

**Antifragility for handling a systemic crisis.
Some reflections about SMEs in the Covid age**

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The Coronavirus shock: Chronical of a novel disaster

The extreme global connectivity has made the current world as a complex interdependent system, characterized by not only robust interdependencies among its constituents but also fragility with respect to exogenous or endogenous disruptions that could involve it. Against this backdrop, any event can have gigantic proportion and spread its effects everywhere.

This scenario has outlined in our eyes in recent months, when we have started to experience a new virus, so-called Covid-19 (coronavirus), which has resulted in millions of infections worldwide. Thus, the Covid outbreak has been declared a global pandemic because of alarming levels of spread, severity and inaction (World Health Organization, 2020). Unluckily, the infection is a major health emergency of the 21st century but its disastrous impact has gone beyond global healthcare systems and human losses. The Covid outbreak has significantly affected every aspect of daily life at individual and collective levels, causing a social emergency. In addition, it has brought the world's largest economies to a standstill trying to contain the contagion, paving the way for an economic emergency and a risk of a global recession. The lockdown of large parts of society and economic life has come as an exogenous shock to many socio-economic actors.

The severity of this disruption to the global economy appears unprecedented. In this regard, Nobel Prize-winning economist Joseph Stiglitz (2020) has stated that the current crisis is more complex than that of 2008 and it could lead to worse consequences since it is not a financial crisis but a real crisis where both supply and demand systems are affected. Thus, Covid has been properly labelled as a “black swan” event (Deloitte, 2020), that is shorthand for an unexpected and low-probability event having a high-impact likened to human and societal suffering and economic disaster of a world war.

In particular, the stoppages in production and consumption in the most acute phase of diffusion of the pandemic, in which the lockdown of entire economic sectors has caused technological standstills, the slackening of business and commercial relationships both at corporate and supply chain level, compromising the stability of markets. Simultaneously, there was been the loss of employment and wages, as well as the threat of a rapid decline in customer demand that will further slowdown production (KPMG, 2020). Since Covid-19 is a highly infectious and lethal virus, people's sense of insecurity is significantly heightened with many feeling severe panic. As a result, the fear and anxiety surrounding the epidemic will probably force consumers to avoid purchases in shops, restaurants and entertainment facilities, changing their lifestyle and behavior.

The shock waves in Italian small and medium-sized enterprises (SMEs)

Recent literature shows that in the European Union (EU) Italy is the most severely impacted country in terms both of public health (i.e. high percentage of deaths among the infected) and socio-economic disaster coming from COVID-19 (Djalante *et al.*, 2020). In addition, prior to the Covid outbreak, the Italian economy was already showing signs of extreme vulnerability caused by the 2008 financial crisis, experiencing a phase near to economic stagnation.

In this difficult setting, 20% of companies have already perceived strong negative effects of the pandemic and some sectors, *in primis* tourism, will be affected far beyond the most acute moments of the emergency (Lucchese and Pianta, 2020). Moreover, a disastrous impact of the Coronavirus

shock is expected in Italy in terms of a drop in national GDP 2020 of 9.1% (International Monetary Fund, 2020) and in revenues of companies of 7.4% in a base scenario or 17.8% in a more pessimistic forecast (Cerved, 2020).

Unluckily, SMEs are not immune to this current and future situation, taking shape dramatic perspectives given their accentuated prominence in Italian entrepreneurial panorama for enterprises' number, value added, and employment. Compared to larger companies, the fewer resources and major obstacles in accessing capital may make SMEs unable to face the costs this shock entails, reducing their survival chances. A recent survey reveals that 72% of Italian SMEs have been directly affected by the Covid outbreak in terms of drop in demand, decrease in revenues above 15% for one third of entrepreneurs, together with problems along the supply chain, transport and logistics. The most affected firms operate in transport (98.9%) and tourism (89.9%), followed by fashion (79.9%) and agro-food (77.7%) industries (CNA, 2020). In other words, the pandemic has damaged SMEs disproportionately, revealing a deterioration of their financial situation, and vulnerability to the supply and demand shocks with a serious threat that over 50% of them are destined to failure in the next few months (OECD, 2020).

“Everything will be all right”: a way forward for Italian SMEs

The scenario described above portrays the tangible consequences of the COVID-19 outbreak seriously threatening SMEs long-term survival. This calls for a dutiful commitment of the scientific community in general, and management scholars in particular, to stand shoulder to shoulder with entrepreneurs in order to contribute to their wellbeing, also instilling in them the necessary confidence to face the challenges coming from this unexpected and complex crisis. With this in mind, the present contribution aims to provide some timely and practical answers to SMEs in response to the management of the emergency and difficulties arising in the Covid age. In particular, the complexity of current social and economic dynamics brings up the following crucial questions:

- Are the traditional models, approaches, and instruments able to offer suitable solutions in facing the new challenges?
- Do the reductionist perspectives contribute to support SMEs in defining efficient and effective organizational responses to the crisis?
- Do old entrepreneurial orientations allow coping with the emerging problems?
- How should SMEs reconfigure their business models?

In our opinion, an unexpected disruptive event needs to be addressed by drawing up multi- and trans- disciplinary approaches to build a holistic view that is necessary to support organizational behaviors in facing emerging social and economic dynamics. In this way, approaches based on hyper-specialized models are not able to support organizational processes and strategies in facing emerging challenges. On the contrary, the complexity need to be interpreted as the consequence of the increasing interconnection between different dimensions in supporting the effective understanding of dynamics as a whole (McMillan, 2008; Barile *et al.*, 2017). Accordingly, we must accept the unpredictability of complex systems' behavior and prepare for an unknown future, as systems are becoming more complex and interconnected (Dahlberg, 2015; McEntire, 2015).

Thus, system thinkers started to focus their attention on the tension between elements and the whole. They emphasized the importance of properties that emerge at a certain level of complexity and do not exist in lower levels of elements. In particular, in a context of outbreak, emerging system's properties to be considered are risk mitigation (management), disaster preparedness, recovery, resilience, and robustness (Zitzmann, 2014). In this regards, scholars' attention has frequently focused on resilience with the aim of understanding how to protect the organizations against disruptive events. Etymologically, resilience comes from the Latin root word *resilire* that means to rebound and implies springing back (Russo and Ciancarini, 2017). This concept originated

from natural science but its disciplinary reach has spread across various fields. In management and organizational literature, in particular, the resilience represents a firm-level capability to adapt and/or dynamically relate to its environment (Williams *et al.*, 2017). Despite its importance, resilience can be taken as a necessary but not sufficient condition for overcoming the Covid crisis that calls for an organizational property going beyond.

Thus, we consider the need for an antifragile property as an imperative to ensure the business continuity and future success of SMEs in times of disruptive events. The antifragility concept, originated from philosophy, builds upon the Black Swan Theory that describes unexpected and unpredictable events having great impact in a world in which everyone believes that only white swans exist (Taleb, 2012; Jaaron and Backhouse, 2014; Bendell, 2014). According to Taleb (2012), “*antifragility and fragility are degrees on a spectrum, and we can almost always detect antifragility (and fragility) using a simple test of asymmetry: anything that has more upside than downside (convex) from random events (or certain shocks) is antifragile. Anything that acts reversely is fragile*”. Moreover, antifragility is a highly desirable organizational system property for a number of reasons. While a resilient firm responds to and recovers from the crisis’s impacts, an antifragile firm benefits from shocks, getting better (Lichtman *et al.*, 2016; Hespanhol, 2017). As pointed out by Pink (2011), a growth mindset versus ‘fixed mindset’ refers to people that consider each failure as an opportunity to learn. Thus, while resilience affects the organizational structure, nurturing a system’s absorptive capability, antifragility impacts a system’s decision-making process shifting it in the direction of flexibility, creativity and imagination. In other words, renovated interpretation schemes and categorical values inform the decision making process (Barile, 2009). A similar decision-making contributes to generate new knowledge by leveraging on lateral thinking and capacity to learn from experiences, failures, incidents, and shocks. This means to stimulate and realize innovation related to products, processes, and relations.

Thus, antifragility implies the opportunity for not only catching up new dynamics of value creation but also, and above all, accomplishing new logics of co-evolution since shocks positively influence the systems having this property. On this basis, a key concern of entrepreneurs should be how to evolve and thrive during the Covid age rather than how to adapt to the outbreak. This implies an optimistic view of the crisis that shifts from a suffering and destabilizing event on the SMEs to an opportunity for their growth and renewal. In this logic, crisis is essential for organizations to improve and a deprivation of shocks weaken them. Following this reasoning, the positive impacts spread at multiple layers in a recursive systemic link, because antifragile SMEs, as agents of social change in the wake of a disaster, are important precursors to wider local, regional and national economic and community antifragility. In this way, a common growth and the overall eco-system’s well-being in which SMEs are embedded can be achieved.

Developing a SMEs immunity to Covid: the ingredients of antifragility

The detection and activation of antifragility should be “the new normal” achievable through a set of ingredients that SMEs should consider to provide an appropriate system’s response to the Corona virus crisis.

To begin, entrepreneurial orientation plays the most important role in building antifragility in the face of infection. Flat hierarchical structures regularly adopted by SMEs means that entrepreneurs have a big impact on companies and thereby their perception of crisis and reaction to turbulence represent a pivotal moment in terms of how SMEs will counter the Covid outbreak. Hence, it is crucial that owners/managers take the right decisions, which promote the inherent features of SMEs being flexible in nature and able to react fast in their markets. To this end, an antifragile mindset is required to carry out a decision making process able to embrace the unknown and unexpected

thanks to an open mind to black swans and the belief in opportunities embedded in negative turbulences.

This mindset is enabled by an adaptive governance (Berkes, 2017) that nurtures proactive responses to crisis by managing and learning from what it offers and going against the tide. As a result, further risks are embraced and new social and relational investments are made to emerge stronger from the crisis, instead of making small changes with the hope for disruption's end, or trying to cut as much cost as possible to survive. In particular, the current negative flow due to the Covid outbreak can be reversed catching up the opportunity to build and penetrate new networks of relationships in which a collective awareness emerges as a result of collaboration among and between multiple actors that cooperate to better achieve common and shared goals. In this perspective, dynamic and multi-actor partnerships pave the way for joint problem solving, knowledge sharing, and building of a culture of trust that is essential in high uncertainty conditions

Another interesting opportunity arising from Covid-19 refers to the possibility for continuing the innovation through the development of new or better products, processes, and business models suggested by employees, customers and partners toward a choral restart after the emergency. Therefore, on the road to antifragility SMEs could be redesigning their own structure and defining new strategies to meet the rising global demand for disinfectants, medical masks and other anti-Covid-19 products, as well as accelerating their digital identity reinforcing the socialization capability through improved information management (i.e., collecting, analyzing, sharing, and disseminating information). For example, by correlating information from various sources (social networks sites, online advertising, or e-commerce sites) and through cloud computing systems for employee's formation, real-time relationships and speeding up co-learning processes could be achieved.

According to an antifragile approach, the important note is to not be surprised and shocked by such events, but instead to have a crisis preparedness as a new driver of competitive advantage since the extreme events appear to be increasing in both frequency and severity. Thus, SMEs should take a view of how it is fragile to the environment (i.e., scenario planning) and thereby identify effective processes to reduce its likelihood of vulnerabilities to disruptions (i.e., plans to be executed in disaster readiness, response, and recovery). Crisis preparedness should be appointed to a formalized crisis committee comprising few key figures internal to SMEs that should zoom out to get the broadest possible view of the situation to design impactful solutions in a short decision time. Other difficult task of committee consists of internal and external communication during the Covid-19 age to demonstrate the full control of the event. On the one hand, employees need to know the reasons for changes or new strategies since the lack of information tends to demoralize them and negatively affects their motivation. On the other hand, organizational response to the crisis should to be communicated and shared avoiding instilling further uncertainties and distrust.

In light of the different above-mentioned ingredients for antifragility, its implementation might be complicated. Anyway, an unprecedented crisis, like the Covid-19 outbreak, requires audacious solutions by an organizational antifragile system to safeguard healthy, solid and globally competitive SMEs.

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