

Green Entrepreneurship and Employability in Tunisia

Boutheina Ben Gamra-Zinelabidine and Mariem Baccar-Bellamine

Introduction

This chapter discusses green entrepreneurship as part of a possible solution to two of the challenges that Tunisia is currently facing: climate change and graduate employability. It explores three key phases in the entrepreneurial process – intention, action and sustainability – for the case of the Homrane Sustainable Living project. While only a single case study, it offers a practical framework to scale green entrepreneurship and intrapreneurship. In this chapter, therefore, the empirical case of Homrane Sustainable Living will be approached from the broader theoretical literature on entrepreneurial initiative and green employability.

Green entrepreneurship refers to the creation, development, management and growth of businesses that seek to minimise environmental impact while maintaining their socio-economic viability. Green entrepreneurship can strengthen employability – defined as a person's ability to obtain, keep and change jobs, depending on labour market requirements – by diversifying employment opportunities and developing skills suited to a sustainable economy (ILO, 2018; European Commission, 2019). At the same time, green intrapreneurship, which promotes innovation and entrepreneurial initiative within existing companies, can also play an important role in revitalising these structures by adapting their resources to climate change, creating sustainable value within the company, developing skills and raising awareness about sustainability among employees, while offering innovative employment opportunities (Dean & McMullen, 2007).

This chapter takes as its starting point the combination of green entrepreneurship and green intrapreneurship to explore how young graduates can succeed in the entrepreneurial process from the intention to undertake to the achievement of sustainability of the project, including the action of engagement? What aspects could strengthen the desirability of young people to engage in green entrepreneurship and consolidate the feasibility of their project? To answer these questions, this chapter starts with an analysis of the Tunisian context for green entrepreneurship. It then develops a conceptual framework comprising the entrepreneurial event model (Shapero & Sokol, 1982), the model of planned behaviour (Ajzen, 1991) and the theory of dynamic capabilities (Teece, 2007, Teece et al., 1997). Following this, the chapter discusses the case study of the Homrane Sustainable Living project, a small permaculture farm. This qualitative study followed an interpretivist approach to analyse and connect the factors identified through the empirical data in order to understand the motivations of young graduates to engage in green entrepreneurship. On this basis the chapter then addresses the challenges of employability in the field of green entrepreneurship and suggests ways to make it attractive, accessible and achievable for young graduates.

Green entrepreneurship in the Tunisian context

The Tunisian context provides specific challenges and opportunities for green entrepreneurship and intrapreneurship. These include employability issues, climate challenges and the impact of climate change on young graduates and employment, but also opportunities in emerging sectors. Several factors are responsible of the employability problem in Tunisia. Notably, the unemployment rate is high especially among young university graduates. While 23.7 percent of young higher education graduates are unemployed (INS, 2023), several factors should be considered when analysing this high percentage. To start with, many observers suggest that there is a mismatch between the skills acquired by graduates and the demands of the job market. The World Bank (2020) reports that 65 percent of Tunisian companies claim that they have difficulty finding employees with the right skills. Additionally, many young university graduates prefer to be unemployed rather than work in the informal sector. Many other graduates decide to migrate to other countries, particularly in Europe, to find employment opportunities. According to reports on migration trends and their impact on the Tunisian labour market carried out by the European Training Foundation in 2021 and the OECD in 2022, 70 percent of young Tunisian graduates in engineering, medicine, and computer science are considering leaving the country (ETF, 2021; OECD, 2022). This phenomenon is explained by a lack of job opportunities in the country, particularly in innovative and high-tech sectors. These sectors represent a small share of jobs in the Tunisian economy, limiting the recruitment of graduates in these fields.

We now move on to the challenges related to climatic conditions. The impact of climate change is felt across all sectors of the economy. Tunisia is experiencing an increase in average temperatures and a decrease in precipitation, with a tendency towards drought. Approximately 80 percent of the Tunisian territory is affected by desertification, with per capita water availability below the water scarcity threshold set at 500 cubic meters per year per capita (Ministry of Agriculture, Water Resources and Fisheries, Tunisia, 2021). The same applies to water resource management, following the overexploitation of groundwater alongside the inefficiency of existing irrigation systems. Furthermore, incidents of natural disasters (such as floods and storms) are increasing. Between 1980 and 2016, these events caused economic losses estimated at more than 800 million dollars (EM-DAT, 2017). Climate disruptions have impacted on the agricultural sector, which has seen a decrease in crop productivity and an increase in production costs. Notably, cereal production decreased by 25 percent between 2000 and 2017 (FAO, 2018).

The next point we address in this section regards the impact of climate change on graduate employment. Young Tunisian graduates face complex and multidimensional challenges. They are both potential actors in the fight against these changes and are affected by the impacts of climate change. This interrelationship is explained by the fact that there are fewer job opportunities in climate-dependent sectors such as agriculture and tourism. Young engineers in agronomy and agricultural sciences face a reduction in job opportunities due to the decline in agricultural productivity resulting from extreme climatic conditions, such as drought and desertification. Nearly 30 percent of agricultural science graduates are unemployed due to the decline in opportunities in the agricultural sector (FAO, 2016).

Another sector affected by climate change is tourism, a sector that creates direct and indirect jobs, as tourist seasons have been disrupted due to climate change and natural sites have deteriorated. In

2022, the tourism sector recorded a share of 3.1% of total employment in the country (INS, 2023). The tourism sector has been facing significant difficulty since 2011, and the traditional Tunisian tourism product, predominantly characterised by unidimensional seaside tourism model, is no longer adapted to the current situation. Tourism redesigned to become sustainable would be based on culture and nature (Ben Gamra-Zinelabidine et al., 2018). This transition could generate new employment opportunities, foster value creation, and ensure the preservation of the environment.

Furthermore, climate disruptions have caused rural populations to migrate to urban areas in search of employment opportunities. This phenomenon depopulates small towns and intensifies competition for jobs in urban areas. The unemployment rate for young graduates in urban areas is over 30 percent (INS, 2019). The industrial fabric includes diverse sectors such as textiles, agrifood, hospitality, and light manufacturing, which require labour, not necessarily skilled, which limits employment opportunities for higher education graduates. In addition, disparate efforts in business creation and the short lifespan of new businesses present additional challenges. The most attractive sector compared to the private sector remains the public sector because of the job security it offers. Furthermore, inland regions are experiencing a constant reduction in employment opportunities compared to coastal regions. Thus, the increase in the unemployment rate among graduates rose from 7 percent to nearly 30 percent between 2005 and 2019 (INSEE, 2020).

Finally, we examine in this sub-section are the opportunities in emerging sectors. For instance, green job creation develops jobs that contribute to preserving or restoring the environment, while being economically viable and socially equitable. It contributes to designing sustainable jobs, reducing the ecological footprint, and promoting social inclusion (ILO, 2018). Climate change is creating the conditions for new job opportunities in the renewable energy, energy efficiency, and sustainable resource management sectors. Notably, the renewable energy sector could create approximately 20,000 jobs by 2030 (UNEP, 2018). Young graduates can create innovative startups in sustainable agriculture, clean technologies, and eco-friendly services such as alternative tourism. In 2018, approximately 10 percent of startups in Tunisia focused on ecological and sustainable solutions (Startup Tunisia, 2018). As climate change increasingly affects young graduates, there is a pressing need for them to engage in green entrepreneurship. Initiatives such as the permaculture farm in our case study illustrate how sustainable ventures can address environmental challenges while creating meaningful employment opportunities for this generation.

Currently, environmental and sustainable development awareness is growing among companies in several sectors that are aiming to reduce their carbon footprint. This development highlights the need for the emergence of new “green” skills to address environmental challenges. Young graduates are best suited to meet the challenges but require appropriate skills and knowledge to address these challenges, engage in adaptation and mitigation initiatives, and seize opportunities. Training in climate change and sustainable resource management would thus enhance their employability, promote sustainable practices, and foster innovative solutions to mitigate environmental impacts. By strengthening both their competencies and their commitment to green initiatives, they can become key actors in the transition toward a green and resilient economy.

Conceptual framework for green entrepreneurship and intrapreneurship

As a field of research, entrepreneurship allows for the study of motivations, processes, as well as the economic, social, and environmental factors that influence job creation. Green entrepreneurship, as a subset of entrepreneurship, involves the creation, development and management of businesses that aim to minimise environmental impact, contributing positively to ecological sustainability and employability. Given the challenges and opportunities outlined in the previous section, there are good reasons to encourage a transition to green entrepreneurship. However, is green business creation different from business creation more generally? What would a conceptual framework for green entrepreneurship look like?

To promote the transition to green entrepreneurship, the entrepreneurial event theory is mobilised to explore how young graduates can be encouraged to engage in green business creation. To understand the entrepreneur's decision, we relied on the Shapero Model (1982), while we used the theory of planned behaviour (Ajzen, 1991) to explain the motivations for the choice and the entrepreneur's behaviour. Finally, the dynamic capabilities theory helped support the sustainability of the project.

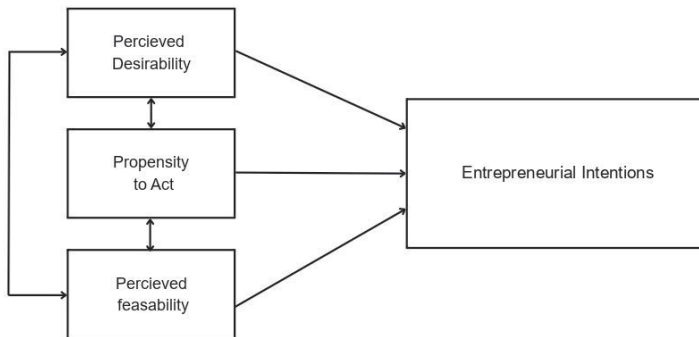
Entrepreneurial Event Theory: Perceived desirability and feasibility

Entrepreneurial event theory is linked to social psychology and behavioural theories. According to this theory, the decision to create a business is triggered by significant events (environmental upheavals). This decision is, in turn, influenced by the perception of the desirability (attractiveness) and feasibility (ability to succeed) of entrepreneurship (Shapero & Sokol, 1982).

Shapero and Sokol (1982) explain how entrepreneurial intentions are shaped by the perceived desirability and feasibility of starting a business and identify the explanatory motivations for the decision to create a business. Their desirability-feasibility model (also known as Shapero's model) is applicable to different entrepreneurial contexts. It allows us to understand entrepreneurial decisions in different cultures and sectors, highlighting the psychological and contextual factors that influence the decision to start a business, which are the perceptions of "desirability" and "feasibility" as well as the propensity to act in the event of external change. Entrepreneurial actions are explained by the result of individual perceptions, influenced by life events.

The three factors influencing entrepreneurial intentions are the desirability perception, feasibility perception and the propensity to act. Desirability perception is the belief that entrepreneurship is desirable, influenced by cultural and social norms and personal attitudes. This is an attractive factor for young entrepreneurs, which can be reinforced by the positive impacts of green entrepreneurship on the natural environment and society. The feasibility perception is an individual's self-assessment of their ability to carry out a project. This includes confidence in their skills, access to resources, and social support. Finally, the propensity to act is an individual's predisposition to act, following a factor triggered by significant external events (or "displacements") such as job loss, moving, migration, or

an economic or cyclical crisis. These life changes, situations, or experiences disrupt the individual's balance and encourage them to consider entrepreneurship as an opportunity.



Entrepreneurial intention results from the combination of perceived desirability, perceived feasibility, and the propensity to act, triggered by precipitating event.

Figure 19.1. Shapiro & Sokol's Entrepreneurial Event Model

Source: Shapiro & Sokol (1982).

Applied to green entrepreneurship, the Shapiro model examines the extent to which the concepts of desirability and feasibility can influence young graduates' willingness to engage in green initiatives and contribute to improving their employment prospects. These fundamental concepts are perceived desirability and perceived feasibility. Applied to green entrepreneurship and intrapreneurship, both concepts help promote sustainable development and adopt responsible practices. The perceived desirability of young entrepreneurs is relative to their social, personal and economic expectations.

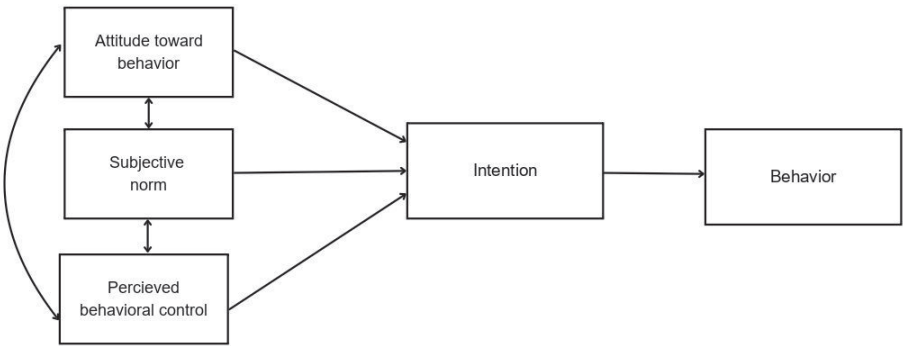
Applied to green entrepreneurship, it highlights ecological motivation and the attraction of young graduates. Aspiring green entrepreneurs are often driven by the desire to reduce their environmental impact to promote sustainability. They are aware of environmental issues and would like to make a positive contribution. Applied to green intrapreneurship, perceived desirability emphasises corporate culture and recognition within the company. Promoting sustainability within the company encourages employees to propose and develop green projects. Green intrapreneurs need internal recognition to be motivated (rewarded for their efforts).

Feasibility is the perception of an individual's ability to create a business or launch an intrapreneurial initiative. It includes skills, resources and perceived support. Applied to green entrepreneurship, perceived feasibility includes training and support for young graduates through educational programs and business incubators, which increase the feasibility of green projects. Access to resources (grants, green financing, and support networks) is also essential for green entrepreneurs. In green intrapreneurship, feasibility refers to the support a company can offer in terms of resources to encourage sustainable intrapreneurial initiatives. Skills development through continuing education strengthens individuals' abilities and predispositions to make green entrepreneurial projects feasible.

This integrated approach increases the desirability and feasibility of green projects by stimulating innovation and creating an environment conducive to the development of green projects, which constitutes a solution for job creation and promotes the ecological transition.

The Theory of Planned Behaviour

The theory of planned behaviour (Ajzen, 1991) is a widely used psychosocial framework for explaining and predicting human behaviour. It posits that behavioural intentions are shaped by three key factors: attitude, subjective norms, and perceived behavioural control, the latter reflecting an individual's perceived ability and control over performing an action. This framework provides a robust tool to understand individuals' motivations and engagement, particularly in the context of green entrepreneurship. The theory is structured around three main elements that influence an individual's behavioural intention, namely attitude, social norms, and perceived control of their behaviour (see Figure 19.2).



Behavioral intention emerges from the interaction of attitude toward the behaviour perceived, social expectations, and perceived ability to perform it.

Figure 19.2. Ajzen's Model of Planned Behaviour

Source: Ajzen (1991)

The application of the Ajzen model to green entrepreneurship and intrapreneurship, analyses how attitudes, perceived social norms, and perceived behavioural control influence young graduates' intentions to undertake green initiatives, thereby improving their employment prospects. Attitudes toward green entrepreneurship are explained by understanding how individuals perceive its benefits, such as the contribution to environmental sustainability and socio-economic opportunities. The influence of social norms and environmental attitudes in the individual's environment can play a determining role in a person's decision to engage in green entrepreneurship. Government policies, community initiatives, and peer support can positively influence this subjective norm.

Perceived behavioural control relates to the individual's perception of their ability to create and manage a green project, as well as their access to necessary resources such as financing, support

networks, and technical skills. The more competent and supported an individual feels, the more likely they are to engage in green entrepreneurship.

Applied to green intrapreneurship, the model can encourage sustainable initiatives within a company. Regarding attitudes toward green intrapreneurship, employees may perceive benefits in this area, which will be opportunities for their company, such as the development of new green activities and the acquisition of new skills or the training of resources. They may also have negative perceptions regarding the challenges to be overcome, which may result in failure. Other negative perceptions could be the lack of internal support or the company's limited resources to enable it to implement new initiatives. Behavioural control is achieved through performance improvement (internal training, experience from previous projects, team support). Employees' self-confidence increases (improved perceived ability to succeed in this initiative). It is therefore easier to understand entrepreneurial decisions in the field of green jobs, which influence entrepreneurial choices, based on managerial theories relating to entrepreneurship as well as behavioural theories relating to the choices of entrepreneurs and intrapreneurs.

Dynamic Capabilities Theory for green job creation

The dynamic capabilities theory (Teece et al., 1997) provides a framework for entrepreneurship because it emphasises the importance of an enterprise's ability to effectively develop and deploy its resources and skills to adapt to a changing environment and seize new opportunities. This approach relies on the need for continuous renewal of skills. It is fundamental to maintaining a sustainable competitive advantage in the company's overall strategy and helps create jobs that are an integral part of long-term value creation (Teece, 2007).

In the context of green job creation, this theory can be applied by businesses. By using its dynamic capabilities, a business can identify opportunities for green job creation by examining market trends, regulatory requirements, and changes in behaviour towards sustainability (Teece, 2014). To create green jobs, businesses must develop new skills and competencies. Investing in research and development is becoming essential to ensure human skills remain competitive in a constantly changing environment (Teece et al., 1997). Indeed, the business world is evolving rapidly, now integrating the natural environment and its concerns as essential variables to consider. The rapid adaptation of a business to these changes will allow it to adjust its practices, to create new production methods and manufacture sustainable products and services (Eisenhardt & Martin, 2000). This theory applies to all companies, regardless of their sector, size or seniority and concerns both existing companies and start-up projects.

Classic Entrepreneurship and Intrapreneurship

Table 19.1 shows the main factors of entrepreneurship and intrapreneurship with reference to entrepreneurial literature.

Table 19.1. Comparison of entrepreneurship and intrapreneurship

Dimension	Entrepreneurship	Intrapreneurship	Divergences
Risks / Context	High risks for high expected returns (Hisrich et al., 2017)	Moderate risks, supported by the organisation (Antoncic & Hisrich, 2003)	Entrepreneurship: Uncertain environment, limited resources (Byers et al., 2011) Intrapreneurship: Reallocation and optimisation of existing resources to reduce risk (Kuratko et al., 2011)
Innovation / Autonomy	Creation of innovative projects using personal funds (Schumpeter, 1934; Shane & Venkataraman, 2000)	Innovation using internal company resources (Pinchot, 1985)	Entrepreneurship: High autonomy in decision-making (Lumpkin & Dess, 1996) Intrapreneurship: Partial autonomy; decisions shared with supervisors (Kuratko, 2007)
Resilience / Benefits	Required to overcome the challenge of creating the venture (Markman & Baron, 2003)	Required to lead innovation despite internal resistance (Antoncic & Hisrich, 2001)	Entrepreneurship: High potential gain but equally high risk (Gartner, 1989) Intrapreneurship: Gains are indirect (e.g., recognition); risks are buffered (Hornsby et al., 2002)
Results / Responsibility	Profit-oriented for project success (Drucker, 1985; McMullen & Shepherd, 2006)	Strategy-oriented for organisational change (Ireland et al., 2009)	Entrepreneurship: Full responsibility for strategic decisions (Casson, 2005) Intrapreneurship: Responsibility limited to initiatives within corporate strategy (Zahra, 1991)

Source: Authors' elaboration based on entrepreneurial literature

Green entrepreneurship and intrapreneurship

Green entrepreneurs are distinguished by their ability to innovate in the field of sustainability, focusing on creating sustainable business projects. They produce goods and services designed to minimise environmental impact while ensuring economic viability (Schaltegger & Wagner, 2011). Gibbs and O'Neill (2014) worked on companies specializing in clean technologies renewable energy, and recycling. Hart and Milstein (2003) contributed to the thinking on sustainability and green entrepreneurship. Their contribution relates to the integration of sustainability principles into business strategies to create economic, social, and environmental value. They support the idea that integrating sustainability into business strategies improves environmental and social performance and strengthens long-term competitiveness and profitability.

Pinchot (1985) is credited with spreading the concept of intrapreneurship, demonstrating how employees behave as entrepreneurs within their organisations. He highlights the need to create a favourable environment for intrapreneurship to stimulate innovation and sustainable growth within companies. At this level, green intrapreneurship includes the development of waste management

programs, the implementation of energy management systems, or the production of ecological goods within the company (Hockerts & Wüstenhagen, 2010). Yi (2021) demonstrated, using a structural equation model, that students' green entrepreneurial intentions have a direct positive effect on green entrepreneurship behaviour and that the intersection of the "university role" and "external institutional support" are key intermediary variables in the transformation of intentions into behaviour. Thus, the importance of educational support in influencing green entrepreneurial intentions and behaviours is significant.

Zeng and Ren (2022) established a theoretical framework explaining the link between environmental regulations and green entrepreneurship. Green entrepreneurship is a vector of technological innovation that facilitates the viability of new practices and encourages decision-makers to adopt more appropriate regulations. This dynamic interaction contributes to the evolution towards a sustainable economy. Green entrepreneurs innovate within companies to facilitate the ecological transition by adopting sustainable practices, reducing carbon footprints, and improving energy efficiency.

Entrepreneurship and intrapreneurship are complementary concepts, whose key factors are innovation and risk-taking (Miller, 1983). They differ in their context and resources but converge as drivers of sustainable development (Antoncic & Hisrich, 2001). Whether through the creation of new independent businesses or through innovation within existing companies, both approaches can be effective vectors for sustainable development (Hart & Dowell, 2011). By encouraging employees to initiate green projects, existing companies can improve their environmental performance and strengthen their competitiveness. Talents aware of sustainability issues can develop their own businesses. Green intrapreneurship and entrepreneurship can thus foster the development of sustainable innovations. (See table 19.2 for a summary of theories used for this research)

Table 19.2. *Dimensions of green entrepreneurship: Desirability and feasibility*

Desirability		Feasibility	
Internal	External	Internal	External
Passion for the environment; personal motivation to reduce ecological footprint. Values and ethics aligned with sustainability. Positive attitudes toward sustainability: belief in moral and societal value of eco-friendly practices.	Social support from family, friends, and community. Recognition and prestige associated with being a green entrepreneur. Perceived market opportunities. Inspiration from successful green role models. Membership in sustainability networks.	Skills and knowledge in sustainable practices, entrepreneurship, and management. Previous experience in sustainable projects. Self-confidence: belief in one's ability to succeed. Access to personal resources (e.g., finances, time, effort).	Access to funding: grants, loans, or investments for green ventures. Institutional and policy support. Access to infrastructure and technologies enabling sustainable practices. Opportunities for partnerships and collaborations.

Source: Authors' elaboration based on entrepreneurial literature

The case study: Homrane Sustainable Living

Based on the above-described entrepreneurial framework, the chapter will now report on an interpretivist case study of Homrane Sustainable Living, a concrete case of green entrepreneurship and intrapreneurship. Three recent graduates, Omar, Mariem and Slim, who aspire to integrate sustainable agricultural practices, initiated the project. They bring to the project their respective academic backgrounds and experience in several countries, leveraging acquired expertise and different lifestyles. Their shared aspiration was to integrate environmentally friendly agricultural production methods with diverse forms of hospitality, on-farm learning, and artistic practice.

Omar and Mariem drew inspiration from international permaculture projects to design a model adapted to their context. They visited several projects and spent four years exploring the specific permaculture practices of each context. Slim has been involved in creating artistic and cultural activities. His artistic approach has been developed through artistic collaborations such as residencies with committed artists or multimedia installations in galleries. During these years, their vision became clearer and their search for a site began. Slim has developed an artistic and cultural dimension by integrating residencies and multimedia installations.

In 2019, after several years of exploration and learning, they chose a 2 hectares site in Homrane (near Aïn Draham) to launch their farm. The preserved natural environment and the absence of intensive farming motivated their choice. Together, they have structured “Homrane Sustainable Living,” combining ecological agricultural production, hospitality, and learning.

Their project is a good case study for green entrepreneurship, because it illustrates how permaculture can address current challenges of sustainable development, ecological agriculture, and local employability. Faced with climate challenges and the limitations of intensive agriculture, a paradigm shift toward sustainable and innovative practices is essential to ensure food security. Permaculture is both the science and the art of designing regenerative and resilient ecosystems, inspired by the functioning of living things (Mollison & Holmgren, 1978). Nature is considered a standard for assessing the sustainability of innovation, solving human problems, and applying the most appropriate solutions to humankind. It represents a source of learning and inspiration by ensuring human well-being, natural balance, and the equitable sharing of resources. It encompasses all types of systems, from small family vegetable gardens to larger agronomic systems and living spaces. As smallholder farmers face increasing economic pressures, such as unstable market prices and high costs of agricultural inputs (seeds, fertilisers, pesticides and equipment), permaculture offers solutions to increase farm self-sufficiency through soil regeneration, efficient use of local resources, and the creation of resilient agricultural systems. It proposes a better application of sustainable agricultural practices. According to Habib and Fadaee (2022, p. 443), permaculture is increasingly recognised as a method of sustainable agriculture and “a global community of practice that fosters local education, social cohesion, and ecological resilience.” Permaculture farms are not only places of agricultural production, but also become gathering and training centres, thus strengthening local socio-economic dynamics. The case of Homrane Sustainable Living could thus encourage other sustainable agricultural practices and contribute to improving local employability.

Interviews were held with founders and intrapreneurs of the Homrane project. In addition, a direct observation of the project was carried out to refine the analysis and integrate the social interactions of the young entrepreneurs as well as the real operating conditions of the farm. These analyses and interpretations led to a modelling of the case study, which is presented in the following sub-sections, which present an exploratory qualitative analysis of the entrepreneurial process among young green entrepreneurs, structured into three main phases: entrepreneurial intention, intention to action, and sustainability of the project.

Entrepreneurial Intention

Entrepreneurial intention constitutes the initial phase and can be deeply influenced by ecological values and ideological commitments. It constitutes the first step in the process, influenced by attitudes, social norms and perceived behavioural control. Indeed, the attitude of the founders of Homrane reflects a strong commitment to ecological and social values. Their motivation goes beyond the simple pursuit of profit, as Mariem explains: “This project was not just an economic opportunity for us, it was a commitment. We wanted to demonstrate that another way of producing and consuming is possible, far from intensive agriculture and dependence on pesticides.” Mariem’s quote illustrates how deep motivation, beyond simple profit, influences entrepreneurial intent. This was also emphasised by Slim: “This project embodies our values. We didn’t just want a job, but a way of life... The work of Pierre Rabhi and the Colibris movement inspired us to create a project that integrates ecology, education and art.” These testimonies demonstrate the positive attitude towards the project, a central element in the formation of entrepreneurial intention according to Azjen (1991).

A critique of the conventional agricultural model emerges in the following statement from Omar: “We didn’t just want to repeat the mistakes of industrial agriculture. The idea was to have a project that respects the land and natural cycles.” This critical attitude towards existing practices can serve as a lever to consider sustainable alternatives. Another powerful driving force was the desire for autonomy and independence. According to Slim: “Working for someone else didn’t interest us. We wanted to be in control of our decisions and our impact on the environment.” Independence and freedom of choice are thus strong motivations in the formation of entrepreneurial intentions.

Based on established social and environmental norms, individuals’ intentions to pursue new initiatives are likely shaped by societal expectations, which may initially induce caution or hesitation. The founders commented on the incomprehension of those around them. Mariem, for instance, reported: “Our families asked us why we left our stable jobs to farm the land. For them, it wasn’t a real job.” However, the perception of those around them has evolved with the first results of the young entrepreneurs: According to Omar, “when they saw the first harvests and the workshops we organised, they changed their minds. Now our families support us and even participate in our events”. Going beyond the family, Slim reported on resistance and misunderstandings from those around the locality: “When we explained our project, some people replied: ‘Why not use chemical fertilisers like everyone else?’ We had to constantly justify our choices.”

However, belonging to networks of young green entrepreneurs proved instrumental in structuring the project: “We surrounded ourselves with people who shared our vision, which really helped us move

forward and structure our project” (Slim). Communities of green entrepreneurs and associations thus play a key role in legitimizing the project. Concerning perceived behavioural control, this factor relates to confidence and belief in one’s ability to succeed despite obstacles (learning and experimentation). Mariem remembered: “Before we started, we took several training courses in permaculture, project management and eco-construction. We wanted to be sure we had all the keys in hand.” Their training reinforced their sense of control and confidence in their abilities.

The project was eventually accepted by the local community and inspired other young people, according to those interviewed. Thus, the potential for entrepreneurial momentum is evident, enabling future young entrepreneurs to get started. This analysis highlights the conditions that foster entrepreneurial intent and its potential in terms of employability and territorial development. Confidence in their ability to succeed and an acceptance by the local community, enhanced perceived control and reinforced their belief in the project’s viability.

From Intention to Action

Intention is necessary but it must be reinforced by triggers that convert intention into concrete initiatives. This transition was influenced by perceived desirability, feasibility, and a triggering event. Perceived desirability was central to the founders’ decision, as they viewed permaculture as meaningful entrepreneurial choice, exemplified in Mariem’s response: “We wanted a project that embodied our values...we were looking for meaning and a different lifestyle...but to create something that had meaning and a lasting impact.” This entrepreneurial project becomes desirable when it corresponds to the individual’s deepest values and offers them a form of personal fulfilment. Entrepreneurship was seen as an alternative to an unsatisfying job market. In Slim’s words: “We could have looked for a stable job in the city, but that wasn’t what we wanted. Being an employee in our field lacked meaning and didn’t offer enough freedom.” However, it was not just a response to dissatisfaction with traditional job market options. The desire to propose an alternative model is evident in Omar’s words: “We wanted to show that an agricultural model that respects nature was viable and could inspire other young people.”

When a project is perceived as innovative and useful to society, it becomes more attractive to its proponent. The perceived desirability notion can be found in green entrepreneurship, when founders are motivated by a quest for meaning and a desire to break with existing polluting practices. Other than in the case study, this can also be seen, for example in the creation of start-ups specialising in solar energy or recycling. Intrapreneurship follows the same logic: it offers a space for experimentation to those who join the farm, fostering local innovation.

Perceived feasibility was strengthened over time as the founders gradually acquired the necessary skills and experience, as Omar argues: “Before we started, we spent several years training and meeting permaculture farmers in different countries.” Acquiring technical and entrepreneurial skills helps reinforce the perception of project feasibility. Experimentation and learning represent the ability to learn from mistakes, which reinforces the perception of project feasibility. Omar remarked: “We have gained experience on other farms before..... We made mistakes at the beginning, but that’s how we learn. Every failure allowed us to improve our practices.” Mistakes then became learning

opportunities. The feeling of overcoming obstacles and challenges strengthens resilience and the belief in long-term success. Slim remembers: “We had moments of doubt, especially at the beginning when we had to build everything from scratch. But we persevered, and today, we have no regrets.” Slim’s experiences also demonstrate that experience is a key factor in moving from intention to action: “We learned by experimenting. At first, we didn’t even know if the soil was suitable, but we trained in permaculture, and now we manage the unexpected better.”

The project’s recognition was positively assessed by specialists. As Mariem notes, “Our initial discussions with other farmers and entrepreneurs reassured us. They showed us that it was feasible and gave us concrete advice.” A network of entrepreneurs or mentors can thus play a key role in reducing the sense of risk and strengthening perceived feasibility.

The first concrete results, even modest, strengthened the entrepreneurs’ confidence and encouraged their commitment to the project. Omar states, “the first vegetables we harvested and sold showed us that it worked. It was proof that we could make a living from it.”

Regarding the triggering event, the land acquisition marked the effective transition to action. In Mariem’s words: “When we found this land in Homrane, everything fell into place. There were no more excuses; we had to get started.” Slim agrees: “From that moment on, it was no longer a matter of thinking, but of doing.” These comments show how finding the ideal plot of land acted as a catalyst, transforming an opportunity into an immediate reality. Then financial support played a decisive role in making the project a reality, according to Omar: “We received initial financial assistance that allowed us to purchase equipment. That changed everything; we couldn’t back out.”

Project sustainability

Once initiated, a project must evolve and adapt to its environment to survive. This requires seizing opportunities, transforming resource usage, and maintaining a competitive advantage. In terms of seizing opportunities, the entrepreneurs diversified their activities to ensure the sustainability of their project through ecotourism and eco-friendly accommodation, the development of permaculture training workshops, artistic activities, and cultural events, in addition to the sale of manufactured agricultural products. Mariem explains: “Farming alone would not have allowed us to survive economically. So, we expanded our activities, based on the permaculture concept... with workshops and ecotourism.”

In terms of optimizing resources, the young entrepreneurs have readjusted the use of their resources. Omar states: “We optimised our irrigation techniques... A team member developed a more efficient irrigation system. Today, we use it across our entire plot.” The farm members proposed an internal innovation, thus consolidating their project. Regarding the last factor, green entrepreneurship is scalable and relies on a capacity for ongoing innovation and organisational agility to meet environmental and economic challenges. It depends on experimentation, continuous innovation and adaptability – a key factor in sustainability. The entrepreneurs have also been able to maintain a competitive advantage as Mariem explains: “Every year, we adjust our practices to adapt to new challenges.” These findings indicate that adaptability to contextual changes and innovative practices is critical to maintaining project viability over time.

Green entrepreneurship and intrapreneurship: a dynamic of sustainable innovation

Entrepreneurship and intrapreneurship are fundamental to the development of ecological and sustainable projects. The Homrane Sustainable Living project illustrates how these dynamics foster innovation, local employability, intrapreneurship and the creation of regional dynamics. The founders have created an environment conducive to experimentation and continuous improvement, notably by involving their employees and volunteers in innovative initiatives. This type of external intrapreneurial initiative helps accelerate processes and adapt agricultural practices to field realities, minimizing the risks associated with individual entrepreneurship. It represents an individual approach influenced by the internal perceptions of young entrepreneurs and a strategic lever for the development of the project, ensuring adaptability in response to changes in the economic and environmental landscape.

Moreover, the project mobilised local labour across multiple phases, from infrastructure (e.g., construction work) to hospitality services during farm-hosted events, as well as seasonal agricultural activities (sowing, harvesting, and processing of fruits and vegetables e.g., jam, couscous, olive oil), and selling produce to local market. Omar noted that the project hired around five seasonal workers daily during busy periods. Thus, the farm has contributed to indirect job creation during its construction phase and peak activity periods, while also stimulating the regional economy.

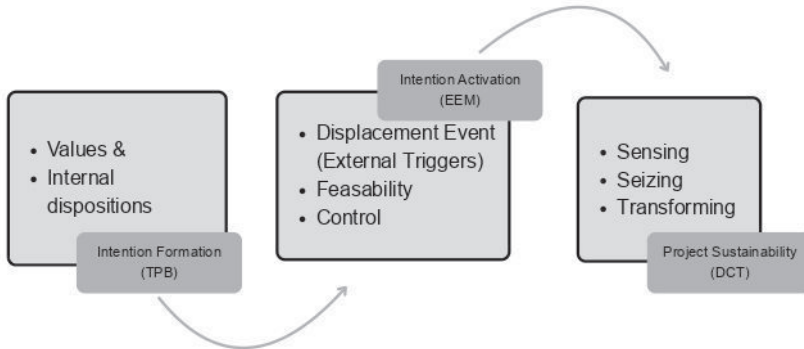
Regarding local environmental protection, the Homrane project's team use sustainable agricultural practices and support the health of local ecosystems. Thus, according to Mariem: "We contribute to soil restoration, water conservation, and the promotion of biodiversity, which benefits the entire community." Omar explains how the initiative moves between conservation and innovation: "We are returning to traditional agricultural techniques and ancestral practices such as fallow land, or the association of trees with crops, which we have tested and applied, and which have now become an innovation."

Education and knowledge transfer are part of the farm's activities. Mariem mentions: "We offer workshops and internships to teach sustainable farming techniques. This enriches the skills of residents and makes them more self-sufficient." These training courses allow participants to acquire agricultural expertise and pave the way for new local entrepreneurial initiatives, hopes Omar: "Our farm is a place of innovation where new agricultural techniques and economic activities are tested and developed." Indeed, the farm has also provided internships for agronomy students.

Innovation also extends to culture and tourism. Through attracting visitors and supporting activities like local markets and events, the farm modestly stimulates regional activity. Mariem illustrates how a project rooted in a sustainable approach can create a virtuous circle between the local economy and social innovation: "Our visitors stay also in local guest houses and support artisanal products." The establishment of an artist residency is another innovation that strengthens the farm's appeal and diversifies its activities. As Slim notes: "We offer outdoor workshops, meditation sessions, and temporary exhibitions. Artists immerse themselves in nature to stimulate their inspiration... We organise musical festivals where artists share their music, creating a friendly atmosphere." These kinds of activities attract a diversified audience and help position the farm as a space for experimentation and social innovation. The combination of ecology and artistic expression enhances the site's appeal and fosters cultural exchange.

Modelling green entrepreneurship

The proposed modelling is based on a qualitative analysis of the Homrane case study. The objective is to identify levers of employability in green entrepreneurship and intrapreneurship. The approach combines three theories to develop a modelling approach that highlights the transition from entrepreneurial intentions to action and the impact on employability.



This Framework illustrates the progression from intention formation, shaped by values and internal dispositions (TPB), through intention activation via external triggers, feasibility, and control (EEM), to project sustainability, realized through sensing, seizing, and transforming activities (DCT)

Figure 19.3. Modelling of a permaculture farm

Shapero's entrepreneurial event theory is important in the transition from intention to action, generally triggered by external events and supported by the individual's perceived control. In the literature, this theory is often used as an initial phase in the entrepreneurial process, as it highlights the role of a "displacement" or triggering event that prompts an individual to consider starting a business (Shapero & Sokol, 1982). These triggers may be social, economic, or personal (such as job loss or a sudden opportunity), leading the individual to reconsider their career path. In this study, Shapero's theory is applied in a second phase, after the formation of entrepreneurial intentions (Ajzen, 1991), for two main reasons. First, the young entrepreneurs in this study underwent a lengthy maturation process before considering entrepreneurial action, during which they gradually internalised ecological values and developed a mindset favourable to green entrepreneurship. Second, the external triggers identified (such as land availability, support from a local network, or external event) only came after a clear intention to pursue a sustainable project had emerged. In this case, the triggering event is not the starting point of the entrepreneurial reflection but rather serves to activate an already formed intention and convert it into action. Moreover, each new challenge encountered during the project may reactivate this decision-making mechanism, bringing the entrepreneur back to the dimensions of feasibility, desirability, and perceived control. These factors continue to evolve and influence the project's trajectory, reinforcing the iterative nature of this dynamic.

The theory of planned behaviour (Ajzen, 1991) is in the initial phase of entrepreneurial intention formation. Usually, this theory is employed as a second-stage model in many entrepreneurial studies, particularly to predict entrepreneurial behaviour based on already existing intentions (Krueger et al.,

2000). It is often regarded more as a predictive framework of behaviour than as a tool for understanding the upstream phases of the entrepreneurial process. However, in this study, it is applied as the first phase, since the young graduates experienced a significant period of personal development and gradual internalisation of environmental values, even before considering any concrete entrepreneurial action. This reflective phase was marked by the development of internal dispositions (attitudes, perceived social norms, and self-efficacy) conducive to the emergence of a clear entrepreneurial intention. This positioning is also explained by the specific nature of the project studied, which falls under green entrepreneurship and is characterised by original or non-conventional goals and strong local anchoring. The more innovative or alternative the project is, the more critical this intentional formation phase becomes, grounded in deep ecological convictions. Therefore, the theory of planned behaviour is used here upstream, as an explanatory framework for the psychological incubation period required before entrepreneurial commitment, rather than simply as a predictor of action.

Dynamic capabilities, defined as an organisation's ability to integrate, develop and reconfigure internal and external resources in response to changing environments (Teece et al., 1997), are used in this study to represent the third phase of the entrepreneurial process: project stabilisation, diversification and long-term sustainability. They play a fundamental role in enabling the entrepreneur to adapt the business model, foster continuous innovation, and ensure the resilience of the project over time. Although these capabilities are central to the consolidation phase, they are in fact transversally active throughout the entire entrepreneurial journey. From the early stage of intention formation, dynamic capabilities manifest through learning processes, environmental scanning, and the absorption of new knowledge. During the transition to action, they are reflected in strategic flexibility, agile decision-making, and the activation of accessible resources (human, social, environmental). Therefore, while dynamic capabilities constitute the core of the final phase in the proposed model, their implicit and evolving presence across all stages gives the framework its systemic and adaptive dimension. They help move beyond a linear process to a living dynamic, in which the young entrepreneur continually refines their trajectory through mechanisms of adjustment, experimentation, and reinvention.

Transposability

The criteria for transposability of this model are contextual relevance, feasibility and adaptability as well as applicability to other contexts. To apply the modelling to other contexts where sustainability, green entrepreneurship and employability issues are at stake, these contexts would need to be similar to our case study. Furthermore, accommodation to local needs is significant, in that the economic, social, and ecological environment must be comparable to that of the study. However, the theoretical framework used (entrepreneurial intention, feasibility/desirability, dynamic capabilities) is universal. It thus allows us to validate concepts applicable to other cases and in different environments. The determinants identified (personal motivations, social dynamics, perception of challenges) may be relevant for other studies. The possibility of adjustment will be made through adaptations based on local specificities (cultural, economic and ecological). The transferability of the results will be justified by the observed effect on employability (job creation, skills acquisition), which should be

reproducible. Thus, this modelling could be transposed to other contexts, with adjustments according to local specificities.

Conclusion

The Homrane Sustainable Living project illustrates the transformative potential of green entrepreneurship and intrapreneurship in promoting sustainable development. By fostering local innovation, creating jobs, strengthening food security, and supporting the circular economy, it demonstrates how entrepreneurial initiatives can generate social, economic, and environmental value. The integration of education, knowledge transfer, art, and culture further reinforces the project's impact on community development. The experience with the Homrane Sustainable Living project also suggests elements for a practical framework to scale green entrepreneurship and intrapreneurship. Strategies to replicate such initiatives include: creating sustainable project incubators; establishing networks among farmers, artisans, and entrepreneurs; integrating agro-ecology into academic and professional training; supporting short supply chains and social economy models; and diversifying activities through culture and responsible tourism.

This model, grounded in ecological commitment and territorial development, can be adapted to other regions and sectors. However, limitations remain. Findings are based on a single case, mainly reflecting the perspectives of founders and stakeholders. The absence of longitudinal data limits the assessment of long-term impacts, and qualitative methods restrict statistical evaluation of economic and ecological outcomes. Critically, the investors' recent tensions with the local community highlight that social integration is essential for project viability and may determine whether activities need relocation to less community-sensitive areas.

This chapter discussed three key phases in the entrepreneurial process: intention, action, and sustainability. Success depends on tailored support, specialised training, a supportive ecosystem, and the ability to innovate, adapt, and diversify activities. This process strengthens the attractiveness of green entrepreneurship among young graduates, providing tangible pathways to translate intention into meaningful action. By combining economic viability, environmental responsibility and social integration, green entrepreneurship initiatives such as Homrane can foster resilient and responsible local economies, while providing a blueprint for other regions and sectors. Longitudinal studies would further help assess the sustainability and long-term impact of this and similar initiatives.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Antoncic, B. & Hisrich, R. D. (2001). Intrapreneurship: Construct refinement and cross-cultural validation. *Journal of Business Venturing*, 16(5), 495-527.
- Antoncic, B. & Hisrich, R. D. (2003). Clarifying the intrapreneurship concept. *Journal of Small Business and Enterprise Development*, 10(1), 7-24.

- Ben Gamra-Zinelabidine, B., Touzani, L., Ben Dahmane, N. & Touzani, M. (2018). How off-track tourists create their own event: a customer-dominant logic perspective. *Qualitative Market Research: An International Journal*, 21(4), 549-566. <https://doi.org/10.1108/QMR-01-2017-0037>
- Byers, T., Dorf, R. & Nelson, A. (2011). *Technology ventures: From idea to enterprise*. McGraw-Hill.
- Casson, M. (2005). *The entrepreneur: An economic theory*. Edward Elgar Publishing.
- Dean, T. J. & McMullen, J. S. (2007). Toward a theory of sustainable entrepreneurship: Reducing environmental degradation through entrepreneurial action. *Journal of Business Venturing*, 22(1), 50-76.
- Drucker, P. F. (1985). *Innovation and entrepreneurship*. Harper & Row.
- Eisenhardt, K. M. & Martin, J. A. (2000). Dynamic capabilities: what are they? *Strategic Management Journal*, 21(10/11), 1105-1121.
- EM-DAT. (2017). *EM-DAT: The international disaster database*. Centre for Research on the Epidemiology of Disasters (CRED). <https://www.emdat.be/>
- ETF. (2021). *Skills and migration country fiche: Tunisia*. European Training Foundation. <https://www.etf.europa.eu>
- European Commission. (2019). *Sustainable growth for all: Choices for the future of social Europe*. Publications Office of the European Union. <https://ec.europa.eu/social/main.jsp?catId=89&furtherNews=yes&langId=en&newsId=9430>
- FAO. (2016). *Fisheries and Aquaculture Department*. Food and Agriculture Organization. <https://www.fao.org/fishery/en>
- FAO. (2018). *FAOSTAT: Food and agriculture data*. Food and Agriculture Organization. <https://www.fao.org/statistics/en>
- Gartner, W. B. (1989). "Who is an entrepreneur?" is the wrong question. *Entrepreneurship Theory and Practice*, 13(4), 47-68.
- Gibbs, D. & O'Neill, K. (2014). The green economy, sustainability transitions and transition regions: A case study of Boston. *Geografiska Annaler. Series B, Human Geography*, 96(3), 201-216.
- Habib, B. & Fadaee, S. (2022). Permaculture: A Global Community of Practice. *Environmental Values*, 31(2), 441-462.
- Hart, S. L. & Dowell, G. (2011). A natural-resource-based view of the firm: Fifteen years after. *Journal of Management*, 37(5), 1464-1479. <https://doi.org/10.1177/0149206310390219>
- Hart, S. L. & Milstein, M. B. (2003). Creating Sustainable Value. *Academy of Management Executive*, 17(2), 56-69.
- Hisrich, R. D., Peters, M. P. & Shepherd, D. A. (2017). *Entrepreneurship* (10th ed.). McGraw-Hill Education.
- Hockerts, K. & Wüstenhagen, R. (2010). Greening Goliaths versus emerging Davids - Theorizing about the role of incumbents and new entrants in sustainable entrepreneurship. *Journal of Business Venturing*, 25(5), 481-492. <https://doi.org/10.1016/j.jbusvent.2009.07.005>
- Hornsby, J. S., Kuratko, D. F., Shepherd, D. A. & Bott, J. P. (2002). Managers' corporate entrepreneurial actions: Examining perception and position. *Journal of Business Venturing*, 24(3), 236-247.
- ILO. (2012). *Skills for green jobs: A global view*. International Labour Organization. <https://www.ilo.org/publications/skills-green-jobs-global-view>
- ILO. (2018). *World employment and social outlook 2018: Greening with jobs*. International Labour Organization. <https://www.ilo.org/publications/world-employment-and-social-outlook-2018-greening-jobs>
- INS. (2019). *Institut National de la Statistique*. <https://www.ins.tn>
- INS. (2023). *Unemployment rate of higher education graduates in Tunisia, 2022*. Institut National de la Statistique. <https://www.ins.tn/statistiques/153>
- INSEE. (2019). *Labour conditions survey 2020*. Institut National de la Statistique et des Études Économiques. <https://www.insee.fr/fr/statistiques/fichier/4504425/ECRT2020.pdf>
- Ireland, R. D., Covin, J. G. & Kuratko, D. F. (2009). Conceptualizing corporate entrepreneurship strategy. *Entrepreneurship Theory and Practice*, 33(1), 19-46.

- Krueger, N. F., Reilly, M. D. & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5-6), 411-432. [https://doi.org/10.1016/S0883-9026\(98\)00033-0](https://doi.org/10.1016/S0883-9026(98)00033-0)
- Kuratko, D. F. (2007). Corporate entrepreneurship. *Foundations and Trends in Entrepreneurship*, 3(2), 141-213.
- Kuratko, D. F. Morris, M. H., & Covin, J. G. (2011). *Corporate innovation & entrepreneurship*. Cengage Learning.
- Lumpkin, G. T. & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135-172.
- Markman, G. D. & Baron, R. A. (2003). Person-entrepreneurship fit: Why some people are more successful as entrepreneurs than others. *Human Resource Management Review*, 13(2), 281-301.
- McMullen, J. S. & Shepherd, D. A. (2006). Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. *Academy of Management Review*, 31(1), 132-152.
- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), 770-791.
- Ministry of Agriculture, Water Resources and Fisheries, Tunisia. (2021). *National Water Sector Report*. Bureau de la Planification et des Équilibres Hydrauliques. http://www.onagri.tn/uploads/secteur-eau/RNE2021_VersionFianle_MarsF2023_ONAGRI.pdf
- Mollison, B. C. & Holmgren, D. (1978). *Permaculture 1: A perennial agriculture system for human settlements*. University of Tasmania.
- OECD. (2022). *Improving skills and employment opportunities in Tunisia*. OECD. <https://oecdcope.blog/2022/04/04/improving-skills-and-employment-opportunities-in-tunisia/>
- Pinchot, V. (1985) *Intrapreneuring: Why you don't have to leave the corporation to become an entrepreneur*. Harper & Row.
- Schaltegger, S. & Wagner, M. (2011). Sustainable entrepreneurship and sustainability innovation: Categories and interactions. *Business Strategy and the Environment*, 20(4), 222-237.
- Schumpeter, J. A. (1934). *The theory of economic development*. Harvard University Press.
- Shane, S. & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217-226.
- Shapiro, A. & Sokol, L. (1982). The social dimensions of entrepreneurship. In C. Kent, D. Sexton, & K. Vesper (Eds.), *Encyclopedia of Entrepreneurship* (pp. 72-90). Prentice-Hall.
- Startup Tunisia. (2018). *Annual report on startups in Tunisia*. <https://www.startuptunisia.tn>
- Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic management journal*, 28(13), 1319-1350.
- Teece, D. J. (2014). A dynamic capabilities-based entrepreneurial theory of the multinational enterprise. *Journal of International Business Studies*, 45(1), 8-37.
- Teece, D. J., Pisano, G. & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic management journal*, 18(7), 509-533.
- UNEP. (2018). *United Nations Environment Program*. <https://www.unep.org/en>
- World Bank. (2020). Tunisia economic update: Strengthening the labour market for young graduates. <https://www.worldbank.org/en/country/tunisia/publication/tunisia-economic-update>
- Yi, G. (2021). "From green entrepreneurial intentions to green entrepreneurial behaviors: the role of university entrepreneurial support and external institutional support". *International Entrepreneurship and Management Journal*, 17(2), 963-979. <https://doi.org/10.1007/s11365-020-00649-y>
- Zeng, J. & Ren, J. (2022): "How does green entrepreneurship affect environmental improvement? Empirical findings from 293 enterprises." *International Entrepreneurship and Management Journal*, 18(1), 409-434. <https://doi.org/10.1007/s11365-021-00780-4>

