



**PASSION, CREATIVITY, AND HARD SKILLS  
IN CIRCULAR ENTREPRENEURSHIP:  
A MULTIPLE CASE STUDY ON ITALIAN COMPANIES**

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**Abstract**

**Purpose.** Although the personality of the entrepreneur is considered a key determinant of a company's performance, this aspect in companies adopting circular economy practices has been little studied. Therefore, this paper aims to contribute to the literature on the personality of the entrepreneur in firms adopting circular economy practices, and his/her capabilities to manage circular practices.

**Design/methodology/approach.** A multiple case study method was applied to 10 companies adopting circular economy practices.

**Findings.** The personality of the entrepreneur is characterized by a specific trait, defined here as passion for environmental issues and interest in social issues. Such as, referring to capabilities, leadership and collaborative skills are considered essential traits.

**Practical and Social implications.** The elements defining the circular entrepreneur and the ability to integrate different skills as a key element of circular entrepreneurship highlighted in this paper offer policy and theoretical implications for further investigation.

**Originality of the study.** The study defines the personality of the entrepreneur and his/her ability to manage and sustain circular practices.

## 1. Introduction

During the years, different models and frameworks have been proposed to analyze entrepreneur personality, although that of the Big Five factors (John, 1990; Goldberg, 1992), namely, a representation of the entrepreneur personality traits, is one of the most adopted as a reference by scholars. The model identifies five main entrepreneur personality traits (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) and is considered the pillar of the debate on entrepreneur personality and a reference within different disciplines contextualized in the psychological and sociological debate (Costa & McCrae, 1994; De Raad, 2000).

However, the present research focuses on circular entrepreneurship, as the personality of circular entrepreneur is still scarcely treated in the scientific literature, although, as stated by Suchek and colleagues (2022), “entrepreneurship represents a key factor in capturing new circular business opportunities, but research on circular entrepreneurship remains at an early phase and is correspondingly somewhat dispersed” (Suchek et al., 2022, p. 2256).

In fact, the circular economy plays, nowadays, a very important role in managing companies (Kirchherr et al., 2017) where the circularity flow of ideas, knowledge, expertise, and services promotes the emergence of new circular entrepreneurship. In addition, circular entrepreneurship creates innovation by designing goods and services needed by people, incorporating recyclable materials, and reducing waste production (Zucchella & Urban, 2019). Importantly, according to scholars and the highly recognised definition of circular economy provided by the Ellen MacArthur Foundation, companies that enable, support and encourage circular economy practices and design solutions for the circular economy can be considered as circular firms (Ellen MacArthur Foundation, 2013; Ferasso et al., 2020; Babbitt et al., 2021).

The personality of the entrepreneur concerns intangible aspects that are difficult to investigate empirically, especially if done on the basis of secondary data. Hence, apart from a literature review on these topics, the study offers an empirical deepening, useful to indicate policy and practical implications through the analysis of representative examples. In detail, the paper adopted the multiple case study method on 10 Italian circular companies to observe the aspects of the circular entrepreneur personality through semi-structured interviews (Richter, 2011).

The purpose of the study is twofold: (1) explore the entrepreneurial intention, as the main traits of the personality of circular companies’ founders in their path toward sustainability; (2) define the entrepreneur’s role and his/her ability to manage and support circular practices. Through the study of these elements, the paper aims to contribute to the understanding of circular entrepreneurship, in order to highlight aspects of personality and skills that can address policies in the implementation of a circular

economy and support the development of this form of entrepreneurship.

The article is organized as follows. First, the main traits of entrepreneur personality have been analyzed, with a focus on the circular entrepreneur to determine the topics detected in the debate. Then, the methodology and research process, as well as the dataset, have been described. Next, using qualitative research tools, 10 circular Italian companies have been presented as representative case studies. Finally, the results have been presented and discussed. Implications, conclusions, and limitations are provided in the last part of the paper.

## 2. Literature review on the entrepreneur personality

In line with the twofold purpose of the research, the literature review allowed the authors to explore the main traits of the personality of circular companies' entrepreneurs.

The review highlighted two main research lines: the "entrepreneurial intention" (i.e., Cao et al., 2022) that includes topics related to the person rather than to the figure of the entrepreneur (for example creativity, narcissism, propensity to change, readiness, reactivity, and passion are discussed); the "entrepreneur's role" (i.e. Bergner, 2020; Ren & Xu, 2022), focusing on aspects such as technical and scientific skills, leadership skills, and job satisfaction. The figure below summarizes the two main trajectories and the topics most discussed in the literature (see Figure 1).

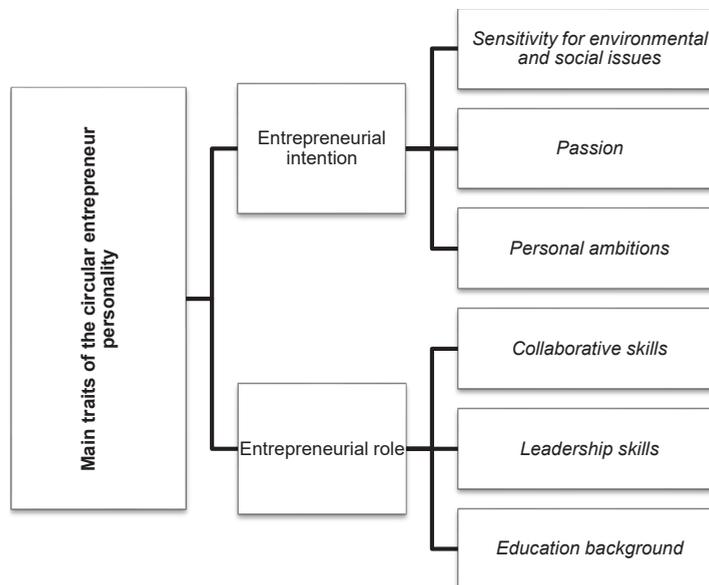


Figure 1: Main trajectories and topics in the literature on the circular entrepreneur personality

## *2.1 Research stream 1 - Entrepreneurial intention*

The debate on the personality of the entrepreneur finds one of its main pillars in the Big Five model (John, 1990; Goldberg, 1992) which identifies the five dimensions of the personality of the entrepreneur (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism). However, scholars from different disciplines discussed the topic. For example, an interesting contribution on entrepreneur's personality is provided by Xie et al. (2018), who highlight that although the entrepreneur personality has long been talked about in both management studies and psychology and sociology studies, the negative traits of the entrepreneur personality that can affect business performance are treated only in more recent works. The aforementioned authors, for example, discuss "narcissism, overconfidence, and fear of failure" as being important aspects of a person/entrepreneur even if they are traits that can have a considerable negative impact on organizational performance, particularly for new businesses and start-ups.

On the other hand, an aspect that is considered positive and that emerges in several works among those examined is that of passion in the form of a determining element of entrepreneurial behavior. Specifically, Obschonka et al. (2019) focus on the antecedents of human behavior and, in this case, entrepreneurial behavior, asserting that such traits can strongly affect the approach adopted by the entrepreneur and the passion for his/her work: "[the] basic entrepreneurial personality character of a person contributes to the shaping of his or her entrepreneurial passion, which is relevant for actual entrepreneurial activity" (p. 1). In the same vein, Zhu et al. (2020) highlight the importance of the traits that characterize the personality of the entrepreneur, such as risk-taking and the need for achievement, when new businesses are started. Entrepreneur personality is also described in the context of different categories, such as the role of women, addressing the extremely current gender issue in the international debate, i.e., Zhang et al. (2009) and Sharma and Sahni (2020), and the approach of young entrepreneurs, i.e., Zeffane (2013), Butz et al. (2018), and Cao et al. (2022). For example, Zhang et al. (2009) investigate the genetic basis of entrepreneurship and its effects on personality, showing a strong difference between female and male entrepreneurs; in fact, according to their results, "females have a strong genetic influence and zero shared-environmental influences on their tendency to become entrepreneurs", with the opposite being true for males (p. 93). Sharma and Sahni (2020) delve into the issue of gender regarding other aspects; they assert that "males exhibited a significantly higher risk taking, openness to change, autonomy, and achievement tendencies. Interestingly, older females seemed to possess lower risk taking, creativity, and autonomy than the younger cohort of women entrepreneurs, while age had no influence on personality attributes of male

respondents" (p. 725). Finally, the role of young entrepreneurs is examined especially in psychological and educational studies, although linked to management, observing the approach of young people with regard to their desire and willingness to undertake entrepreneurial activity. In particular, many contributions focus on the need for achievement (Obschonka et al., 2011; Ryan et al., 2011; Zeffane, 2013; Vodă & Florea, 2019), and on the need for independence, the latter with special reference to developing countries (Kar et al., 2019). Scholars as Zeffane (2013) focus on psychological skills as fundamental tools for young adults to face the challenges of entrepreneurship. Other scholars stress the relevance for the young generation of entrepreneurs, to be skilled in both economics and technical fields (Vodă & Florea, 2019).

Cao et al. (2022) note that "the desire to be an entrepreneur, learning attitude, and personality traits are the leading factors in the entrepreneurial intentions of students and graduates. However, within these themes, the effect of personality traits (consistency and determination, discipline and locus of control, and risk-taking and tolerance) is found to lead to entrepreneurial intentions among young entrepreneurs" (p. 1).

### *2.1.1 Research stream 1 – Entrepreneurial intention in circular economy*

With special reference to the circular entrepreneur personality, new aspects emerge, such as a strong sensitivity for environmental and social issues, a form of responsibility in which the entrepreneur pays special attention to environmental protection, human dignity, inclusion and social sharing and solidarity practices (Welter et al., 2017; Zucchella & Urban, 2019; Sawe et al., 2021). Some scholars recognize in the entrepreneur an interest in the protection of the natural environment as an important end in itself rather than merely a component of the economic goal (Affolderbach & Krueger, 2017).

Passion, already mentioned above, is mainly discussed in relation to the entrepreneur's attention to growth, change, competition, innovation, and social mission (Pagano et al., 2018). As concerns values, some scholars also underline the personality based on ethical values - including altogether economic, social and environmental values (Zucchella & Urban, 2019)-, solidarity (Monciardini et al., 2024), preservation of the natural environment, and climate protection (Rok & Kulik, 2021).

Furthermore, the literature highlights that circular entrepreneurs have a strong sense of personal ambition and commitment in order to offer new opportunities in highly uncertain contexts, contribute to the eradication of environmental threats, and ensure a healthy planet for future generations (Zucchella & Urban, 2019). All of these characteristics can lead to the creation of innovative products and services that can also help reduce the impact

on the environment and increase people's quality of life (Schaltegger & Wagner, 2011) while contributing to sustainable development (Lans et al., 2014).

## *2.2 Research stream 2 - Entrepreneur's role*

Unlike the first one, the second research trajectory focuses mainly on aspects closely related to the work of the entrepreneur; in fact, job satisfaction, leadership abilities, entrepreneurial success, and business performance are the main emerging topics. Many studies agree that the leadership capacity of the entrepreneur is extremely important for the success of business performance. For example, Forster et al. (2013) highlight that leadership competencies play a major role in developing a start-up. The importance of training, education, and hard skills acquired in previous experiences emerges in several studies, highlighting the fact that leadership capacity is generally considered the result of a set of factors related not only to the behavioural approach but also to aspects built over time (Bergner, 2020). Ren and Xu (2022) discuss the links between entrepreneur, leadership and organizational technological innovation, revealing the associations between good leadership and wide-ranging technology innovation initiatives. The gender issue is also discussed in relation to leadership and leadership skills; for example, some authors deal with gender and the age of entrepreneurs, underlining how these aspects can affect the management approach (Lechner et al., 2018). The autonomy of the entrepreneur is another element that is considered of fundamental importance to both good business performance and the job satisfaction of the entrepreneur himself. In this regard, Alvarez and Sinde-Cantorna (2014) discuss the link between self-employment and job satisfaction, revealing that "the usual positive effect of self-employment on job satisfaction is due to the greater work autonomy afforded by self-employment, and not to the greater willingness of the self-employed to report higher levels of satisfaction" (p. 688). Another aspect that scholars take into account when dealing with entrepreneur leadership capacity is the context in which the company operates; Hazlina Ahmad et al. (2010) suggest that the link between entrepreneurial skills and business success is particularly evident in environments characterized by strong dynamism and competitiveness rather than in stable and apparently favourable contexts. In particular, this is investigated in small and medium-sized enterprises, more linked to the local environment, and where the role of the owner/entrepreneur is even more pivotal, highlighting that aware, motivated, and competent entrepreneurs can be concretely able to minimize or contain the negative impacts due to environmental dynamics on the company's activity. Similarly, Branicki et al. (2017) declare that, to promote the resilience of SMEs, it is necessary to "pay greater attention to building capacities to cope with uncertainty, generating and leveraging personal re-

lationships, and activating the ability to experiment and think creatively in response to crises" (p. 1244). Finally, Qureshi (2020) focuses on the relationship between employees and entrepreneurs, emphasizing the importance of emotional intelligence and the creation of empathic relationships as a lever for achieving successful performance.

### *2.2.1 Research stream 2 – Entrepreneur's role in circular economy*

Referring to the capabilities of the circular entrepreneur, the additional element identified in the literature is represented by the collaborative skills, namely the ability to create relationships to support circular innovation (Aaboen et al., 2017; Pagano et al., 2018). Indeed, inter-organizational collaboration is considered a strategic key to support the transition to the circular economy (Den Hollander, 2018; Baldassarre et al., 2019; Greco et al., 2020; Branca et al., 2020; Eisenreich et al., 2021). Therefore, the entrepreneur's leadership skills are fundamental to develop and assess the collaborative- and system-oriented business models in the process of transition (Brown et al., 2021) and to determine how to integrate ecosystem perspectives into circular-oriented innovation (Konietzko et al., 2020).

Furthermore, some scholars highlighted the importance of social ties in the development of innovative ideas, which are essential to fostering the culture of circular economy practices (Dantas et al., 2022). In order to implement co-production practices and knowledge sharing and, therefore, to realize new circular products and services (Potting et al., 2017; Zucchella & Urban, 2019; Hettiarachchi et al., 2022), circular entrepreneur can involve various external actors such as associations, research institutes, other companies, and local authorities (Eisenreich et al., 2021).

Finally, development of relationships outside and within the company is considered one of the main responsibilities of circular entrepreneurship (Zucchella & Urban, 2019). In particular, recent studies highlighted the importance of combining different skills and education backgrounds to create new circular opportunities through collaboration (Martínez-Pérez & García-Villaverde, 2019). In addition, the debate focused on internal collaboration and multidisciplinary of knowledge and skills within a circular company which can positively influence the innovation processes (Schaltegger & Wagner, 2011).

## **3. Methodology and research process**

The literature review allowed to identify a set of issues to be further investigated empirically. To perform the analysis, the method of the multiple case study was adopted through semi-structured interviews with a

group of Italian circular entrepreneurs. To identify the representative case studies, the authors started from the Italian Atlas of the Circular Economy, an online platform collecting information and reporting on companies, associations, and research organizations and promoting the circular economy and sustainability. This platform was chosen to observe different circular entities operating in Italy. Italy was considered a representative context since it is in a high position in terms of circular performance at an international level (Circular economy network, 2023). The Italian Atlas of the Circular Economy is based on guidelines developed and validated by the internal scientific committee supporting the platform, which, through a multidisciplinary approach, has defined a set of evaluation criteria for measuring circularity. The Atlas provides a descriptive data sheet for each organization, related to the company profile, the story, the circularity, and sustainability policy. In detail, to shape the dataset, an invitation to take part to the study was sent to all the firms listed in the Atlas (almost 200), through an email containing the objectives and summary of the study. 10 firms accepted the invitation. Each data sheet was individually analyzed by each author to limit possible mutual influences. Then, a joint evaluation was done. The analysis led the authors to detect the main characteristics of the circular enterprises (geographical location, sector, circular output/practices, target, type of reality, the age of approach).

To perform the analysis, the authors adopted a multiple case study method through semi-structured interviews, since this method allows researchers to analyze in depth and derive hidden information in each representative example (Eisenhardt, 1989). Furthermore, this methodology is considered one of the most appropriate approaches for the as-yet unexplored research topics and helps to answer the questions (Butt 2022a; Welch et al., 2011), with special reference to social science areas (Bradford & Cullin, 2012). The interviews were conducted from March to June 2023 and through online meetings. The interviews transcripts were analyzed individually by each author, to avoid any bias, and then jointly, in order to identify the key topics mentioned by the respondents in line with the categorization emerged from the literature review (see Table 1 and Table 2).

*Table 1 Investigation elements*

Areas	Topics	Interviews topics
Company profile	Size Turnover Sector Type of business Stage of development of circular economy Percentage of circular products offered by the company	Company information, regarding size, industry, type of business, stage at which the company became circular and circular products.

Entrepreneur/founder profile	Gender (Zhang et al., 2009; Sharma & Sahni, 2020) Age (Zeffane, 2013; Butz et al., 2018; Cao et al., 2022) Education (Zhu et al., 2020).	Personal information of circular entrepreneurs, regarding gender, age and the level of education.
Entrepreneurial intention (personality)	Sensitivity to environmental issues and social responsibility (Welter et al., 2017; Zucchella & Urban, 2019; Sawe et al., 2021). Passion: creativity propensity for change, growth competition (Obschonka et al., 2019; Pagano et al., 2018). Personal ambitions, greater autonomy and fulfillment (Zucchella & Urban, 2019; Zhu et al., 2020).	Focus on the presence of a strong sensitivity to environmental and social responsibility issues, strong passion and propensity for creativity, innovation, pursuit of changes dictated by the external environment, and personal ambitions dictated by the achievement of greater autonomy and the need for fulfillment.
Entrepreneur's role (skills/competences)	Educational background of the founders (Bergner, 2020) Collaborative skills (partner identification, collaboration management) (Schaltegger & Wagner, 2011; Zucchella & Urban, 2019; Qureshi, 2020; Eisenreich et al., 2021). Leadership skills and management of knowledge, skills and abilities in governance (Forster et al., 2013; Potting et al., 2017; Zucchella & Urban, 2019; Hettiarachchi et al., 2022; Hussain et al., 2023).	Focus on the educational background of circular entrepreneurs, and on the presence of leadership and management capabilities of various knowledge, skills and abilities present in governance.

### 3.1 Dataset description

In this section, the 10 circular enterprises are described in brief: these firms are located in different Italian areas and operate in various sectors, such as hygienic-cosmetic, textile-clothing, furniture, trade and flea markets, platform sharing, second raw material, and agriculture and animal husbandry. Some of them were born circular, while some others adopted a circular economy approach at a later stage. The age of approach indicates at what point in its life the company approached circularity: almost all among the companies involved in the study, with the exception of one, were born circular; while the circular output represents the type of circular practice adopted by the company, as classified by the Atlas: they mostly adopted circular production models.

In the following lines the firms involved in the study are presented, namely, Giunko, Aquafil, Ecozema, APS Maistrassà; Rifò, Reware, Terra di tutti; Lavandula, Nuove Tecnologie di Marinella Caria & C., and Ammanò.

Giunko is an innovative company in the platform sharing and mobile app exchange sector. This enterprise has developed the Junker app, which facilitates household waste collection, supporting circularity practices

through the collection and recommendation of collection/recycling/reuse points present in specific territories, also in line with the principles of the smart city. This app recognizes each product by its barcode and packaging symbols, describing its material and in which bin it should be separated according to the rules of the municipality in which it is located. Therefore, the app will provide, through localization, the exact local information. When a product is not recognized, the app allows a photo to be taken. Within a few minutes of receiving a response, the product is added to the database. Today, this app reaches five million Italians.

Aquafil operates in the second raw material sector, developing products and industrial processes with a highly innovative character. The group promotes an innovative business model based on the principles of the circular economy. Aquafil has created the Econyl® Regeneration System, a production model that allows virgin raw material of non-renewable origin to be replaced with secondary raw material derived from the recycling of various wastes including end-of-life fishing nets, carpet fluff, and others. This system makes it possible to recover waste that would end up in landfills or in the oceans, causing serious damage to the natural ecosystem, and to significantly reduce the greenhouse gas emissions associated with the production of virgin caprolactam.

Ecozema operates in the packaging and wrapping sector. Its mission is to create quality, environmentally friendly, and socially sustainable products. This idea is aimed at all sectors of activity, from the household to the catering industry, with a view toward safeguarding the planet and caring for the end consumer. The company's vision is, in fact, to help the planet be a better world to live in using biodegradable and compostable biopolymers derived from renewable plant resources, recycled plastics from post-consumer waste sorting, and green energy.

APS Maistrassà operates in trade and flea markets. It is a centre for the recovery of reusable goods otherwise destined to become waste. The 'recovered' goods are made available through a free offer to anyone who needs them or who is interested in reuse practices. The company collects furniture, household appliances, electrical and electronic equipment, bicycles, and toys that are clean, in good condition, and functioning. Furthermore, the aim of Maistrassà is the formation of job-creating micro-economies through the activities of maintenance and creative reuse.

Rifò operates in the textile and clothing industry. The company regenerates noble textile fibres such as cashmere, using a proven technology that has been present in the Prato district for more than 100 years. Rifò artisans carefully select textiles by colour. The textile scraps are then shredded, reconverted into wool fibres, and transformed into yarns, to be made into tasteful accessories with an exceptional saving of natural resources. The accessories are packaged in a manner that avoids the overstocking of raw materials, stockpiling, and incurring the error of overproduction.

Reware operates in the electronics sector. It is a social enterprise recognized within the framework of environmental prevention for its specialization in the field of scale remanufacturing of discarded computer equipment from companies. Reware intercepts decommissioned computers before they become premature waste, disassembles them, tests the components, securely erases the data, and rebuilds machines that can be used for many years. The company aims to halve the environmental impact of the waste generated by this equipment, as remanufactured computers avoid the purchase of new computers.

Terra di Tutti operates in the stationery sector. Its entire production is based on circular economy principles: All handicraft products are made from discarded materials. The procurement of materials and resources takes place by contacting private individuals and companies that donate discarded materials or objects/clothing/fabrics that are no longer used. The company produces notebooks, pencil cases, T-shirts, backpacks, bags, and various products made from regenerated broken umbrellas, chairs, and wooden objects. All products are made by refugees and vulnerable people involved in the project, using discarded materials.

Lavandula operates in the hygienic-cosmetic sector. With its products, it seeks to tell the story of the area in which it is located, namely, Cilento. The products are the result of the study of active ingredients and/or Phyto complexes to be applied to natural and eco bio cosmetic formulas. The company uses by-products from the agro-food chain to create cosmetic lines with special claims built around the active ingredient, turning what is considered waste into a resource and job opportunity for others inside or outside the company. The company's activity revolves around three areas: spontaneous officinal plants, ancient local cosmetic recipes, and the use of agro-food waste as a source of molecules for cosmetic application. Indeed, the raw materials used are ecobio and, as far as possible, km0.

Nuove Tecnologie di Marinella Caria & C. operates in the furniture sector and engages in production in an eco-friendly manner, promoting the purchase of environmentally friendly products, the restoration of furniture and furnishings, and the recovery of waste materials. The company's aim is to extend the end-of-life of products as much as possible. Everything that is considered waste, small or large offcuts, is not thrown away but, rather, sent for artistic processing. Leftover materials that cannot be used immediately are stored for future use or exchanged with other companies.

Ammanò operates in the agriculture and animal husbandry sector. Its objective is to build a rural entity of agricultural, tourist, and educational nature, in which all activities are in synergy for the creation of a self-sufficient system. Every aspect of daily and professional life is aimed at enhancing the territory where the enterprise is located, as well as its traditions and potential, with a view toward having a low environmental impact. It will be an

entity ready to welcome and disseminate cultural and social projects. In this entity, every bit of waste in agriculture is a resource for the business itself.

The table below summarizes the main characteristics of the circular enterprises. Specifically, apart from geographical location, sector, target and type of entity, the circular output represents the type of circular practice adopted by the company while the age of approach indicates at what point in its life the company approached circularity.

*Table 2 Characteristics of the firms involved in the study*

<b>Category</b>	<b>Giunko</b>	<b>Aquafil</b>	<b>Ecozema</b>	<b>Maistrassà</b>	<b>Rifò</b>
<b>Geographical area</b>	North	North	North	North	Central
<b>Sector</b>	Platform sharing and mobile app	Second raw material	Packaging and wrapping	Trade and flea markets	Textile and clothing
<b>Circular output</b>	Raw material seconds	Circular service	Circular production model	Circular service	Circular production model
<b>Target</b>	B2C B2B	B2B	B2C B2B	B2C	B2C
<b>Type of entity</b>	Profit	Profit	Profit	Non-profit	Profit
<b>Age of approach</b>	Early	Growth	Growth	Growth	Early
<b>Category</b>	<b>Reware</b>	<b>Terra di Tutti</b>	<b>Lavandula</b>	<b>Nuove Tecn. Marinella Caria &amp; C.</b>	<b>Ammanò</b>
<b>Geographical area</b>	Central	Central	South	South	South
<b>Sector</b>	Electronics	Stationery	Hygienic-cosmetic	Furniture	Agriculture and animal husbandry
<b>Circular output</b>	Raw material seconds	Circular production model	Research project	Circular production model	Circular production model
<b>Target</b>	B2C B2B	B2C B2B	B2C B2B	B2C B2B	B2C
<b>Type of entity</b>	Profit	Profit	Profit	Profit	Profit
<b>Age of approach</b>	Early	Early	Early	Growth	Early

*Source: Authors' elaboration on data from the Italian Atlas of the Circular Economy*

## 4. Findings

### 4.1 *Company profile*

As concerns the company profile, the interviews provided further information about the size, turnover and percentage of circular products. Most of the companies analyzed are small (less than 10 employees), with a revenue of less than EUR 2 million when they became circular, apart from two companies in which the number of employees is higher (between 10 and 49 employees for the first, less than 250 employees for the second), with a revenue lower than 2 million of Euros for one company and between 2 and 10 million of Euros for the second. These companies are strongly characterized by circular economy practices. Indeed, almost all of them have more than 70% circular products in their portfolio.

Regarding the profile of the entrepreneurs, they are almost evenly distributed according to gender, and most of them are 31 to 50 years old. Many have a secondary school education, followed by a university degree and, in a few cases, also a postgraduate degree. In addition, the number of founders characterizes these circular enterprises, as the majority have five founders, followed by three and two founders.

### 4.2 *Entrepreneurial intention*

With reference to the entrepreneurial intention (personality) - related to sensitivity to environmental and social issues, passion, ethical values, and personal ambition - from the interviews it emerges that the circular entrepreneurs are characterized by a strong sensitivity to environmental issues and social responsibility, a trait considered essential or very important for the whole group of interviewed (apart from one respondent). As evidence of this, some quotes from the interviews are listed below (the interview transcripts have been translated from Italian to English, making the translation as adherent as possible to the original one):

- "Our guiding principle, from where all our ideas originate and come to life, is respect for the world where we live and for the people who inhabit it and will inhabit it in the future. Today we can no longer put off our commitment to safeguard the planet." (Ecozema).
- "Our planet is no longer able to sustain the unbridled pace of fast fashion. It is therefore necessary to create sustainable alternatives for a better future, and that is exactly what we do every day." (Rifò).
- "We limit environmental impact through the prevention of e-waste production, also in the context of national and international cooperation and solidarity projects." (Reware).
- "Our vision is to achieve a sustainable future through one choice at a time, driven by responsibility." (Aquafil).

Entrepreneurs are strongly driven by passion, a propensity for creativity, innovation, and propensity to follow market changes. These aspects are considered highly important. In fact, from the interviews, it emerges that:

- "We are always excited, passionate and proud to carry out our mission and to see our materials come to life in the real world. We are conscious innovators." (Aquafil).
- "We invest in research and training through innovative solutions that exceed market standards and create value and sustainability." (Giunko).
- "Innovation and creativity are at the core of our mission." (Rifò).
- "Changes in the markets have stimulated the company to continue researching and developing products that meet the needs of the catering industry, both collective and traditional." (Ecozema).
- The results of the interviews also highlight the ethical values that drive the behavior of circular entrepreneurs as solidarity with the disadvantaged and environmental protection:
- "We provide goods to socially distressed persons and/or organizations pursuing social purposes" (Maistrassà).
- "We offer programmes for the social reintegration of disadvantaged people" (Ecozema).
- "The products and services we provide leverage performance and reduce global impact, thus ensuring better environmental protection" (Aquafil).
- "We turn into a resource of what farmers considered a waste to be disposed of with high environmental and economic costs" (Lavandula).

The last aspect of entrepreneurial intention is related to personal ambitions. The analysis of this aspect allowed for detection of the entrepreneur's attitude regarding pursuit of the achievement of greater autonomy and self-fulfillment. They displayed a strong commitment to offer new opportunities in circularity. Only in three cases (Giunko, Terra di tutti, Ammàno) these aspects were not considered important. Some evidence is provided below:

- "We are down-to-earth visionaries. We want to create our history" (Aquafil).
- "I would like to be a spokesman for all natural and cultural resources, working in harmony with them, in the awareness that man is the guardian of this heritage" (Lavandula).
- "We want to revolutionize the fashion industry by making a real positive change" (Rifò).

### 4.3 Entrepreneur's role

As concerns the entrepreneurs' role (competences and skills), the analysis revealed several very relevant aspects; in particular, the educational background, and organizational and leadership skills.

A scientific background prevails, in some cases combined with sectoral expertise and humanistic skills, as emerging in the following quotes:

- "When I started my company's circular economy approach, my educational background was based on scientific skills and studies" (Lavandula).
- "Our educational background was scientific (engineering, chemical, etc.) and humanistic (economics, law, etc.)" (Giunko).
- "The educational background that characterized us was scientific and also related to the company's sector" (Nuove Tecnologie di Marinella Caria & C.)

In general, the interviews reveal a strong heterogeneity in the skills of circular entrepreneurs both academic and work-related, considered fundamental to the development of circular economy practices. Almost all the entrepreneurs agreed on this, except for two respondents (Ecozema, Giunko).

Regarding the leadership skills, the interviewees consider organizational skills and capabilities to be very important, with particular reference to the ability to manage the different knowledge and skills present in the governance.

Similarly, collaborative capacity, understood as identifying partners to develop circular practices and managing collaboration, is essential for all interviewees:

"With empathy and collaboration, we set new standards, inside and outside of our comfort zones. We intend to actively involve our stakeholders to create and spread a real culture of sustainability. We also want to support local communities through various collaborations with NGOs in the territories where we operate." (Aquafil).

"The values that we preserve are cooperation with both internal and external actors, and customer orientation, with whom relationships of mutual exchange and trust are established. We collaborate with a number of trade fairs and with a cooperative of disabled young people." (Ecozema).

"Our cooperative initiates collaborative programs with major players in the sector." (Reware).

"We collaborate with local artisans to increase the skills of the most disadvantaged people in the area, valuing traditional knowledge and everyone's different skills and talents. We intend to give birth to relationships, entanglements, ideas, objects." (Terra di Tutti).

## 5. Discussions

From the results of the analysis, some important characteristics emerge that seem to distinguish the circular entrepreneur.

### 5.1. *Passion, creativity, and innovation attitude*

From the results it emerges that passion, driven by a strong interest and sensitivity in environmental protection and social issues, is an essential trait of the personality of circular entrepreneurs. As underlined in the literature passion is a crucial factor that influences entrepreneurs behavior, and that pushes him/her to be ready for change, competition, and innovation, namely to do business (Obschonka et al., 2019, Newman et al., 2021; Pagano et al., 2018). In line with this, all the interviewed appear to be strongly driven by a propensity for creativity and innovation and consider it an essential trait of the circular entrepreneur. This is not surprising considering that circular companies are important actors of change and innovation and very often promote innovative solutions within the entire supply chains. In fact, the entrepreneurs involved in the study are conscious of their role, as reported by companies as Ecozema, Aquafil and Rifò, and as also highlighted in the scientific debate which describes the ability to support innovation as a responsibility of the circular entrepreneur (Zucchella & Urban, 2019).

In the interviews, commitment to preserving the natural environment is identified as a meaningful goal in its own right, rather than merely subordinate to economic activities. These personality traits emerge in the debate (Welter et al., 2017; Zucchella & Urban, 2019; Sawe et al., 2021) and confirm the presence of ethical values in the circular founders, as declared by firms (e.g. Ecozema, Rifò, Reware, Aquafil, Lavandula, Maistrassà). An interest in the environmental crisis and a sense of responsibility for implementing industrial activities respectful of social well-being and inclusive of social sharing and solidarity practices are important characteristics of circular founders as stated by Reware, Rifò, Ecozema and Aquafil, and as emerged in the scientific debate (Schaltegger & Wagner, 2011; Lans et al., 2014).

However, the research does not reveal differences in the personalities of the founders of the circular companies related to gender and age issues, as the literature on entrepreneur gender detects (i.e., Zhang et al., 2009; Sharma & Sahni, 2020), as well as for young entrepreneurs (i.e., Zeffane, 2013; Butz et al., 2018; Cao et al., 2022).

In summary, circular entrepreneurship seems to be the result of processes of passion for the topics of environmental or human dignity (Rok & Kulik, 2021). This passion elicits the will to contribute to sustainable development. Further, it allows for the integration of different knowledge, in which new ideas are fueled by the exchange of the different skills of the

founders (Martínez-Pérez & García-Villaverde, 2019), expanding the social role of companies by creating innovative initiatives as well as favoring the dissemination of knowledge and awareness of the importance of adopting a responsible and sustainable approach. Passion also encourages continuous experimentation and research into process and product solutions that can help reduce the environmental impact of industrial activities and improve quality of life.

## *5.2. Personal experience (skills and competences)*

The research underlines the awareness of the interviewees (for example Aquafil and Ecozema) about the importance of internal and external relationships in supporting innovation. The interviewees also express the importance of leadership capacity in managing knowledge and skills within the circular company's governance. In fact, the present research shows that different technical and scientific competencies are essential in the background of a circular entrepreneur (as emerged from the interviews with Lavandula, Giunko, Nuove Tecnologie di Marinella Caria & C). This is mainly due to the high level of innovation processes that characterizes the circular companies. The importance of training, education, and skills, built over time, emerges in several studies (Forster et al., 2013; Bergner, 2020); other researchers have asserted that the capacity to integrate different competencies is a key element of circular entrepreneurship (Baldassarre et al., 2019) and multidisciplinary is a driver of circular innovation (Schaltegger & Wagner, 2011), adding that the multidisciplinary of knowledge and skills is considered fundamental to the passage from individual knowledge to the assimilation, transformation, and exploitation of knowledge at the organizational level (Schaltegger & Wagner, 2011). This aspect should be deepened in the future due to the important managerial implications deriving from it.

With reference to the empirical analysis, it emerges the relevance of collaborative skills. In fact, the inter-organizational collaboration capability is considered essential to the circular entrepreneurship (as suggested by Aquafil, Ecozema, Lavandula, Reware, Terra di tutti). Such a result is also in line with several studies. This capability supports the transition to the circular economy (Den Hollander, 2018; Greco et al., 2020; Branca et al., 2020; Eisenreich et al., 2021) as the integration of the ecosystem perspective into circular business models (Konietzko et al., 2020). Besides, it emerges that not only inter-organizational collaborations, but also social ties are essential for circular companies. Indeed, the interviewees witness the importance of enhancing ties with the local community and involving different stakeholders in supporting co-production practices, knowledge sharing, and realizing new circular products and services (Terra di Tutti,

Aquafil, Lavandula), confirming the outcomes of several studies (Potting et al., 2017; Zucchella & Urban, 2019; Hettiarachchi et al., 2022; Eisenreich et al., 2021).

## 6. Implications and conclusion

From this analysis, some institutional implications can be deduced regarding the actions and the policies that can be implemented to support the passion, personal experience, and innovation attitude of the circular entrepreneur. Indeed, policymakers can effectively support environmental education to raise awareness among citizens and communities about a major responsibility and to pay attention to environmental topics and good governance of territories. Also, from a larger perspective, policymakers can support the development of sustainable education and training in the common values of equity and respect for others, future generations, diversity, the environment, and Earth's resources. It can be deduced that education can encourage citizens and future entrepreneurs to focus on and develop a passion for environmental and social issues by forging them to the ethical values of sustainable development (Zucchella & Urban, 2019; Rok & Kulik, 2021; Monciardini et al., 2024). In this context, different actions are possible, from workshops, forums and public events to specific study programs in schools.

Second, policies could support the training of human capital in scientific and technological skills, i.e., many entrepreneurs have an educational background in STEM disciplines (science, technology, engineering, and mathematics) (Bergner, 2020; Zhu et al., 2020). Investing in education appears to be an essential condition for supporting the development of industrial processes based on innovation, such as circular economy models. At the same time, education represents an important premise for helping to improve the quality of life of people, reducing the environmental impact of industrial activities, and intervening with regard to inclusion and social cohesion (Welter et al., 2017; Zucchella & Urban, 2019; Sawe et al., 2021).

Finally, to support creativity and innovation propensity, the role of policies in nurturing the encounter between actors, especially within the same territory, emerges as highly relevant, above all in supporting the exchange between complementary knowledge and stimulating the development of specific skills.

The transition toward a circular economy requires entrepreneurs who implement these practices. Therefore, there is a need for studies that deepen this topic. From a theoretical perspective, the analysis highlights the opportunity to delve deeper into the weight of gender and age in the profile of the circular entrepreneur, since the scientific debate underlines the relevance of these profile factors (Zhang et al., 2009; Sharma & Sahni, 2020) but

the analysis does not reveal differences in the personalities of the founders of the circular companies related to gender and age issues, as well as for young entrepreneurs.

In addition, even if the debate and the empirical results underline the relevance of entrepreneur's skills and competences when dealing with implementing circular economy initiatives, the studies providing suggestions and recommendations to managers and professionals are still scarce and need to be deepened.

While further investigations are recommended for these aspects, our research aims at contributing to reduce this literature gap. In particular, the study had two main purposes: (1) to explore the main traits of the personality of the circular entrepreneur and (2) his/her ability to manage and support circular practices.

Based on the data collected, it can be deduced that the personality of the entrepreneur is an important element characterized by a specific trait defined herein as a passion for environmental issues and an interest in social issues. Another element of his/her personality is a focus on growth, change, and innovation. The propensity toward creativity and innovation appears marked in these entrepreneurs, though more insights are needed, including in relation to gender differences, which this analysis did not find, unlike earlier literature.

Integration of different backgrounds and skills are common elements in the cases analyzed, and the capacity to integrate different competencies inside the company is a key element of circular entrepreneurship, as the integration of the ecosystem perspective into circular business models. Hence, the study contributes to the debate by providing policy implications for circular entrepreneurship and suggesting future research trajectories aiming to enlarge the debate on the circular entrepreneur and his/her role in the development of circular economy initiatives and practices.

The results are not supported by any representative and comparable indices, which might be considered a serious limitation of this study. Also, the study covers only circular entrepreneurship based in Italy. Therefore, an in-depth analysis of proper measures and a comparable analysis of different regions might be considered in further research.

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