, and researchers about tools and resources for the analysis and identification of the desirable and, sometimes essential, capabilities that entrepreneurs have developed to adjust to these scenarios imposed in the framework of entrepreneurship, organizations, and business.

The goals of this research study are: 1) Catalog the multiple characteristics required by entrepreneurs before the COVID-19 pandemic (P-COVID-19); 2) Identify the multiple characteristics required by entrepreneurs during the COVID-19 pandemic (T-COVID-19), and 3) Compare and project the necessary characteristics for entrepreneurs after the COVID-19 pandemic (P-COVID-19).

This research study relies on the systematic literature review methodology utilizing an exhaustive literature review for around 22 years to accomplish these objectives. It ends with a literature review for the years of 2020-2021.

This manuscript is divided into five sections: it starts with a literature review of the traditional characteristics of a successful entrepreneur before the year 2010. Then for strategic reasons, it covers from 2010 to the start of the pandemic (February 2020). The third segment covers the new traits for entrepreneurs for March 2020 to date, denoted T-COVID-19. Next, the applied methodology is described. The third section presents the findings and analysis of the results. Finally, the manuscript includes the conclusions and limitations of the study.

## LITERATURE REVIEW

### An Analytical Approach to Entrepreneurship

Entrepreneurship is a long-established concept and domain. It is a topic prevalent in curricula worldwide (virtually in every country) in numerous disciplines of higher learning, as well as K-12 programs. Some of the first mentions in research studies were in publications in the 1970s (Luca, 2017).

According to Cooper (2005), as Luca (2017) quoted, the first entrepreneurship courses were introduced after the Second World War. In the beginning, entrepreneurship was not universally accepted it was condemned and penalized, as established by Luca (2017). In countries like Rumania, over five decades, entrepreneurship was considered and taught as a dishonest endeavor. The established label or characterization was of the “black businessperson,” associated with those who would launch what we call “small businesses.” In a society that forbids and penalizes the entrepreneurial mindset, the business spirit was condemned as a capitalistic mentality and considered a threat to the communist social order (Luca, 2017). The latter establishes that this negative attitude towards new businesses began to shift with the development of the private sector, creating the emergence of a new social class or category, *entrepreneur* or *businessperson* (Luca, 2017).

Most of the studies and research projects about entrepreneurship have been performed in the United States (US) and countries in the Occident. Therefore, there is great uncertainty about its relevance and applicability to regions outside of the US, posing a challenge. Some publications and studies are based on global regions and sectors to bridge this gap. The findings reveal that the characteristics required substantially differ by region and sector (Eeden et al., 2005). According to this author, one of the primary reasons for these differences is culture and customs. Another factor is race. For instance, according to Dyck and Neubert (2010) as cited by Farrington, Venter, and Louw (2012), studies show that African-Americans are more prone to be involved in entrepreneurial activities than Hispanics and Whites (Farrington et al., 2012).

Given the various factors and aspects that affect and dominate the concept, entrepreneurship is difficult to define. Combining a cadre of definitions, Chell (2008) observes that many of these definitions are centered in the development processes of any type of organization (in business and social domains); rather precisely, they focus on the development of an idea, from the perception of the opportunity through the development of the activity that produces revenue (Berríos Lugo, 2017, pp. 2-3). Entrepreneurship is not limited to creating a new Enterprise (entrepreneurial activity), but it also includes the psychological aspects of the person driving the effort. This person possesses the traits and/or specific characteristics (entrepreneurial tendencies) (Luca, 2017). Entrepreneurship is distinguished as a planned behavior that transforms an idea into a formal business (Rusu, Isac, Cureteanu, & Csorba, 2012) and generates value (Lans, Blok, & Wesselink, 2014) by the individuals with a set of specific characteristics (Mueller, 2004) that are potentially influenced by their environment and surroundings (Lee, Lim, & Pathak, 2009). According to Luca (2017), the principal characteristics of the entrepreneurial processes are connected to the social and economic environments where the innovation organization is located. This productive activity creates material, financial, and social resources as the resources are developed and risks are taken (Eeden et al., 2005).

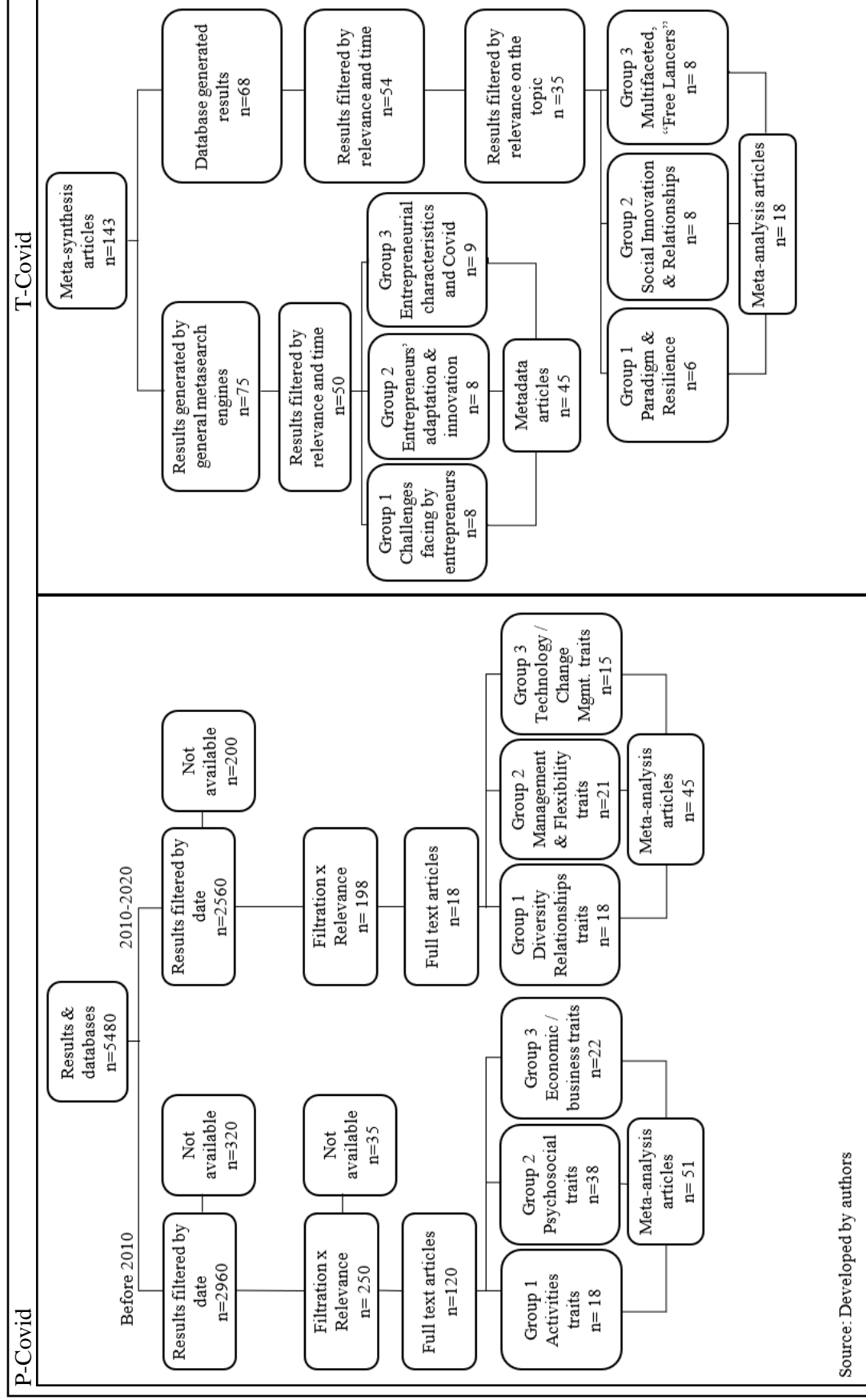
## METHODOLOGY

For the first part of the study (period P-COVID-19), a search was performed using online databases such as ProQuest, Science Direct, Emerald, EBSCOhost and Google Scholar to identify publications related to the subject matter. The search was performed using characteristic words for entrepreneurship, traits of entrepreneurs and entrepreneurs, and successful entrepreneurs, among others. The selection criterion was refereed journal articles before the year 2020, the year of the beginning of the COVID-19 pandemic. Furthermore, only studies published after the year 2000 were considered, given that the number of articles increased considerably after that year, and the content of these publications provided the information required for this research study. See Figure 1.

The databases previously described were considered for the second part of the study. Still, given the number of published research findings in professional journals was limited, the search was expanded to include business journals, entrepreneurship websites, business-focused periodicals, reports, and videos of

business stories, and information provided by companies, in addition to the professional journals. The keywords utilized in the metasearch were, entrepreneurial traits, entrepreneur's characteristics, business adaptations due to COVID-19, COVID-19 protocols, management responses to COVID-19, and entrepreneurship during COVID-19, among others. The search focused on the period after February, 2020 to identify the most significant experiences to document how entrepreneurs reacted and adapted to such event. (Figure 1).

**FIGURE 1**  
**ARTICLE SELECTION PROCESS FOR PRE- AND TRANS-COVID PERIODS**



### Traditional Characteristics of Entrepreneurs Before 2010

According to various publications there are some observed peculiar characteristics of entrepreneurs that are part of what make them successful and distinguish them in their field. Table 1 presents the entrepreneur's traditional traits in the first column, and the authors that assert these findings are included in the second column.

**TABLE 1**  
**ENTREPRENEUR'S TRAITS BEFORE 2010**

Entrepreneur's Traits	Authors and Year
Establishing goals and having perseverance	De Clercq, Menzies, Diocho y Gasse (2009); Cubico, Favretto, Leitão & Canter (2018); Chaudhary (2017); Berríos Lugo (2017); McClelland (1961)
Ability to relate to others and create relationships	Eeden, Louw y Venter (2005); Sorensen & Chang (2006); Ozgen & Minkey (2013); Carlsson, Audretsh & Braynerhjelm (2009); Cubico, Favretto, Leitão & Canter (2018)
Communication Skills	Zahariah, Amalina & Erlane (2010); Ulvenblad, Beggren & Winborg (2013); Eedeem, Louw & Venter (2005)
Ability to Compete with Self-imposed Standards	Eedeem, Louw & Venter (2005); Carlsson, Audretsh & Braynerhjelm (2009); King Jr., Barber & Morgenhaler (2007)
Handle and Manage Failure	Eedeem, Louw & Venter (2005); King Jr., Barber & Morgenhaler (2007); Cubico, Favretto, Leitão & Canter (2018)
Self-confidence and Self-determination	Eedeem, Louw & Venter (2005); Shane et. al (2003); Cubico, Favretto, Leitão & Canter (2018); Chaudhary (2017); Boyd & Vozikis (1994), Carr Sequeira (2007), Kristiansen e Indarti (2004) & Zhao et, al. (2005); Mustafa, Hernández, Mahon & Chee (2016)
Risk Taking	Berríos Lugo (2017); Chaudhary (2017); Brokhaus (1980) & Littunen (2000); Ponceelia & Eugene Franco (2017); Mueller (2004)
Initiative and Acceptance of Personal Responsibility	Eedeem, Louw & Venter (2005)
Stamina and High Energy Level	De Clercq, Menzies, Diocho & Gasse (2009); Ponceelia & Eugene Franco (2017); Eedeem, Louw & Venter (2005); Chaudhary (2017)
Tolerance to Ambiguity and Uncertainty	Eedeem, Louw & Venter (2005); Berríos Lugo (2017); Ndoro & van Niekerk (2019), Bunder (1962); Chaudgary (2017)
Thinking Ability	Berríos Lugo (2017); Eeden, Louw & Venter (2005); Cubico, Favretto, Leitão & Canter (2018)
Integration of External Human Capital	Ponceelia & Eugene Franco (2017); Berríos Lugo (2017); Eeden, Louw & Venter (2005); King Jr., Barber & Morgenhaler (2007)
Continuous Pursuit of Knowledge	Eedeem, Louw & Venter (2005); King Jr., Barber & Morgenhaler (2007); Ozgen & Minsky (2013); Berríos Lugo (2017)
Quantitative Skills	Eedeem, Louw & Venter (2005); Ponceelia & Eugene Franco (2017)
Financial Knowledge (Money Sense)	Berríos Lugo (2017); Ponceelia & Eugene Franco (2017); Chaudhar& (2017)

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The characteristics presented in Table 1 can be acquired utilizing education, life experiences, and even through the entrepreneurial process (Eeden et al., 2005). They can support the conceptualization and deepening the entrepreneur's skill set.

#### *Establishing Goals and Having Perseverance*

According to the Goal-setting Theory developed by De Clercq, Menzies, Diocho, and Gasse (2009), the likelihood of a person achieving a goal is related to their motivation level (Cubico et al., 2018). It is important to point out that entrepreneurs should have realistic and reachable goals to have a long-term commitment and determination (Chaudhary, 2017). Cubico's research study establishes that among the competencies that an entrepreneur should have are tenacity and perseverance. Still, they refer to the ability to sustain activity and energy towards a goal. This activity should be directed at presenting and facing difficulties and obstacles that may prevent accomplishing the established goal. The need to achieve defined goals, as established by McClelland (1961) is a personality trait associated with the desire to establish and maintain high performance standards. The individuals with this characteristic have the desire and drive to achieve success. As a result, these individuals set higher goals, take bigger risks, have a high probability of choosing moderate difficulty, and add some innovation to their projects in a challenging yet achievable range (Berríos Lugo, 2017).

#### *Ability to Relate to Others and Create Relationships*

This concept is established by Eeden, Louw and Venter (2005) as the ability to convince others to move in a specific direction. Therefore, the person has the characteristics and qualities necessary to develop an interaction with the client or person they are dealing with, to be joyful, cooperative, and attentive. Sorensen and Chang (2006) highlight the ability to build human relations that interrelate with how the personal, professional and structural networks improve the access to information, resources and sponsorships that complement the entrepreneurial process.

Ozgen and Minkey (2013) also mention that this ability has been proven essential for budding entrepreneurs. It is highlighted that the research findings indicate that the entrepreneur's social environment is one of the most important sources of information in identifying opportunities (Carlsson et al., 2009).

#### *Communication Skills*

The ability to communicate effectively is an integral component of human relations, such that entrepreneurs can interact with investors (Zahariah et al., 2010). Ulvenblad, Berggren and Winborg (2013) mention that the power to communicate ideas, verbally and in writing, efficiently and effectively has proven to be an important component of the entrepreneurship process. As Eeden, Louw and Venter (2005) expressed, "The capacity to communicate is having the ability to communicate ideas to others verbally and in writing."

#### *Ability to Compete with Self-imposed Standards*

Eeden, Louw and Venter (2005) define this concept as a competency among the realistic and properly established standards and high demands where responsibility is taken and being the person in charge of decisions already made is accepted. An example is presented by Carlsson, Audretsh, and Braynerhjelm (2009) where, in the U.S. higher education curricula, having a degree and the graduation indices (e.g., GPA) have a higher priority over the necessary standards and skills for the present times (Eeden et al., 2005). The purpose of entrepreneurship sometimes involves self-will, ambition, and the feeling of being self-made by their own efforts and actions (King Jr. et al., 2007).

#### *Handle and Manage Failure*

"Failure should be taken as a learning experience," asserts Eeden et al., (2005). King, Barber and Morgenhaler (2007) point out that a commercial enterprise is a very human enterprise that is not exempt

from failure. What is important is to take failure as a lesson to move on. As such, it provides strength and wisdom to be successful. Most of the time, successful entrepreneurs acquire their wisdom through these experiences, with successful and failed businesses (Cubico et al., 2018).

#### *Self-Confidence and Self-Determination*

Self-confidence and self-determination are defined as a belief in own's capacity to reach the self-determined goals having a high need of autonomy (Eeden et al., 2005). Additionally, Shane et al. (2003) postulate that the individual with high self-efficacy and self-confidence will commit during a longer time to a specific task, endure obstacles and adversity, establish and accept higher goals, and develop better plans and strategies, for the corresponding task. Cubico (2018) emphasizes the importance of self-efficacy for the success of high-growth entrepreneurs. The examples presented are significant challenges and obstacles overcome by entrepreneurs in Brazil to develop their businesses. These challenges include labor laws, complicated and expensive taxes, social and cultural barriers, limited government support and all the costs that had to be financed to start their businesses. Many financed their projects with personal savings, and the only additional financial support was from their family (Chaudhary, 2017). Mustafa, et al. (2016) assert that self-efficacy could impact the beliefs and intentions of an individual in different fashion regarding their success and, consequently, their objectives.

#### *Risk Taking*

An entrepreneur should have a predisposition to take moderate and calculated measures and risks, providing a reasonable opportunity for success (Berríos Lugo, 2017). Additionally, Chaudhary (2017) defines the entrepreneurial spirit as a professional career that implies a series of risks for an individual given certain unknown and uncertain decisions involved in the decision-making process. Brockhaus (1980) and Littunen (2000) establish that these risks could be financial, professional and familial, including an emotional and psychological risk aspect (Ponceelia & Eugene Franco, 2017). Another interesting aspect is that an extended view from Mueller's (2004) study, women tend to be more conservative than men in taking risks.

#### *Initiative and Acceptance of Personal Responsibility*

Entrepreneurs need to depend on their own initiative, make important decisions and determine the corresponding steps and actions, accepting the consequences (Eeden et al., 2005). Successful entrepreneurs do not need other people to perform quality work and to achieve their goals. They establish the timeline and utilize what is available to them to execute the corresponding work (Eeden et al., 2005).

#### *Stamina and High Energy Level*

To undertake entrepreneurship as a professional career is related to environmental pressures. It directly influences the incipient entrepreneurs to invest stamina and energy in the creation of the business (De Clercq et al., 2009). Along those lines of thought, the entrepreneurs who are willing to invest time in a start-up are possibly influenced by an entrepreneurial perspective, their skills and abilities and personal preferences (Ponceelia & Eugene Franco, 2017). Additionally, entrepreneurs can work many hours, having vigor, good health, and perseverance. These are the key characteristics of stamina and high energy levels (Eeden et al., 2005). The stamina and desire to succeed are their own. It has been proven that with every financial recession the entrepreneurs are the ones that restart the economic growth (Chaudhary, 2017).

#### *Tolerance to Ambiguity and Uncertainty*

According to Eeden, Louw, and Venter (2005), *tolerance to ambiguity and uncertainty* is defined as the ability to live uncomfortably ("out of the comfort zone"), but with high levels of uncertainty directly related to job security and professional career. Entrepreneurs should be able to perform multiple jobs simultaneously (Berríos Lugo, 2017). The way an entrepreneur can handle an uncertain situation and the ability to manage knowing the level of uncertainty involved gives the self-confidence to stand out and make



a difference, according to Ndoro and van Niekerk (2019). That is why Chaudhary (2017) establishes that tolerance and ambiguity involve dealing with these concepts sensibly and calmly.

#### *Thinking Ability*

The entrepreneur identifies with being a person who can think originally, using creativity and being capable of critically analyzing given situations (Berríos Lugo, 2017). This ability was observed when Steve Jobs combined his creativity and technological knowledge to create his brand (Eeden et al., 2005). To make simple economic and financial decisions, **entrepreneur seed** the cognitive capacity to understand the financial information (Cubico et al., 2018).

#### *Integration of External Human Capital*

The integration of external human capital is a new entrepreneurship initiative or tendency. They are positively and significantly correlated as stated by Berríos Lugo (2017). Additionally, the entrepreneur should be willing to pursue assistance from other experienced individuals to achieve its goals (Ponceelia and Eugene Franco, 2017). Additionally, the entrepreneurs should have a high level of social capital, built over a favorable reputation. The entrepreneur should have favorable previous experiences, direct personal contacts, and counterparts that provide access to risk financial capital, potential clients and others (Eeden et al., 2005). It is known that one entrepreneur alone cannot transform a business into a successful enterprise. The assistance of colleagues, counterparts, and business and financial partners is needed. Therefore, efficient entrepreneurs always value and nurture the importance of the network of friends and counterparts that surround them because they understand that an entrepreneur is the product of these networks (King Jr. et al., 2007).

#### *Continuous Pursuit of Knowledge*

Continuous pursuit of knowledge is always present for entrepreneurs for their tendency to develop abilities and is a collector of experiences and resources in the area of expertise (Eeden et al., 2005). King, Barber, and Morgenthaler (2007) state that entrepreneurs are born and already made, that there is continuous development, and that are significant change agents in the future (Eeden et al., 2005). Additionally, Ozgen and Minsky (2013) highlight that potential entrepreneurs recognize that there will be major opportunities as they expand their knowledge as social connections grow while they create new relationships and continuous learning.

#### *Quantitative Skills*

Entrepreneurs should also understand and/or analyze financial statements or performance reports (Eeden et al., 2005). The importance of this knowledge is that it fosters development and organization of the Enterprise, specifically money management. Entrepreneurs with major quantitative skills or financial knowledge could deal with the ambiguity of the resource allocation decisions (Ponceelia & Eugene Franco, 2017).

#### *Financial Knowledge (Money Sense)*

This concept is directed at recognizing that money is an important factor and having the capacity to properly manage resources. Ponceelia and Eugene Franco (2017) assert that successful entrepreneurs are constantly protecting their integrity, financial well-being, and Enterprise ethics to earn a good reputation in the market for a better long-term perspective. It has been observed that entrepreneurs who have committed fraud and have appealed to dishonest practices to achieve their goals have been unable to sustain their long-term business goals (Chaudhary, 2017).

#### *Business Knowledge*

Stilwell (2016) points out that basic knowledge and the terminology of a commercial operation are vital for an entrepreneur. However, Kuckertz and Wagner (2010) report that German *engineering* students have more interest and entrepreneurial activity than *business* students. It is important to keep Kuckertz and Wagner's (2010) assertion in perspective.

## Entrepreneurs' Traits After 2010 Until COVID-19

According to the literature review, new characteristics of entrepreneurs have been observed during the digital era from 2010 until 2020 and before the COVID-19 pandemic. Table 2 summarizes the research findings that suggest the new entrepreneur's traits in the decade from 2010 to 2020, before the start of the COVID-19 Pandemic.

**TABLE 2**  
**PUBLICATIONS ABOUT ENTREPRENEUR'S TRAITS FROM 2010-2020 BEFORE THE START OF COVID-19**

Entrepreneur's Traits	Author and Year
Technological knowledge	Carlsson, Acs, Audretsch & Braunerhjelm (2009); Hounshell & Smith (1988); Carlsson, Audretsch & Braynerhjelm (2009); King, Barber & Morgenthaler (2007); Irman, Ahmed, Streimikiene, Soomro, Parmar & Vveinhardt (2019); Cubico, Favretto, Leitão & Canter (2018)
Change in the management focus	Irman, Ahmed, Streimikiene, Soomro, Parmar & Vveinhardt (2019)
Multifaceted	Irman, Ahmed, Streimikiene, Soomro, Parmar & Vveinhardt (2019); Verheul (2015); Thurik, Khedhaoria, Torr�s & Verheul (2016)
Excellent in connecting and creating relationships	Ponceelia & Eugene Franco (2017); Sivaraja & Achchuthan (2013); Cubico, Favretto, Leitão & Canter (2018); Watchravesringkan (2013)
Creativity and innovation	Çolakođlu y G�z�kara (2016); Shane (1993); Hofstede (1980); Berr�os Lugo (2017), Van de Ven (1986); Wiklund & Shepard (2005); Lumpking & Dess (1996); Grinhag & Kaufmann (1998)
Instant gratification and acknowledgement	Santos, Caetano & Currel (2013); Sorensen & Chan (2006); Çolakođlu & G�z�kara (2016)
Life work balance and flexibility	Çolakođlu & G�z�kara (2016); Rotter (1966); Chaudhary (2017); D�az & Rodr�guez (2003); Greenhaus (2003); Cubico, Favretti & Leitão (2018)
Collaboration	Cubico, Favretti & Leitão (2018)
Awareness about professional and personal growth	Kirzner (2003); Chaudhary (2017); Gaglio & Katz; Collins (2016); Denis, Ariyaratne & Perera (2017); Davis, Hall & Mayer (2015)
Diversity	Grilo y Thurik (2004); �lvarez & Busenitz (2001); Cubico, Favretto, Leitão & Canter (2018); Garc�a-Caberea & Garc�a-Soto (2008); Hopp & Stephan (2012)
Autonomy and self-employment (urgency about being own employer)	Shane (2012); Yukongi & Lopa (2017); Terek, Nikolić, �ockalo, Bođić & Nastasić (2017); Yao, Wu & Long (2016); Yukongi & Lopa; Solesvik (2013)

Next, each of the traits mentioned above and characteristics are developed.

### *Technological Knowledge*

Technological knowledge starts with the immediate need created by globalization to master the tools to be assertive and competitive in entrepreneurship. Technology development is a result of investment in research. Carlsson, Acs, Audretsch & Braunerhjelm (2009), narrated the history of the initial years of the post-war when most of the financial investment was made in defense projects and not into educational

institutions, such as universities. Thus, most new technology commercialization was implemented in established enterprises, not start-ups. Later on, after the war, Karl Taylor Compton (Massachusetts Institute of Technology (MIT) President), was a pioneer in his efforts towards new technology commercialization, including military developments (Carlsson, et al., 2009). After that, universities began to expand, creating scientific projects in partnerships with science, business and industry. Research and development laboratories emerged. Enterprise and business leaders noticed the importance of technology through the work performed at these new research departments. These enterprises had in common products and services based on newly developed technology. One way or another, they were the consequence of discoveries and scientific developments which were particularly susceptible to additional and significant improvements through a scientific focus and approach to problem resolution (Carlsson, et al., 2009). As described by (Carlsson, et al., 2009), the outcome was that science became part of the corporate strategy. The research agenda was primarily driven by the needs of the rapidly expanding economy. Applied research assumed a major role in this agenda, becoming a fast driver of knowledge creation.

Consequently, this integration of applied research in the enterprise created rapid growth in financial activity growth. In the United States (US) its introduction and expansion into higher education enabled the development of academic curricula to serve and address the increasing demand and needs of dissemination of this knowledge, as well as research projects that facilitated knowledge creation. US academic institutions began distinguishing from their European counterparts. This was an important contribution to the development of a highly trained labor force capable of learning and mastering the new technology (Carlsson, et al., 2009).

King, Barber, and Morgenthaler (2007) establish that the innovations will be technology-based, that many of the simple ideas have been invented and that it is highly likely that few of us will develop an innovative idea that creates jobs and change lives. Irman, et al. (2019) describe competitive scenarios in Pakistan where entrepreneurs should reinvent themselves and pursue new business opportunities. One of the areas of opportunity is technology. Innovation is dominant in the entrepreneurial ecosystem, and the tool or instrument that will serve as the vehicle is technological (or technology-focused) knowledge. Therefore, we are witnesses to the presence of highly successful technology-based enterprises founded and managed by entrepreneur co-leaders rather than individual entrepreneurs. This is due to the research that leads to a business idea usually resulting from a group effort (Cubico et al., 2018).

### *Change in the Management Focus*

Today's dynamic environment with rapid changes reduces the product life cycle. The entrepreneurial mind-set for companies in operation plays an important role in the pursuit of new opportunities, tools and technics to generate innovation in the enterprise. The difference in aggressive marketing techniques also support the organization in promoting continuous growth and grants other benefits to the company (Imran et al., 2019).

### *Multifaceted*

Researchers believe that entrepreneurs should be able and qualified, not only on the operational aspects of the company such as intelligence, experience, and knowledge but also resilient, i.e., capable of adapting to change, staying motivated and committed to quality, etc. That is because an entrepreneur must assume many different roles, from investor to accountant to marketing person (Imran, et al., 2019). Interestingly, along that line of thought, Verheul (2019) indicates that if there are symptoms of a lack of attention of an entrepreneur to the vision, the inattention tends to become a desire to imagine and discover unexplored territories. The hyperactivity turns into an aptitude to multi-task. Innovation and drive become a trigger to take risks. In other words, even in areas where it is not well-perceived, people can diversify and use it in their favor as entrepreneurs (Thurik et al., 2016).

### *Excellent in Connecting and Creating Relationships*

Research shows that professional relationships and connections provide access to the information with other assets needed to start a business (Sriraja & Achchuthan, 2013). Their research also shows that the

higher the connection and relationships rate, the higher the probability of a new company. Cubico, et al. (2018), establish the fact that social capital is very likely to improve with the enhancement of social skills as personal relationships are expanded.

Along those lines, Ponceelia and Eugene Franco (2017), share that social skills play an important role in the entrepreneur's success. For an entrepreneur's international reach and innovation focus, often depend on the exchange of knowledge with people originally from other countries, while entrepreneurs with a national focus trust their close friends and marital partners as sources of business knowledge (Cubico, et al., 2018; Ponceelia & Eugene Franco, 2017).

#### *Creativity and Innovation*

Çolakoğlu and Gözükar (2016) assert that this is an important characteristic to sustain the entrepreneurial spirit. That is a primary reason for some societies to be more innovative than others. They define innovation as a process to convert new ideas into reality. This in turn, generates creative ideas and, thus, produces innovative events. Asi and Shane (1993) found that the highest innovation rates are associated with national cultural values that embrace uncertainty, access to positions of power and low individuality (Hofstede, 1980). Additionally, entrepreneurs should be proactive in learning new skills and concepts and innovative every day to bring a unique and creative touch to the business. This is an essential characteristic to remain in the forefront of market competition, sustain its growth, and increase its market share (Çolakoğlu y Gözükar, 2016).

According to Berríos Lugo (2017), innovation is “the development and implementation of new ideas from people that, through time, get involved in transactions with others in the institutional context.” Wiklund and Shepard (2005) and Lumpkin and Dess (1996) define innovation as a provision to participate with new ideas to create new products, services and practices different from the existing ones. Similarly, Grinhag and Kaufmann (1998) establish that, although there are various definitions of this concept, all coincide in that innovation reflects new ideas. Innovation involves creating added value, a process involving ideas and knowledge.

#### *Instant Gratification and Acknowledgement*

Çolakoğlu y Gözükar (2016) publication asserts that both Santos, Caetano, and Curral (2013), and Sorensen and Chan (2006) establish that entrepreneurs as pioneers and leaders are proactive with and committed to others. They enjoy taking the initiative and assume personal responsibility for their decisions. It is also mentioned that entrepreneurs prefer moderate risks, enjoy feedback about their performance, and may not enjoy routine and repetitive tasks.

#### *Life Work Balance and Flexibility*

According to Çolakoğlu y Gözükar (2016) people with an internal control locus believe they can control everything in the lives. In contrast, people with an external control locus believe there is an external power that controls life. This belief has significant effects on entrepreneurial behaviors. Rotter (1966), as cited by Chaudhary (2017) asserts that the control locus establishes the degree of the belief that people can control some events in their lives. Díaz and Rodríguez (2003) write that people with a high internal control focus have a higher probability to exert entrepreneurial behaviors and a higher need of achievement relative to those with a lower internal control locus (Çolakoğlu & Gözükar, 2016). This control factor is one of reasons why entrepreneurs do not distinguish between their work and personal lives. Greenhaus (2003) as quoted by Cubico, Favretti and Leitão (2018) present that their results are consistent with findings about the conflict between work and family. The conflict arises when the individual must perform multiple roles, such as marital partner, parent, servant, employee, and owner. Each of these roles requires time and energy that once allocated to one role cannot be spent on another. This can reduce the quality of health and the ability to manage their time (Cubico et al., 2018). It is argued that women entrepreneurs struggle to balance their work family when responsible for multiple roles. The workload and their personal and familial roles tend to have a higher conflict than for men (Cubico et al., 2018).

### *Collaboration*

Utilizing the Technological Knowledge section as a frame of reference, the impact of group collaboration on the company's growth can be observed. Co-leaders tend to manage high levels of variety of work structures and cultures, as well as the uncertainty that distinguishes the science and technology sectors much better than individual entrepreneurs (Cubico et al., 2018).

### *Awareness About Professional and Personal Growth*

Kirzner (2003) introduces the level of business awareness as an ability or specific entrepreneurial capacity to identify business opportunities for profit (Chaudhary, 2017). Gaglio and Katz, cited in the same publication, mentioned that it consists of unique abilities to perceive and process information. It is considered as the cognitive engine for identifying opportunities. Collins (2016) establishes business capacity as the basic condition for fulfilling an effective business behavior. It intends to transform the new growth into financial value for the business and the investors (Denis et al., 2017). The research study pursued defining a profile of the entrepreneur's mindset. The search instrument was a survey with a participation of 725 individuals. The survey identified that people with high levels of passion and need for achievement could choose to be entrepreneurs because it may be difficult to make a significant impact, or at the desired level, working for most established companies (Davis et al., 2015).

### *Diversity*

Diversity is essential for innovation, elaboration of concepts and the ability to offer distinctiveness within the existing possibilities. Various factors have been identified at the country and region macrolevel (Grilo and Thurik, 2004). However, an adequate systematic view of the entrepreneurial spirit has been difficult to formulate due to the multiple ways the resources are utilized and the opportunities are executed. It also depends on the social complexity of the ecosystem due to the interrelation of entrepreneurial behavior, context, and the social norms (Alvarez and Busenitz, 2001, Cubico et al., 2018).

On the other hand, cultural differences must be taken into account. García-Caberea and García-Soto (2008) and Hopp y Stephan (2012), quoted by Cubico, Favretto y Leitão (2018) mention that a perspective of multiple cultures to explain the effects of the environment on the entrepreneur has been argued. The local, as well as the national culture, influence and shape the individual beliefs that can affect success or failure.

### *Autonomy and Self-employment (Urgency About Being Own Employer)*

This concept refers to an individual's attribute where the need to be independent prevails. It also includes the need to use their judgment and take responsibility for their own life, as established by Shane (2012) on Yukongdi and Lopa's (2017) writing.

Being self-employed is a significant form of professional development (Terek et al., 2017). Self-employment is more present in rapidly developing economies, creating major salary and employment gaps in the market.

Entrepreneurship is the most direct route to innovation. As a generally young group with the highest innovation potential, university students have the strongest business possibilities (Yao et al., 2016). Therefore, universities are creating entrepreneurship curricula and programs, and incorporating basic entrepreneurial concepts in traditional curricula. However, Yikongi and Lopa's research findings suggest that university students' aspirations and traits for self-employment are low. On the other hand, Solesvik (2013) reports a major entrepreneurial orientation among Ukrainian students from self-employed families vis-à-vis those who do not (Yao et al., 2016). One factor contributing to self-employment and employment is the entrepreneurial spirit. This reduces unemployment, increases economic growth, productivity and competitiveness, and improves the standards and quality of life (Terek et al., 2017).

### **New Traits and Trends for Entrepreneurs During the T-COVID-19 Period**

Using the characteristics after the year 2010 as a frame of reference, the characteristics that entrepreneurs developed and/or displayed due to the abrupt change caused by the COVID-19 pandemic are

emphasized in this section. First, the 2020 COVID-19 event is established. Then, examples or future business foci that will affect entrepreneurship directly or indirectly.

In Puerto Rico, the Governor's Executive Order was enacted on March 16. All government agencies, the private sector, and the entire island went on lockdown, and people were ordered to stay home (Rivera Clemente, 2020). COVID-19 has been devastating around the globe in many aspects, including damaging effects to the economy, companies, and people (Zahra, 2021). According to the research findings, the virus will not disappear quickly, and its destructive legacy will continue. COVID-19 has affected the way of life, governments, connection between cities and populations, and general well-being. The pandemic has been harsh on small business owners. During the short period of the pandemic, there is no significant academic research regarding the new characteristics required for the entrepreneur's success during this T-COVID-19 period (Leiber, 2020b). Thus, small companies, a significant sector of the US economy, began the year facing an increase in COVID-19 infections and strict government restrictions (Daurat, 2021), having additional business challenges.

As established by Smith Wallace (2020) there was an interruption in the way of life and life experiences at a never-seen pace, but it also displayed organizational resiliency. It was also established that the digital transformation required five months, instead of the already-established statistical estimate of five years. This was a survival initiative where the entrepreneurs and their employees had to adapt (Wallace Smith, 2020). Kirby (2020) shares a similar sentiment as he asserts, "we have been catapulted forward, accelerating trends such as automation, digitalization, and innovation." Also, Jarrett (2020) also quotes Samuli Laato, who explains that "any novel situation imposes a cognitive load in our brains. The fact that COVID-19 had an extended impact on society forced us to assimilate new information faster than what we were capable in the past." According to Kochkodin (2020), even when it is a period with major difficulties, it has also been a time with the emergence of many new enterprises. Arguably, within a decade or two, we will look back and find ten, twenty, or thirty global enterprises that out-of-the-ordinary people created during this pandemic. That is also established by Rivera Hernández (2020) as "the most experienced among us can propel the youth to pivot." Tony Wagner in his book, *Creating Innovators*, establishes that to promote entrepreneurship among the youth, seven competencies are needed: *critical thinking and problem resolution, collaboration via networks and leading via influence, agility and adaptability, initiative and entrepreneurial spirit, effective verbal and written communication, information access and analysis, curiosity and imagination*. According to Rivera Hernández (2020), although these have been difficult times, entrepreneurs have a persevering spirit that cannot be captured by statistics (Dmitrieva et al., 2020).

Numerous measures were taken to maintain companies operation: taking the temperature for employees and customers, frequent hand sanitizing, plastic divisions between employees and customers, drive-through purchase pick up, social network advertising, online and telephone purchasing, and customer service. Many of these procedures were established to serve customers outside of the store (Klein, 2020). Many companies have taken This approach to serve the customers since the start of the pandemic.

Soft skills are those related to relationship and social abilities that enable a person to achieve major professional success given the required interaction with other people (supervisors, co-workers, subordinates, clients, suppliers, investors, etc.) (De José, 2020b). Additionally, *soft skills* are as important as academic preparation and technical experience (Godínez, 2020). This means that one role's technical or specific abilities blend with soft skills such as personality (Alon et al., 2020). To affirm the importance of soft skills, De José (2020) establishes that a research study at Stanford and the Carnegie Mellon Foundation among Fortune 500 executives presents that 75% of professional success in the long run is based on soft skills and only 25% on the *hard skills* (De José, 2020b and Sinha, 2008).

Table 3 presents the new traits and characteristics required of entrepreneurs for the T-COVID-19 phase. The left-side column establishes the characteristics, and the right-side column presents the authors describing them.

**TABLE 3**  
**NEW TRAITS AND TRENDS FOR ENTREPRENEURS DURING THE T-COVID-19 PERIOD**

Characteristics	Authors and Year
Quick adjustment to change	Miller (2020); Kirby (2020); Leiber (2020a); Alon, Farrell & Li (2020); Salomón & Torrens (2020); Kirk & Rifkin (2020); Berg (2020)
Multi-platform Technological Knowledge	Kirby (2020); Godínez (2020); Medical Benefits (2020); Vidal (2020); López Ceserín (2020); Dumitrasciuc & Turnea (2020); Zhara (2021); Jean, Kin & Cavisgil (2020); Williams, Du & Zhang (2020); De José, 2020a); Weller (2020); Miller (2020)
Change in management paradigm, resiliency and minimal supervision	Kirby (2020); Godínez (2020); Leiber (2020b); Jarrett (2020)
Creativity and social innovation	ITU (2020); Alon, Farrell y Li (2020); Rauch & Hulsink (2015); Vidal (2020); Martin-Fiorino & Reyes (2020); Berg (2020)
Connections and consolidation of internal and external relations	Picacoste y Touza (2020); Martin-Fiorino y Reyes (2020); Miller (2020); Godínez (2020)
Comprehensive collaboration	Godínez (2020); Drover (2018); Hill y Birnshaw (2014); Securato Junior, Anarak Adorno, Lourdes Marinho y Ferreira Savoia (2020)
Work life balance and flexibility	CDC (2020)
Multi-faceted and keen observer of opportunities	Jarrett (2020)
Self-employed and freelancers	National Labor Organization (NLO) (2019); National Labor Organization (NLO) (2020); Zahra(2021); Berg (2020); Dumitrasciuc y Turnea (2020)

For that reason, these authors have established that during the T-COVID-19 period, new abilities have emerged among entrepreneurs, which are described as follows:

*Quick Adjustment to Change*

Companies that plan rationally, adjust quickly and, respond intelligently to a disjointed economic situation, survive, and often even prosper. Miller, 2020 and Kirby (2020) mention that employees should be trained to develop a continuous learning mentality. This way, they will be prepared and ready to face constant change that occasionally occurs precipitously. “The recent events have exposed how quickly people can adapt and shown that we can move more quickly and act in more dynamic ways than we thought possible” (Kirby, 2020). “Now the business leaders, to some extent, have a better idea of what is and is not possible beyond the traditional business processes. COVID-19 is forcing the rhythm and scale of innovation in the workplace” (Kirby, 2020). This happened to Amy Santana, who had to adjust all the offers in her hotel for its opening on April 2020 due to COVID-19 (Leiber, 2020a). One of the strategies utilized was to reduce the rates and prices. The small units were made available for long stays for those professionals tired of working from home (Leiber, 2020a).

Entrepreneurship education already includes an adjustment to change a new focus on management expectations, and resiliency (Alon et al., 2020). Alon, Farrell, and Li (2020) establish that adapting business models enables innovation to occur rapidly along with a change in market focus. Kirk and Rifkin (2020) quoted by Alon, Farrell, and Li (2020), also present that during the COVID-19 crisis, online services have been the focus and emphasis triggering a change in the business model. Salomón and Torrens (2020) present that companies with good technological platforms or in the warehousing, storage and distribution sector

have higher possibilities of adapting to change. On the other hand, it would be different for tourism-related, restaurants or entertainment businesses.

An example of adjustment to change during the COVID-19 period is among your farmers. This group has reached out via the Internet to create online markets and home delivery, increasing sales (Berg, 2020). Another example of rapid adaptation is Esteban Estévez of New York, an upholster that started a new business building plastic divider for taxi cabs with the plastic he used to cover dentist chairs and examination beds (Salomón and Torrens, 2020). Also businessman Albert Ghitis who due to the COVID-19 pandemic had to close a boutique gym that he owns. He faced the situation with urgency and reached out through social media. He advertised his equipment home delivery service to the clients who took his classes online via the RedBikeStudios.com platform (Salomón and Torrens, 2020).

#### *Multi-Platform Technological Knowledge*

Technology has been the method of choice to sustain communications among organizations and enterprises performing their tasks and duties working from home. “The fast adoption of new and advanced technology is the central catalyst which will probably accelerate the creation of new roles” (Kirby, 2020). With the sudden change to the implementation of remote work, “the processes and methods have a productivity focus (Godínez, 2020). Also, organizations monitor the situation to identify the need to work remotely. Some organizations have closed facilities and offices (Medical Benefits, 2020). On the other hand, the need to seclude at home has shortened the cycle to perceive the digital world as a viable approach to perform and take care of our daily chores, tasks and, responsibilities. For some people, it is an effective and cost-effective vehicle to create new sources of revenue, sometimes making it viable (Vidal, 2020).

Additionally, the digital world has introduced options to complement the traditional businesses that few understand the need and/or value to adopt them. Today, they have become the only option for some companies to remain competitive during the restrictive measures due to COVID-19 (Vidal, 2020). Along those lines, López Caserín (2020) shares that 2020 will be remembered as the year that changed the trajectory of e-commerce, tele-medicine and remote work. He asserts, “The combination of technologies such as *machine learning* and *deep learning*, *artificial vision*, *robotics*, *natural language processing*, *sensors* and *mobile technologies*, *intelligent digital assistants*, *spatial computation with augmented and virtual reality* will create a set of highly automated and autonomous tools that will enable the exchange of information from any source to any target, particularly with telework, from and to home” (López Caserín, 2020).

The survey performed by Dumitrasciuc and Turnea (2020) shows that teleworking will be even more prevalent in the future. Therefore, familiarity with the technology will be essential. This will bring autonomy, a flexible work environment and compensation based on performance (Dumitrasciuc and Turnea, 2020). The technologies will be adopted based on cost, access, coordination, and offering productivity gains and reduction in operational expenses (Zhara, 2021; Jean, Kin, and Cavisgil, 2020; Williams, Du, and Zhang, 2020). Additionally, international communications will be easily conducted online, more cost-effective, and, perhaps, more frequent (Zahra, 2021). “One of the main consequences of digitalization is the technological substitution of human work, the transformation of existing jobs and the emergence of new occupations” (De José, 2020a). Weller (2020) also establishes that other job positions will be developed due to technology proliferation, as has recently occurred. For instance, there has been an increase in delivery services and digital distribution of products.

With this proliferation of technology, companies and organizations must maintain cybersecurity presence (Miller, 2020).

#### *Change in Management Paradigm, Resiliency and Minimal Supervision*

Kirby (2020) establishes that corporate culture and leadership abilities should focus on empathy as the transformation because of the interruptions becomes a new normal. It is mentioned that this period has forced us to learn to perform our jobs differently and with less supervision. Another factor that is emphasized is mental health (Kirby, 2020). He argues that Covid-19 has created an opportunity to expand services to address mental health. He states that, “Many companies will balance their priorities during the



next few months, such that resiliency becomes as important for their strategic thinking as cost and efficiency” (Kirby, 2020). Godínez (2020) establishes that major funding is being allocated to the well-being of the human capital, principally focused on programs focused on mental, emotional and physical health. The mental health issue precedes the COVID-19 pandemic. “A 2018 publication co-authored by Freeman shows that businesspeople have a higher probability of mood conditions than managers and employees” (Lieber, 2020b). “Since we are experiencing an era of major anxiety and uncertainty, it is important to spend an additional effort in stress management. This will free the mind from constant overload from work concerns” (Jarrett, 2020).

### *Creativity and Social Innovation*

The ITU Secretary General Houlin Zhao described the importance of innovation, “Support for the entrepreneurial spirit and innovation has never been as important. In other words, innovation transcends the limits of what is possible. It creates jobs, economic growth and new approaches to deal with the most urgent world challenges, including the COVID-19 pandemic. The TIC innovators need access to resources to make his ideas available in the market and to have access to developed internet broadband infrastructure” (ITU, 2020). An entrepreneurial attitude includes emphasis on personal control for a situation that integrates a level of innovation, which has been important during the COVID-19 crisis (Alon et al., 2020). Alon, Farrell and Li (2020), present Martin-Fiorino. It highlights the individual’s ability to changing the course of action given their self-esteem and need of achievement. Vidal (2020) provides examples of businesspeople that already work in partnership with corporations providing innovative solutions to their daily operations. They have been key at the moments of crisis. Businesspeople observe a need and pursue a possible solution, availing them of creativity and innovation.

The following emphasizes the new trends that will emerge during this T-COVID-19 era: “The World Economic Forum (WEF) perspective highlights the importance that the social corporate innovation will have in the new scenarios what underscores the need that corporations act responsibly with all their interest groups with innovative and pertinent solutions.” Enterprises will have the capacity to adapt and adjust to the test. These abilities will be necessary for their survival. The transformation will be valuable for a new style of business life of interdependence with the ecosystem of all social actors (Martin-Fiorino and Reyes, 2020).

An example of innovation and creativity is the startup called *Marepesca*. “Their objective is to develop sustainably for small-scale pisciculture. They also provide training, equipment and funding to support the businesspeople to manage their fish farms” (Berg, 2020).

### *Connections and Consolidation of Internal and External Relations*

It was evident between 2010 and 2020 that connections and relationships were imperative for businesspeople to succeed. Effective relations with collaborators, employees, suppliers and colleagues are essential.

Picacoste and Touza (2020) establish that one of the measures that companies should adopt to face the pandemic is to “establish a communication mechanism for positive information for employees, clients and suppliers. They should also implement standardized communication documents.” Maintaining and reinforcing customer care services supports a positive public opinion (Picacoste and Touza, 2020).

It is imminent that the evolution of leadership today is one of the priorities to develop and improve the ability to “connect” with our collaborators to effectively communicate the strategies” (Godínez, 2020). One of the recommendations presented by Leiber (2020) is the importance of good relations with our lenders. “It is difficult to advance and make progress as desired without good communications with the lender.”

Martin-Fiorino and Reyes (2020) state that, “the companies depend on demand, demand depends on income, income depends on jobs and productive work, which in turn, depends on the performance of the production units.” Therefore, there should be a good relationship and connection.

Since this is a communication cycle, “it is more important during this period that the relationships with employees, suppliers, industry colleagues, and clients” (Miller, 2020).

### *Comprehensive Collaboration*

Increased collaboration has been observed in all sectors from the same employees, clients and suppliers that have had to adjust to the drastic changes caused by the pandemic. “Suddenly we are developing abilities to better communicate in writing among the different generations. There has been an increase in the frequency of use of instant messaging through the existing electronic media” (Godínez, 2020). On the other hand, Drover (2018) and Hill and Birkinshaw (2014), in the publication by Securato Junior, Anarak Adorno, Lourdes Marinho, and Ferreira Savoia (2020), establish that the success of an entrepreneur depends on the ability to create strong internal relationships to collaborate towards achieving a goal. Among the characteristics to achieve collaboration are persuasion and networking to gain support for projects of renowned people creating relationships in the long run (Securato Junior et al., 2020).

### *Work-Life Balance and Flexibility*

During this period, when most work have been performed from home, it is rather difficult to establish that work-life balance and flexibility between work and personal life. The Center for Disease Control (CDC) offers guides to pursue an equilibrium in these areas and reference the following: maintain a constant daily routine (ideally the one you had before the pandemic), identify an external rest place, take time to stretch, rest from work, plan a time to end your workday, and engage in activities you enjoy outside your work (CDC, 2020).

### *Multi-Faceted and Keen Observer of Opportunities*

A cutting-edge entrepreneur is always working in search of opportunities and attentive to what is happening in the surroundings. That is a reason why they should take care of themselves. “Our minds have a limited processing capacity that is extending to the limit at this moment. With purposeful planning and self-discipline, there are ways to reduce the cognitive load and rediscover how to focus” (Jarrett, 2020). It is also highlighted that allowing the mind to focus in one task at a time produces less mental fatigue.”

### *Self-Employed and Freelancers*

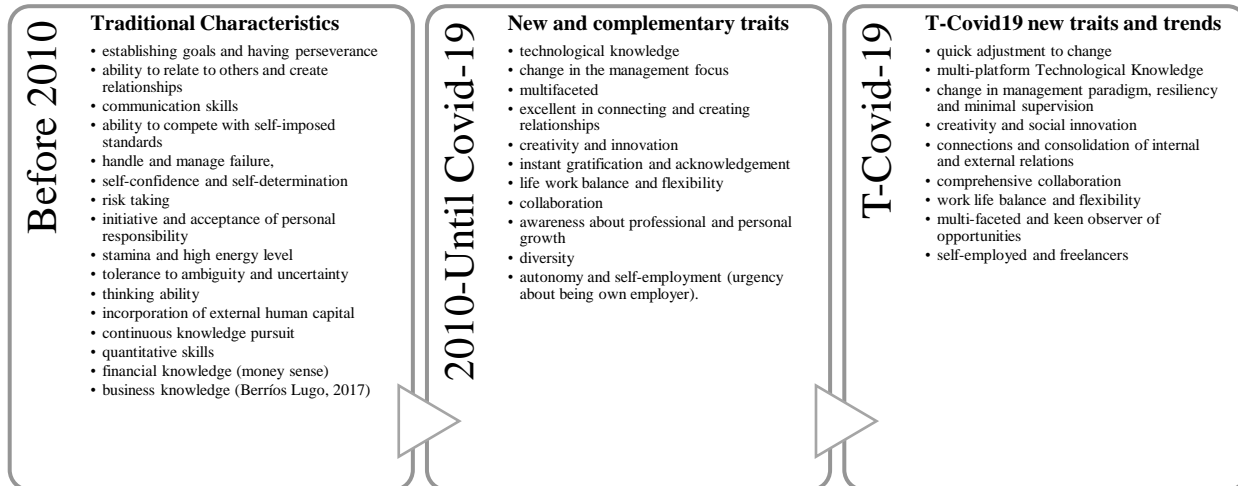
The COVID-19 situation will have an ample impact in the labor force, as established by the National Labor Organization (NLO) (2020). The first estimates of NLO indicate a substantial increase in unemployment and underemployment due to the pandemic (NLO, 2019). This agency asserts that, even though financial crises usually do not affect self-employment, it often becomes an alternative, by default, to survive or sustain the income level, frequently in the informal economy.

Additionally, NLO mentions that the youth will face high unemployment and underemployment. The agency estimates that 1.6 billion people that work in the informal sector of the economy have endured serious losses and, in many cases, limited the ability to have the minimum to support themselves (Zahra, 2021). Particularly, a young entrepreneur named David never considered leaving Puerto Rico, even after all the challenges the Island’s population faced. He mentions that “the situation is not perfect, but he believes that the best way to return to the Island is as an entrepreneur and create a new market, opportunity, enterprise” (Berg, 2020). The survey that presents the paper by Dumitrasciuc and Turnea (2020) establish that the number position for the future of entrepreneurship is the *freelancer*.

## **CONCLUSIONS AND LIMITATIONS**

This research highlights the evolution of the necessary characteristics of a successful entrepreneur. The decade of 2010 was fast-changing, but the Trans-COVID-19 period has pushed the entrepreneur to reinvention and adapt to new tools in one year, breaking away from traditional management styles. This process of accelerated change will have an additional requirement of new transforming capabilities of learning. There are two ways to undertake innovation: voluntarily or an event forces the change. The T-COVID-19 period has required that entrepreneurs develop new characteristics to survive during the pandemic that many believe will be sustained in the future. Figure 2 shows a summary of the identified characteristics over the three analysis periods.

**FIGURE 2**  
**COMPARISON OF THE MAIN CHARACTERISTICS OF THE ENTREPRENEUR**  
**OVER THE THREE PERIODS STUDIED: BEFORE 2010,**  
**BETWEEN 2010 UNTIL COVID-19, T-COVID-19**



This study has fulfilled the objective of confirming the presence of an adaptation and transformation process of the characteristics of the over the three periods of analysis. Numerous documents have been revised and included in the systematic literature search. The findings reveal an interesting evolution of the entrepreneur in qualitative observation.

The fast adaptation to change and technological knowledge is consistently observed with the most frequency in both phases of the study. A constant characteristic was observed during the T-COVID-19 periods, all sectors and industries had to quickly adapt to multiple technological platforms transcending broad digitalization. The fast adaptation to change creates resilience that enables not only to survive this period but also to face the new future of entrepreneurship. It is believed that these characteristics will endure in the future.

Other important findings were that to be able to adapt, entrepreneurs and businesses had to be highly creative and innovative. Whatever was available was adapted, modified and/or perfected making it useful during this historic moment. The entrepreneur was forced to seek new solutions when facing new scenarios in a new type of business life in interdependence with the set of social actors. However, a finding of great concern is the increase in cases of mental health due to the difficulty of managing the balance between work and personal life created by forced confinement in the T-Covid19 period.

In addition, this T-COVID-19 period has caused an increase in interdependence in the business environment because it is everyone's problem. This has led the businessman to establish and consolidate key internal and external relationships to strengthen the company.

On the other hand, given the temporary closure of so many companies it has awakened a desire for survival that questions the entrepreneur about his options as an independent and multifaceted entrepreneur adapting and reinventing himself to the new circumstances created by COVID-19. Faced with so much noise due to COVID-19, the entrepreneur has had to rediscover how to focus and maintain strategic thinking and a sharp vision in identifying new opportunities. Furthermore, we warn that these new traits could become essential new capabilities to undertake in the T-Covid19 period and in a future Post-Covid19 period.

Finally, as with any study, this one has a few limitations. For one, it uses a comparison between secondary documents through a systematic bibliographic review, and the experiences provided are

observed, not quantified. Furthermore, the observations are limited by the perspectives of the authors used in this analysis.

The conclusions and limitations open the possibility of new investigations. Future work could investigate and validate the permanence of the entrepreneurial new characteristics identified in the T-COVID-19 period in a post-COVID-19 period. Also, quantitative research could help to identify the effects of the new or modified traits in the entrepreneurial process. Another research opportunity is the possible emergence of new strategic orientations resulting from the post-traumatic effect on the organization due to the drastic changes caused by the Covid-19 pandemic.

Furthermore, identifying these new traits and changes in managerial paradigms in the T-Covid19 period raises important questions about potential changes in academic processes for the development of future entrepreneurs.

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