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EMERGING TOPICS FOR LONG-TERM RESILIENCE IN MANUFACTURING

YOUNG ENTREPRENEURS IN THE NEW ERA OF SUSTAINABILITY AND DIGITALISATION

Transforming young peoples' entrepreneurial spirits
into a solid organisational culture for renewal

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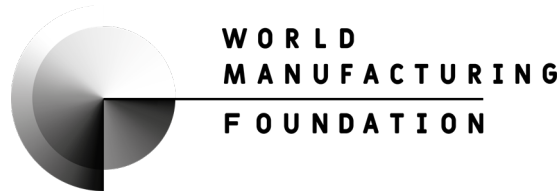
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**EMERGING TOPICS FOR LONG-TERM
RESILIENCE IN MANUFACTURING**



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The views and opinions expressed by whitepaper contributors are given in their personal capacity and do not necessarily reflect the views of the organisations for which they work or committees of which they are members.

For more information on the project and to read other topic-focused whitepapers that are part of the initiative, please visit <https://worldmanufacturing.org/report/back-to-the-future-emerging-topics-for-long-term-resilience-in-manufacturing/>

INTRODUCTION

By definition, the **COVID-19 pandemic has represented a historic “watershed” event** in the new millennium. As a matter of fact, on the one hand this event has truly shocked the roots of global economic and geopolitical balances, threatening the fundamentals of globalisation; on the other hand, it has accelerated the cultural and technological processes aimed at innovation and sustainability that had already started to emerge in recent years. The situation poses great challenges for the future of the manufacturing sector because it obliges us to rethink production systems, governance and organisational paradigms, public-private collaborations and stakeholder management. In such a disruptive and unpredictable setting, **young entrepreneurs can represent a strong and precious resource in terms of resilience**, capable of fostering not only the recovery of global manufacturing, but also the reshaping of its conventions and culture.

Thanks to the contribution of our panelists, the **Experts’ Group**, who come from different professional worlds (academics and teachers, entrepreneurs, managers, students, and so on) all bonded to **young entrepreneurship, digital innovation, and sustainability**, this position paper aims to answer the following questions:

- How can young entrepreneurs thrive by using their innate characteristics such as a willingness to change, curiosity and competences in digitalisation and sustainability?
- How can they transform such forces in an institutionalised and organisational culture capable of impacting the long-term resilience of manufacturing?

Firstly, a brief presentation of the current international and policy environment is carried out: an introduction to the set of political and technological scenarios that can dramatically impact the “shape” of any entrepreneurial action in the years to come. Sustainability in a broad sense is thus addressed to highlight its nature

as a key success factor and as a powerful driver for young entrepreneurship, along with a quick recap of the main fiscal stimulus policies undertaken around the globe.

Afterwards, the focus shifts towards the central context of our debate on **young entrepreneurs**. A 360° analysis is followed, targeting their cultural background, their “disruptiveness” and the strengths and weaknesses of this for the creation of a new company/start-up versus the renewal of an “old” one, as well as the stance of young entrepreneurs on sustainability and digitalisation.

Finally, as a result of this analysis, opportunities and recommendations for the actors involved (policymakers, young entrepreneurs, top managers, etc.) are drawn up, in order to contribute to the long-term resilience and recovery of manufacturing.

CONTEXT: A NEW SCENARIO FOR THE FUTURE ENTREPRENEURIAL GENERATION

A more-than-ever “balkanised” international scenario

Globalisation has deeply transformed social and economic dynamics all over the world, favouring more fluid forms of employment, increasing the free flow of goods and people, “widening” the extension of industrial value chains, and changing the times of production and delivery to the market of many products and services. However, it has also brought meaningful “side effects”, such as broad job displacement and relevant economic inequalities, within and between different countries, which intensified with the 2009 global financial crisis and triggered the rise of populism over the second half of the 2010s¹.

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The COVID-19 outbreak burst into this scenario, led primarily by the interruption of some global value chains since the first moments of the pandemic, then indirectly strengthened by several factors: escalation of trade disputes between States, partial reshoring/nearshoring processes, higher political intervention in economies, and protectionist approaches².

Hence, what we may continue to see in the near future is not a temporary disruption of the “old normal”, but a “new normal” made up of a permanent and sophisticated “technological-economic cold war”¹. A context in which the boundaries between the public and private spheres become more and more blurred, and in which hyper-competition, mixed with an enduring and invisible warfare on trade and technology, is established. This might imply disruptive consequences for the risk and supply chain management of companies that work in international markets and constantly deal with global suppliers/clients (or aim to do so), providing extremely uncertain scenarios that need to be assessed.

New and disruptive technologies arise

The value of technology in the new economic and entrepreneurial challenges to come is tremendous: ideas, research and innovation represent powerful capabilities to preserve productivity, growth and, in the end, prosperity at a micro and macro level³.

Among the newest technologies, new engineering resources for software, big data (which can be deemed to be the new oil), Artificial Neural Networks (ANNs) and additive manufacturing are the new foundations of business and production processes. The common element that can give a disruptive path to all of them is Artificial Intelligence (AI), whose huge power is generally met with a mix of wonder and fear. As a matter of fact, it is true that AI provides untapped opportunities for young entrepreneurs in terms of the automation and optimisation of manufacturing processes. Nevertheless, it brings with it huge challenges in terms of the need for education and continuous learning

of employees who will have to cope with such technology, as well as in terms of dealing with concerns about data abuse, likely job losses and general dangers related to cybersecurity and the aforementioned “technological-economic cold war”⁴.

All these challenges will have a strong impact on business organisations and on the behaviour of young people, as customers, employees, entrepreneurs and investors, ultimately changing the whole of society.

Sustainability as the key success factor of resilience and transformation of manufacturing

In such a context of international disruption, only an enduring path of socio-economic growth and a robust entrepreneurship-friendly economy can be the solution. However, in order to make this transformation consistent and strong, it is necessary to embed sustainability in every human agency or operation: a kind of sustainability mainstreaming. It is a matter of awareness of the sense of business itself: since a company exists to serve the interests of multiple stakeholders (both internal and external), it must take into account that, before making a profit, it must create value for the whole community⁵.

What follows is a definition of “sustainability”, not as something external or accessory with respect to the management of the enterprise, but a thorough holistic integration of sustainability into all the aspects of doing business. Thus, the concept of “sustainability” is widened as attention towards the needs of society, awareness, innovation and adaptation towards the challenges of climate change⁶. On the side of policymakers, especially in the USA and the EU, such an “adaptation” process has taken the shape of an institutional agenda-setting centred on achieving a circular economy, reducing waste emissions, favouring alternative ways of working (smart and remote working patterns), tackling the issue of gender inequality, providing carbon removal solutions and incentivising the use of renewable sources⁷.

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Such renewed commitment and openness by public international and national bodies paves the way, therefore, for young entrepreneurs to create innovative business solutions, able to be sustainable in the broad sense.

American Rescue Plan, Next-Generation EU: strong and unprecedented fiscal policies

As regards the intervention of public authorities to counteract the COVID-19 pandemic, in the USA and the EU, unprecedented fiscal stimulus plans have been approved to profoundly reshape their economic systems, with enormous consequences on supply chains, innovation and international relations.

For instance, the American Rescue Plan (USA) provides \$350 billion to State and local governments to restore the economy and public welfare after the crisis; a part of the programme includes \$10 billion to fund the small business credit expansion initiative⁸. Specifically, recognising that small businesses-enterprises are responsible for two-thirds of new jobs in the USA, various forms of support are defined, like the facilitation of loan participation for small businesses, injection of new capital, and credit guarantees. The Recovery and Resilience Facility (EU), on the other hand, provides €723.8 billion in loans and grants available to support reforms and investments undertaken by EU Member States⁹. Its purpose is therefore not only to mitigate the impact of the pandemic on the European economy and society, but also to lead a deep change towards sustainability and digitalisation by means of growth-enhancing reforms and productive spending for new infrastructures.

Disruptive willingness towards change and action of younger generations

Millennials and Gen-Z (those born in the 1980-2005 period) represent interesting generations for young entrepreneurship. The Millennials were the first cohort to be born in a setting of rapid technological development and access to internet: this strongly in-

fluenced their behaviour and openness to innovation and experimentation, with greater attention paid to more flexible and smarter ways of working (with reasoning based on goals of autonomy rather than on hours logged in the office). Gen-Z, on the other hand, is more conservative with money (being raised during the Great Recession) and is truly “digitally native”: these youngsters were born into an environment of widespread social networks, smartphones and internet, which affected their propensity for more fluid jobs and career paths (even skipping the “traditional” study curricula and going straight into the workforce by means of creative projects)¹¹.

Therefore, what the Experts’ Group has found with respect to both generations, also relying upon the individual experiences and attitudes of the members themselves, is that they are deeply connected through internet, smart electronic devices, and social media; they strongly rely on oral and quick communication; they focus more on action, speed and performance than on thinking and contemplation, with a meaningful impact on language and cultural schemes; they are deeply curious and brave with respect to innovations and opportunities for change. These are generations which are used to disruption and want to take the best from it, with their “animal spirits”.

Transformation of individual disruption into a structured organisational change for long-term resilience in manufacturing: the challenges of young entrepreneurship

Such attitudes towards innovation, curiosity, speed, action, and towards disruption, must be bridged over a positive organisational change to obtain a solid young entrepreneurship, capable of thriving and accomplishing significant missions in global markets, as well as to pave the way for the resilience of manufacturing and shape its post-pandemic future. Many of the aforementioned aspects relating to younger generations in general can be applied to younger entrepreneurs in these times.

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As regards their strengths, they are braver and more open to failure than previous generations, they have a great willingness to act and take risks, they rely on the opinions of friends and peers with regard to shaping their market products, and they possess more hard and soft skills in the use of digital devices and social media. However, such attitudes entail intrinsic weaknesses as well. As a matter of fact, the main weakness of young peoples' disruptive tendencies is that they tend to privilege tactics over strategy, aiming at the power of the action over the short term. To build and endure long-term impact, such attitudes must be "stabilised" towards a precise meaning and consistency which can last over time. Moreover, young entrepreneurs are usually in too much of a hurry for projects, starting with "too big" a vision and not paying attention to the incremental steps necessary to implement a successful project execution.

The main challenge is therefore to transform the disruptive nature of young entrepreneurs into a solid and structured organisational change, in order to assure long-term resilience in manufacturing. To better understand this "big" challenge at the core of our topic, it has to be split into two specific situations:

- The growth and stabilisation of start-ups
- The renewal and nourishment of inherited existing companies, that is the management of generational change.

The first challenge: the scaling-up and stabilisation of start-ups¹²

The first case deals with the foundation of a new company by a young entrepreneur: here, the biggest challenge is to lead the attitude of younger generations towards a solid organisational culture that allows start-ups to grow and scale up towards stable companies with a well-defined market. Firstly, in the Experts' Group the position that has emerged is that start-ups are interesting "innovation boxes", which can be more open than "old" established companies to addressing the new needs of consumers and, in

the broader sense, of society as a whole.

An element that positively contributes to such a configuration is the higher "fluidity" of start-ups with respect to more traditional businesses: often the internal governance is extremely horizontal (with some extreme cases of no hierarchies at all), the subsequent organisational structure is light, huge flexibility is given in terms of working methods and outputs, "agile" management is preferred if compared to traditional project management, intangible assets and infrastructures prevail against tangible ones (with lower costs), and the use of digital technologies is extensive. As a matter of fact, young start-uppers have neither a family tradition behind them, nor already-set structures and production paradigms. Therefore, in order to give a consistency to their operations and outputs, they rely more on trust between colleagues and on the feedback of customers. Such "human" and digital elements represented a strength when the pandemic hit: along with their greater abilities in the use of social media and digital infrastructures, the "lighter" physical structure of start-ups has led them towards a higher propensity for remote working with respect to many "classical" established companies.

However, the Experts' Group recognised that, if on one hand, young start-ups are strong in finding the right product innovation in the right market thanks to their "fluidity", on the other hand they have intrinsic weaknesses in understanding which are the proper quantity and quality of resources (human, financial and technical) and the right timing to provide solidity to the business. To sum up, the real challenge is to cope with these fragilities to allow the start-up to scale up.

Actually, the main problem of start-ups lies in what is at the same time their strength: the fact that they do not usually follow (or they do not even know how to do this) the "basic rules" of management and organisation of companies that are already defined and rooted in a certain market. It is, therefore, a matter of finding the right mix between an entrepreneurial and

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managerial attitude: start-uppers need to be more open to the integration of some of their companies' activities in collaboration with external resources (external accountants, product designers, human resources experts, psychologists and so on). They must find the "complementary" elements with respect to what they are already capable of doing and target, in order to allocate the right budget, employ and manage the right people and be able to institutionalise the radical innovation they brought with their core business. And this may require the possibility not only of being open to external stakeholders in general, as stated before, but also to established companies (be they SMEs or larger enterprises).

The second challenge: renewal and nourishment of inherited existing companies/generational change^{13,14}

The opposite situation of start-ups is the inheritance of mature businesses by young entrepreneurs, because of family bonds or for other reasons. In this case, there is already a solid structure behind the company, made up of precise governance hierarchies, organisational structures, defined markets and institutionalised production processes. If we consider a second-generation inheritance, a "simple" innovation of processes is enough to maintain the stable growth of the business; if, on the other hand, we face a third- or fourth-generation handover, the transition must represent a thorough operation of change management. It is a matter of finding a good balance between disruption and maintenance, so that an institution is not destroyed, but a new institution is created.

As regards the strengths of inheriting a company which has already been set up, continuing a family or mature business in general holds first of all the advantage of starting off with an already structured enterprise. Building up and organising production processes, a supply chain and all the other elements that form the structure of a business from scratch is the most relevant problem when it comes to creating a new venture, so continuing to run a family/mature bu-

ness saves a lot of time, energy and resources that can be employed elsewhere. Moreover, if in start-ups the higher "independence" allows for more freedom and creativity in choosing the right market, it also brings with it higher risks for the entrepreneurial activity; instead, in established companies the presence on the market is defined, "rooted" and guaranteed. It is more a matter of preservation of market power than of creation from scratch.

Nonetheless, this model also entails drawbacks with reference to its intrinsic "stability": in a company which is already up and running, it is more difficult to introduce change in a sort of "inertia" setting brought about by the consolidation of the same practices and customs over the years (if not decades). Usually, the risk is that innovation in such companies ends up being only a "window-dressing" operation of catching up with changes that had been made only in the past, aligning more with CSR and brand marketing strategies than with a thorough redefinition of the KPIs and the operating strategies behind the business over the medium- to long-term period. Specifically, if we consider large companies, they are usually keener on "soft" interventions than on disruptive innovation, because they are characterised by heavy administrative and organisational bureaucracies and slow and incremental decision-making processes. Therefore, in the end, SMEs too can be reluctant to radical changes to their structures.

On the whole, the Experts' Group concluded that the history of an inherited company (especially for a family business) can be a powerful asset on which the young entrepreneur can build something new, if indeed enough freedom is given by the previous owners and board. The already existing infrastructure can therefore be both a driver and a burden: it depends on the propensity for innovation and on the market. However, at the same time (especially for large companies), the more successful the business is, the harder it can be with respect to impactful improvements and changes of internal processes. In such cases, the solution may come from a strategy of "internalisation

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of disruption”, built upon the creation of specific innovation departments; or it may arrive with a “positive contamination” from external start-ups, as has already been mentioned. The pandemic has already pushed many companies to strive through change, for instance with huge and unprecedented investments in intangible assets and with a higher awareness of the importance of stakeholder management. As a matter of fact, as we will see later in opportunities and recommendations, what is fundamental is to recognise the importance of overcoming traditional perspectives on business cycles, internal assets, cooperation with external actors and change management.

And two drivers that play an extremely important role in going beyond the “past paradigms” are digitalisation and sustainability.

The stance on digitalisation

In such a setting of technological innovations that lead to a comprehensive digitalisation of society and daily tasks, as illustrated in the introduction, younger generations are constitutively keener on positively exploiting them. Young peoples’ digital competences and readiness to use communication tools lead to new possibilities in various spheres of entrepreneurship and management, both for new companies and for mature businesses.

As observed by the Experts’ Group, many young entrepreneurs have already exploited the latest technological inventions over the years, favouring a further digitalisation of manufacturing and the economy in the broader sense (and even in the Experts’ Group itself there are examples of this). There are companies run by young entrepreneurs that have been working on small areas of digital transformation, and others that have instead made a giant leap towards thorough technological innovation. The Experts’ Group has presented several examples of investment in digitalisation: the transformation of internal operations (for instance, controlling and changing the productivity levels of industrial machinery with digital systems); the use of AI in industrial processes for automation; the

introduction of cobots, i.e. collaborative robots that work alongside human resources; the application of IoT (Internet of Things) in healthcare infrastructures (internet-connected medical devices in order to monitor patients with chronic diseases); drone supervision for cultural heritage preservation or discovery of raw materials in the ground; apps for the vocal recognition of real-life objects by means of Artificial Neural Networks; virtual reality technologies for medicines, like the Oculus VR; sophisticated chatbots for services.

These examples represent virtuous cases of young entrepreneurs capable of directing their creativity towards substantial innovation. However, in order for these situations to become systematic and widespread, young entrepreneurs must be supported (and must, in turn, provide support) not only with technological capabilities, but with consistent human resources (especially those skilled in management engineering and data analysis), a precise organisational culture and positive contamination with different experiences. As a matter of fact, networks are the key to make different kinds of innovation in daily business “implementable”.

The challenge is more compelling if we consider that an overall trend in the robotisation and digitalisation of manufacturing has been occurring since before the pandemic, in substitution of less-qualified staff. Thus, young entrepreneurs are in effect “obliged” to embrace a series of innovations, like the extensive automation of industrial processes, the integration of cloud and data systems in operations, the collection of data through ERP and industrial use of AI (e.g., for production machinery).

These are the most strategic challenges that a lot of companies are already facing with digitalisation and that may significantly impact trends in the coming years, because they enable businesses to optimise their processes and to predict problems or trends in relation to their tangible assets in an intelligent manner. Moreover, as mentioned, the COVID-19 pandemic

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“mainstreamed” the importance of remote working: it indirectly showed that it is possible to entirely digitalise the work experience. As a matter of fact, it represents an opportunity to further simplify work processes and better manage human resources: a possibility that can be better exploited by young entrepreneurs because of their innate openness to the use of digital communication.

What we can see is therefore a transition from the old “hardware” culture of manufacturing, in which more importance was placed on building and installing machinery and tangible assets in general, to a lighter and smarter “software” one, in which the machines are obviously still present, but data and services have become more relevant. Going deeper into what is happening in the situation, we are seeing a gradual integration of services into manufacturing products for customers. An integration towards which young entrepreneurs are, innately, better trained, because they are more accustomed to a holistic and “fluid” perspective (because of a higher level of education in digital and technology with respect to previous generations).

In conclusion, dematerialisation, data transformation and “servitisation” are leading the way towards a new type of manufacturing in the long run, a “digital twin”, made up of an intensive use of digital resources in industrial processes. This is a scenario full of opportunities for young entrepreneurs.

The stance on sustainability

Such openness of young entrepreneurs towards extensive digitalisation must be perceived within a broader interpretation: their innate awareness of sustainability. As a matter of fact, in the Expert’s Group it emerged that young entrepreneurs are the “children of sustainability”, because both Millennials and Gen-Z grew up with globalisation, the crisis of massive industrialisation, and the first climate summits. Moreover, being used to living in a hyperconnected world, they are aware of the importance of the social context: the

Millennials, especially, have seen the digital transformation of society and the rise of social media. Sustainability, therefore, is no longer regarded as a mere instrument of communication, but it can become an extensive and holistic business philosophy— economic activity becomes measurable not only in terms of output, but also by its outcomes and impacts on society and the planet.

There are already some interesting business stories about sustainability by young entrepreneurs, in which they have been able to connect its social, environmental and economic aspects, for instance by following the 3 Rs methodology (“Reduce, Reuse, Recycle”): simple CSR (Corporate Social Responsibility) is overcome in favour of a real “corporate citizenship”, in which sustainability and attention to stakeholders is embodied as a systematic business approach to the organisation. So, young entrepreneurs are more accustomed than the previous generations to new elements which can affect sustainability, such as the product-as-a-service paradigm, digitalisation of product information (tagging, watermarks), the use of recycled content in products and a reduction in waste production, sensitivity towards reduction of the carbon footprint and ethical topics: they can transform the best sustainable practices of front-runners into normality.

However, it depends on the context in which they are operating: a positive stance on sustainability is not enough to bring changes to ways of doing business. In effect, young entrepreneurs usually share the big advantage of being creative and disruptive, as asserted in the previous paragraphs, which allows them to develop innovative strategies capable of being more efficient and sustainable than current managerial and entrepreneurial paradigms. Nevertheless, the great potential for creativity that lies in young entrepreneurs comes at the expense of their lack of experience and, sometimes, also of means and contacts (if we consider start-uppers who start from scratch): this might lead them to a lack of awareness of the possible points of failure in their approaches. On the other hand, it

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is also a fact that experienced managers are usually less open towards sustainability and the general potential of disruption for innovation: such a situation shows that only a positive “contamination” between these two “sides” can be the solution.

OPPORTUNITIES AND RECOMMENDATIONS

The COVID-19 pandemic represents both a tragic moment and a “watershed” event, after which almost nothing will be as before.

In recent years, the level of attention placed on a different and more inclusive concept of “value creation” had already evolved: “value” as public value, which becomes thoroughly sustainable, at an ethical-social, environmental and economic level. Moreover, over the last 10 years the most recent ideas for start-ups had already started to focus on sustainability: innovation is a driver of sustainability, as a true choice, not as a mere form of “greenwashing” or “social washing”.

As the Experts’ Group agreed, the pandemic crisis greatly accelerated this process: now the topic has come to the highest levels of public policymaking and it has also become a priority for many companies, even for enterprises that in the past would have not taken it into account. This historic setting is therefore itself a great and unique opportunity for young entrepreneurs: a large amount of public funds for digital transformation and ecological transition is going to be introduced in the coming months and years, so entrepreneurial and managerial choices should align as soon as possible with the policy context, in order to “catch the train”.

The innate attention and openness of young entrepreneurs towards digitalisation and sustainability can be a driver in such a sense, able to overcome a simpler concept of CSR in favour of concrete actions that can impact on value chains from their roots and even

cases of for-profit social enterprises (B. Corps are an example of this process, which has already been going for some years and show how impact indicators have progressively increased, also in finance).

In conclusion, the Experts’ Group has defined a **set of recommendations** in order to address the main points of the debate and explain what the key enabling/success factors for young entrepreneurs should be in such a scenario, so as to foster long-term resilience in manufacturing, also facing the weaknesses and risks, not only the strengths and opportunities. The recommendations are therefore targeted not only at young entrepreneurs, but also at experienced managers and public-policy actors. They will be divided into three groups: a group of recommendations dealing with the enterprise level; one related instead to the broader ecosystem level of enterprise networks and contamination; and finally, one on the advocacy level needed to deal with other external stakeholders.

ENTERPRISE-LEVEL

Recommendation 1: Interdisciplinarity (“hard” and “soft”) is the key for a consistent and enduring entrepreneurial culture, along with upskilling/reskilling

Interdisciplinarity has always been important when doing business: now, with an extremely complex world, it becomes even more compelling. Therefore, young entrepreneurs should not focus only on the subject related to the product, be it textile, mechanic or something else, but they should acquire a comprehensive knowledge of economics, management, data engineering, legal compliance and public policy. Only an extensive spectrum of transversal hard skills can allow for successful stakeholder management. Moreover, “interdisciplinarity” should be conceived for soft skills as well: open-mindedness, attention to diversity (bodies, ethnicities, cultures, sensitiveness), emotional intelligence, the ability to govern networks, and analytical and critical thinking ought to enter the arena of daily business practices. As a matter of

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fact, it is important for young entrepreneurs to have at the same time strong leadership skills and transversal knowledge of different subjects, which can make their ventures more solid. Moreover, learning must be conceived not merely as an “objective”, but as a continuous process made up of upskilling and reskilling. Young entrepreneurs need constant upskilling to be able to face different professional contexts and innovations, with a transversal fluency in “soft and hard” managerial tools as mentioned before; more senior human resources in any enterprise, on the other hand, need reskilling to obtain strong support in catching up with digital transformation and the consequent implementation of new operational paradigms within the company.

Recommendation 2: Importance of mission/vision, market strategy and “storytelling” in innovation and sustainability

Usually, young entrepreneurs have strong abilities in conceptualising an innovative product, but they lack the tools to build a consistent strategy and market it. Education and research initiatives on management should be enhanced for younger generations, so that they can gain more practical skills before starting work. As a matter of fact, aside from the invention of a new product, first of all a clear mission and vision must be tailored: these two factors have a strong impact on final strategy. It all depends on the ability of an entrepreneur as a leader to envision, over the future, how the company must be transformed in accordance with its strategy and the external context, and how to convince the people who are the most hesitant. Then, behind a product there must be a clear market strategy to position it in the best way, also thinking about the right opportunities to span the ideas of sustainability in common business practices, maybe targeting the problems of materials, inventions and processes that already exist. In the end, it is important to give some thought to the “storytelling” behind a product, because more and more, people want products that last and tell stories: the old and “superficial” consumerism is dead. The willingness to

pay now depends on getting an “acquaintance” with the product a consumer is going to buy: values and stories are becoming more and more important for the attractiveness of a product.

Recommendation 3: Conceiving sustainability and technology as linked, to ensure resilience and safety

The previous recommendation becomes even more important if we consider another factor: the potentially strong link between sustainability and technological development. In the future of businesses, it does not matter whether you are a manufacturing or a service company, it is important to focus on the integration of these two “worlds”: **sustainable new services can be paired with digital infrastructures to empower manufacturing and production processes.** This can be an opportunity to reduce the costs related to machinery maintenance, CRM, the purchase of raw materials, and circular economy models, and to better counteract rising risks in global markets on different sides, and sustainability. Basically, technology and digitalisation bonded are the skills necessary to translate young entrepreneurship into a long-term resilience structure for manufacturing. Furthermore, technology can make a young enterprise more “sustainable” as “transparent” and “safer”: for instance, blockchain allows the speeding up of production processes and their certification, introducing into any transaction the concept of the smart contract.

ECOSYSTEM-LEVEL

Recommendation 4: Positive contamination between start-ups and mature companies (and the respective entrepreneurial figures) is necessary to bridge the weaknesses of one with the strengths of the other

It is necessary to positively contaminate both start-ups and mature companies with the positive aspects of each of them, counterweighing the weaknesses of one reality with the strengths of the other. On the one

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hand, large, mature companies have a lot of means, tangible assets and a consolidated market presence which can represent a driver for start-ups, but they are too slow in decision-making and planning for consistent innovation (there is too much internal bureaucracy in a complex organisational structure); SMEs already in business are “lighter” as regards the structure and keener on risks and innovative strategies, but they are even busier because of the tasks and operations of their “daily business”, so they are difficult to catalyse. On the other hand, start-ups represent a healthy context in which innovation is strongly disruptive, there is authentic attention paid to sustainability and technological issues, the attention paid to people inside the company is great and they have quick business cycles; however, they face the absence of rooted networks and “safety nets”, they rely more on intangible than tangible assets and suffer from the lack of a solid organisational structure and managerial experience. More generally, we can state that in a new company, innovation is brought to the fore by the spirit of entrepreneurship, in a context of complete freedom (in both the positive and the negative sense); in a mature enterprise, it is rather more a case of “intrapreneurship”, because the right boundaries for change must be built inside an established organisational culture. The solution is therefore to foster substantial partnerships between the entrepreneurship of start-ups and the “intrapreneurship” of mature companies, that aim to go beyond “ordinary” supply-chain management relationships (supplier-client). The right mix of organisational structure in the wide sense and a spirit of disruption will allow larger companies to work as a sort of “incubator” sustaining smaller and newer companies, which may become a new innovation division for the established firm. Moreover, the dialogue between the senior managerial figures in mature businesses and the younger entrepreneurial actors at start-ups will favour a “bi-directional” mentoring, capable of exchanging the assets of the respective sensibilities.

Recommendation 5: Empowering new channels of communication and networking for young entrepreneurs to favour common actions of collaboration on new investments/start-ups, along with “servitisation”

In order to thrive, young entrepreneurs can benefit from their cultural-generational predisposition to use social platforms. As a matter of fact, such means allow the sharing of know-how, skills and opinions on products and services: they can become powerful tools aimed at increasing the company’s value. Integrating social platforms within the business, not only for communication marketing purposes but also for networking strategies, is important for achieving consistent innovation. This recommendation pairs with the aforementioned increase of a “service” perspective inside manufacturing (“servitisation”), which further helps to steer companies towards the concept of “platform company”. There are for instance services connected to industrial machinery that can be “posted” on social platforms to share knowledge and skills about predictive manufacturing; or there are platforms conceived as a tool for matching in the marketplace, in which all the economic actors can match their offers and increase the value of their own. The theme of sharing provides significant individual advantages and increases the probability of success. Moreover, at the same time it provides the possibility to go beyond an individual perspective and develop a “network culture” for young entrepreneurs: for innovation, more than individual geniuses, there is the need for coherent systems and networks of companies, which are also capable of coping with the difficulties of the digital and sustainability transition process.

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Recommendation 6: Favouring the involvement of entrepreneurial organisations to facilitate solidity of young enterprises

At such a historic moment, the role of entrepreneurial organisations becomes even more important than before. If we think that, in a certain sense, any new, young enterprise (newco) can be regarded as a “start-up”, it is important that collective entities join the game of change and help them to thrive. As a matter of fact, the bravery and creativity of young entrepreneurs, along with the positive contamination with mature companies (as stated before), must be consolidated with the assistance of organisations capable of lobbying their interests in front of public policy actors and of giving them suggestions for the difficult moments that any venture faces, sooner or later.

Recommendation 7: Bridging a dialogue with international and national public policy actors that aims at reducing excessive interventionism and favours meaningful positive public-private collaborations and access to foreign markets

As seen before, big plans from public authorities to counteract the COVID-19 pandemic (American Rescue Plan and RRF-NGEU) with huge funds represent important opportunities for young entrepreneurs. However, it depends on how much this process interferes with economic activity, and potentially threatens private freedoms. As a matter of fact, both start-ups and SMEs need assistance to evolve at an international level and attain proper market access.

CONCLUSIONS

The current historic moment is extraordinary for many complex reasons and brings with it a series of possible global scenarios that can affect young enterprises more indirectly than directly.

On the side of young entrepreneurs, they must focus on the aforementioned recommendations and opportunities, which can be summed up in the following key success factors, capable of transforming young peoples’ entrepreneurial spirit into a solid organisational culture for the long-term resilience of manufacturing:

- **A mindset open to “trial and error”:** Any young entrepreneur either creating a new company or developing an existing one, must be aware of the fact that renewing manufacturing will require a lot of trial and error. Hence, it is crucial that young entrepreneurs are able to deal with failure, using it as a learning opportunity in order to face the next assignment with more awareness.
- **Interdisciplinarity:** Management skills, combined with knowledge of a business area and other hard skills, are crucial. Without a transversal notion of how a company works and is organised, it is difficult to be competitive. On the other hand, it is important to have an appetite for risk, to have a solid network of contacts (also at an international level) and the awareness that a path travelled alone will never get you far – it is essential to know how to aggregate the best human resources in each area in order to have a competitive organisation, also looking for innovative types of partnerships.
- **Resilience towards sustainability and digitalisation:** We live in a world where changes are implemented at a fast pace, as with the supply of and demand for goods. Young entrepreneurs should focus on renewing manufacturing, transforming the process into a more digital and sustainable system, but also on being resilient themselves to sudden changes in the manufacturing environ-

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ment, thoroughly integrating sustainability and digitalisation in any internal process and in external relations.

- **Leadership:** The current educational system prioritises hard skills over soft skills, but soft skills necessarily need to be valued as well, and this is something that does not always happen in the current system. Of course, hard skills are the primary competences needed to work in the field of manufacturing, and the knowledge necessary to develop those skills is, to a great extent, supplied by educational institutions. Businesses should focus on developing leadership skills, which are poorly developed during a university career, despite being crucial in the workplace.
- **Contamination and networks:** Experienced managers should act in conjunction with young entrepreneurs in order to develop an approach that balances innovativeness and caution, so as to juxtapose the two aspects and get the best out of both. In the same way, experienced entrepreneurs should help young entrepreneurs to gain the critical competences necessary to be more aware of their limits and strengths when doing business. Therefore, contamination is the key to success; it is a matter of finding the correct balance between “business-as-usual” and total disruption, through the sharing of competences and “freshness” between young entrepreneurs and experienced managers.

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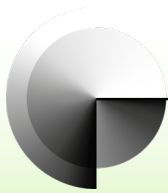
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