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“ Learning to Innovate from Business Failure: an Analysis of the Italian's Start-Up Environment ”

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1 – INTRODUCTION

Being an entrepreneur in Italy have a different endeavour compared to previous decades. The evolving economic environment underscores the imperative for entrepreneurs to navigate the complexities of global markets, making the entrepreneurial path more demanding than ever before. In the face of these challenges, Italian entrepreneurs must continually hone their skills and embrace innovative approaches to thrive in this competitive global arena. Moreover, an indispensable necessity for entrepreneurs is the acquisition and absorption of a formidable quantity of knowledge from their dynamic environment.

Innovation, as well as entrepreneurs, thrives on knowledge and experience, and when individuals from the same sector, province or region, and job position come together, magic can happen. They share a common language, understanding the nuances and challenges specific to their field. This shared context serves as a fertile ground for collaboration and innovation. Sector experience brings a plethora of specific insight and awareness of the problems and gaps that call for original solutions, while regional knowledge offers deep understanding of local dynamics and consumer behaviour facilitating the development of regionally tailored innovations. Furthermore, similar job positions can leverage learning by doing and ultimately drive progress within their field. It is through the fusion of knowledge and collaboration that Italy's entrepreneurial spirit is poised to navigate these challenges and foster economic growth and innovation. It is through the fusion of knowledge and collaboration that the Italian entrepreneurial spirit is poised to confront challenges and promote economic growth and innovation. However, not only the successful experiences offer insight and enhance the entrepreneurial mindset; failure, in fact, constitutes an integral aspect of an individual's personal and professional development. It encourages individuals to reassess their strategies, refine their approaches, making it a journey marked by resilience and adaptability. Entrepreneurs who learn from their mistakes are better equipped to navigate the complex and ever-evolving business landscape. Failure isn't a dead end; it's a pivot point, guiding individuals towards innovative solutions and new opportunities as well.

The purpose of this research is to challenge the prevailing stigma surrounding an experience that has historically been viewed negatively throughout human history. As the

Italian and global economies continue to evolve, it is imperative that this preconceived notion undergoes a corresponding transformation. Emphasizing the existence of entrepreneurs capable of learning from experiences of failure, and not only that, but also of contributing to their own success and, secondarily, to Italian innovation, represents a pivotal initial step towards enabling specific government initiatives and educational programs. These, in turn, have the potential to serve as catalysts for economic growth.

For this reason, an analysis was conducted, linking entrepreneurs of active or past startups to their history of entrepreneurial experiences, both prior and subsequent to these ventures. The aim was to assess how each individual made specific entrepreneurial and career choices with regard to their sector, province, and most experienced job position. Above all, this analysis aimed to examine the impact of failures recorded within their entrepreneurial history on these choices. In particular, the choice to retrace a path similar to a previous negative experience could have ignited a 'creative failure' from which to derive new ideas and achieve an innovative breakthrough. For this reason, the analysis was undertaken with the aim of comparing these decisions.

This research was inspired by the paper authored by Garzón-Vico, Rosier, et al., titled 'The Impact of Failure and Success Experience on Drug Development' (2020). However, among the primary and highly cited papers upon which this research is situated, we find 'Failing to Learn? The Effects of Failure and Success on Organizational Learning in the Global Orbital Launch Vehicle Industry' by Madsen and Desai from 2010. Additionally, the research conducted by Politis in 2005, entitled 'The Process of Entrepreneurial Learning: A Conceptual Framework,' with specific focus on the section titled 'The Outcome of Previous Entrepreneurial Events' within the latter paper. Furthermore, other studies that align with our research, albeit leaning more towards the qualitative side, originate from authors such as Boso et al., Minello et al., and lastly, Dias and Martens, with their respective papers titled 'Do Entrepreneurs Always Benefit from Business Failure Experience?' (2019); 'Entrepreneurial Competencies and Business Failure' (2014); and 'Business Failure and the Dimension of Entrepreneurial Learning: A Study with Entrepreneurs of Micro and Small-sized Enterprises' (2019).

In the initial phase, this study will provide an extensive review of pertinent literature across the following domains: 1) the feasibility of deriving insights from failure, encompassing the conditions under which failure occurs, along with the associated costs

and challenges that must be surmounted to facilitate this learning process. 2) Literature encompassing the concept of innovation within the discipline of knowledge management, with specific emphasis on knowledge acquisition derived from experiences within sectors-specific, geographical regions, and job positions. 3) Lastly, a comprehensive examination of the Italian landscape will be conducted, commencing with a broad overview and subsequently delving into the innovative dynamics characterizing startup ventures.

Following the establishment of the theoretical framework, Chapter 3, designated as 'Data Methodology', will offer an exhaustive exposition detailing the protocols applied in the manipulation of data and the methodologies instrumental in the transformation of a startup dataset into an interconnected dataset profiling individuals and their entrepreneurial trajectories. Subsequent to the compilation of the foundational dataset, this chapter will proceed to elucidate supplementary analytical procedures, the outcomes of which will be elucidated in Chapter 4. Ending the dissertation apart from the conclusion, Chapter 5 will expound upon potential ramifications, constraints, and prospective considerations warranting attention.

Finally, at the culmination of this thesis, we will arrive at a definitive response concerning the observation of whether Italy hosts entrepreneurs who possess the ability to extract advantages from adverse experiences, specifically, instances of failure.

2 – LITERATURE REVIEW

2.1 Outcomes of business failure

Given the current global environment, entrepreneurs are likely to face adversities and when the magnitude of these makes the firm unable to attract new debt or funding, hence cannot continue to operate, then is where the business failure occurs (Shepherd et al., 2009). Many reasons and combinations of events could be behind the organization's failure, perhaps because of external factors or innovation capacity among others; however many authors agree that the absence of managerial skills and experience in the business field is no exception (Dias and Martens, 2019). Even so, entrepreneurs cannot have complete knowledge and information, which is why downfalls or setbacks often hold insight and valuable lessons to learn from (Mack Center for Technologia Innovation, 2012).

Market inefficiencies or technological progress are the most well-known sources of inspiration for entrepreneurs; however recognising that the concept of entrepreneurship not only encompasses the creation of new processes, putting resources to unexplored uses, or starting up new businesses, but it implies the acceptance of intrinsic uncertainty, and this risk can manifest as a failure (McGrath, 1999).

Indeed, looking at statistics, in 2018 around one out of five of all the new businesses established in the European Union failed within their initial year (Statista, 2018). Subsequently, all European countries year-on-year showed a progressive survival rate decline: taking into consideration enterprises founded in 2015, less than half survived a five-year period (Eurostat, 2022). Moreover, very similar outcomes have been attained in the United States (JP Morgan Chase & Co., 2014).

Accordingly, the OECD (2016) states that “the death of enterprises is an integral part of the phenomenon of entrepreneurship” and that the process of ‘creative destruction’ and the effects of economic cycles on entrepreneurship can both be better understood by tracking the rate at which enterprises leave the market over time and across national borders (OECD, 2016). As a matter of fact, one of the point of this thesis is an analysis of Italian firms’ survival rates. However, before doing so it is important to define and analyse the concept of failure together with its cost and benefit for the generation of economical wealth and innovation.

Although business failure may be conceptualized as bankruptcy or liquidation, it is when an entrepreneurial initiative performs below a critical threshold. Nevertheless, failure thresholds may involve subjective assessment (Gimeno et al., 1997), given that it is possible to claim that “failure is the termination of an initiative that has fallen short of its goals” (McGrath, 1999).

Going into detail, traditional economic theory points to a criterion where profit realization is the standard by which surviving and successful businesses are selected into an economic system. Therefore, at least in the long run, “positive profit can be treated as the criterion of natural selection-the firms that make profits are selected or "adopted" by the environment, others are rejected and disappear” (Penrose, 1952), recalling the biological analogies of the survival of the fittest (Penrose, 1952). Later on, a study conducted by Gimeno, Folta, Cooper, and Woo (1997) suggested that the realization of profit enhances survival; yet, especially in small and new ventures, is not uniquely determined by it. Precisely, in these companies, human capital characteristics of the entrepreneur play an important role in the determination of the level of performance below which the constituents will take action to dissolve the organization; suggesting that, despite the low performance, a firm with a low threshold may choose to continue to survive, in other words, it may be possible to see ventures with similar level of performance with different exit rates (Gimeno et al., 1997).

Last but not least, the study of Dias and Martens (2019) highlights that entrepreneurs may not remain inactive before the formal closure of the business; instead they may go ahead with the installation of a second business in a diverse sector. The type and quantity of other initiatives being pursued concurrently may be substantially tied to the potential to minimize downside losses.

Therefore, in the end, although market selection and performance could be determinants to narrow down the concept of failure, importance must be given to the entrepreneur’s assessment of the future value of her options, such as the pursuit of another more lucrative activity (McGrath, 1999).

Once made a clear and defined failure, it is vital to frame its role in this dynamic economy. Coelho and McClure (2005) state that the transfer of resources from failed enterprises to more highly-valued alternatives is beneficial in increasing societal wealth. Even if this phenomenon is not homogeneous between sectors, many scholars enhance

the important role of reallocation as a channel for aggregate productivity growth. Considering the allocation of the same workforce across various sectors, a production differential likely occurs, and it is when workers are moved from low-productivity to high-productivity sectors, that economic development typically follows. Given the importance of reallocation of labour among productive activities as result of the entry and exit mechanism, fast and efficient liquidation processes would promote their movement and policymakers should pay attention to it (Bugamelli et al., 2018).

In addition to the release of such resources, they provide information that can steer investments away from initiatives that have been linked to failure and toward those associated with success (Coelho et al., 2005). To confirm that the knowledge creates positive externalities outlasting its defunct firm, Hoetker and Argarwal (2007) cited two companies, OIS and Prairietek, which, after their demise, affected respectively the flat-panel display industry and the disk drive industry with their knowledge and patents.

Along with that, it is possible to say that “innovation possibilities fuel entry, and failure to innovate prompts exit” (Jovanovic and MacDonald, 1994). Building on this perspective, variety and diversity might enhance the probability of an individual (recalling the biological analogy), business, or even industry adapting to a specific environment. This inherent aspect of existence implies that whenever innovations increase the value of resources in alternative occupations, the counterpart is likely to be replaced (Coelho et al., 2005). This is why, in this adaptive system and especially in this dynamic environment, survival depends on choices on routines or practices but depend also on the generation of new alternatives. Hence, organizations should give importance to exploration to avoid instability and find themselves in suboptimal stable equilibria, which means value terms such as variation, experimentation, flexibility, discovery, and more (March, 1991). Even if exploration results are more remote in time and less certain, exploratory learning and inevitably, failures, are keys for the innovation process, in fact, experiments may fails, but they offer useful insight for the next search effort (Khanna et al., 2016).

In the end, “recognizing failure is essential to success because it implies that core competencies have been identified. As in the economy at large, in dynamic and growing firms the termination (failure) of sub-par activities are inevitable features of success” (Coelho and McClure, 2005).

In spite all of that, after failure some entrepreneurs may explore new possibilities and launch another business while others do not. Those people who enter and exit entrepreneurship repeatedly are called 'serial entrepreneurs' (different from portfolio entrepreneurs).

Starting from the basis, "the dynamic nature of entrepreneurship arises due to a combination of environmental developments and individual characteristics." (Wright et al. 1997) Changing market circumstances and new technologies or innovations play an solid role in this framework (Wright et al., 1997), as a matter of fact, finding a market demand that is unmet by existing incumbent enterprises and delivering on this value offer more effectively than competitors are the keys to entrepreneurship (Dabić et al., 2021). However, also human capital and entrepreneurship-specific social capital support emerging entrepreneurship in general (Stam et al., 2008).

A difference in skills, characteristics, and experience owned by individuals are determinants for the business's quality. When an individual decides to become a novice entrepreneur, he or she aims for a greater return compared to a wage worker and, in broad terms, it is possible to say that the more skilled an entrepreneur is, the more profit from a high-quality business he or she could achieve. Acknowledging this, a low-skill entrepreneur stands less benefit from establishing a better lucrative business in comparison to the labour market offering, while on the opposite, when the quality of a business is below the threshold, a high-skill entrepreneur shut it down and repeats the process until the quality justify the endurance (Plehn-Dujowich, 2010).

Anyhow, entrepreneurial talent and aptitude are recognizable only by starting and monitoring the subsequence performance, meaning that an after-launch successful entrepreneurial performance will cause the entrepreneur to believe that she is endowed with excellent entrepreneurial talents, which will encourage her to continue as an entrepreneur. By contrast, a poor endowment of skills will drive the individual out of the entrepreneurial path (Stam et al., 2008). This phenomenon, however, does not explain the re-entering into entrepreneurship which accounts for serial entrepreneurs as 19-25% in the United Kingdom, 18% in Germany, and nearly 30% in Finland with a total of 18-30% considering the whole Europe (Plehn-Dujowich, 2010 & Hyytinen et al., 2007). Even if it is not homogeneous, it is exactly the advantage of learning from the accumulated entrepreneurial experience and improving their entrepreneurial skills that creates a

positive effect and can be seen as one explanation for the renascent entrepreneurship phenomena (Stam et al., 2008).

However, learning from failure is far from being immediate. Personality attributes, situational factors and, cultural values influence the failure experience (Longenecker et al., 2007) and, making sense of and recovering from failure is a process that takes time to unfold.

First of all, not all failures fall into the same category, independently from being a small project let-down or a more serious one, it is possible to broadly group them into preventable, complexity-related, and intelligent failures (see Figure 1). Excluding blameworthy mistakes, complexity-related and especially intelligent failures are the ones that can produce future-oriented learning outcomes (Harvard Business Review, 2011).

Intelligent failures occur when the uncertain outcome is not successful even if it is the result of carefully planned actions, and in order to consider gaining knowledge from it, they must be of modest scale, responded with briskness and, happened in a context familiar enough to support effective learning (Sitkin, 1992). Hence, starting a completely novel firm, designing innovative products, and gauging consumer response in uncharted markets are projects that require experimentation and might produce intelligent failure (Edmondson, 2011).

The modest scale of the failure it is an essential preparatory characteristic for the entrepreneur recovery, as Ucbasaran, Shepherd, Lockett and Lyon (2013) affirm in their research, an entrepreneur decide to grasp and re-try their entrepreneurial career only when the costs of failure are lower compared to the benefit from learning. Although the possibility of attaining insight, failure remain unwelcome since it is often tangle with traumatic and emotional experience that generate financial, social and psychological costs which magnitude is vary based on a number of factors.

Starting from the financial cost, the decline and failure of a company is likely cause of a reduction of the entrepreneur personal income at the very least, whilst some business owners may incur financial expenses in the form of long-term personal debt. While there will always be some financial penalties associated with failure, how entrepreneurs handle and/or absorb these losses is an intriguing question (Ucbasaran et al., 2013).

As for the failures, there are distinctions between types of ventures and entrepreneurs as well. For example, the opening of a simple new business such as a new restaurant or a

dry-cleaning store might be done with the intent of a regular source of income, while a modern high-tech entrepreneur could aspire for a large pay-out, hence they could not set for a dim prospect and try again something else (including perhaps a different startup) (Arora et al., 2011).

According to Arora and Nandkumar (2011), this last type of entrepreneur has a high opportunity cost, meaning that the survival and waiting option are more costly for him than an entrepreneur with a lower opportunity cost, this is why he will invest more and implement tactics that raise the possibility of cashing out even when they entail a larger probability of financial losses. As such, entrepreneurs may face considerable financial costs (Arora et al., 2011). In contrast, theories regarding risk diversification suggest that a diversified portfolio of wealth and/or ventures may offer a more attractive risk-return trade-off enabling one to absorb the cost associated with a single business failure more readily (Wagner et al., 1971).

A further way to minimize and cope with financial losses is by deploying in advance the “affordable loss principle”. When starting a new venture or in different phases of life and situation, entrepreneurs evaluate how much money, effort, and time are needed, at the same way, they try to estimate the drawback limit that he or she is willing to lose. Calculating what is affordable depends less on the enterprise than it does on the entrepreneur and, relying on this estimation, allows him to choose which initiative to launch or which course of action to follow (Dew et al., 2009).

However, as mentioned before, failure costs are not merely financial. Business failure is not yet sufficiently understood as a normal economic development but rather view as a person’s personal worth in a way that public opinion strongly associated it with incompetence or fraud (Commission of the European Communities, 2007). Even the European Commission back in 1998 recognized the concept of bankruptcy as a serious social stigma, recalling how entrepreneurs who fail face great difficulties to finance a new venture (Landier, 2005). The impact of this on personal and professional relationships is a social cost for entrepreneurs, issues such as powerlessness and damage to professional relationships are included, and for some could be a harsh recover (Cope, 2011). According to Singh et al. (2007)'s study findings, some entrepreneurs claim that their marriages ended shortly after their businesses failed, while others revealed that they experienced social isolation from friends and family due to their remorse and

embarrassment over the failure of the business ventures (Singh et al., 2007). This social impact is rooted in human history, where in addition to harsh penalties, bankruptcy applicants frequently endured public humiliation and degradation; Ancient Greece, Ancient Rome, and Germany imposed expropriation, imprisonment, slavery even death conditions for the bankrupts. Back in the 1960s, American newspapers shifted and articles started referring to a petitioner as an individual who lack discipline using also more compassionate terms. Ten years later, the US Congress changed the bankruptcy statute creating a more attractive payback to alleviate many debtors' desire to avoid the stigma (Efrat, 2006). Following, social exclusion theories and network theory provided awareness of these social consequences, however, it worth noticing is that the chance of failure being stigmatized increases with the severity of the legal penalties for failure (Ucbasaran et al., 2013). Not to mention that the extent to which the entrepreneur is stigmatized and bears social costs depends also on the degree to which he or she is held accountable for the failure, given the magnitude of external circumstances (Kirkwood, 2007).

Last but not least, failure brings psychological costs as well. Entrepreneurs must overcome several challenges, failures, and setbacks while performing this function, many of which have unfavourable implications for one's own evaluation. Dwelling with failure could be dispiriting and erode one's confidence in his ability, self-efficacy beliefs mediate motivation and performance fulfilment, those who think of themselves as very effective often attribute their failures to a lack of effort, whereas those who think of themselves as ineffective believe that their inadequacies are to blame. This is why those who question their talents are quickly discouraged by challenges or disappointments, while people who are confident in their talents increase their efforts when they don't get the results they want and keep trying until they do (Bandura, 1991). However, negative emotions counting remorse, shame, blame together with self-efficacy and risk-taking propensity suggest a negative impact to recovery. The physiological consequences of failure are comparable to those experienced by those who have lost other major things like a loved one or something important, creating considerable stress for entrepreneurs (Singh, 2007). Furthermore, Shepherd (2003) suggested that entrepreneurs feel emotional attachment to their ventures and when the last collapse this bond translate in a negative and unavoidable emotional response: grief. The response influence and interferes with the learning

process, thus high level of grief may lead individuals to be less prone to the negative impact resulting in a lower amount of feedback information. Along these lines, Shepherd continues by outlining two different strategies for grieving healing. A "loss orientation" is the first step, which is actively addressing the loss and accompanying unfavourable feelings in order to "work through" what occurred and understand the failure. A "restoration orientation" on the other hand centred on repression and avoidance, deliberately diverting oneself from grief-related thoughts, enabling for the progressive fading of memories connected to the loss. The scholar comes to the conclusion that the best way to hasten the rehabilitation process is through an oscillatory grief-recovery strategy between the two (Shepherd, 2003).

These three cost of business failure determine the extent to which the entrepreneur is willing to make sense and explore the efficacy of their actions, in a way that, the more unfavourable the consequences, the intensive will be the process of learning from experience (Ellis et al., 2005).

It is due to the painful consequences that the failure's analysis could not be pursued effectively in the immediate and the challenging process is avoided. Furthermore, there is no set amount of time for business owners to genuinely learn from their mistakes, even several years after the actual occurrence, entrepreneurs may still think back on and learn from it.

Cope's analysis (2011) led him to the conclusion that failure recovery consists of three interconnected phases. Initially, there is a temporary break ('initial hiatus') during which the business owner mentally distances themselves from the failed attempt at healing. Second, the entrepreneur goes through a phase of critical reflection during which they make a conscious and deliberate effort to understand why they were unable to prevent a loss from occurring. The entrepreneur then tries to move on from the failure to explore new prospects during a time of contemplative action. These three inter-related steps are the ground to form an higher-lever learning from failure by which the business owner starts and creates again a new business (Cope, 2011).

Similarly, under the Lewinian model of action, learning is conceived as a four-stage cycle, where the experience serves as the foundation for observation and reflection. These information are then combined into a "theory" that allows for the inference of fresh

implications for action. Next, using these implications or hypotheses as a guide, they may take action to produce novel experiences Kolb, 2014).

Therefore, entrepreneurs are able to learn from their failures by providing rational justifications for the events that led to failure. They remember what went wrong, how they failed, and why. This deliberate activity and analysis of their firm failure leads to new understanding about necessary future actions (Omorode, 2021).

In the end, the experience of such non-routine events together with the transition phase of sensemaking, can significantly increase an entrepreneur's subjective knowledge base (Cope, 2011), however as Shepherd (2003) point out, the knowledge gained must also be transferred to another firm in order for failure-based learning to be helpful (Shepherd, 2003).

In this regard, and given that new marketplace opportunities rarely are immediate, being able to listen to consumers' desires and requirement help recognize latent business prospects since new occasion appear in conjunction with solutions to a particular problem. This is why, given their background, serial entrepreneurs are exceptionally skilled at spotting market possibilities, plus their awareness toward previous mistakes as well as success could be applied to future endeavours (Dabić et al., 2021). Whether or not entrepreneurial history influences innovativeness will be developed in the next chapter.

2.2 One route to Innovation development

In around one century, the perspective and discipline around innovation have changed. Starting from the simple and so-called 'linear model', which suggests that the best method to raise the output of new technologies is through an incrementation in the input of new ideas by just allocating more money to R&D, moving a little later on to a 'demand-pull' alternative perspective. The latter, on the other hand, investigates whether the demand for goods and services plays a bigger role in fostering innovation than knowledge advancements do. Both these over-simplistic theories, which were developed in the latest half of the 20th century, were acknowledged by modern theoretical approaches and innovation theory had the chance to further advance (Greenacre et al., 2012).

Despite the growing emphasis towards the role of innovation, nowadays a generally accepted definition of innovation does not exist. Various disciplines approach innovation from different points of view, each of them possibly requiring their unique definition based on the content analysis. On the contrary, a more general and integrative definition might be required when considering inter- and multi-disciplinary topics (Bareghen et al., 2009).

Despite the challenge of a common definition, it is worth mentioning the work carried out by the founder of innovation theory, for then moving onto the interpretation of innovation in the context of knowledge management, exactly referring to the main purpose of the present chapter.

Founder of the innovation theory in the economy at large, Schumpeter considered innovation as the novel combination of already-existing productive forces to address business challenges (Kogabayey et al., 2017). The economist highlighted how new combinations carried out by entrepreneurs could break the economic static mode ('circular flow') while placing economic development on a dynamic, discontinuous path with 'revolutionary' changes. Hence, in Schumpeter's theory, innovation is a key factor for competitiveness and economic dynamics, along with being a driver of what he named 'creative destruction'. On the other side, according to him, consumer preferences play a passive role in not being able to cause economic change (Śledzik, 2013).

While taking into account the knowledge management discipline, Du Plessis (2007) conceived innovation "as the creation of new knowledge and ideas to facilitate new business outcomes, aimed at improving internal business processes and structures and to create market-driven products and services. Innovation encompasses both radical and incremental innovation" (Du Plessis, 2007). The value of the author's research resides in his attempt to capture the eventual availability of knowledge and to consider its possible reunification into different and new ways. This whole process would, in turn, act as a major determinant of innovation. In addition to this, the know-how exploited by companies, thanks to learn-by-doing, would boost innovativeness and would make it challenging for rivals to copy (Du Plessis, 2007).

The relationship between learning and innovation has already been theorized by Schumpeter, at first, collocating exploration and exploitation learning among the main drivers taking part to adaptive processes. While considering exploitation as the mere

refinement and implementation of pre-existing processes and products, exploration learning is built on the concepts of “experimentation, play, flexibility and innovation” (March, 1991). However, it has been studied that an appropriate equilibrium needs to be maintained between the phase of exploitation and experimentation, constituting this the main driver for business survival and for long-term prosperity.

In the context of organizational learning, it is still debated whether organizations should carry out a continuous process of research, together with a process of continuous internal improvement, or, somehow, go easier on the process of research and innovation to better concentrate on existing procedures and reduce overall risks.

Following the theory of March, when developing an organizational practice, all the links among “environmental turbulence”, “organizational diversity” and “needed competitive advantage” should be taken into account. This would lead to the conclusion that there exists a positive and quite strong correlation between the rate of “exploratory variation” and the rate of “change in the environment”, suggesting that innovation and research are strongly linked with the properties of the environment and with the characteristics and the actions of competitors.

Being the process of exploration slower and more uncertain in terms of returns, it is not always easy for organizations to undergo a process of research, while still being consistent and profitable in time. For some organizations, in fact, there is a crucial difference between what might benefit in the short and in the long term, suggesting that there is a high risk of failing at the attempt of innovating to obtain greater results in the long run (March, 1991).

As reported by the study from Herriott, Levinthal and March (1985), potential failure does not always depend on the high proportion of risks coming from an excessive phase of exploration. In fact, when organizations are unable to set onto a sustainable level of exploration, thus exponentially increasing exploitation, they might still be prone to inducing a self-destructive mechanism, not being able to keep up with the theorized adaptive process.

The study sheds a light also on the importance of complementing knowledge-based increases in average performance with a programmed process of discovery. This reveals to be crucial especially in the case of environmental turbulences, when a “competitive race” (March et al, 1985) obliges organizations to strive for a disruptive idea, on the basis

of their previous and precious knowledge, thus recalling the Schumpeterian concept of “creative destruction”.

In the context of nested systems, such as the entity of the organization, processes of learning do not only occur at the organizational level, but also at the individual level. For the purpose of the present paper, it would be of interest understanding the meaning and the importance of entrepreneurial learning and its various complexities.

Considering the study from Kolb (1983), there are two different dimensions coexisting in the construct of entrepreneurial learning. Firstly, there is a phase of “acquisition/grasping”, referring to the experiential component of entrepreneurial learning, constituted by the direct observation and participation in the process of creating a new organization. Secondly, there is the substantial step of “transformation”, which recalls the pre-existing and pre-acquired knowledge of the entrepreneur, most likely deriving from the experiences he has been taken part to.

Important to say is that entrepreneurial learning acts as a fundamental pillar in the process of learning and thriving at the organizational level. As underlined by Politis (2005), there exist two separate, and equally important, outcomes of entrepreneurial learning. The first outcome is named “opportunity recognition”, reflecting upon the capability of some entrepreneurs to spot opportunities and promptly evaluate them. Different authors, such as Ronstadt (1988) and Shepherd (2000), hold the opinion that a great number of different knowledge components (i.e.: relevant contacts, reliable suppliers, competitive resources) do enhance the capability of an entrepreneur to spot a viable opportunity. As a matter of fact, an individual’s prior knowledge-base, which might depend on its on field experience and on its subjective intuition, plays a great role in influencing the entrepreneur’s ability to individuate a promising chance. Along with this pre-acquired knowledge goes the existence of some sort of entrepreneurial skills to evaluate the opportunity and, eventually, to even identify new means and needs in a changing environment. Recalling the study from Busenitz and Barney (1997), the ability to recognize unseen opportunities derives from a process of combining existing concepts and information into new ideas, similarly to previously analysed concept of explorative and exploitative learning.

The second outcome is named “coping with the liabilities of newness” and refers to a common factor inducing new firms to death in a short period of time. As testified by the study from Politis (2005), financial problems and marketing problems are the main causes

for business failure among new businesses, proving that, oftentimes, first-time entrepreneur do have hard times catching up with very strict cashflows and short-term financial equilibrium.

More to the point, a study from Hudson and McArthur (1994) argues that previous experience in entrepreneurs would increase the chances of a new business to survive and even thrive in times of difficulties. This would be possible as previous experiences enable the creation of stable networks and a certain business reputation, helping entrepreneurs to secure eventual financial resources and to better develop market strategies for their products or services.

Entrepreneurs with previous experience are certainly affected by a tendency towards the so-called “path-dependence”, meaning that the outcome of their previous experience, both positive or negative, will always have an important influence on the type of decisions they make for new businesses. Recalling the several studies mentioned in the 2.1 section of this paper regarding entrepreneurs’ experience from past failure. In the case of previous failure, an entrepreneur is more likely to unlock mechanisms to spot uncertainties and promptly resolve them. As McGrath (1999) states, failure serves as a powerful driver for learning, as entrepreneurs will be willing and will strive to reduce uncertainty, to increase the variety of their efforts and to expand their research for new opportunities and innovative solutions.

It has been studied by the literature the existence of some boundary conditions to learning from failure (Madsen and Desai, 2010). First of all, Sitkin (1992) refers to all those failures that are able to enhance the process of learning as “intelligent failures”. This type of failure must have large enough outcomes to drive the attention and to foster the learning of things that would not otherwise be grasped. Another condition is named “outcome magnitude”, this seen two different streams of literature. If Sitkin (1992) stated that small losses are more likely to result in lessons for the members of the organization in order to avoid absolutely negative environmental and psychological responses, another stream of literature, instead, holds that small failures, which do not have large and visible consequences, are often under considered and passed for small wins, thus failing at conveying a message of needed learning (Morris et al., 2000).

Therefore, the entity of “optimal failure”, the one that assumes a teaching role on the long run, is blurred and, possibly, far from the reality of most ventures.

What literature stresses is that, through repeated successes, there is a high chance of becoming myopic towards future and completely ignore environmental changes that might result in opportunities or threats. Rerup (2005) holds that this blindness towards changes and the automatic replication of successful business models are two important factors that lead to business failure in the long run, eventually failing to convey a learning message to the entrepreneur itself.

Indeed, literature of the last two decades started emphasizing a lot this whole process of learning from failure, and this was possible through the elaboration and interpretation of failure as an important step in the context of an individual's "learning journey", speeding up on the processes of creation of entrepreneurial skills.

The whole set of emotions, among which there is grief and self-blame, is seen by Sitkin (1992) as a crucial factor for conveying a new individual attitude, as the post-failure entrepreneur would be more likely to give attention to previously overlooked problems and to material inconsistencies. The author describes this new acquired capability as "mindfulness", thus the faculty to react with innovative perspectives and counteractions in front of unfamiliar and unexpected events.

Recalling the importance for the entrepreneur to have a solid knowledge-base, Cope (2003) stress the importance of failure as a vehicle for the so-called "double-loop learning", hence developing a type of deep and synthesized learning that stems from the experience of non-routinary events and that promotes the applications of the knowledge stock to other situations, with their similarities and dissimilarities. Finally, it is worth mentioning that failure is not absolutely necessary in the process of becoming an entrepreneur and managing a new venture, but its potential has been largely analysed and confirmed by the literature. On this point, both Politis (2005) and Gibb (1997) mention the outcomes of failure in the form of "higher-level generative learning outcomes", expressing the new ability of bringing forward the acquired knowledge and generalise it for different contexts, and "cognitive early warning system", referring to the ability of promptly spotting issues and set corrective actions. This new set of soft skills would in turn generate benefits in terms of increased self-esteem and confidence, together with individual resilience and creative thinking (Cope, 2011).

Supporting the theory of business failure as a better means through which innovation and novelties can be developed, is the fact that humans often interpret success experiences as

the evidence of the existence of proved and effective way of doings, which do not need further improvements (Lant, 1992). However, it is also true that experiences of failure need to be counterbalanced by equally remarkable experiences of success, as a lack of the latter might drive entrepreneurs towards a state of discouragement, for then stopping the process of “nonlocal research”, as testified by March (1991).

Focal point is the theory held by Sitkin (1992), who says that failure motivates the whole organization members to find innovative solutions to correct problems and, eventually, to create and recombine new routines to better respond to the ever-changing reality.

The entrepreneur’s journey is consequently full of learning possibilities and the ultimate goal of the journey, as it testifies the development of both a retrospective type of learning (entrepreneur collects the experiential learning and stores it as part of his knowledge”) and a prospective type of learning (entrepreneur develops a critical attitude, which enables him to make decisions more consciously and to better scan the surrounding environment) (Cope, 2011). In order to set the ground for the performed experimental analysis on quantitative data, investigating career path, industrial experience and geographic proximities on the effect of learning is a must.

Regarding the first, the idea behind is similar to the key concept related to learning and improvement through repetition often associated with Frederick Winslow Taylor's principles of scientific management, commonly known as Taylorism. Hence, through repetition and the systematic study of work processes, workers can become more skilled and efficient at their tasks over time. This approach aims to maximize productivity and minimize errors by refining and optimizing each step in a job, leading to improved performance through practice and repetition (Britannica). To a certain extent, same reasoning could be applied to serial entrepreneurs.

Serial entrepreneurs are intended as the individual entrepreneur who repeats businesses and keeps on investing himself on their management and development, even after negative events such as failure, has been investigated by the literature. Lafontaine (2016) emphasizes this phenomenon as an outcome of a process of “learning-by-doing”, meaning the obtainment of success through a continuous and relentless process of trial and error, directly transferring experiences into one’s own actions. In the author’s work, it is stated that models that focus on the learning by doing process do suggest the recurrency of

successes among all those businesses managed by entrepreneurs who had previous managerial experiences.

The so-called serial entrepreneurship might have a solid foundation for different reasons, underlined by Lafontaine (2016). Most importantly, the author sees the first period of entrepreneurship as a time span in which the entrepreneur can learn and grow exponentially, thus forming a base of knowledge that is fundamental for future successes. In this case, serial entrepreneurship would be just a proxy of the underlying skills of the entrepreneur: the presence of a serial entrepreneur would itself testify the presence of some unreplaceable and unrepeatable skills of the individuals. However, and differently from what originally believed, entrepreneurial skills would not then be “innate” in the individual, but a good portion of them would be the outcome of a process of learning by doing (Lazear, 2004).

Worth mentioning is that entrepreneurship education which has lengthily focused on strictly teaching the individuals, nowadays push for and “action oriented” type of learning, thus leveraging on the concept of learning by doing.

There are certainly some elements fostering or hindering organizational learning and the successfulness of a business. Literature has focused on the analysis of some geographical elements pertaining to different businesses, trying to map an underlying pattern of learning.

Despite the opinion of a stream of literature, holding that information external to the organization are unlikely to be grasped and to generate a source of competitive advantage (Cyert et al., 1993), Cohen and Levinthal (1990) introduced the possibility that information coming from competitors, belonging to the same environment, could potentially generate a knowledge and, in turn, a source of advantage, following the belief that there are some organizations which are better at processing information than others. This, following the authors’ statement, would be called “absorptive capacity”. Industry experience, intended as the indirect learning from competitors belonging to the same industry, might positively improve both internal and external efficiency of the topical organization. By observing the internal operations and by hiring competitors’ former employees, an organization can efficiently study the management model of other businesses, together with understanding their strong points and weaknesses and having a complete overview of consumers’ preferences.

The authors stress the importance of industry experience as means to resolve the problem of “competency trap”, intended as a halt in the organizational capability to understand and plan steps and strategies to gain competitive advantage. More to the point, industry experience, by covering a great deal of business with different strategies, is able to summarize experiences of exploration and exploitation. Interesting is the phenomenon of “exploitation of successful explorations of others” (Levinthal et al., 1993), signalling a process of almost proactive vicarious learning.

On the other side, it is also worth mentioning the teaching value coming from others’ failures. The process of learning from others happens through the observation of other people’s behaviour and the immediate consequences, thus generating a mechanism of “vicarious learning”, hence acquiring information through indirect experience of an event (Bandura, 1978).

Recent studies (Bledow et al., 2017) stress the existence of vicarious learning from failure as a more effective means to convey the process of learning, rather than continuing to analyse various cases of success, as oftentimes happened in managerial practices. Vicariously learning from stories of failures has proved to be more powerful and its success depends on a series of psychological mechanisms that deeply impact the human cognitive system, often generating sense of near threat and fear of imminent losses, thus uncovering the most effective human response-mechanism: the one of survival.

By observing others’ failures, one is required to extensively analyse the case, understanding issues and eventually elaborate solutions. This process of complex analysis results in being the main driver for learning and, finally, what best recalls the event of experiencing a personal failure (Gupta et al., 2006).

Industry experience, together with the number of business failures acknowledge, which might be used as a proxy for the competitiveness of the industry itself (Ingram et al., 1997), can be fundamental also in the phase “before entry” in the life of an organization. Following what held by Huber (1991), what an organization observes at phase of its birth will likely represent a pillar in its future lifetime, as it will set the elements to look for, what to expect from that industry and how to interpret certain circumstances and phenomena.

Thus, these observations point out a context-specificity and an outcome-dependence type of learning, which resolves itself in a complex and articulated process that is function of

many endogenous and exogenous variables that are, in various configurations, able to set a stable ground for innovation.

In order to observe the intertwined relationship between innovation and learning, there is one last point to assess: geography and proximity of organizations and their contribution to the process of learning. It has been proved that geographical, organizational and institutional proximities can be related to the creation of localized innovation systems (Kirat et al., 1999), shading light to the existence of shared behavioural patterns and cognitive capabilities, together with the possibility of transferring tacit knowledge among the organizations belonging to a certain, circumscribed, territory.

The possibility of learning through the interrelation with other organizations in the same territory is named “learning by interacting”. Crucial propulsor of the latter is the element of proximity, or geographic proximity, which refers to the geographical configurations of the organizations, combined with the existing relationships and bonds created among the different agents.

By considering exclusively the set of relationships existing among the agents, and by envisaging them as the main source through which learning might stem, the concepts of “organizational and institutional proximities” can be used (Kirat et al., 1999). These institutions, therefore, come with a set of formal and informal rules and constraint, which set the rules of the game, the conditions to participate to that activity. In this context, it is observable the strict dependence between learning and interacting with others, almost configuring a dependency between the two. Geographic proximity, therefore, represents a powerful and nurturing condition to the overall process of learning, thus promoting the share of non-codified knowledge. By vehiculating this type of knowledge, it has been proved that a stable ground is set for the creation of territorial innovation systems.

The latter are important for the creation of the so-called “intellectual capital” of a territory, which is a significant source of competitiveness at national level (Pöyhönen et al., 2004). By envisaging organizational knowledge as a dynamic source, rather than a package exclusively held and preserved by the organization itself, a theory of knowledge sharing and generation of competitive skills can exist. More to the point, even Porter (1990), in its original work, talked about the existence of regional clusters, intending the collaborations taking place among different organizations within the same geographical area and industry. Starting from the initial observation of the author, the phenomenon of

inter-organizational networks and collaborations between organizations became more and more widespread, almost configuring itself as a novelty of the modern society. As testified by a stream of literature, in the modern society what counts, and what actually determines success, is the ability of understanding and recreating the logic of networks, together with the development of a strong organizational absorptive capacity. The latter is fundamental as spots valuable tacit knowledge, mainly absorbed by the scrutinization of competitors, together with spotting knowledge-gaps, which could be eventually closed by interacting with other participants in the network, thus establishing favourable collaborations that can complement an organization's core competencies.

Being defined as the "meta-capability of the 21st century" (Miles, 2000), collaboration results in being a new determinant for competitive advantage.

What we previously defined as intellectual capital can be created in mainly two ways. First, it can be configured by mutual learning between the participating organizations, which refers to the organizations' activity of sharing, dialogue, disclosure of routines, collective brainstorming among common issues and possibility of improvements. Secondly, intellectual capital can be created through the joint creation of new knowledge, leveraging on spontaneous knowledge flows and on the observation of pre-existing knowledge and competencies that can be further enhanced.

To conclude, the extension of knowledge base about an industry, a geographical area, the familiarity with his/her job, together with his/her journey experiences about successes and failures are the founding pillars that significantly influences the company's future. It serves as a foundation, shaping an organization's approach and expectations, whether or not it would be able to bring out innovation is all in the hands of the entrepreneur.

2.3 Environment Specific Considerations

Understanding of the Italian situation and culture is a beneficial in order to have a complete overview over this analysis. As worth mentioning starting point, Italian lack of productivity growth has been a main issue over the 20 years: the globalisation trends did not positively affected all Italian firms, additionally to it, credit crisis and demand shocks from the Great Recession severely impacted employment and restricted the productive

base. These historical frictions resulted with Italian firms displaying a limited attitude to innovation and internationalization (Menon et al., 2018 & Ramella, 2018).

Focusing on this weak demand for innovation, it becomes evident that Italian companies are not as prominently involved in pioneering products or processes as their counterparts in more developed European regions. Reason behind could be found in the micro and small size of Italian businesses which, remarkably, over 90% of all firms registered in Italy have a workforce of fewer than 20 individuals and a great majority are family owned businesses. These firms are less inclined to bear the risk of innovation. Hence, the domestic demand for novel goods or services has a tendency to be suppressed by the structural features of the Italian business sector. (Menon et al., 2018 & Università di Trento, 2019).

This scale and structure raise pertinent questions regarding the capacity and resources available for research and development (R&D) activities. Historically, larger firms have demonstrated a greater proclivity for R&D, allocating more substantial resources for innovation. In contrast, the smaller entities, given their limited resources, often find it challenging to make comparable investments. In spite of this, for certain industries, small and young firms scrutiny have increase due to their ability to develop innovative applications, open up new market segments and create value for society (Giraud et al., 2019). In fact, especially for these small firms, innovation frequently takes place without the conduct of formal R&D but might occur through activities along other dimensions. In other words, smaller firms may not traditionally align with intense R&D activities, yet they seem to exhibit an increased propensity for product or process innovation (Hall, 2009).

Indeed, innovation is not merely a function of resource allocation but also collaborative efforts. The synergy of collaborative projects can be a vital catalyst for innovation. However, when we assess Italian firms' collaborative engagements, the picture seems slightly underwhelming. A mere 10% of innovative Italian firms engage in collaboration with their national counterparts. The numbers are even more modest on the global stage, with just an additional 3% partaking in international collaborations (Università di Trento, 2019). Slightly different numbers were found in a particular interesting study developed by Ramella (2018). The research paper discusses the collaborative practices of 400 Italian high-tech companies associated with the European Patent Office (EPO). It reveals that a

substantial 70% of these EPO-affiliated companies engage in innovative partnerships. These partnerships take various forms with 59% that have at least one with other companies and they are primarily small and medium-sized enterprises (SMEs), and 54% forming partnerships with research centers or universities. However, what stands out the most – and this is the key point emphasized in the article – is the presence of a collaborative corporate culture, both externally and internally. In fact, during both the initial phase of the global crisis (EPO-survey 2010) and the subsequent phase (EPO-survey 2012), these innovative partnerships significantly enhanced the operational performance of these companies. This enhancement is especially pronounced for those companies that managed to avoid becoming overly localized, often achieved by blending short and long networks. In essence, the research underscores the pervasive nature of innovative partnerships among EPO-affiliated Italian high-tech companies, making these collaborations a highly distinctive characteristic of their innovation ecosystem. Furthermore, it highlights not only the prevalence of innovative partnerships among Italian high-tech firms affiliated with the EPO but also the transformative impact of a collaborative corporate culture on their performance, particularly when navigating challenging economic times.

In spite of that, even within the high-technology sector, Italy lagged behind in European rankings (Ramella, 2018).

In conclusion, while Italy boasts a rich tapestry of businesses, the sheer number of micro and small firms, combined with limited collaborative endeavours, appears to stymie its potential in the innovation arena compared to other European powerhouses (Università di Trento, 2019).

Archibugi, Cesaratto and Sirilli (1991) discusses the role of sector-specific characteristics in driving innovative activities. In other words, innovation strategies can vary significantly depending on the industry and to fully grasp how innovation occurs in different sectors, they consider the unique characteristics of each sector. The authors support a clear division between two approaches to innovation: "technology backed by science" which typically involves formal R&D efforts and scientific research and "small technology" which is characterized by a more localized and incremental approach to acquiring knowledge and improving processes, to rephrase it: the gradual acquisition of local knowledge. Regarding the two, Italy's efficiency lays in introducing innovations

through the "small technology" approach. This means that many Italian companies excel in making gradual improvements and innovations at the local level, rather than relying heavily on formal R&D efforts. Nevertheless, an entrepreneur must take a cautionary stance against hastily act solely based on acknowledging "small technology" in industrial innovation. Indeed, the authors underscores the importance of considering the individual circumstances of each sector or company before prescribing specific strategies. As a matter of fact, certain Italian companies and sectors have chosen the "flexible specialization" approach – characterized by adaptability and specialization in specific niches – due to challenges in establishing self-reliant strategies for technology, production, and finances. The same authors also highlight how they perceive today's technological transformations as heralding the emergence of a fresh type of industrial structure, wherein small and medium-sized enterprises are regaining prominence in driving innovation (Archibugi et al., 1991).

To summarize, the commitment of different business units to innovation-friendly policies is influenced by their size and the specific industry they are involved in. In this regard many nations have lately started implementing intervention projects meant to improve and modernize their innovation ecosystems. Italy as well has taken steps to encourage the creation and growth of start-up by encouraging a new attitude toward public support of entrepreneurship among start-ups (Piccarozzi, 2017). Looking at some data reported by Giancarlo Giorgetti (at that time Minister of Economic Development) in the Annual Report to Parliament for the year 2021, Italy has seen rising the number of startups despite the challenge posed by the pandemic. As of 31th December 2020, the count of innovative startups had reached a total of 11,893, marking a noteworthy 10% increase in comparison to the preceding year, their the cumulative production value surpassed 1.5 billion euros, grounded on the 2019 financial records, reflecting a substantial annual upswing of 25.2%. Furthermore, it is worth highlighting the substantial impact of innovative startups on the employment landscape, with a commendable 12.5% escalation, predominantly attributable to a robust 15.1% augmentation in investor shareholders (Relazione Annuale al Parlamento, 2021). The Italian government is paying close attention to these businesses for the first time because it believes that start-ups are crucial for advancing social issues like young employment and sustainable growth as well as technical advancement (Piccarozzi, 2017). However, before further advancing with the Italian start-up

ecosystem analysis it is crucial looking at what conditions are required for it to be called a innovative start-up.

Innovative start-up were defined by The Italian Start-up Act of 2012 (ISA) as “newly-established companies with a strong nexus to technological innovation” following that they must be limited and not listed companies with less than five years from their date of incorporation, a turnover of less than €5 million, lastly, they satisfy at least one of the three innovation-related factors listed below:

- Research and development activities account to at least 15% of the company’s expenses
- The workforce consists of a minimum of 1/3 individuals with either a Ph.D., Ph.D. students, or researchers, or alternatively, at least 2/3 of the team possesses a master's degree with 3 years of experience in certified research activities.
- The company either owns, holds or deposited the rights as a licensee for a registered patent, or it possesses an original registered software (Italian Ministry of Economic Development, 2019).

Numerous programs were made available from the Italian Ministry of Economic Development and other agencies to help startups and creative entrepreneurship in general. Starting from the fact that start-ups in industries with rapid development and volatility are more amenable to national policies and regulatory frameworks than start-ups in other industries, it is important to note that start-ups should be able to gather resources, scale up, and, in the event of failure, quit with ease (Menon et al., 2018).

In this regard, while the ecosystem was growing, Italian startups often faced challenges in accessing funding compared to their counterparts in other European countries. Since the Start-up Act made 2012, strong tax incentives for equity investments in creative enterprises undertaken by both natural and legal people, moreover in 2013 a special registry of authorized online portals was also established, making Italy the first nation in the world to regulate the equity crowdfunding sector (Italian Ministry of Economic Development, 2019). Yet, a shortage of venture capital and angel investors still limited their growth potential. When considering the actual numbers in absolute terms, Italy barely raised 162 million euros in 2016, compared to the UK's 3.2 billion, Germany's 2 billion, and France's 2.7 billion. These statistics appear to lend credence to the notion that there might not be enough capital from specialized investors available to propel the

growth of startups. However, Italy's innovation ecosystem doesn't lag as far behind when compared to similar contexts. While it's true that other countries have reached more advanced stages, consider France as a case in point. Despite the recent buzz surrounding its progress, if we look beyond the common national rhetoric, we can draw parallels between our current situation and where France found itself a few years ago when it first started investing in the startup landscape. In essence, Italy's position today is akin to where France was in the initial phases of its startup endeavours. Probably, in Italy the business-startup deal market still needs to be developed (Agenda Digitale, 2018).

Now, moving on the start-ups after five years of life, either they advance or fail. Should they achieve success, "mature" innovative startups that maintain a robust commitment to innovation have the potential to evolve into innovative SMEs. The legislative intent, as outlined in d.l. 3/2015, was to extend the scope of the ISA to encompass all creative enterprises, irrespective of their level of maturity. The majority of ISA policies offer benefits primarily aimed at assisting innovative businesses, reason why some of these policies apply equally to both categories without drawing any distinctions.

On the contrary, in case of failure, the ISA "Fail fast" policy assists innovative start-ups to have quicker and less onerous procedures available than traditional ones. More accurately, they are only liable to the required liquidation procedure as a result of excessive debt and asset liquidation, exempting them from traditional bankruptcy processes and settlements with creditors. These innovative startups are considered "no-fail" entities to simplify crisis resolution and reduce the time required for legal winding up. The aim is to lower the financial and cultural costs associated with bankruptcy. In summary, if an innovative startup faces failure, it undergoes a more streamlined process to resolve financial difficulties, reducing the financial and cultural burdens of bankruptcy, even certain data becomes available to specific authorities after a year of liquidation.

In order to reinforce the positive trend of increasing participants and assist the transformation of national value chains within the context of the dual digital and ecological transition, the government is dedicated to encouraging the innovation potential that startups and innovative SMEs may produce (Relazione Annuale al Parlamento, 2021).

In the overall looking at 2020's figures, 7,809 innovative startups declared that they possess at least 15% of expenses concerns research and development activities (first

requirement), 3,116 at least the second requirement with expert team formed by personnel with a master's degree or by doctoral students, research doctors, and 2,045 at least are owner of registered software, licensee of industrial property rights (third requirement).

In regard the geography of the start-up ecosystem, Lombardy consistently leads the way, boasting 27.1% of all new businesses in the country, while Milan alone hosts an impressive 2,300 innovative startups, making up 19.2% of the nation's industrial landscape. Likewise, 38% of innovative SMEs operate in the Northwest region of the country with 28.2% of them located in Lombardy. Furthermore, including 8 in Lombardy, there were 39 certified incubators in 2020, which, compared to the prior year, reported a 16.3% rise in output in 2020.

Meanwhile, in the sectoral breakdown of Italian start-ups, little under half are engaged in activities falling within the ATECO section "J - Information and Communication Services.". These industry, which mostly provide IT consulting, software development, and associated services, comprehend 4,375 enterprises, or 36.5% of the total. Second place is the "M - Professional, Scientific, and Technical Activities" area, where there are over 2,800 creative startups (making up 23.3% of the total) of which 60% of them are working on scientific research and development. Lastly, accounting for 15.9% of the total and home to 1,902 manufacturing startups are division such as "'C 26 - Manufacture of Computers and Electronic and Optical Products" and "C 28 - Manufacture of Machinery and Equipment n.e.c." (Relazione Annuale al Parlamento, 2021).

In the end, there's a notable and expanding adoption of various measures designed to bolster startups and innovative SMEs. 5 784 individual investors and 809 business entities benefited from tax incentives advantages in 2019, leading to over 206 million euros invested in innovative firms with an increase of slightly over 31% from the previous year. It may be difficult to correctly gauge the ISA overall impact, however, in the triennial span from 2017 to 2019, both the number of startups and innovative SMEs receiving investments and the overall count of investors increased significantly, meaning that policies implemented from 2012 onwards and that aimed at creating a more favourable environment for small innovative start-ups has been positive overall (Relazione Annuale al Parlamento, 2021).

3 - DATA METHODOLOGY

Stepping onto the discussion of the methodology used for the purpose of the present analysis, it is worth noting that the set of data used for the quantitative analysis come from Unioncamere's databases. Hence, Unioncamere is the Italian union of all chambers of commerce, industrial segment, craftsmanship and agriculture. It is the public entity which has a representative role towards different organs, such as the ones of the territorial, national and international government.

The software used as a precious tool for the present analysis is "Stata", which allows processes such as data manipulation, visualizations, statistics and automated reporting. In this case, it was mainly used for the purpose of data manipulation.

The research started from the analysis of the dataset provided by Unioncamere. The latter provided precious data about alive and deceased startups in the Italian territory, taking into account the timespan that goes from year 2013 to beginning of April 2023.

Therefore, data were processed starting from an initial databased named "lista", which enclosed data about start-ups and innovative SMEs.

The first step (reference to Table 1 for each step) was recovering startups from the initial database provided by Unioncamere and denominated "IMPRESA_03052023", considering both current and historical data. Using as filtering key the fiscal ID, associated to each startup business, a merge between these data was successfully realized. Finally, the obtained datasets were called "IMPRESA_lista" and "IMPRESA_STO_lista". The latter comprehend all the historical data that may not be present inside the current dataset plus eventual past modification of a current enterprise that are needed for the investigation. The following steps are being developed for both these dataset, however, for simplistic purposes, the methodology explanation will focus only on the current dataset merges.

Being Stata a software used for the manipulation of data, it is mainly based on filtration through words/codes or numbers. In this case, coded words were used for the filtration and the merge between the interest set of information.

From the obtained dataset, only variables "IMP_C_FISCALE", "IMP_CCIAA" and "IMP_NREA" were maintained, as it is observable from the inserted table/map/logic tree.

More in particular, the last two voices (“IMP_CCIAA” and “IMP_NREA”) were kept as pillars for the next steps of the analysis, as they will be used as keys for the subsequent steps. The first key, attached to the code “_CCIAA” identifies, together with the fiscal ID of each business, the Chamber of Commerce the single business belongs to, therefore indicating the location where the registration firstly took place. The code “_NREA”, instead, is useful to identify the position of a venture inside the “Repertorio Economico Amministrativo” (REA). The latter is an administrative catalogue that integrates data about different businesses with information of different types, mainly regarding economical, statical and administrative characteristics.

By keeping these codes, the dataset “IMPRESA_lista_CCIAA_NREA” and, after checking for the absence of duplicates, the final result is a dataset called “IMPRESA_lista_TOTALE”, signalling the end of the first phase of the quantitative analysis.

At this point, given the list of firms and their respective codes “_CCIAA” and “_NREA”, the research can progress by linking the people attached to these businesses, as the final purpose is the making observation on entrepreneurs and their businesses.

For this reason, by using the key “_CCIAA” and “_NREA”, a merge is operated to obtain the subsequent formation of a new dataset, called “PERSONA”, which encompasses a great deal of useful data.

It was then operated an action to encode “PER_C_FISCALE”, for then obtaining a final list called “LISTA_COD FISC_IN_STARTUP”. This output represents a list of individual fiscal IDs/fiscal codes¹ of all the people taking part in the management of startups, paired up with the business they belonged to. This can be regarded as the final output signalling the end of the second stage of the analysis.

As third stage of the analysis, the list of people belonging to the different startups was taken and looked up into the “PERSONA” file, both in its historical and current versions, to check if the observed people/entrepreneurs are, or were, possibly linked with other firms other than the startup they belong to. In fact, for the final purpose of the research, it is mandatory looking for meaningful connections between entrepreneurs in the context of

¹ Personal identification codes (‘codice fiscale personale’) have been encoded in such a way as to maintain a unique yet anonymous form throughout the entire analysis process.

startups and their previous experiences in different businesses, possibly belonging to other categories.

It is then performed a merge encoding “PER_C_FISCALE” using the list “PERSONA”. The final output is denominated “LISTA_CCIAA_NREA_PERSONA”, which represents a new list, containing the information pertaining to the keys “_CCIAA” and “_NREA”, linked to the different entrepreneurs and underlining their previous experiences.

As fourth step, all the data dropped with the previous processes of encoding and merging need to be recovered. For instance, taking back the list with the characteristics “_CCIAA” and “_NREA”, it is possible to merge it back with the list “IMPRESA”, both in its historical and current versions, to recover precious information about firms. This way, it is possible to fully recover the set of information that were previously dropped, therefore obtaining a dataset that, for the rest of the analysis, will be kept apart from the other ones. The fifth step, as displayed in the illustrating map, takes back the list of people involved in the startups (to recall: “LISTA_CODFISC_IN_STARTUP_PERSONA”) and has as its main aim is looking up for the attached charge of the considered person in order to evaluate the type of charge/responsibility of the person and the timespan during which the person covered a certain role. Therefore, the file denominated “CARICHE” is considered and appended in the software.

After the merging processes, the output is constituted by the new dataset “LISTA_CODFISC_IN_STARTUP_CARICHE” and in the end it will be added together with the final obtained dataset called “IMPRESA_PERSONA_STARTUP”

The whole described process represents the foundation of the performed analysis.

Starting from the obtained dataset, which contains for each person, linked to at least one historical or current startup, information about previous experiences in other firms, together with all the charges/roles covered during the working timespan of the considered person. A series of different analysis were performed, starting from the mentioned input. Firstly, the single link between a person and a firm was highlighted, removing all the duplicates and obtaining a purposeful list of firms per each person considered. By doing so, it was possible computing the first percentages in terms of number of firms, total number of startups, total number of failed firms/startups and age of the first entrepreneurial experience. These data were all regrouped in categories.

A second analysis was then conducted, starting back with the initial database since the duplicate drop will be performed after the experience for each entrepreneur in each firm is calculated.

Indeed, an important objective of the analysis was evaluating the experience carried out in each firm, thus observing the maximum and minimum values of the charges/roles covered by the analysed people/entrepreneurs. This, of course, is to weight the possibility to learn and gain something from each enterprise.

The total experience of each person was computed, firstly taking into account the sector, the moving onto the belonging province (CCIAA). Hence, by considering “X” person, it is easy to obtain the sum of the duration of the experiences in firms belonging to the same ATECO category. The maximum value of a person, in terms of experience, obtained in a certain ATECO category (sector), was then considered as the “forte”, meaning the specialty, of the person himself.

Considerations on previous experiences in a single sector are particularly useful to examine the experience and knowledge background of a certain entrepreneur, which might have been precious for the management of the startup. In order to consider those previous experiences as a valuable entrepreneurial background, one condition was adopted: the first charge covered in the startup needs to be greater than the starting point of the charges covered during his previous experiences.

Thanks to the usage of dummy variables, following a binary structure 0-1, a check was operated with the aim of observing if the considered startup belongs/belonged to the same ATECO category, hence the sector, of the firm in which the entrepreneur covered the greatest charge/role.

This whole process, as described in the context of the ATECO category (sector), was then repeated taking into account the Province (CCIAA).

Regarding the work experience, considering the covered role/charge, the process slightly differs, but still starts from the initial dataset.

In this case, the duration of each single charge per person was computed and new dummy variables were used to underline the eventual correspondence between the charge covered before entering the first startup and the charge in the belonging startup.

Moving forward, for the purpose of the analysis on business failure, it was then needed to operate a consideration of only ceased experiences.

With the previous analysis, a general overview was obtained: it was underlined if and how a startup can be developed, considering the entrepreneurial experience in the sector, the province and the covered charge. Now, for the sake of our research, it is requested the comparison between experiences of failure and of startup creation. The process remain very similar to the one above again with the observation of the sector, province and work experience, however the comparison will be between the experiences of failure and the last participated startup.

Firstly, all people who did not registered experiences of failure were cut off the list of data.

Also, the last experience of startup will be considered as the milestone of the analysis, so that all the previous experiences and knowledge can be taken into account as propulsors of the current innovative business.

Always operating a comparison with the usage of the ATECO code, the sector of the latest innovative business is compared with the sector to which the failed businesses belongs.

Considering the modal value of experience in the sectors in which the failures occurred, we operate a comparison with the ATECO category of the startup, to underline any valuable connection. Hence, the dummy variable will register “0” in case the two do not coincide, and “1” in the case the same ATECO is registered between the two.

A second control on the failure experience is a must, indeed it is necessary checking whether the considered entrepreneur was present in the moment and place of failure in order to be able to state he/her has directly learnt from the event. Hence, the end of his/her works experience in the failed company must coincide with the registered year of termination.

To sum up, the failure condition applied on our examination are two: firstly, it must have happened before the entrepreneur’s participation in his/her last startup and secondly, the entrepreneur must have taken part to the termination of the company. Then, after this check, the results will be compared.

Same will be done considering the geographical origin of the firms and the job description and job category.

In the end, the observation and combination of these results will determine whether or not there is a possibility that some entrepreneurs benefitted from the failure experience.

4 - RESULTS

This portion of the paper unveils the insights and conclusions drawn from the research data, starting by showcasing the results from the analysis of the startup, which in the previous section we referred to as the dataset 'Lista,' providing a comprehensive overview of its key findings and how some align closely with the data presented in the 'Environmental Special Considerations' section.

The analysis was conducted by categorizing innovative startups and innovative SMEs, with the former comprising 27,315 businesses and the latter totalling 1,651, resulting in a total of 28,966 innovative enterprises. When comparing their registered capital, as evident from Tables 2 and 3, startups exhibit a striking concentration, with 11,139 businesses having a share capital ranging from €5,001 to €10,000. Following closely, the second-highest category comprises 5,253 startups with a share capital ranging from the minimum of €1 to €5,000. In contrast, when considering innovative SMEs, the majority are concentrated on the right side of the spectrum, showing an almost ascending trend. Specifically, a substantial portion of innovative SMEs (709 to be exact) has registered a capital exceeding €100,001. This is likely due to these SMEs being more established and, consequently, posing lower risk for the entrepreneurs' investments compared to their startup counterparts.

Focusing now on the geographical areas where these firms are dispersed and the sectors in which they are most concentrated, we can observe how what was stated in the 'Annual Report to Parliament for the year 2021' cited before aligns with the results we have obtained. As evidence of this, in terms of geographical regions, the Northwest emerges as the leader for both startups and SMEs, with 9,427 and 628 businesses established or relocated there, respectively. The other regions of Italy remain relatively consistent, with an average of approximately 6,000 startups per region and 340 SMEs, with some slight differences when comparing startups and SMEs (refer to Tables 4 and 5).

Considering the ATECO categories to which these businesses belong, both Tables 6 and 7 identify and display a significant concentration in sectors J, M, and C, precisely as the annual report had anticipated.

Moving on to a topic of greater relevance and pertinence, we have also analyzed the duration of startups in the "Lista" dataset that have a cessation date, indicating that they

have failed over time. These amount to 4,028 cases, and the highest frequency of cessation registrations predominantly occurs within the 1st to 5th year, with the third year since inception being at the center of this trend. As a matter of fact, the “Valley of Death” is a critical stage typically happening in the early years of a startup's existence where it faces significant challenges, particularly related to securing adequate funding to transition from the early development phase to full-scale operations or commercialization. It's critical to remember that not all firms that enter the Valley of Death will fail; rather, it's a typical and expected stage in the entrepreneurial process. Those who can get the required resources and adjust to market circumstances are more likely to succeed in the end.

Indeed, in addition to the surviving startups, 1,462 have transformed into innovative SMEs. Notably, 425, representing the predominant trend, transitioned precisely at the 5-year mark mandated by the law, transitioning from their startup status to the innovative SME regime. The remainder primarily opted for an "early" transition, if one may call it so, albeit with a growing number of businesses making this shift as they approached the 5-year threshold. On the other end of the timeline, 300 businesses chose to enrol in the innovative SME registry in their sixth year of existence, and only a few remained that waited beyond this point. Therefore, considering solely the ratio between the number of survived startups and the number of transitions to innovative SMEs, it could be argued that the majority of the former tend not to avail themselves of the privileges and benefits offered by the innovative SME regime, instead continuing as conventional businesses.

Now, we shall turn our attention to the overarching framework concerning entrepreneurs and their entrepreneurial history, specifically the analysis of the datasets obtained after all the work outlined in Chapter 3. As a reminder: the foundational dataset encompasses not only entrepreneurs and their startups but also all innovative and non-innovative businesses in which they have actively participated. Subsequently, adjustments and modifications to the dataset have been carried out to enable a more precise analysis of sector, province, and job position.

Overall, the analysis commenced by evaluating the number of startups developed out of the total businesses associated with a particular individual. Of these ratios, it is noteworthy that out of a total of 71,030 observations, 21,946, or approximately 30% of individuals, have exclusively participated in startups. In essence, this individual 'X' records a number of enterprises 'N' that are solely categorized as startups. Following this,

the highest percentages are around 16% and 11%, representing entrepreneurs who have respectively participated in a number of startups relative to their total participations, ranging from 40-60% and 30-40%. This does not necessarily imply having taken part in numerous startups; in fact, from the figures, approximately 86% of entrepreneurs have only one startup among their observations, while around 13% have more than one, with a significant portion (9%) having two startups.

Furthermore, the age at which entrepreneurs engage in their first managerial role within businesses is consistent when considering both the complete framework and the initial position in a startup. Upon reviewing Tables 10, it becomes evident that many embark on their initial entrepreneurial endeavours within the age range of 31-40 years, with a substantial portion also falling within the adjacent categories.

Moving to a more substantial aspect, we will now present general data related to the number of business failures. Naturally, business failure is not a common occurrence, with just under 94% of the observations indicating no reports of failure. The remaining portion is distributed among single instances of failure, and, in aggregate, approximately 2.7% report two or more ceased enterprises.

To provide an even more specific perspective, a ratio has also been established between the ceased enterprises and the participated enterprises, as well as between the failed startups and the participated startups. The results obtained from the ratios reveal a somewhat fluctuating yet similar trend concerning ceased enterprises, ranging from 2-5% to the 40-60% category. The highest frequency is observed in the category where the ratio falls within the range of 16% to 20%, totalling 2,240 observations out of 71,030, or out of 16,043 if we exclude observations with no ceased enterprises².

Regarding startups exclusively and excluding those with a numerator of the ratio equal to 0, the largest remaining value corresponds to 482 entrepreneurs who, having participated in a single startup, experienced its failure. Following this, 52 individuals exhibit a ratio of 40-60% between failed startups and total participated startups.

As for the latter half of the analysis, information concerning the decisions and experiences preceding the creation of a startup, particularly in terms of the sector, geographical area, and role undertaken, will be presented next.

² The decided range were: (2,001-5%), (5,001-8%), (8,001-12%), (12,001-16%), (16,001-20%), (20,001-30%), (30,001-40%), (40,001-60%). If clarification or access to the Excel document containing the reported data and tables is desired, please feel free to make a request.

Firstly, a decision was made to examine the dependence on prior experiences within the sector (ATECO) in an entrepreneur's initiation or participation in a startup. In the variable named 'atecobefore_vs_atecostartup,' values were recorded as 0 in cases where the prior experience in which the entrepreneur was most confident did not correspond to the same ATECO category in which their first startup was registered. Conversely, a value of 1 was recorded if they matched. The results show that there is nearly a fifty-fifty split among entrepreneurs; specifically, 48% of individuals joined a startup in the same sector in which they had the most experience at that time. This does not entirely imply that their journey in that sector was beneficial and contributed to the development of the startup and consequently to innovation. However, it does not rule out the possibility and it opens the doors to a potential deeper exploration.

The percentage change when considering our pool of individuals with at least one experience of failure (15,862 individuals in total), it reveals that only approximately 35% recorded a value of 1 in case the failure(s) occurred in the same sector in which they had the most confidence. However, of greater interest is the comparison between the ATECO in which a failure occurred and the ATECO of the last startup in which they participated, referred to as 'atecofail_vs_atecostartup2.' The '2' pertains to the second control explained in the previous chapter, which verifies that the entrepreneur was present at the time of the failure, i.e., the year of the end of the role coincided with the year of cessation. This allows us to assert that the experience of failure was directly lived and perhaps directly absorbed. The results of this variable indicate that 4,691 entrepreneurs, or approximately 29%, had a direct and prior experience in the same ATECO category as their last participated startup. Once again, it is not to be excluded that for these individuals, such an experience could have been beneficial.

Table 11 will show a full overview of these talked percentages and results.

Lastly, through a comparison between 'atecobefore_vs_atecostartup' and 'atecofail_vs_atecostartup2,' it was possible to infer that 3,084 entrepreneurs, approximately 23%, may have benefited from both experiences—the experience of failure and all the prior experiences.

Shifting focus to the geographical aspect, it is worth noting that entrepreneurs can acquire knowledge and cultivate beneficial relationships based on the location of their business. Similar to the sector analysis, the variable 'provbefore_vs_provstartup' yields an outcome

where 20,211 entrepreneurs out of 71,030 (28%) have chosen to participate in a startup in a province different from where they have a significant presence. In contrast, the remaining 50,819 entrepreneurs (72%) have remained established in the same area. This outcome aligns closely with expectations, given the potential challenges associated with changing one's environment and the separation from the familial ties that often characterize Italian origins.

Considering only the entrepreneurs with at least one experience of failure, the variable 'provfail_vs_provstartup2' yields a percentage of 41% for the category '0' and 59% for the remaining entrepreneurs who record a '1,' indicating a match between the two provinces. Therefore, while a significant majority may initially opt for a working location with which they are more familiar, it appears almost expected that some of them would distance themselves from it in the event of a failure. This is also considering that failure continues to carry a social stigma in Italian culture, potentially harming personal relationships or leading to social isolation.

Finally, by comparing the two variables explained above, we observe that 53% of entrepreneurs correspond to a '1' in both, while 35%, or 5,570 entrepreneurs, register '0' for both variables, indicating that their experiences in different provinces have no influence³.

Before delving into the discussion regarding the job positions held by these entrepreneurs, an additional comparison was conducted among all the experiences mentioned above. Naturally, this was possible only by considering the 15,862 entrepreneurs who had also experienced failure. Table 13 presents a comprehensive overview of the values obtained; however, our primary interest centers on the number of entrepreneurs who, for all four variables ('atecobefore_vs_atecostartup', 'provbefore_vs_provstartup', 'provfail_vs_provstartup2', 'atecofail_vs_atecostartup2'), confirm the possibility of learning. In other words, where all four of these variables intersect with a '1' match for each. The sought outcome comprises 1,958 entrepreneurs, approximately 12% of the total. This modest percentage suggests the potential for individuals to not only learn from both success and failure but also to channel these experiences into the creation of startups and, subsequently, innovation.

³ Table 12 for reference

With that said, it is now time to analyze and present the conclusions regarding the job positions held, both in a more specific manner (e.g., 'sole director,' 'limited partner,' 'board member'⁴) and considering the category to which these more specific positions belong, referred to as the generic position (in the case of the example, all fall under the generic category of 'director').

While the process to arrive at these results may vary slightly, the variable 'caricabefore_vs_caricastartup' observes that 53% of 71,030 entrepreneurs have a match between the specific job position in their primary experiences and their first startup. From a generic perspective, the variable 'caricabefore_vs_caricastartup2' reports nearly 90% (specifically 86%) where this condition mentioned above aligns. Furthermore, when focusing on generic positions, it is evident that the 'director' category predominates for both startups and other enterprises, accounting for a total of 71%.

For the umpteenth and final time, we turn our analysis to individuals with experiences of failure. Here, we observe that 37% of entrepreneurs hold the exact same job position between their failure experience and their most recent startup ('caricafail_vs_caricastartup2'). Conversely, the variable 'caricafail_vs_caricastartup4' presents a percentage of 73% for the same condition. Table 14 summarizes the presented data. Naturally, delving into more specific details, it is unlikely to find an exact match. The same could be said when examining sectors and provinces in finer detail. However, it's worth noting that the roles between two specific positions may not be vastly different. Sometimes, within the context of small businesses, the boundaries between these roles can remain blurred. Additionally, taking the example of the position of 'limited partner,' while it differs in name from 'CEO'⁵, the former is still recognized as having administrative powers within the company.

When considering the intersection between the two variables, in the case of specific job positions, the percentage at which the two experiences overlap is 23%. However, when focusing on generic positions, this intersection between the prior experience of failure and the generic prior experience in relation to the most recent and initial startup rises to 67%.

⁴ In the dataset they are quoted as 'amministratore unico', 'socio accomandatario', 'consigliere'.

⁵ 'socio accomandatario' and 'amministratore delegato'

To conclude, the most significant aspect to emphasize is the results obtained from comparing entrepreneurs' choices when participating in a startup with their respective prior experiences. It is important to understand how, after several entrepreneurial endeavours, an individual has decided to join a startup or innovative SME, thereby contributing to the expansion of what we previously described as a limited Italian inclination towards innovation.

Particularly, when considering prior experiences in general and experiences of failure, it can be affirmed that these may have contributed to broadening the entrepreneur's horizons. Consequently, in the context of our thesis research, it is possible to highlight how a select number of entrepreneurs have gone beyond the costs associated with failure and have gleaned valuable insights from all their experiences, whether successful or not.

5 – DISCUSSION, IMPLICATIONS AND FUTURE CONSIDERATIONS

The quality of the company is determined by individual differences in abilities, traits, and experience. Learning from the collected entrepreneurial experience and enhancing one's entrepreneurial abilities has a favourable influence over this quality. Learning from failure as well, though, seldom happens right away could expand the entrepreneur's subjective knowledge base.

Nonetheless, making sense of and recovering from failure is a process that takes time to develop and does not always occur.

Understanding if and how entrepreneurs learn from failure in the current Italian environment carries several significant implications. Peculiarly, delving into how entrepreneurs assimilate lessons from failure can shed light on their subsequent success and innovative abilities. In order to develop methods and strategies for sustained growth, researchers might investigate how certain failures, such as product mishaps or financial setbacks, affect an entrepreneur's decisions and actions in the future.

This understanding can, in turn, inform the development of effective educational programs, ensuring entrepreneurs are equipped with the tools necessary to learn from their failures. Moreover, cultural and contextual factors can also play a role in shaping an entrepreneur's ability to learn from failure, warranting investigation. Therefore, exploring into the psychological and emotional aftermath of failure can help address issues related to resilience and mental health within the entrepreneurial community. Additionally, optimizing support systems, like mentorship and networks, for more effective learning and developing improved assessment tools are areas ripe for exploration.

Looking ahead, as it looks at how investors evaluate and react to entrepreneurs' failures, the insights gathered from such research might have an impact on investment choices.

What is more, researchers may delve into the cognitive and behavioral mechanisms involved in learning from failure and seek to identify transferable lessons between different contexts.

Last but not least, analyzing the broader entrepreneurial ecosystem's role in facilitating or hindering this learning process can provide valuable insights for policymakers and industry stakeholders.

The presented study may be regarded as an initial stepping stone for the analysis of the Italian environment concerning innovation. The idea and intent of this research were to promote the concept of failure not as a taboo but as a catalyst for innovation, thus emphasizing the significance of not underestimating this aspect and entrepreneurial experience.

The analysis of the data and results reveals values that suggest that this stigma has been overcome by a modest number of entrepreneurs. It leaves room for future investigations, specifically the notion of interviewing these individuals to verify if this type of experience has indeed imparted a specific knowledge base that supports their career trajectory.

Of course, the analysis does present certain limitations. Firstly, the experience in a business or startup was calculated as the difference between the latest recorded date and the earliest recorded date, without accounting for potential years of hiatus. Additionally, when there are two identical values, Stata yields a missing value as a result. Hence, it is plausible that the data remains relatively approximate and should be considered as a general guideline.

Missing data points can be a significant limitation as well, this can introduce bias or affect the robustness of the analysis. However, it's important to note that this study relies on Italian official registered data, which are considered reliable and not prone to inaccuracies or inconsistencies.

In the end, while some circumstances may hinder the accuracy of our results, as if we haven't already stressed this topic enough previously, studying failure as a wellspring of innovation for the future holds profound significance. In this regard, Italian entrepreneurs seem to be undergoing a transformative shift in the perception of failure and this evolving mindset is fostering a more resilient and innovative entrepreneurial culture in Italy.

As Italy embarks on this journey, it joins a global movement that acknowledges that, sometimes, the path to innovation is paved with the valuable lessons learned from the challenges and setbacks encountered along the way.

6 - CONCLUSION

As articulated at the outset of this dissertation, it was stipulated that our ultimate objective was to furnish a conclusive response concerning the presence of entrepreneurs within Italy who exhibit the competence to extract advantages from experiences of failure.

In order to provide some insights in this regard, we embarked on an extensive process of data analysis and elaboration. During this process, we encountered various percentages, such as 12% of entrepreneurs suggesting the potential for individuals to learn and channel their experiences into the creation of innovative startups, particularly in specific sectors and provinces. Additionally, we observed figures like 23% or 67%, when considering the overall job position, which may have benefited from the classic 'learn by doing' approach due to multiple incumbencies in the same role.

This analysis has afforded us a deeper understanding of the entrepreneurial psyche with respect to decision-making and innovation. However, it is essential to underscore that these data primarily present a hypothesis of 'creative failure,' wherein entrepreneurs derive fresh ideas from past experiences, leading to innovative breakthroughs. The phenomenon in question warrants a more comprehensive examination through complementary qualitative research, involving interviews with the aforementioned percentage of individuals. Such research can delve more into whether failure has genuinely contributed to expanding their perspectives and future success.

In conclusion, the journey towards embracing failure as an essential stepping stone towards success remains an ongoing endeavour, driven by the concerted efforts of governmental initiatives, educational programs, and the unwavering determination of Italian entrepreneurs. As Italy continues to navigate the intricate relationship between entrepreneurship and the concept of failure, it finds itself at a pivotal juncture where the experiences gained from these setbacks stand poised to be leveraged as powerful catalysts for future innovation and economic growth.

Moreover, this paradigm shift in viewing failure can profoundly influence policy formulation and corporate strategies. Governments may opt to provide targeted support to entrepreneurs who have encountered failures, recognizing the invaluable lessons that such experiences offer. Simultaneously, businesses can adopt a more open mindset, acknowledging that adeptly managed failures inherently contribute to the achievement of future success.

7 – FIGURES AND TABLES

Figure 1

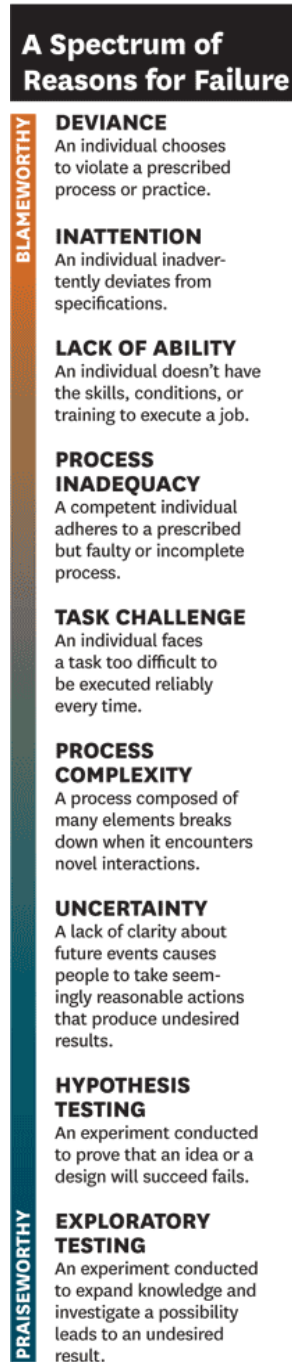
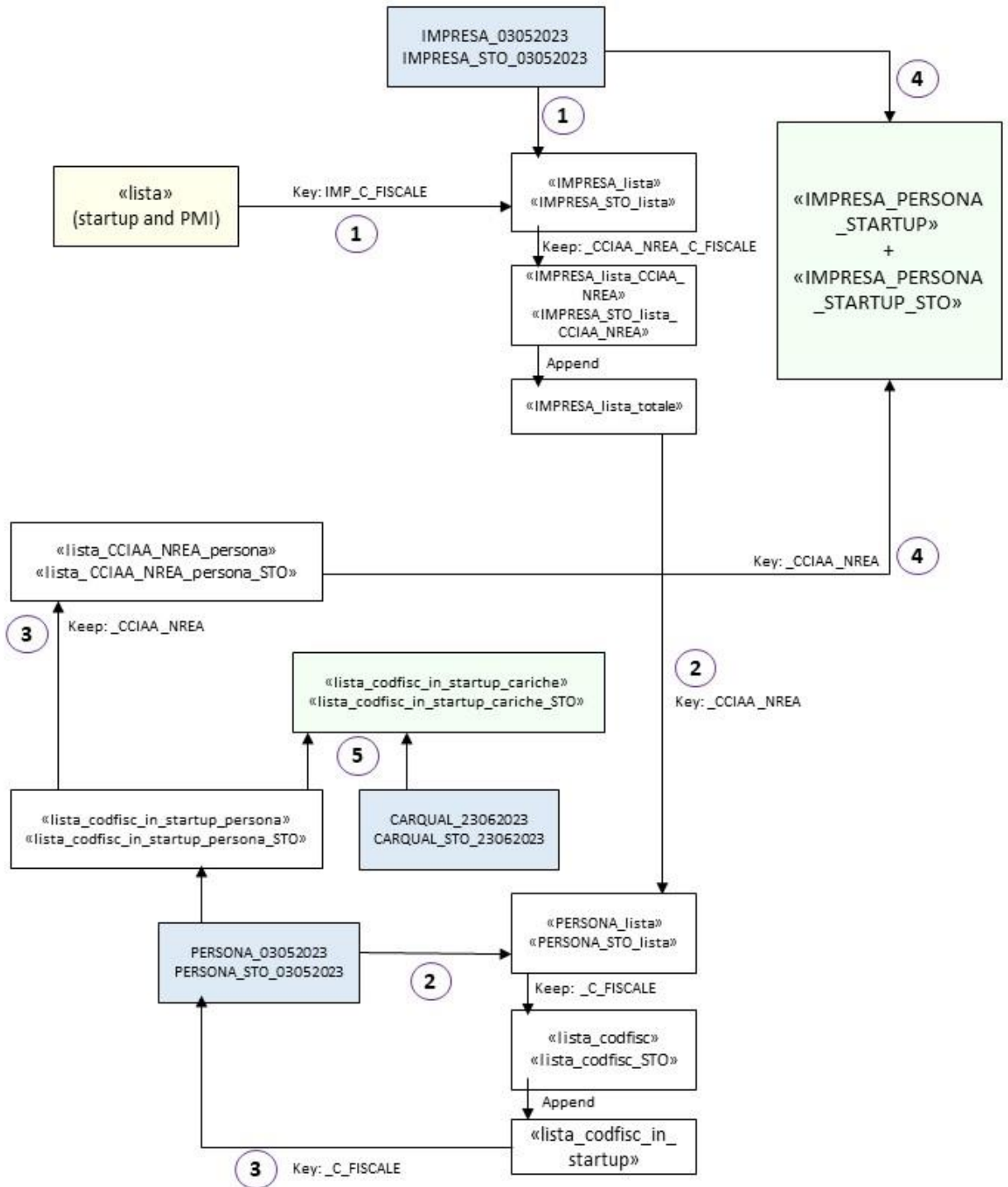


Table 1



If clarification or access to the Excel document containing the reported data and tables is desired, please feel free to make a request.

Table 2 and Table 3 (Share Capital)

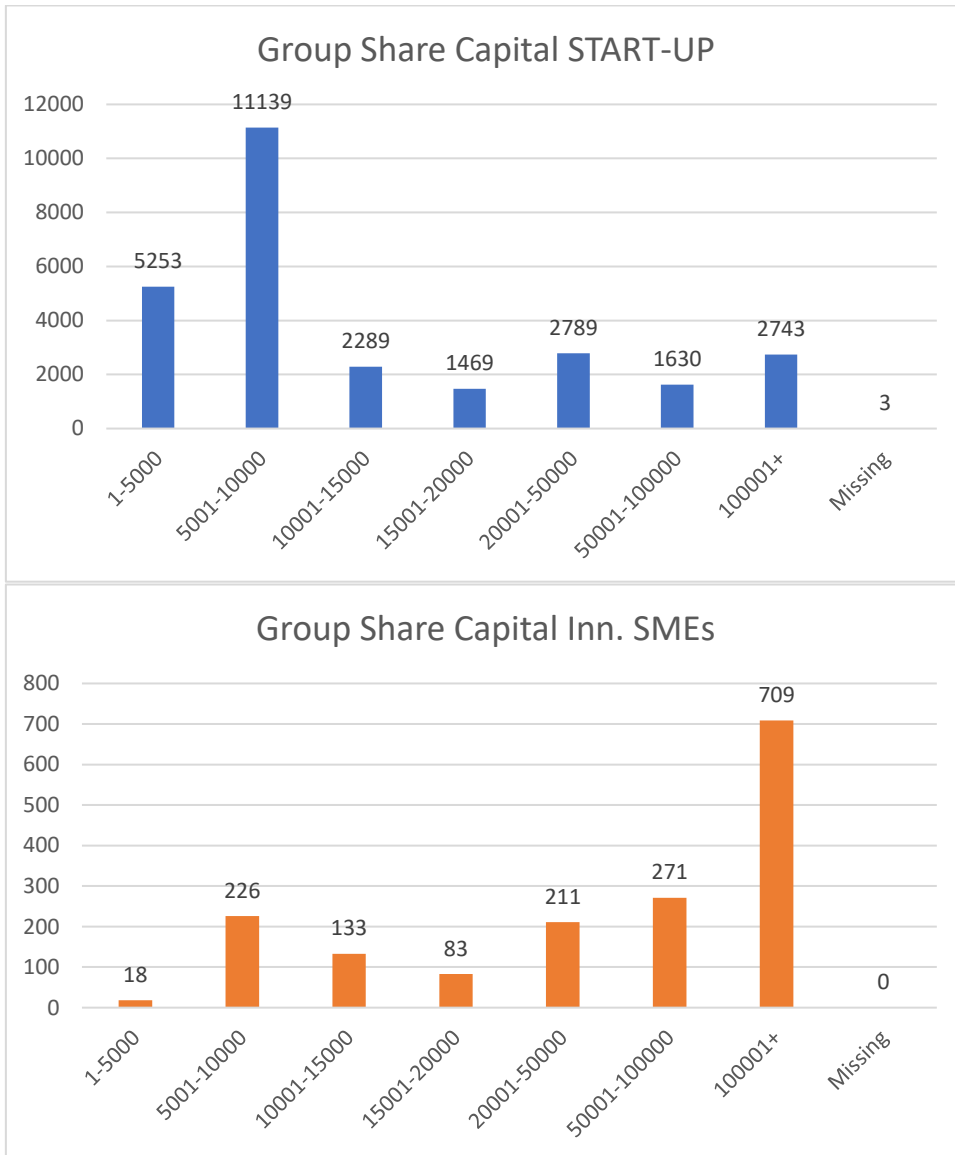


Table 4 and Table 5 (geographical area)

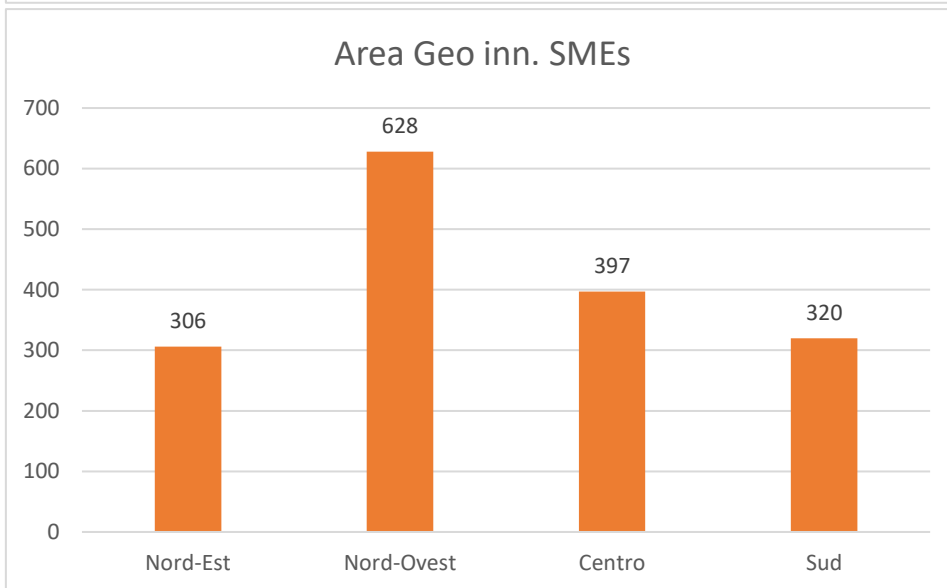
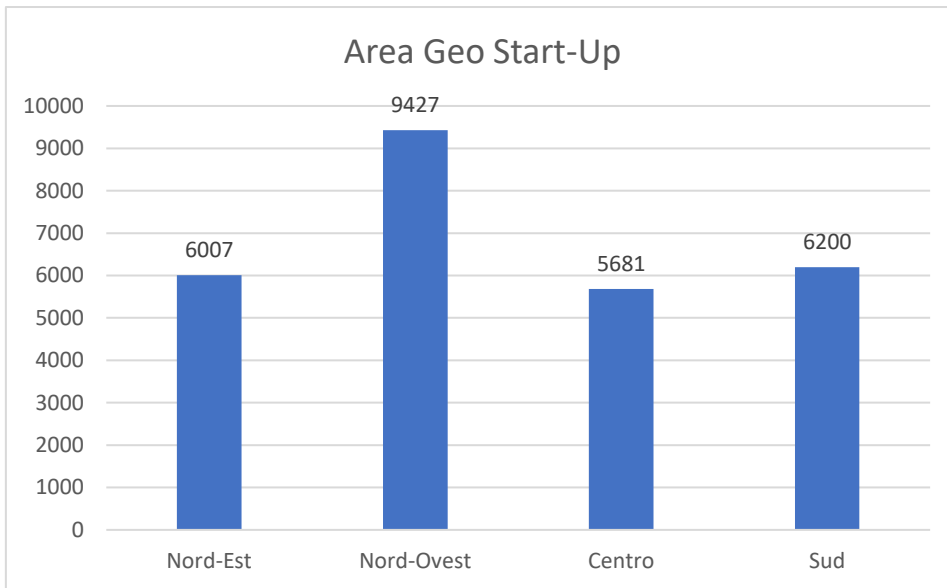


Table 6 and Table 7 (Sector – ATECO)

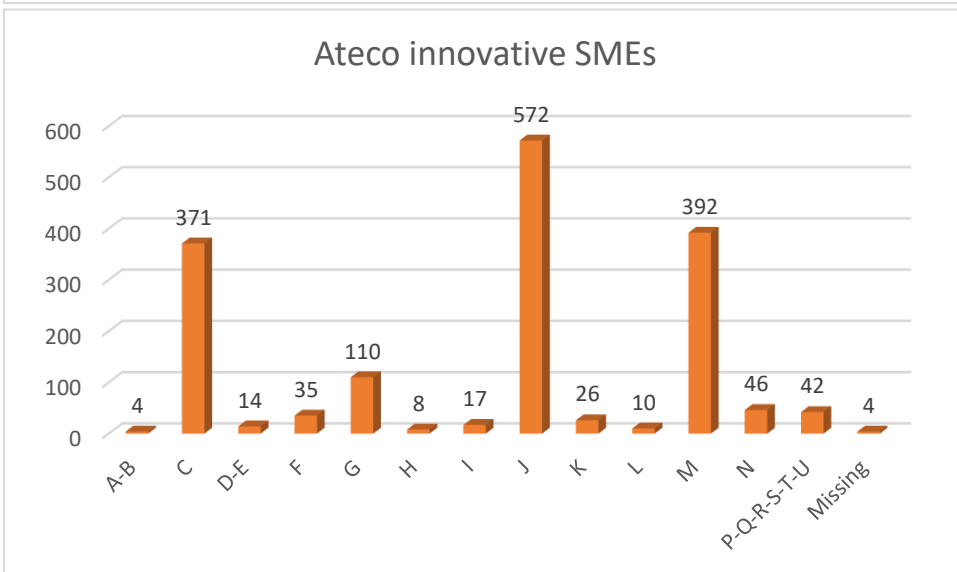
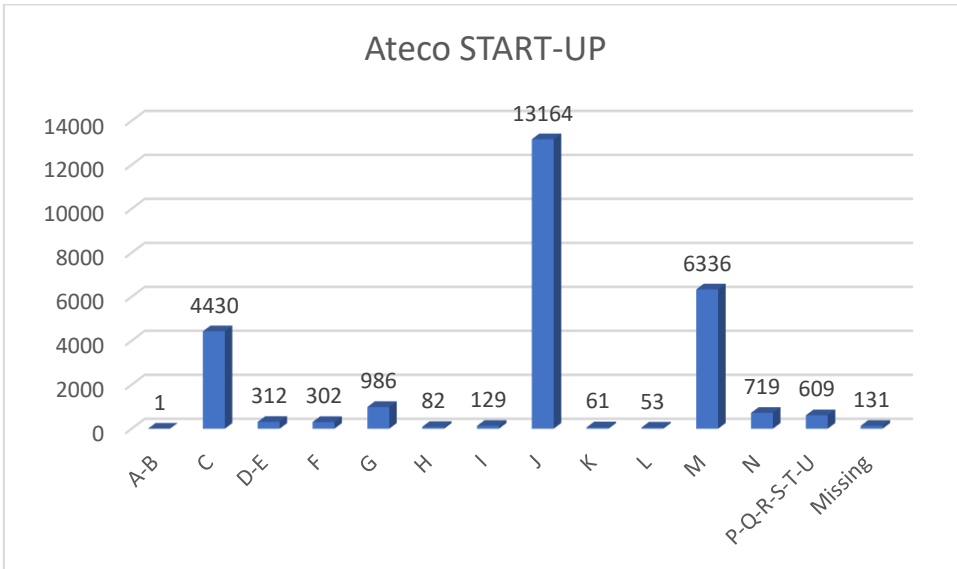


Table 8

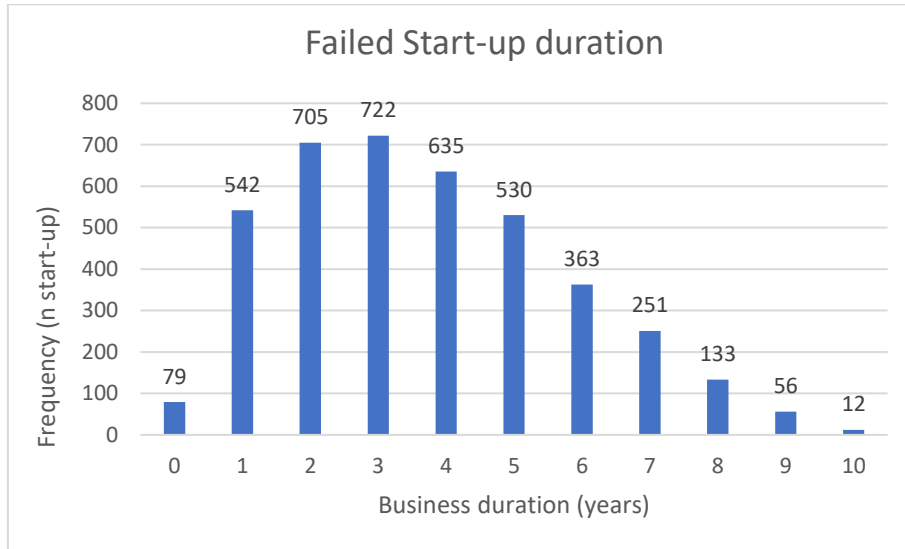


Table 9

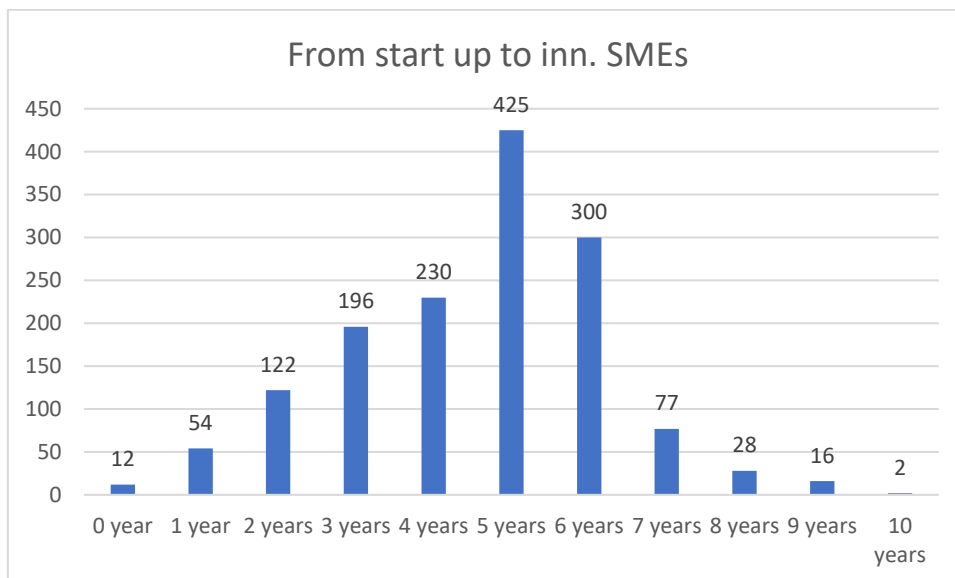


Table 10

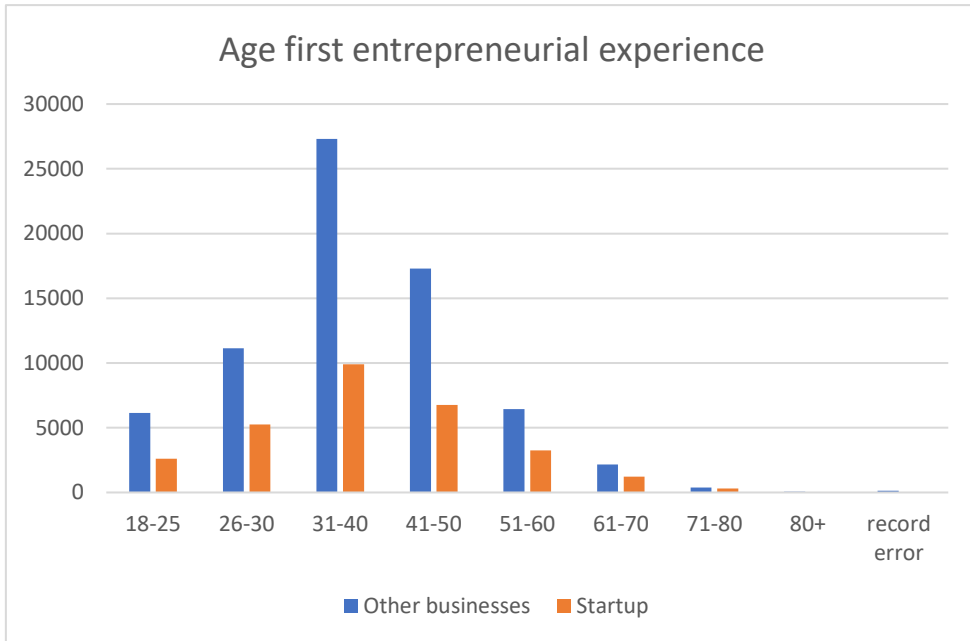


Table 11

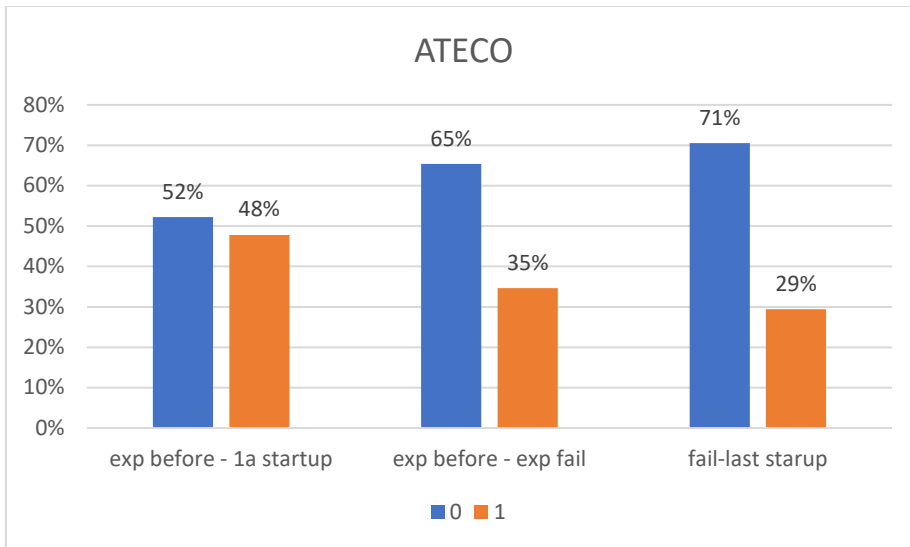


Table 12

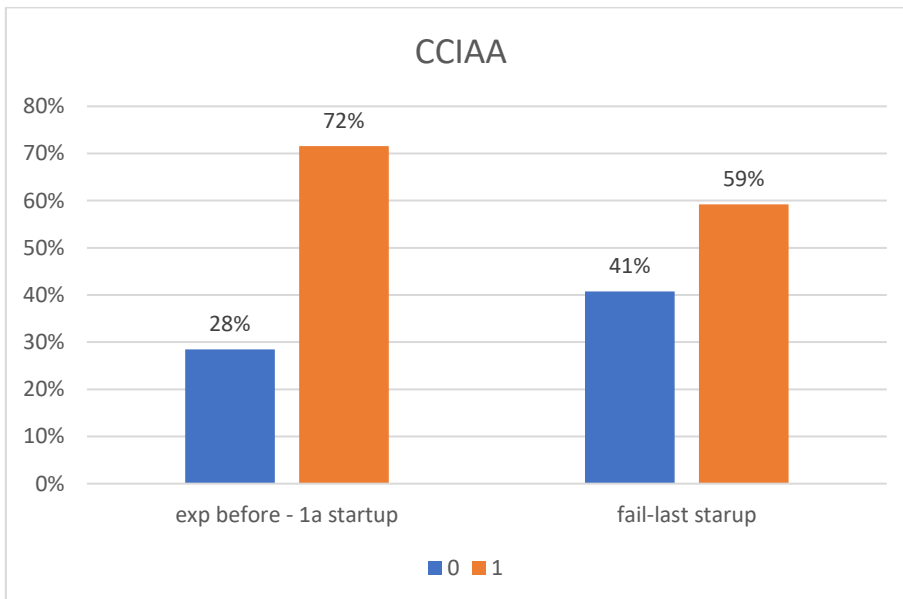
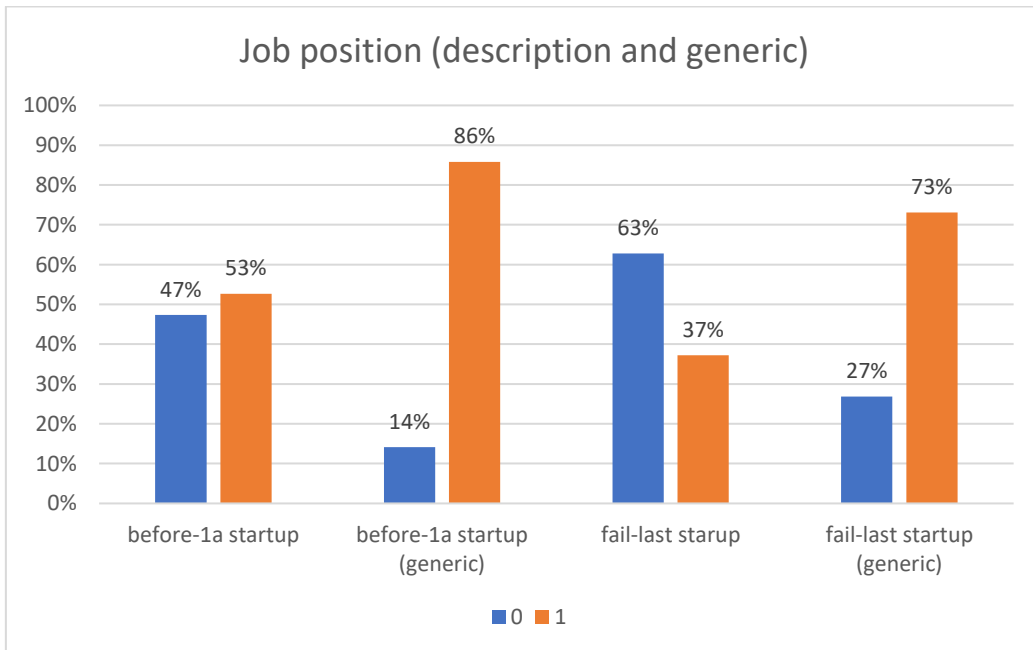


Table 13

				atecofail_vs_atecostartup2		% (total: 15862)		
				0	1			
atecobefore_vs_atecostartup		0						
provbefore_vs_provstartup		0						
		provfail_vs_provstartup2		0	3898	501	25%	3%
		provfail_vs_provstartup2		1	545	199	3%	1%
provbefore_vs_provstartup		1						
		provfail_vs_provstartup2		0	553	108	3%	1%
		provfail_vs_provstartup2		1	5339	692	34%	4%
atecobefore_vs_atecostartup		1						
provbefore_vs_provstartup		0						
		provfail_vs_provstartup2		0	269	902	2%	6%
		provfail_vs_provstartup2		1	86	163	1%	1%
provbefore_vs_provstartup		1						
		provfail_vs_provstartup2		0	139	96	1%	1%
		provfail_vs_provstartup2		1	414	1958	3%	12%

Table 14



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