

## RESEARCH ARTICLE

# Green entrepreneurship in the context of environmental changes, cultural dynamics and capital forms: A research on European Green Capitals

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## ABSTRACT

This study investigates how green entrepreneurship is shaped by environmental changes, cultural dynamics, and forms of capital, focusing on their impact on entrepreneurs in a city designated as a "green city" by the European Green Capital Award. Using a qualitative research approach, data were collected through in-depth interviews and observations with green entrepreneurs in Essen, Germany. The data were analyzed using MAXQDA 2022. Findings reveal that the city's green status significantly influences entrepreneurs' decisions to adopt green business practices, with environmental awareness playing a key role. Green entrepreneurs not only recognize environmental changes but also embrace the sustainability culture of their city. Additionally, specific forms of capital contribute to their business success. These results offer recommendations for entrepreneurs, policymakers, and society to support and promote green entrepreneurship.

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## INTRODUCTION

Realizing that the environment changes over time and is damaged due to human activities has shown that steps should be taken in this direction. The environmental changes people perceive through their five senses such as air, sea, soil pollution, climate fluctuations, and the diseases they bring along have begun to manifest themselves effectively. This situation, which has grown over time and affected the world globally, has been reflected in the world's public opinion within the framework of global environmental problems. Realizing that environmental changes are an issue that needs a solution has enabled this issue to be addressed in national and transnational activities.

On the other hand, states aim to carry out certain activities to protect their countries' natural resources and keep the land they will leave to future generations green. These activities are tried to be implemented in every city, especially in cooperation with local governments. More economically developed countries are taking clear steps in this regard. In this way, the cities of developed countries have turned into more sustainable green cities. The city of Essen, Germany, is one of examples of this transformation.

Societies, the main factor for the continuity of green cities and green life, need to be aware of the environment. With the national and transnational studies carried out in this

direction, awareness has begun to be raised about the environment and green activities, especially in certain societies. These awareness-raising activities within society are important for sustainability. Cultural dynamics enable the cultural knowledge in society to transform into a structure that shares sustainability. A society evolving in this direction will not harm the environment and will also stand against the practices that would harm the environment. In this way, the consumption culture people adopt for their unlimited needs will change. While changing needs along with culture will alter economic activities, they will bring to the fore entrepreneurs who are environmentally conscious and see change as an opportunity.

With this change, entrepreneurial activities prioritizing environmental responsibility for different reasons have been described as "green entrepreneurship." Today, there are businesses in many sectors that adopt environmental principles. However, these businesses need capital for their development. In addition, green entrepreneurship, unlike others, needs more natural capital. In addition, changes in the world also provide opportunities for different sources of capital. One of these types of capital is foreign capital. In particular, migrations provide opportunities for the global mobility of foreign capital in the world.

In addition to migrations worldwide due to economic reasons and other factors, there is a discussion about the increasing

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trend in climate-induced migrations over time. For this reason, it is essential not to ignore immigration policies and studies addressing this issue. Germany, the sample of this study, is a country with intense immigration. It also holds a unique position for this reason.

This study aims to examine how green entrepreneurship is shaped in the context of environmental changes, cultural dynamics, and capital forms, and to investigate the impact of these factors on entrepreneurs operating in a city with the title of a green city. The study utilized the qualitative research method to achieve this aim. The data obtained through qualitative data collection was analyzed with the MAXQDA 2022. The findings obtained from the research have shown that the green city is important, that long-term activities are behind it, and that the development of green entrepreneurship cannot be reduced to a single factor. For this reason, it has been suggested that cultural codes should be brought to the fore in the green entrepreneur typologies to be put forward in the future. In this context, various suggestions have been presented to researchers.

## LITERATURE REVIEW

### Green Entrepreneurship

The concept of entrepreneurship was introduced to literature by Richard Cantillon in 1755 [1, 2]. The study of the phenomenon of entrepreneurship by different branches of science has made it possible to consider the content of the concept in a broad framework. Different definitions made in this direction have led to the emergence of new types of entrepreneurship. The most striking type of entrepreneurship is green entrepreneurship, which includes the fight against environmental problems. When a literature review of the concept of green entrepreneurship is made, it is accepted that the concept is in its infancy and does not have a universal definition [3].

The concept of green entrepreneurship is discussed by Schaper (2016) [4] in a broad framework that covers social and environmental activities in every field, regardless of sector. In this regard, the concept of green entrepreneurship can be defined as the establishment or operation of for-profit businesses to optimize the returns of economic, social, and environmental capital that ultimately create environmental benefits by providing green goods or services [5, 6, 7]. Because green enterprises vary depending on factors such as the size of the business, the culture in which the business operates, and so on. In studies on green entrepreneurship in large companies the benefits of being green are discussed from various perspectives such as cost efficiency, innovation offsets, reduction of pollution costs, relevant revenue increase through product differentiation, increased transparency, reduced organizational inertia, better risk management, and improved relationships with external stakeholders. Small entrepreneurs, on the other hand, prefer to be green within the logical framework [8, 9, 10].

There are certain elements in the development of green entrepreneurship. These elements are: Gender [11, 12], government policies [13], economic and social justifications [14], "go green" motto [12], reduction in resources [6, 15], CSR activities [6, 16], reducing energy dependency [17], sustainable development [18], consumers' demand [19], green partnerships [20], institutional factors [21], and social and environmental innovations [21].

The best examples of the concept of "creative destruction" put forward by Schumpeter (1934) [22] in the field of green

entrepreneurship today are green entrepreneurs. The concept of green entrepreneur refers to innovative entrepreneurs who attach value to the environment and try to compete in the market accordingly [23]. However, there is no clear definition of green entrepreneurs. The concept of green entrepreneur can become clearer, especially by examining green entrepreneur typologies and revealing the different characteristics of green entrepreneurs. Studies in the literature have identified various green entrepreneur typologies. The most well-known of these are Taylor and Walley [24, 25], and Linnanen [26]. These studies reveal the characteristics of green entrepreneurs, why they choose green entrepreneurship, and the driving factors that direct them [4, 27, 28].

There are driving or hindering forces that cause entrepreneurs to choose green entrepreneurship. In their study, Vatanserver and Arun (2016) [29] stated that many factors push individuals to green entrepreneurship, but some are time relativity, relatedness, and altruism. In addition, eco-innovation, competitive advantage, product differentiation, state support, and government are considered the driving forces of green entrepreneurship [10, 29, 30].

On the other hand, government and legislation can sometimes be seen as obstacles to green entrepreneurship. Linnanen (2002) [26] expresses obstacles to green entrepreneurship as difficulties in creating a market, financial barriers, and ethical justifications for existence. At the same time, issues such as lack of technology and research and development (R&D) are obstacles to green entrepreneurship and vary from country to country. Although it is stated that some obstacles are universal, cultural differences are among the country-specific obstacles [5, 31, 32].

There are concepts that green entrepreneurship is affected by many factors and, therefore, needs to be considered together in a broad context. These concepts are expressed as the green economy, green management, green jobs, green marketing, green policy implementation, eco-innovation, eco-tourism, green star, blue economy and blue entrepreneurship, energy, and sustainable energy. The content and applications of these concepts are primarily included in European countries. The European Union (EU) is working intensively for sustainable development towards a green economy and is one of the world leaders striving for climate protection and goals. Countries within the EU focus on climate change and green management for the Sustainable Development Goals. The EU works under the umbrella of a program by providing cooperation and integration to create a green economy [33].

While activities aimed at developing the green economy, such as climate change and green management, are given importance within the European Union, each country also has separate studies within the scope of Green European Integration. In this context, countries and cities carry out sustainability studies [34, 35]. One of the most notable applications is the European Green Capital Award. The green cities selected every year since 2010 are listed in Table 1, respectively.

The cities in Table 1 strive to support the reduction of CO<sub>2</sub> emissions through climate changes, the development of public transportation and bicycle paths, and to become green cities by carrying out eco-innovation-supported studies. Especially when examining the studies carried out in these cities, a bond between the city and its residents has been established, and "active participation" is emphasized as an important point. In this context, cities, especially in Europe, are leading the way with the entrepreneur-citizen equation, and each city stands out with its different characteristics [36].

**Table 1.** Cities winning the European green capital award

Year	Country	City	Year	Country	City
2010	Sweden	Stockholm	2017	Germany	Essen
2011	Germany	Hamburg	2018	Netherlands	Nijmegen
2012	Spain	Vitoria Gasteiz	2019	Norway	Oslo
2013	France	Nantes	2020	Portugal	Lisbon
2014	Denmark	Copenhagen	2021	Finland	Lahti
2015	United Kingdom	Bristol	2022	France	Grenoble
2016	Slovenia	Ljubljana	2023	Estonia	Tallinn

Resource: [https://environment.ec.europa.eu/topics/urban-environment/european-green-capital-award/winning-cities\\_en](https://environment.ec.europa.eu/topics/urban-environment/european-green-capital-award/winning-cities_en)

**Environmental Changes**

The change in the environment started with the desire to shape the environment since the existence of humanity [37]. In particular, the industrial revolution, rapid population growth, and the resulting migration caused environmental changes and moved to a global scale [38, 39]. In short, intense economic activities lead to increased extraction of natural resources, destruction of natural habitats, and significant pollution of the natural environment [40]. For this reason, it can be stated that there is an important relationship between the economy and environmental changes. Green economy, one of the most talked about concepts in recent times, and green entrepreneurship, which enables the formation of a green economy, are related to environmental changes [41]. It is stated that entrepreneurial activities that are environmentally conscious turn into green enterprises, making a positive contribution to environmental changes.

The physical environment in which environmental changes are addressed consists of soil, water, and air ecosystems. The problems occurring in these ecosystems form the basis of the issue. Problems occurring in soil, water, and air create the environmental perception [42]. In this regard, it is necessary to look at the environment ecologically. The concept of ecology is synonymous with the concept of economy with the increase in sustainable development studies. At the same time, the concept of economy comes from the same root as the concept of ecology. The concept of "oikos", which means house in Greek, is also at the basis of the term eco-nomy [43].

It can be said that many concepts on the social level, such as economy, are related to environmental changes. Issues related to the environment and effectiveness in shaping the environment are poverty, population, education, and political decisions [44, 45, 46, 47]. Considering the context, it can be stated that environmental changes are not the same everywhere. Environmental issues underlying environmental changes are air pollution, waste management, water pollution, sewage, even odor, noise [48, 49], and so on.

Environmental problems, which have been discussed since the 1950s, began to be accepted as a global problem after the 1970s [50]. In addition to global warming, other global environmental problems are desertification, decrease in biodiversity, deforestation, destruction of the ozone layer, acid rain, air, water, and soil pollution, hazardous waste, depletion of natural resources, sea and ocean pollution, acidification of the oceans, etc. [51]. It is important to find solutions to these problems and prevent their occurrence. For this reason, sustainable development and climate policies should be focused on. The first step taken in this context was the Kyoto Protocol [52].

The steps to be taken against global environmental problems must be considered at the individual, business, state, and transnational levels. Activities carried out at each level have a direct or indirect impact on the other level. An individual's adoption of a sustainable lifestyle and reducing the use of plastic in this context will be a factor that affects businesses. Likewise, preparing an international protocol on sustainability affects both states and businesses. For this reason, each environmental problem should be addressed separately and precautions and suggestions for this situation should be evaluated separately. Conducting research on a wide range of solutions and measures, from smart cities to bioenergy, from solar energy to climate engineering, allows us to fully understand and support the issue [53].

**Cultural Dynamics**

Another factor affecting green entrepreneurship is cultural dynamics. Examination of the literature reveals that cultural dynamics have an impact on entrepreneurial activities and small businesses [54].

The concept of cultural dynamics can be defined as "macro-level phenomena of stability and change in the distribution of cultural knowledge within the human population and micro-level mechanisms of social transmission of cultural knowledge that direct the trajectory of cultural formation, maintenance, and transformation". Cultural dynamics are concerned with the formation, maintenance, and transformation of culture over time. What cultural dynamics offer to people or groups is cultural knowledge? Cultural knowledge is one of the things that enables a person to demonstrate cultural competence. At the same time, thanks to cultural knowledge, a person can obtain more accurate information about different cultures and ethnic structures [55].

Cultural knowledge, which also refers to cultural change, is shared within a certain group of people in line with certain processes. The most important thing is the transfer of cultural knowledge. The central mechanism of cultural dynamics deals with how cultural knowledge is transferred from one person to another. In this regard, cultural information is defined broadly as "non-genetic information that can be transferred from one person to another and potentially affect the person's behavior." As shared cultural knowledge becomes widespread in a particular group, it forms a cultural part of that group [56].

The foundations of today's cultural dynamics are also based on cultural knowledge. In this context, the acquisition of cultural knowledge existing in a different culture, the formation of new cultural knowledge, or the change in its effectiveness over time show that the sources of cultural

dynamics are cultural knowledge. At the same time, the decrease or increase, emergence or disappearance of cultural knowledge determines the macro and micro level trends of cultural dynamics. The information that creates culture also paves the way for the development of some prejudices in the minds of individuals, directly or indirectly. The background of this situation may be the social function of cultural knowledge. Cultural knowledge that provides social integration is collectivist values such as traditionalism, security, and conformism. This situation may cause self-protection (against strangers) or the development of prejudices [56].

The transfer of culture within a group or generation causes societies to react in similar ways. In this direction, a group's relationship with the environment is also shaped. The change in cultural transmission occurs by adding new cultural information to the culture. For this reason, cultural knowledge that is incorporated into culture at a certain time and through certain processes is important. The environment and related information need to be incorporated into the culture. At the same time, cultural dynamics can integrate sustainability into a society. Approaches put forward by scientific studies emphasize that cultural content or knowledge can change and suggest transfer mechanisms for this change.

In studies conducted on different cultural values, it has been stated for many years that the change of culture is slow and difficult. However, the growing ties between local cultures and the increasing permeability of cultural borders are changing the nature of culture and transforming its pattern. With the development of communication technology, cultures are becoming more interconnected thanks to global flows that spread around the world at great speed [57].

The issue that needs to be addressed in cultural dynamics is the effects of events on social structure. The basis of the recent development in cultural dynamics is based on globalization. Because globalization makes social relations, objects, structures, places, and information more active in society-related issues [58].

Descriptive cultural dynamics also relate to macro-level trends in the emergence and disappearance of cultural knowledge, along with increasing, decreasing, or steady-state trajectories of cultural knowledge prevalence in a group. Micro-level mechanisms of cultural dynamics provide explanations for macro-level trajectories of cultural change. The level of analysis is usually, but not always, consistent with the time scale. Macro-level-oriented questions generally deal with a longer-term time scale, while micro-level questions are not long-term. Micro-level questions can often be answered in the short term. These are cultural changes over time and cultural transmission processes consist of three steps. These three steps are how new cultural information is introduced to a population, how it is transmitted, and how its prevalence changes [59].

Cultural transfer and cultural change processes that develop depending on cultural dynamics are expected to combat the climate crisis and create a culture of sustainability accordingly. For the measures to be taken against the climate crisis not to remain at low levels, almost all people must adopt them and raise environmental awareness. It is important to spread environmental awareness to a cultural base to create it and transmit it from generation to generation. In this context, some questions arise in our minds. First, the question "How can humanity create sustainability cultures" can be addressed. It is a structure that is believed to be created by a culture of sustainability that is important to humanity, that is,

cultures that emphasize and reward ideas and practices that help reduce our environmental impact while sustaining global human well-being [59].

The only way for societies to face two adaptation challenges – the natural environmental challenges of climate change and the global human challenges of ensuring prosperity for all – is to create a successful culture of sustainability over time. Sustainability cultures that emphasize and reward ideas and practices that help transition to a sustainable lifestyle are considered the way forward. Cultural changes have also begun due to the difficulty of adapting human populations to the changing natural environment. Environmental adaptation may be a genetically linked affinity of humans with nature [60], which may have helped human populations develop harmonious cultures in their local ecosystems. This situation develops depending on different ecosystems in different cultures.

An important part of creating a culture of sustainability is making cultural ideas and practices related to the human-nature connection accessible and encouraging their appropriation through enculturation [59]. For this reason, cultural dynamics should be organized to ensure the formation of a culture of sustainability.

### Forms of Capital

One of the concepts discussed in today's competitive environment is capital. An examination of the literature suggests that the concept of capital is divided into two: tangible capital and intangible capital. Classical material capital and all kinds of intangible capital outside this limit affect the competitive level of entrepreneurs. According to classical economic theory, capital is a material element [61].

Some studies in the literature explain types of capital which refer to commodities that make tangible economic contributions but do not exist tangibly [62]. All elements that are visible to the naked eye, such as land, buildings, and machinery, and liquid, such as money, bills, and bonds, that can be traded in banks, constitute financial and physical (tangible) capital. The concept of capital, which is one of the four production factors and is considered in its first sense, is discussed with names such as financial, and physical. In this context, the group that we can generally define as economic capital prioritizes finance, business organization, and economic growth [63, 64]. Others are cultural capital and social capital. Bourdieu defines economic capital as monetary resources and property that can be directly converted into cash. He relates social capital to actual and potential social network relationships that can mobilize economic and cultural capital [65].

Non-material capital concepts can be classified as intellectual capital, symbolic capital, political capital, information capital, psychological capital, and human capital. In addition, foreign capital, risk capital, and natural (environmental) capital are defined. It is important to consider all these types of capital in entrepreneurship studies. Because, within the scope of entrepreneurship research, each of the forms of capital is given importance. For example, cultural capital considers scholarship [66], and social capital forms the basis of many entrepreneurship studies.

Although it is known that forms of capital interconverting, it can be stated that environmental capital has the power to affect other forms of capital. It has been stated above that natural capital has an important place in financial formation. In addition, the relationship between cultural capital and environmental capital is important within the framework of

sustainability. It can be said that cultural capital, like natural capital, contributes to long-term sustainability [67].

### **Relationships Between Concepts**

Environmental changes are generally addressed in the context of environmental problems today. The main reason for environmental problems is the negative effects of human activities on the environment. Rapid population growth, irregular migration and urbanization, and the industrialization and economic activities that lie behind all of them, have an impact on the ecosystem. For this reason, organizations that carry out economic activities have a major role in solving environmental problems. In this context, integrating the environmental awareness of businesses and entrepreneurs into the organization and production processes and taking steps that also prioritize social needs are gaining importance within the framework of green entrepreneurship [68]. Increasing environmental degradation and the decrease in natural resources required for businesses are also among the reasons for the shift towards green entrepreneurship.

One of the important concepts that is outside the scope of this study but is associated with sustainability today is digitalization. In particular, digital capabilities that also develop human capital, which come to the fore within the scope of this study, facilitate green entrepreneurship with technological adoption and green innovation. In the article discussed by Whang and Zhang [69], it is seen that adopting technology is important in green entrepreneurship and receiving state support in the context of capital.

Environmental problems and the need for their solution are realized through changes. In this context, institutions and organizations assume responsibility [70, 71]. This situation can be addressed particularly through the institutional effects of cultural dynamics. In this case, cultural dynamics provide environmental awareness in all areas of life by influencing the interaction between green entrepreneurship and culture in an institutional context and affecting social layers. In this context, a transformation is achieved in the context of official (constitutions, contracts, case law, government policy, etc.) and unofficial (attitudes, values, norms, beliefs, etc.) establishments [72]. Along with this process, cultural dynamics enable the transformation of cultural knowledge in society into a structure that shares sustainability. A society that develops in this direction will not harm the environment but will also stand against practices that will harm the environment. In this way, the consumption culture that people adopt for their unlimited needs will change. It is expected that the needs that change with culture will change economic activities and bring entrepreneurs who are environmentally conscious and see change as an opportunity to the forefront.

Today, there are businesses in many sectors that adopt environmental principles. However, capital is needed for the development of these businesses. In addition, social networks that provide a better transfer of cultural dynamics provide social capital for entrepreneurs, while changes in the world also provide opportunities for another source of capital, foreign capital. Especially the migrations that are experienced allow foreign capital to be transitive in the global world.

### **METHODOLOGY**

Both qualitative and quantitative research methods can be used in studies on entrepreneurs. However, according to Desmond (2010) [73], researchers should prioritize

qualitative research when studying entrepreneurs. Desmond (2010) [73] recommends using qualitative research as it allows comprehensive observation of entrepreneurs in their natural environment as they carry out their activities. In this regard, the qualitative research method was preferred within the scope of this study to conduct a narrative analysis of the concept of green entrepreneurship and other related concepts.

In qualitative research, the aspect that systematically determines the clarification and boundaries of the research cycle is the qualitative research design. The pattern of this research consists of cultural analysis and phenomenology patterns. The use of two designs together within the scope of the research allows for a better interpretation of the study. Among these designs, cultural analysis is important for qualitative research, as it pertains to the culture of a society, institution, class, or group that comes together to achieve a certain purpose. The reason for preferring cultural analysis is that the immigrant group involved in the sustainability culture in Germany constitutes the sample of the study.

The other preferred pattern in this research is phenomenology. Cultural analysis may be inadequate due to insufficient reflection time, so a second design was needed to diversify and strengthen the research and avoid assumptions about culture. The reason for choosing phenomenology is to reveal the experiences of green entrepreneurs and their perspectives on the concept of green entrepreneurship, as well as to examine the concept of green entrepreneurship and its influencing factors in depth in a specific field. Because phenomenology focuses on topics that we are familiar with but do not have in-depth knowledge [74].

One of the main debates between qualitative and quantitative research is the position of the researcher. In qualitative research, the researcher is the main actor. Because the researcher takes part in the research throughout the research and presents the participants' perspectives within a certain framework [75]. Since the role of the researcher is important in the quality of the data, the position of the researcher should be addressed [76].

The sampling of qualitative and quantitative research methods is different from each other. In qualitative studies, the universe and sample are not addressed, instead, only the study group is specified. However, beyond this idea, the issues that determine the study group are explained by sampling methods. However, due to the development of qualitative research in many designs, the increasing stratification of societies and the possibility of comparisons in studies, sampling methods that make qualitative research stronger have been needed [77]. For this purpose, typical case sampling, criterion sampling, and snowball or chain sampling methods from purposeful sampling methods have been preferred.

In this direction, Essen was selected among the cities that have won the European Union green city title. The main reason for this is that this city can be shown as a typical example compared to many other cities. Essen is one of the big cities of Germany and has an important position in economic development. The city of Essen was damaged a lot by World War II. In addition, while Essen was the center of iron and coal production, the effects of the green city it has become today were aimed to be revealed from the perspective and lifestyle of the entrepreneurs. It has been a major factor in defining Essen as a distinct and well-known typical example in environmental studies.

The main purpose of criterion sampling, which is one of the types of purposeful sampling, is that certain and important criteria have been defined by the researcher beforehand. In this context, the entrepreneurs included in the research must have had their enterprises in Essen for at least 1 year. The preferred entrepreneurs must be engaged in green business or prefer environmentally friendly products and/or practices (working in the renewable energy sector, performing waste management, using non-GMO products, etc.). In addition, immigrant entrepreneurs were included in the sample to answer questions about migration. To enable the researcher to communicate more effectively, the immigrants were preferred to be of Turkish origin.

In the snowball or chain sampling method, first one or a few people are determined, and the names continue to grow like a snowball in line with the references they give, and the number of participants increases [78]. This method was preferred in this study. Firstly, entrepreneurial associations, non-governmental organizations, and other organizations in Essen were contacted and interviews were conducted in line with their suggestions. At the same time, other participants were reached in line with the suggestions from the first participants. In this study, face-to-face or telephone contact was made before the interviews with the participants. In this direction, the research group of the study consists of green entrepreneurs of Turkish origin who live and/or have a workplace and/or branch in Essen.

Semi-structured research questions were asked by the analyzed study group. In the context of green entrepreneurship, environmental change, cultural dynamics, forms of capital, and green cities, which are the subject of this study, research questions were developed, and questions were designed based on information from the literature, field research, and interviews with individuals and entrepreneurs living in the green city.

Interview, which is seen as one of the most efficient methods of social sciences, comes to the fore, especially in culture-based studies [74]. In this study, where cultural dynamics are considered as a concept, an in-depth interview was preferred as the data collection method. 13 green entrepreneurs participated in the interview, and the interview was conducted face to face.

Within the scope of the interview, the work environment and the gestures, mimics, and behaviors of the participant were observed, as well as the cultural environment and living space where the participant was located. In this regard, the method was diversified by including the observation method in the research.

The flexibility offered by the qualitative research method also shows itself in qualitative data analysis. In short, qualitative data analysis cannot be standardized. Because standard data analysis restricts the researcher. On the contrary, data analysis should be determined in line with the researcher's preferred method and the data obtained [74].

At the same time, the types of data analysis vary according to inductive and deductive approaches and patterns. In this direction, the data collected within the scope of the research were analyzed with the categorical clustering method in line with the narrative analysis and phenomenological analysis of qualitative research analysis types.

Narrative analysis is an approach to various types of texts that have a common story or situation form. In this form of analysis, people's feelings and thoughts are recorded with various tools (interview records). This type of analysis is generally preferred in the narration of the experiences of

social movements, organizations, scientists, other professionals, ethnic/racial groups, and individuals [79]. The aim here is to be able to extract meaning from some information in a person's experiences, life, and in the mind world in the study where in-depth information is desired [74]. In this study, the narratives of green entrepreneurs who have a business life in the green city of Essen are examined in the context of the research.

Another analysis used within the scope of the research is phenomenological analysis. In phenomenology, reality is grasped through embodied experience. Through closely examining individual experiences, phenomenological analysts try to capture the meaning and common characteristics or essences of an experience or event [80]. Therefore, researchers should interpret the phenomena from the perspectives of the people who experience them [81]. In this research, the experiences and thoughts of green entrepreneurs on the phenomena were analyzed and interpreted in depth.

Following the subjects of the research, the questions were clustered as green entrepreneurship approach, environmental change approach, capital forms approach, cultural dynamics approach, green city approach, and the data obtained from the entrepreneurs according to the basic facts here were analyzed with the MAXQDA 2022.

## FINDINGS

As a result of the research, firstly, the findings obtained from demographic data are the background that defines the enterprises. Finally, the findings regarding the environmental changes approach, green city approach, cultural dynamics approach, capital forms approach, and green entrepreneurship approach are explained.

### Demographic Findings

There were 13 participants interviewed within the scope of the research. The gender, age, ethnicity, education level, and duration of their enterprises in the green city of these participants are shown in Table 2.

Q1“Do you consider your business a “green enterprise”? If your answer is “yes”, could you please explain the reasons for this and your motivation for establishing your enterprise?” The most notable answer among the answers to this question is as follows (The most notable answers to all subsequent questions are presented);

Participant-5: “I can describe my business as a green enterprise. The business sector I am in is more concerned with the environment than other sectors. My motivation for establishing this enterprise primarily comes from my gardening, plant care, landscaping training, and then my passion for doing this job.”

Q2“Do you consider yourself an environmentalist? Can you give an example of this aspect of yours?” Reasons why entrepreneurs become environmentalists are shown in Figure 1.

Participant-10: “I can see myself as an environmentalist. If it is not compulsory or necessary, I use public transportation instead of a car. I can say this for myself. As for the company, I can give an example of this situation. About 3 years ago, we transitioned to digital. There is a digital workflow in place that carries out all processes of the company. In this way, we saved a significant amount of paper. “In addition, this has also made a significant contribution to reducing CO2 emissions.”

**Table 2.** Demographic information of participants

Participant	Gender	Age	Education Level
Participant-1	Male	57	High School Graduate
Participant -2	Male	50	University Graduate
Participant -3	Male	46	Vocational School Graduate
Participant -4	Male	42	Secondary School Graduate
Participant -5	Male	60	High School Dropout
Participant -6	Male	53	Secondary School Graduate
Participant -7	Male	50	Vocational School Graduate
Participant -8	Male	46	High School Graduate
Participant -9	Female	35	High School Graduate
Participant -10	Male	32	Master (Degree)
Participant -11	Male	55	High School Graduate
Participant -12	Male	37	High School Graduate
Participant -13	Female	41	High School Graduate



**Figure 1.** Reasons why entrepreneurs become environmentalists - code cloud analysis

**Findings Regarding the Environmental Changes Approach**

Q3“What words and concepts do you use to describe environmental changes?” Environmental changes perception is shown in Figure 2.

Participant-6: “Energy (Wind and solar energy), Protecting nature (afforestation), Storing water resources (Germany is very good in this regard, it stores rainwater, and taxes for issues that will cause it to accumulate in homes).”

Q4“What do you think about global warming and the resulting drought? Can you foresee how this situation will affect your industry?”

Participant-5: “It does not affect Germany. Because there are different practices in Germany. Normally, it should affect (the grass does not grow - we have no business) but in Germany, they have an irrigation system built. This irrigation system, which they built as a precaution, is used for irrigation when it does not rain, and when it rains, they draw the water with the tonnage system. A sewer pipe is laid and excess water at the top is removed. “When it is not raining, we water the trees and grass from below with hoses.”

Q5“What does the “Climate Crisis” mean to you and your startup? How can entrepreneurs contribute to reducing/preventing the possible effects of the climate

crisis?” Climate crisis and entrepreneurs are shown in Figure 3.

Participant-10: “I would like to give an example of the contribution of entrepreneurs based on our company. All of our foremen in the company have a car, but when they go to the construction site, they sometimes use one car with one or two people. They can go to the construction site together. The precautions we will take at our construction site need to be planned. If five craftsmen are going to a construction site, we save fuel by consolidating all five of them in the same car. In addition, as I said, since we have transitioned to a digital environment, we don’t consume paper in our company, which helps us protect our environment and our trees. There is a significant relationship between fuel savings and reduced CO<sub>2</sub> emissions. “At the same time, we are greening the business environment.”

Q6“Since increasing economic activities in sectors such as energy, agriculture, industry, and transportation increase greenhouse gas concentrations in the atmosphere, what measures should be taken in your sector to address these problems?”

Participant-10: “Like many companies in our sector, we also work on renewable energy. We mostly apply this in the field. We provide more service to our customers in this regard. We apply them in our field, from heat pumps to geothermal,

photovoltaic, or solar heat used for hot water. No matter how much we try to stay away from fossil energies, we can connect machines that produce energy based on fossil fuels, depending on the wishes of our customers. However, our main business and direction is renewable energy. Companies in our industry depend on the internal structure of the company. This also depends on the size of the company.

Generally, small companies or mid-level companies in this sector like us do not pay much attention to this issue. Even though gas is still used as fossil energy in Germany today, oil and fuel oil are no longer used in current systems. Their use will be eliminated in the next few years. There are still old systems in place. The government provides incentives to transition to renewable energy."

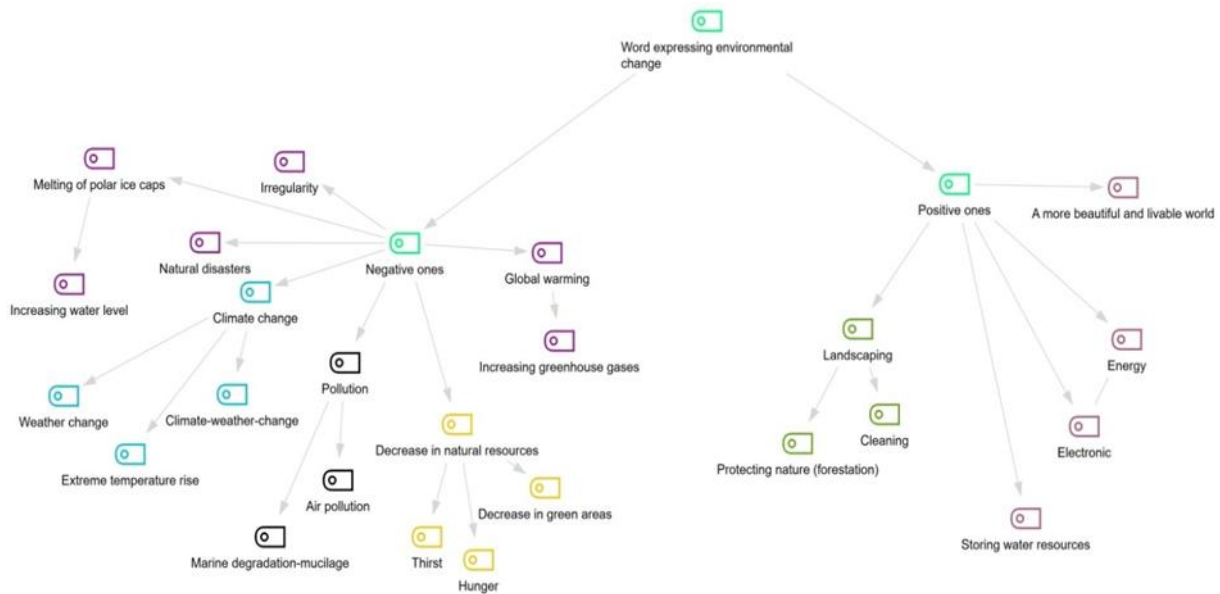


Figure 2. Environmental changes perception theme-hierarchical code sub-code model

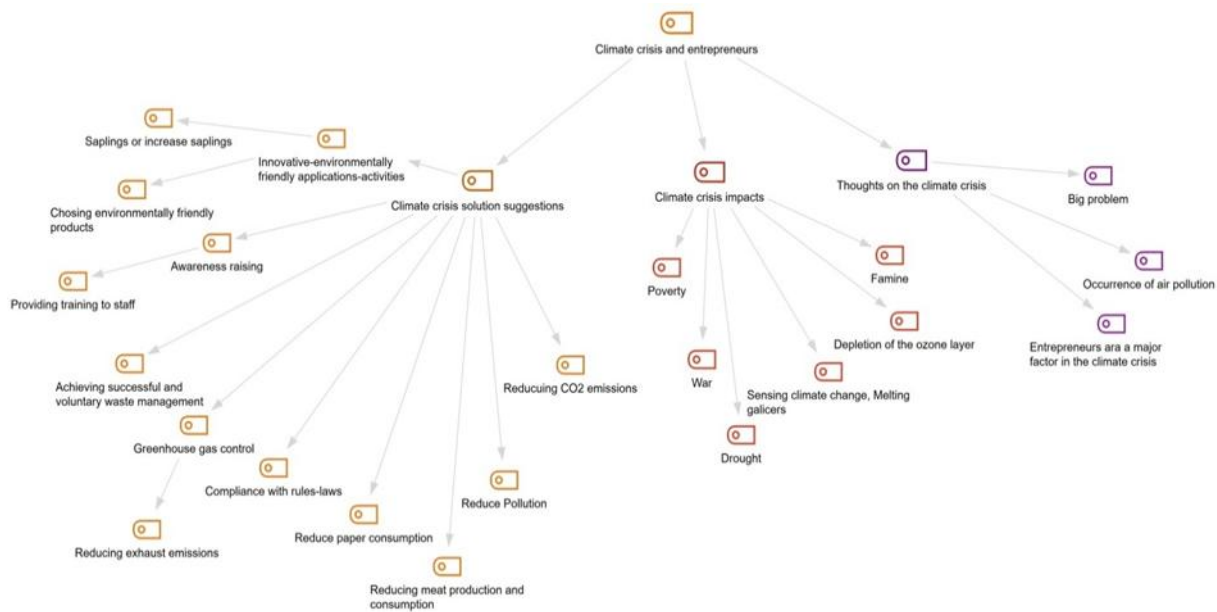


Figure 3. Climate crisis and entrepreneurs-hierarchical code sub-code model

**Findings Regarding the Green City Approach**

Q7“The city you live in has received the "European Green Capital" award. What can you say about this? How green is Essen in your opinion? What are the advantages and disadvantages of Essen in terms of environmental factors?” Reasons for the European Green Capital Award are shown in Figure 4.

Participant-5: “There is no disadvantage. As an advantage, Essen competed with approximately 10 different cities to receive the title of green city. The municipality worked on all

parks and roads for this purpose. They even removed the asphalt and planted flowers that year. They did afforestation and maintenance. They still stand. They also build a large green garden in one city every year in Europe. These are called “grüne garten”. There are competitions in this field. Green fairs, which are gardening fairs, are also held in this city. In this way, they also promote themselves.”

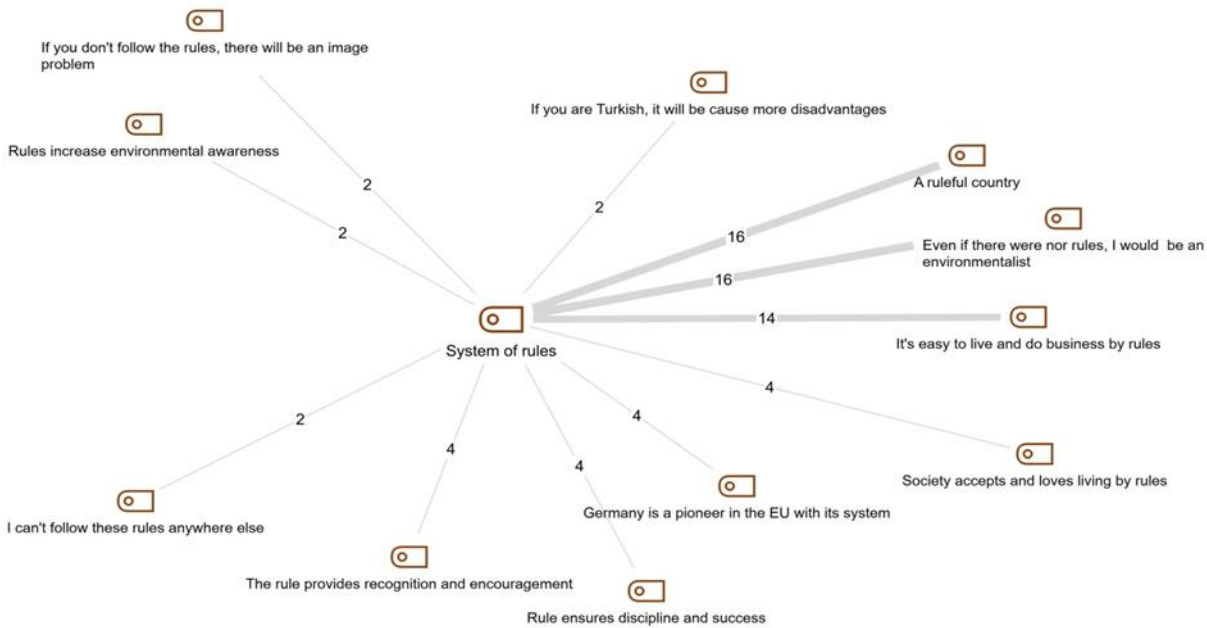
Q8“What are the advantages and disadvantages of entrepreneurship in a green city? What kind of awareness does being a green city create in the region and among





**Figure 6.** Advantages and disadvantages of green city -code co-occurrence model (code proximity)

Q10“How would you describe the “system of rules” in your country and city? How do these affect your social and business life? Even if you were in a non-green city, would you follow these rules and become a green entrepreneur?” The system of rules in the city is shown in Figure 7.



**Figure 7.** System of rules-code co-occurrence model (code proximity)

**Findings Regarding the Cultural Dynamics Approach**

Q12“Do you think the culture of sustainability exists in this city? Do the people of this city care about green because of the municipality or because of the culture they adopt?”

Participant-5: “There is a culture of sustainability. The importance given to green here is formed first by culture and then by the influence of the municipality. Elderly people are especially careful. Here, people place great emphasis on gardens and trees. Here, there is the practice of planting and caring for saplings with the family. We put flowers in garages. We are making a green garage roof to provide oxygen. There is also a system for storing the rain in the garden. This water is used for laundry and toilet. They install underground water systems of 5-10 tons. They draw this water through pipes and use it in the washing machine. They also collect and use those

Participant-5: “Germany’s system of rules is nice and orderly. Germany also leads Europe with its system. Germany is the pioneer in EU norms. If we were not in Germany, it would be difficult to keep and maintain this existing system of rules. This system regulates us in every way. It would be difficult for us to enforce the rules in another country.”

Q11“What is the role of the entrepreneur, and especially the green entrepreneur, in the economic life of Essen? Have entrepreneurs been a factor in choosing the green city?”

Participant-5: “The municipality, not the entrepreneurs, plays a bigger role in Essen being chosen as a green city. Our business has no direct role. There is unity in the work done by the municipality in that field and perhaps the work done by the municipality with the people and entrepreneurs there. For example, there is a storm right now (Hurricane Zeynep). There was a storm 15-20 years ago. They want our help with the cleaning job. It is done without paying. Even if they want to pay later, we do not take it. We usually handle collecting and removing trees that are destroyed during storms. There is such cooperation between the enterprises and the municipality within the scope of this work. In a sense, we can say that there is a partnership based on volunteering.”

that are used in the sink. In addition, the municipality is also doing some work on this issue. They charge a tax based on the size of your roof. Because the larger your roof, the higher your water retention rate. There is a situation about whether or not there is water flowing from the roof to the canal. So, there is recycling. Water taken from the roof is kept in the system. You can use this in the laundry and the sink. Also, you pay taxes for the water you use here. This is called wastewater tax. There are wastewater treatment plants. The tap water is purified and returns to homes. Additionally, Essen has the cleanest drinkable water in this region.”

Q13“How important is collaboration with the environment in green entrepreneurship? How do you define communication in collaboration and widely accepted norms? The most notable answer to this question is as follows:” Reason for collaborating in green entrepreneurship is shown in Table 3.

Participant-2: "It is necessary to be in coordination. Because the increase and speed of success in the end depends on this communication. Municipalities generally have units and commissions that carry out green work. It is important to cooperate with them."

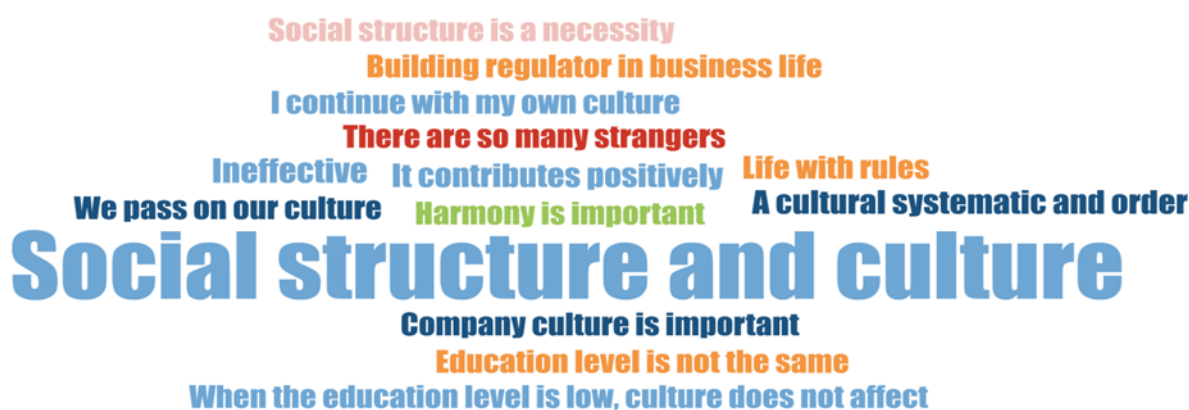
Q14 "In what way does the social structure affect you being a green entrepreneur? How does culture affect your working life? What is it like to be a green entrepreneur in this culture? What kind of feedback did you receive regarding this matter?"

The effect of social structure and culture on green entrepreneurship is shown in Figure 8.

Participant-2: "Being an entrepreneur in this sector stems from the proportionally high Turkish community in this region. But it is not just about Turks. I would say the customers are of average education. In this context, culture is not very effective in becoming a green entrepreneur. Because not everyone is equal."

**Table 3.** Reason for collaborating in green entrepreneurship

Participant	Collaborating with the Environment	Reason
Participant-1	Not Important	Since the priority is the economy, there is no common norm. That's why collaboration is in the background.
Participant -2	Important	To increase success, there is correct guidance along with social gain.
Participant -3	Not Important	Individuality is active. Environmentalism is an individual decision.
Participant -4	Important	To increase success, there is correct guidance along with social gain.
Participant -5	Important	It provides information exchange. It creates a common norm and environment in the context of green jobs.
Participant -6	Important	It is necessary to create environmental sensitivity.
Participant -7	Not Important	Individuality is active
Participant -8	Not Important	There is an inability to evaluate insignificance.
Participant -9	Important	It seems like a must. Many factors, especially your customers and suppliers, cause this obligation.
Participant -10	Important	It leads to green jobs. It creates a green business area.
Participant -11	Not Important	Since the priority is the economy, there is no common norm. That's why collaboration is in the background.
Participant -12	Important	It is necessary to create environmental sensitivity.
Participant -13	Not Important	Individuality, not cooperation, is effective.



**Figure 8.** The effect of social structure and culture on green entrepreneurship-code cloud analysis

Q15 "Do you feel responsible towards the environment due to cultural values or the society you belong to?"

Participant-9: "There is a discipline given in Germany. Whether we like it or not, this German discipline affects us as well. As citizens of this place, we adapt to this situation. It affects us in this context. "We implement these rules so that there are no negative reflections on the environment."

Q16 "Do you think you internalize environmental values?"

Participant-5: "I can say that I have internalized environmental values due to both the work I do and the long-term interaction with culture, and especially the environmental sensitivity and responsibility of the German people."

Q17“How important are citizenship behaviors for sustainability and social change? (Volunteering etc.)”

Participant-10: “Volunteering is like citizenship behavior in the environmental field. It may be due to the education they received from childhood, their culture, or the rule systems in place, or the majority being environmentalists.”

Q18“Are policymakers' discourses on green entrepreneurship for environmental protection or economic sustainability?”

Participant-2: “In general, political parties and politicians prioritize economic sustainability, except for The Green Party, which is radical. There are 15-20 large and small parties in Germany, the economy is at the forefront in all of them.”

**Findings Regarding the Capital Forms Approach**

Q19“How does the education provided in Europe and/or in your region affect your ability to become an entrepreneur (green entrepreneur)? Do you have any training on the environment, sustainability, green activities, and/or entrepreneurship?” Information on getting training in the fields of environment and entrepreneurship is shown in Table 4.

Participant-10: “Entrepreneurship activities are imposed in the country starting from high school. It is explained how a person can become an entrepreneur. In the lessons, studies are presented to help people become independent and productive. Different trainings are given to help people become independent and successful. I received indirect, not direct, training on entrepreneurship. However, because of the department I studied in, the department I studied in was the energy department, I received environmental education. It is especially about carrying energy to the building and reusing the waste from the building. But there is general environmental education. I took many courses that raised awareness of recycling.”

Q20“How did you obtain capital when establishing your startup? How and what kind of support did you receive from whom? Did the municipality support you? Have you received support because you are a green entrepreneur, or to what extent does the green relationship in your enterprise affect the municipality's support?”

Participant-5: “There was support from the municipality. The municipality provides equal support to everyone here in starting a business. It provides loan support to those who have been unemployed for 2-3 years to start a business. It provides interest-free loans and grants. I started this business with only municipal support. That's how we got the capital.”

Q21“Did you receive government support when establishing your entrepreneurship? Could you receive this support if you were not a green entrepreneur?” Municipality and state support information is shown in Table 5.

Participant-4: “I received government support. Its full name is Chamber of Tradesmen Support. I applied to Essen's Chamber of Tradesmen. They provided me with a small amount of support. Generally, this support rate is standard.”

**Table 4.** Receiving education in the fields of environment and entrepreneurship

Participant	Receiving Education in the Fields of Environment and Entrepreneurship
Participant-1	Haven't
Participant -2	Haven't
Participant -3	Haven't
Participant -4	Haven't
Participant -5	Haven't
Participant -6	Haven't
Participant -7	Haven't
Participant -8	Haven't
Participant -9	Haven't
Participant -10	Have
Participant -11	Haven't
Participant -12	Haven't
Participant -13	Haven't

**Table 5.** Municipality and state support

Participant	Support of Government
Participant-1	Haven't
Participant -2	Haven't
Participant -3	Haven't
Participant -4	<b>Have</b>
Participant -5	<b>Have</b>
Participant -6	Haven't
Participant -7	Haven't
Participant -8	Haven't
Participant -9	Haven't
Participant -10	Haven't
Participant -11	Haven't
Participant -12	Haven't
Participant -13	Haven't

**Table 6.** Linkage to policymakers

Participant	Connecting with Policymakers
Participant-1	Have
Participant -2	Have
Participant -3	Haven't
Participant -4	Have
Participant -5	Haven't
Participant -6	Haven't
Participant -7	Haven't
Participant -8	Have
Participant -9	Have
Participant -10	Not Both
Participant -11	Have
Participant -12	Have
Participant -13	Haven't

Q22“How do policymakers influence your green entrepreneurship? Do you have connections with policymakers? What are the advantages and disadvantages to you?” Linkage to policymakers is shown in Table 6.

Participant-8: “We have connections with policymakers. Because we participate in certain programs and dinners due to the associations we exist in. We are constantly in talks with the tradesmen’s association and the foreigners’ association. This situation has advantages for us. This increases our customer portfolio.”

Q23“Have you received support from socially responsible investors? To what extent do you support environmental projects?”

Participant-4: “I have not received support before. I currently support environmental projects. We provide our support through a non-governmental organization.”

Q24“Is there an association or any non-governmental organization you are a member of? Is philanthropy or volunteering common in business circles?” Civil society membership and business circles information is shown in Table 7.

Participant-7: “I am a member of an NGO. There is philanthropy in business circles here (among businessmen of Turkish origin).”

Q25“To what extent were the social relationships you had before or acquired during the process benefits or disadvantages to you?” Impact of social relationships is shown in Table 8.

Participant-9: “It was generally beneficial. It provided us with support in B2B. The network is expanding. We get to meet more lawyers, more businesses, and more brands. There are known customers. Mutual interactions guide each other to the person they may need.”

Q26“How does being an immigrant or not affect your being an entrepreneur (green entrepreneur)?” Effect of being an immigrant is shown in Table 9.

Participant-9: “Even if those around us objected, we established a company with our surname, which clearly indicates that it is of Turkish origin. Currently, 99% of the companies we work with are German. We have an annual turnover of 1.5 million euros. We employ 66 workers. We haven’t faced any problems because we do our job well and being immigrants did not disadvantage us.”

Q27“How do family members’ opinions affect your ability to become a green entrepreneur? Are there any entrepreneurs or green entrepreneurs in your family?” The effect of family on green entrepreneurship is shown in Table 10.

Participant-6: “In my family, my mother and father were entrepreneurs. My father was growing natural products and selling them. My family is environmentalists, and I have a garden in my own house. It is green and clean, and we constantly maintain it. Although I personally choose it regarding the environment, my family also supports it.”

Q28“How important is the economic situation in choosing green entrepreneurship?”

Participant-6: “Those with a strong economy pay more attention to their environment. As the situation evolves, they purchase tools to support the environment. Germany, in particular, puts a lot of effort into cleanliness and water. People are also considering this.”

Q29“How does your city’s natural -environmental- capital affect your entrepreneurship?” The impact of natural capital is shown in Table 11.

Participant-5: “Essen’s natural capital actually provides us with job opportunities. It contributes to the municipality’s environmental sensitivity, which in turn increases job opportunities. Work in garden maintenance is increasing. The people of the city we live in love greenery culturally, and this reflects on us and the companies. They think of flowers for the smallest things. For example, cemeteries change their flowers four times a year. A company takes care of it for 30 years.

**Table 7.** Civil society membership and business circles

Participant	Civil Society Membership	Volunteering/Charity
Participant-1	Have	Volunteering+Charity
Participant -2	Have	Volunteering+Charity
Participant -3	Haven’t	Volunteering
Participant -4	Have	Charity
Participant -5	Have	Volunteering
Participant -6	Haven’t	Volunteering
Participant -7	Have	Charity
Participant -8	Have	Charity
Participant -9	Have	Charity
Participant -10	-	Volunteering
Participant -11	Have	Volunteering+Charity
Participant -12	Have	Charity
Participant -13	Haven’t	Volunteering

**Table 8.** Impact of social relationships

Participant	Social Relationships	Positive/Negative
Participant-1	Have	Positive
Participant -2	Have	Positive
Participant -3	Have	Neutral
Participant -4	Have	Positive
Participant -5	Have	Positive
Participant -6	Have	Positive
Participant -7	Have	Neutral
Participant -8	Have	Positive
Participant -9	Have	Positive
Participant -10	Have	Positive
Participant -11	Have	Positive
Participant -12	Have	Positive
Participant -13	Have	Neutral

**Table 9.** Effect of being an immigrant

Participant	The Impact of Being Immigrant	Positive/Negative
Participant-1	Have	Negative
Participant -2	Haven't	-
Participant -3	Haven't	-
Participant -4	Haven't	-
Participant -5	Have/Haven't	Positive
Participant -6	Have	Negative
Participant -7	Haven't	-
Participant -8	Have	Negative
Participant -9	Haven't	-
Participant -10	Have	Negative
Participant -11	Have	Negative
Participant -12	Haven't	-
Participant -13	Haven't	-

**Table 10.** The effect of family on green entrepreneurship

Participant	Entrepreneur in Family	Green Entrepreneur in Family	The Effect of Family in Green Entrepreneurship
Participant-1	No	No	No Effect
Participant -2	No	No	<b>Has an Effect</b>
Participant -3	No	No	No Effect
Participant -4	<b>Yes</b>	<b>Yes</b>	<b>Has an Effect</b>
Participant -5	No	No	<b>Has an Effect</b>
Participant -6	<b>Yes</b>	<b>Yes</b>	<b>Has an Effect</b>
Participant -7	No	No	<b>Has an Effect</b>
Participant -8	<b>Yes</b>	No	No Effect
Participant -9	No	No	No Effect
Participant -10	<b>Yes</b>	<b>Yes</b>	No Effect
Participant -11	No	No	No Effect
Participant -12	<b>Yes</b>	No	No Effect
Participant -13	No	No	No Effect

**Table 11.** The impact of natural capital

Participant	The Effect of Natural Capital
Participant-1	No Effect
Participant -2	<b>Has an Effect</b>
Participant -3	No Effect
Participant -4	<b>Has an Effect</b>
Participant -5	<b>Has an Effect</b>
Participant -6	Neutral
Participant -7	No Effect
Participant -8	No Effect
Participant -9	No Effect
Participant -10	No Effect
Participant -11	No Effect
Participant -12	No Effect
Participant -13	No Effect

**Findings Regarding the Green Entrepreneurship Approach**

Q29“What factors influence your green enterprise the most? Would you classify the factors affecting your enterprise in terms of customer, municipality, and environmental sensitivity, from strong to weak?” Factors affecting green enterprise are shown in Table 12.

Participant-6: “Municipality, environmental sensitivity, and customer. The municipality knows a systematic, but we volunteer for many issues related to waste. We also pay attention to this in our homes. The municipality implements these rules. Citizens in third-world countries are experiencing difficulties and causing them. (All issues related to the environment are interconnected). Plastic is the product I am most opposed to.”

Q30“What do you think are the factors affecting green entrepreneurship? Which of the concepts of natural resources, competitors, social environment, customers, state, municipality, culture, economic capital, and family affect green entrepreneurship more?” Factors affecting green entrepreneurship are shown in Table 13.

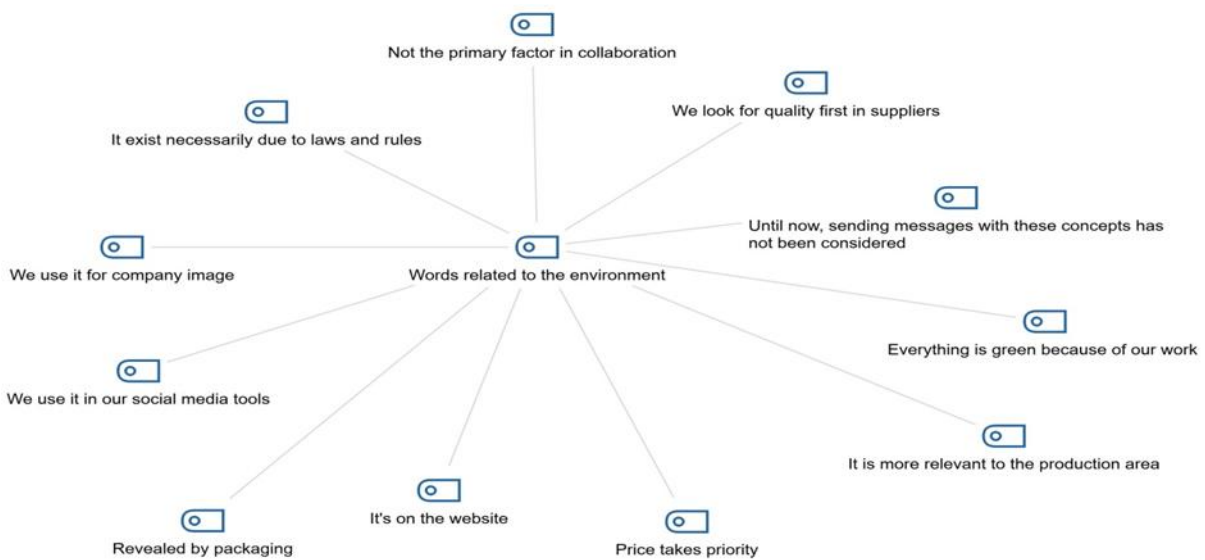
Participant-10: “I can combine the state and culture in this regard. When they set their minds to something, they want to do it. Other factors can be listed one after the other. Additionally, German culture is very sensitive to this issue. If they have a piece of trash in their hands, they will hold onto it for half an hour and throw it away whenever they see a trash bin. I understand this culture very well because I was born and raised here.”

**Table 12.** Factors affecting green enterprise

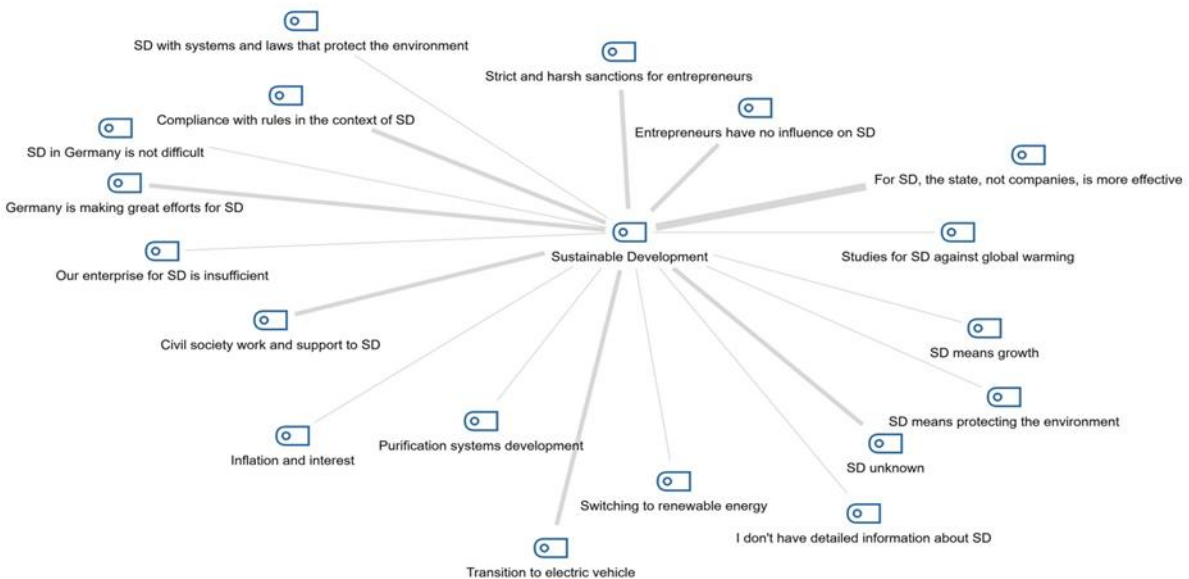
Participant	Influencing Factors	The Most Influencing
Participant-1	Customer, Municipality, Environmental Sensitivity	<b>Customer</b>
Participant -2	Environmental Sensitivity, Customer, Municipality	Environmental Sensitivity
Participant -3	Customer, Environmental Sensitivity, Municipality	<b>Customer</b>
Participant -4	Environmental Sensitivity, Municipality, Customer	Environmental Sensitivity
Participant -5	Customer, Municipality, Environmental Sensitivity	<b>Customer</b>
Participant -6	Municipality, Environmental Sensitivity, Customer	Municipality
Participant -7	Environmental Sensitivity, Municipality, Customer	Environmental Sensitivity
Participant -8	Environmental Sensitivity, Customer, Municipality	Environmental Sensitivity
Participant -9	Customer, Environmental Sensitivity, Municipality	<b>Customer</b>
Participant -10	Environmental Sensitivity, Municipality, Customer	Environmental Sensitivity
Participant -11	Customer, Municipality, Environmental Sensitivity	<b>Customer</b>
Participant -12	Municipality, Environmental Sensitivity, Customer	Municipality
Participant -13	Customer, Environmental Sensitivity, Municipality	<b>Customer</b>

**Table 13.** Factors affecting green entrepreneurship

Participant	Factors Affecting Green Entrepreneurship
Participant-1	Individual, Social Environment
Participant -2	Capital
Participant -3	Customer
Participant -4	Culture
Participant -5	Natural Resources, Customer, Family
Participant -6	Municipality
Participant -7	Family
Participant -8	Social Environment
Participant -9	Customer, State-Municipality
Participant -10	State, Culture
Participant -11	Social Environment
Participant -12	State-Municipality
Participant -13	Customer



**Figure 9.** Including environment-related words-code-sub-code model



**Figure 10.** Sustainable development code-sub-code sections model

Q31“How often do you include green and environment-related words in the activities related to your enterprise? When establishing collaboration, to what extent do you search for these words in the other organization?” Knowledge of including environment-related words in activities is shown in Figure 9.

Participant-5: “The work itself is in green. Our logo is green. We remind the customers about green. Also, we do not have a website. We do business based on recommendations from people who like the work we do. This is important and reliable for both us and the other party. We do business based on trust. This company is a joint-stock company. We started this business as a side business, and after we gained knowledge, within a year we had 60 customers. Our reputation is spread through word of mouth in the industry. We started getting work from large companies. We landscaped the surroundings of these large companies and large villas, planted trees, and laid down grass. We create 4-5 square meters of grass. When companies cut down trees, they are required to plant three times as many trees elsewhere. There is no zoning situation here. The work we generally work in is always green; there is green in every job we do.”

Q32“What is your reason for choosing environmentally friendly products? How important is it for you to be environmentally friendly when choosing your suppliers?”

Participant-5: “We prefer environmentally friendly products. Whether it is roses or other flowers, we prefer the highest quality ones. Almost everything used in our work is environmentally friendly. There is no environmentally harmful plastic etc. in the products used.”

Q33“What does the concept of “Sustainable Development” mean to you? What does it mean for your entrepreneurship? What is your impact as an entrepreneur?” The meanings of “Sustainable Development” are shown in Figure 10.

Participant-11: “I don’t have much to say about sustainable development individually because we cannot be very effective in that regard. The main state authorities are dealing with this issue. Officials at the main level of government set the rules and, we follow those rules. Apart from this, we organize or support seminars as a social responsibility. We provide support in our presentations within the scope of our civil society activities. Germany is making great efforts for sustainable development. Even though diesel fuel is more profitable than gasoline, they completely removed diesel-powered vehicles. They have begun to shift towards electric vehicles, and we have placed orders for three electric vehicles to use in our transportation.”

Q34“What does the “EU Green Deal” mean to you?” Knowledge levels about the Green Deal are shown in Figure 11.

Participant-9: “This concept is now mentioned in most projects. For example, it occurs a lot in the construction industry, which we are in close contact with. This practice, also referred to as the Green Deal, offers certain guidance to sectors. Everything, from the way the construction is done to the materials used in construction, must be supplied and used appropriately.”

Q35“Did you choose green entrepreneurship for yourself or for the public good? What does the phrase public interest mean to you? Should “common benefit” or “individual benefit” be the priority for the enterprise to start and be sustainable? (Public or privatization?)”

Participant-6: “Environmental developments in this business are for the public good. These practices are costly. Prices are also rising. But we do it anyway.”

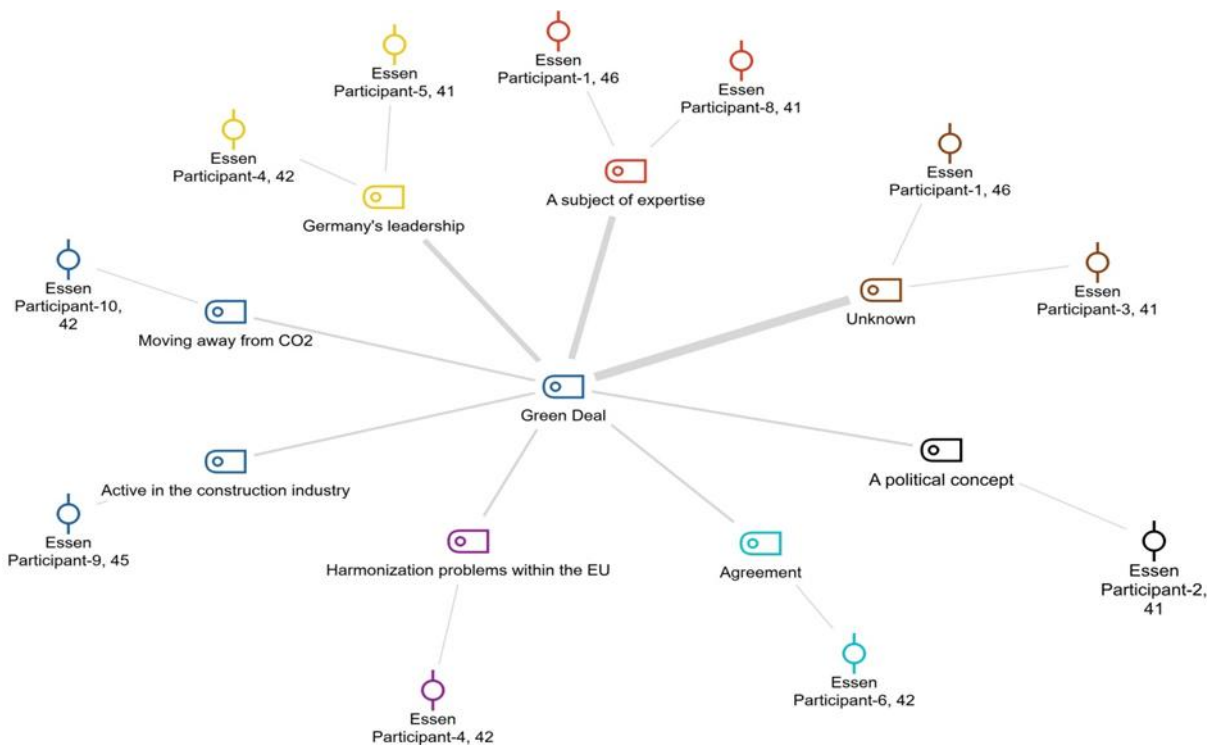
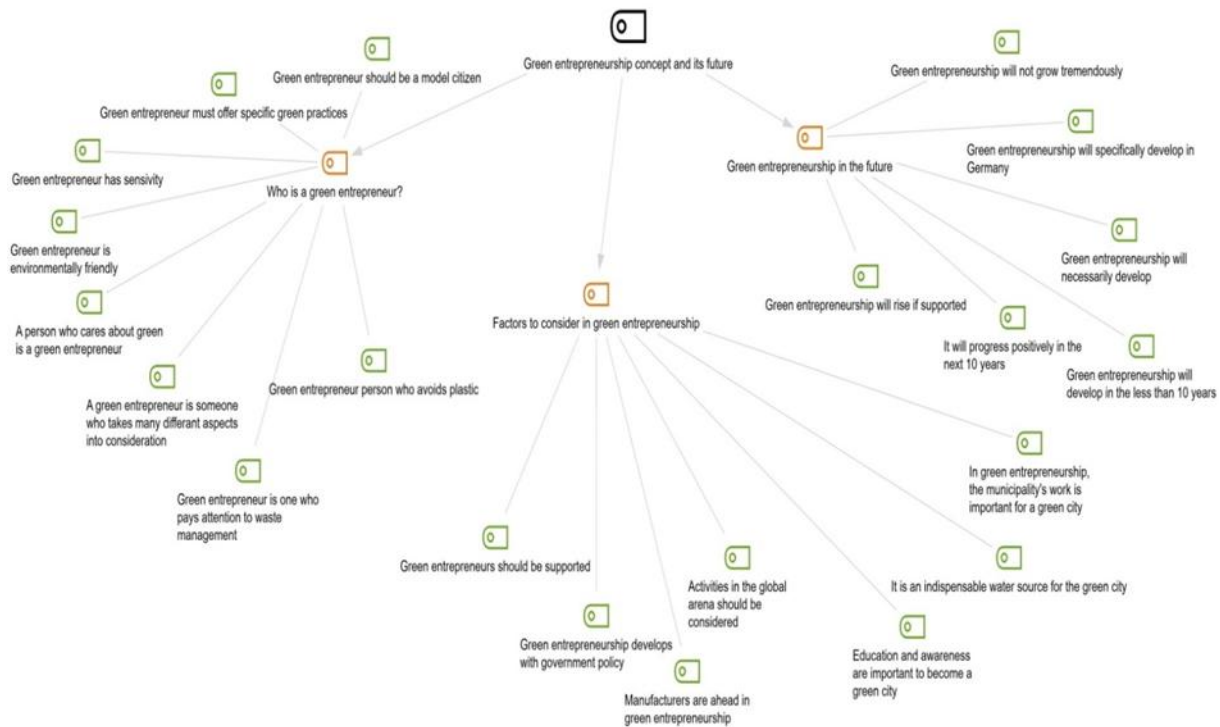


Figure 11. About the Green Deal view code-subcode model



**Figure 12.** Green entrepreneurship concept and its future-hierarchical code-sub-code model

Q36 "If you were to define a green entrepreneur, what would he be like? What should a prospective green entrepreneur pay attention to? What is a must for an entrepreneur in a green city? How do you see green entrepreneurship in the next 10 years? Are there any obstacles to its development?" Green entrepreneurship concept and its future information is shown in Figure 12.

Participant-10: "I want to start with the last question. First, there are no roadblocks/obstacles to the development of green entrepreneurship. It even seems possible that it will develop. I think this development will occur in less than 10 years. I think that entrepreneurs in Germany will take positive steps in the next 2-3 years. At the same time, manufacturing companies in Germany took steps. Generally, the companies that offer CO<sub>2</sub> are manufacturers. They continue to take steps in terms of environmental activities. In this context, Germany's leading companies, Siemens, etc., have reduced CO<sub>2</sub> emissions. Their headquarters is Essen. I can define a green entrepreneur as follows: A person who produces environmentally friendly and nature-oriented products and application styles. Someone who saves energy and prioritizes energy efficiency. They are also companies that install or assemble renewable energy in the systems they establish and implement. At the same time, those who use IT and computer technologies for environmental purposes, those who use environmentally friendly software or those who do savings-oriented business.

## CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

Environmental changes are within the scope of global environmental problems, such as global warming, climate crisis, deforestation, drought and desertification, decrease in biodiversity, and so on. As people gain awareness of this issue, applications are being developed to solve environmental problems. Recognizing environmental changes and being able to define them paves the way for

individuals, societies, and policymakers to take action. To be aware of environmental changes, the cultural codes of society must carry the information that will ensure sustainability. Cultural dynamics occur through the transfer and exchange of cultural information at micro and macro levels. Today, certain societies embed sustainability into the cultural codes of society by adding environmental information to their education systems and lifestyles. Societies (people) who accept sustainable living adopt this way of life. In this context, society turns to green activities and sees environmental behavior as a social responsibility activity and serves the environment voluntarily.

According to the results of this study, it can be stated that volunteerism is widespread in German society, in this context, customers have a high environmental awareness and, in this direction, they direct businesses to economic activities that assume environmental responsibility, in short, green entrepreneurship. This finding is like the literature in that customers' green consciousness and behaviors are seen as an opportunity for green entrepreneurship [12].

Economic activities carried out without putting environmental responsibility in the background bring the concepts of green jobs, green economy, and circular economy to the fore. Those who turn to green work, contribute to the development of the green economy, and integrate circular economic systems into business life are entrepreneurs who embrace environmental values and think that they have a responsibility towards the environment. In this regard, green entrepreneurs can be mentioned in the context of entrepreneurs who notice environmental changes and understand the place of natural capital in entrepreneurship. Green entrepreneurship, carried out by green entrepreneurs, is, in its most general terms, the realization of economic activities to ensure environmental sustainability.

Capital is needed for entrepreneurial activities to be carried out successfully and for entrepreneurs to take advantage of opportunities. Every entrepreneur must have financial (economic) capital to carry out his activities. However, this

capital required for the entrepreneur to carry out his activities can be obtained in different ways. The capital and support that the entrepreneur obtains from social networks are discussed in the context of social capital. For entrepreneurial activities to be successful, accepted, and sustained, forms of capital such as human capital, cultural capital, and symbolic capital are needed.

The findings of the study show that these types of capital have an impact on entrepreneurs. While social capital provides financial resources, it also directs entrepreneurs towards green entrepreneurship. Particularly, it is discussed with anecdotes that the participants received support from their children in gaining environmental awareness.

With the discussions about the loss of natural resources in the globalizing world, natural resources that are important for entrepreneurs come to the fore. At the same time, another important issue that the global world discusses is migration. The concept of foreign capital, which reflects migration and migration policies to economic life and deals with the transit of capital, is an important issue in terms of entrepreneurship. Just as changes in the natural environment affect entrepreneurial activities, changes in the political environment also affect entrepreneurial activities. For this reason, political capital also has an impact on whether enterprises are successful or not. It is estimated that environmental policies and the decisions taken by policymakers in this context have greater effects, in especially green entrepreneurship. Likewise, the use of natural resources in business, such as renewable energy sources and clean water, or environmental services such as waste management and erosion control, are considered natural income. In this regard, it is assumed that the effect of natural capital on green entrepreneurship is important.

The ability of culture, capital, and green entrepreneurs to come together effectively is directly related to the environment in which they are located. In this regard, the existence of an environment where the green economy is effective and encourages green entrepreneurs emphasizes an ecosystem where steps are taken for sustainable development. The European Union, on the other hand, carries out intensive work for sustainable development. It is accepted that Germany is the dominant actor in the EU and has an important role in sustainable development. To evaluate this situation more specifically, it is necessary to look at the cities of Germany that have the green capital city award. Two cities in Germany, Essen and Hamburg, have the title of green city. To examine the topic more closely, this study is conducted with a focus on one of these cities. Evaluating the position of a green city where sustainability activities are carried out in the green economy and examining their mutual interactions can provide important inferences to those interested in this subject.

The study, which was designed with cultural analysis and phenomenology designs, which are qualitative research designs, was analyzed with the categorical clustering method in line with narrative analysis and phenomenology analysis, which are qualitative research analyses. The findings obtained through the analysis are classified as demographic findings, findings regarding the environmental changes approach, findings regarding the green city approach, findings regarding the cultural dynamics approach, findings regarding the capital forms approach, and findings regarding the green entrepreneurship approach.

These findings should be evaluated within the limitations of the study. The scope of the research consists of cities that received the "European Green Capital City" award. However,

only one of these cities (Essen) was selected. In this context, the research was restricted in terms of country and city. The basis of this limitation is time, economic, and geographical constraints. When selecting businesses, preference was given to those who defined themselves as environmentalists and worked in a sector in this context. Due to the scope of the research, participants were limited to green entrepreneurs.

Although there are different factors affecting the concept of green entrepreneurship, the subject of the study was narrowed down by including environmental changes, cultural dynamics, and capital forms in the scope of the research. The businesses included in the scope of the research are Turkish-origin entrepreneurs. One of the limitations of the study is that other immigrant-origin and German-origin entrepreneurs are not included in the scope of the research.

Due to the nature of qualitative research, the study group consists of 13 people, considering the data saturation approach and ignoring other limitations. On the other hand, only two of the participants in the research are women.

One of the issues that restricted the research was the COVID-19 pandemic. Because the research had to be carried out through face-to-face interviews and observations. For this reason, the disruption of the visit process, COVID conditions, and some issues in this direction caused the research to be carried out under access restrictions. Due to both the COVID-19 process, the geographical distance of the research area to the researcher, and economic reasons, there was no possibility of a re-interview or re-observation of the research area.

Finally, the study was conducted using a qualitative research method and, by its very nature, aims to explain the social context rather than make generalizations. There are also limitations due to research design.

According to the results of the research, there are different reasons why entrepreneurs consider themselves environmentalists. Factors such as the sectors where entrepreneurs are located, their involvement in afforestation activities, giving importance to waste management, using environmentally friendly products, and preferring public transportation are included. It can be said that this situation is effective in evaluating the work and environment. In this context, green cities are needed where bicycle paths are increased and used actively and there are many environmental opportunities.

Green entrepreneurs participating in the research are not only companies interested in renewable energy and afforestation but also enterprises that carry out activities to protect the environment in different sectors such as agriculture, production, administrative affairs, and services. The most obvious aspects of green enterprises in this context are reducing the use of plastic, using environmentally friendly products, and successful waste management in a circular system. It is also seen that many businesses in Germany carry out these activities. As a result, many businesses can turn into green enterprises.

According to the feedback received from entrepreneurs, green entrepreneurship will develop further in the next 10 years. This situation will grow in a shorter time with government support and public awareness. It is expected that this will be easier, especially in a country like Germany. In addition, it is thought that environmental changes will necessitate this development. Participants have higher confidence in their country (Germany) regarding the environment and the public's perspective also reveals the existence of a sustainability culture. The culture that exists in

society affects both policymakers and businesses and paves the way for green transformation.

For green entrepreneurship to be realized successfully, perceptions of environmental changes in individuals' minds are important. According to the findings obtained in the research (Figure 1), environmental changes can be perceived as positive or negative. The entrepreneurs also see entrepreneurs, especially large businesses and their owners, as responsible for environmental problems. The dominance of the negative aspects of environmental problems such as climate change, environmental pollution, and global warming in the minds of green entrepreneurs and the idea that negative change will be transformed into positive with the steps taken by entrepreneurs and even the society will increase the number of conscious entrepreneurs. In this regard, many factors such as landscaping, storing water resources, and reducing pollution can enable the development of green entrepreneurs.

It can be said that green entrepreneurship is developing in Essen today, and green activities are common, especially in manufacturing companies. In addition, factors such as government support, laws, global activities, and the existence of a green city affect green entrepreneurship, while issues such as the rise of the Green Party are concrete examples of the rise of green entrepreneurship.

Increasing green entrepreneurship in Germany reveals that entrepreneurs are becoming more conscious and how they define green entrepreneur in their minds. Depending on the entrepreneurs' perspective (Figure 12), a new definition of green entrepreneur was made in this study. According to this definition, a green entrepreneur is a person who prefers environmentally friendly products, limits plastic consumption and manages waste, takes many different aspects with special applications, thinks about the future by reading the future, has certain sensitivities, shows exemplary citizenship behavior, and gives importance to green.

One of the issues influencing green entrepreneurs is the conscious society living in a green city and being informed about this issue. The demands of this society will also be green-oriented. At the same time, while the green city develops green entrepreneurship with its natural capital, the idea that more people will come to the green city with natural resources indirectly increases the customer potential. The clearest example of this is that the factor that affects green entrepreneurs the most is the customer (Table 12).

There are factors as effective as the customer who demands the products and services offered by green entrepreneurs. Foremost among these is the municipality-state (Table 13). Since Germany is a federal system (Essen, North Rhine-Westphalia, Germany), there may be different rules determined by the municipality, province, and state. On the other hand, the state-central government is thought to be effective. The prevailing opinion is that the Green Party, in particular, has made significant efforts regarding the environment. Although they think that the state's statements and activities in the context of sustainability prioritize economic interests, it can be stated that it takes steps toward the environment. However, the idea that policymakers prioritize economic interests has been confirmed by the decisions taken in the energy crisis that emerged after the war between Russia and Ukraine. The most obvious application of this example is Germany's return to coal mines, which it gradually reduced its use and closed.

Even in Germany, which is considered to have a leading role in the European Union and to be an example in environmental

activities, studies in the political context are not trusted. In addition, there is low trust in the Green Deal and the activities undertaken in the political arena. On the other hand, green entrepreneurs firmly believe that Germany will be the country that protects its natural resources and will be least affected by environmental problems in this context. For this reason, the prevailing opinion is that there are policies that favor more expensive environmental practices adopted by the Green Party and that support for green jobs will not decrease in the future.

Thanks to cultural knowledge, which is the source of cultural dynamics, and its transmission, (national) culture is changed [56]. The impact of national culture on organization and institutional structure is emphasized in the study conducted by [82]. With the in-depth information obtained in this study, it is seen that national culture shapes green entrepreneurship and even that this culture influences immigrant entrepreneurs. Culture is transmitted to migrants through cultural dynamics, which in turn triggers green entrepreneurship through symbolic capital.

According to the entrepreneurs in Essen, the fact that the society, especially the society of German origin, voluntarily realizes its responsibility towards the environment, dominates the idea that the environmental awareness in the society will go further. Because it is observed in the anecdotes of the participants that while individuals within society force others into environmentalism, this situation provides social education.

Although green entrepreneurs receive little support in certain processes due to their environmental activities, it has been stated that this is the standard support an entrepreneur can receive. One of the factors that enable entrepreneurs to develop and give importance to green is the support of the social environment. Distant and close social networks in people's lives constitute the entrepreneur's social capital. Social capital develops especially in immigrants who provide foreign capital to their society, through close friends, families, and members of their own society. However, it is mostly distant social networks that create environmental awareness. This shows that immigrant or diaspora individuals gain more environmental awareness and integrate into the society they live in over time, thanks to the influence of these networks.

The statements of 13 green entrepreneurs from the Turkish diaspora, which has a dense population in Germany, show that Turks have been taking part in education life in Germany for a long time, working in different segments of society and being together with German individuals and that they have adopted certain values adopted by the German society. An example of this is that green entrepreneurs adapt to the culture of sustainability for both the image of themselves as entrepreneurs and their businesses. For enterprises, this provides symbolic capital.

According to the observations of the entrepreneurs, other foreign immigrants are further behind in integration. It is stated that especially newly arrived immigrants and immigrants with low education levels have low environmental sensitivity. For this reason, working on environmental problems in different languages is a successful step to solve this problem in a short time.

The use of different languages by all green enterprises, especially in environmental and green-oriented advertisements, will increase environmental awareness. However, in general, it has been analyzed that these aspects of the enterprises are not emphasized in their advertising activities, except for certain specific sectors. The same

situation is valid when entrepreneurs act as industrial buyers. It seems that the most important factor here is the economy. In this case, creating incentives for the purchase and sale of green-friendly, environmentally friendly products, on the other hand, preventing and taxing elements that harm the environment through laws can contribute to the protection of the environment.

Green entrepreneurship is explained by different theories in literature. Among these theories, the ecological modernization theory (EMT), which is a subject of debate in literature, is also included. EMT has been seen to overcome the current impasses regarding environmental improvement. The theory accepts an understanding that the economy should not be stopped for the protection of the environment, in other words, it is a positive sum. In line with this understanding, it has tried to realize the search for solutions to environmental problems through regulations in social organization. Environmental problems and their need for solutions are realized not only with an increase in resource management and environmental problem-solving capacity but also with social transformation. In this context, the support of entrepreneurship, the importance of sustainability culture, the fact that the environment is not one-sided, and the position of the state actor and the results of this study emphasize the importance of EMT.

In line with the results of the research, more and various suggestions can be offered to entrepreneurs and green entrepreneurs, financial providers, local governments and policymakers, the society that creates the culture of sustainability, and future researchers.

In line with the findings of study, policymakers can provide special grant programs for green entrepreneurs. Government support can be provided to initiatives that invest in projects that reduce carbon emissions. In particular, entrepreneurs with a lack of knowledge within the scope of the green deals can be identified and training and awareness programs can be organized. Announcements can be made in the language of immigrants to increase environmental awareness, especially since the immigrant group is turning to green entrepreneurship to gain symbolic capital. In this context, integration-based entrepreneurship training can be organized.

Volunteering is widespread among entrepreneurs, non-governmental organizations (NGOs), and especially environmental NGOs should be supported because of social networks, and they should be supported to work with immigrant groups. Policymakers need to make plans for the integration of environment and immigration, considering that climate migration will increase mobility in the world in the future.

According to the research findings, concepts such as sustainable development and green deals are not known by all entrepreneurs. In this process, rather than factors such as education level and age being effective, the business line in which entrepreneurial activity takes place is of great importance. Lack of education in environmental fields (Table 4) plays a major role in the lack of knowledge. For this reason, entrepreneurs need to receive training on environmental issues. Although, normally, not every business line has the same information, training should be provided by local governments and chambers of which entrepreneurs are members to create a common language for the environment.

The perspective on the climate crisis also varies in every business line. Developing specific applications for each business line can contribute to the broader implementation

of sustainable development. Reinforcing certain practices in the fight against environmental changes with laws and enacting new laws in this context will develop the field of green entrepreneurship. Because rules are common in Germany and the society is bound by the rules. At the same time, demands from entrepreneurs' direct policymakers and local governments to new practices and policies regarding the environment. The rules set by policymakers and local governments are not only for entrepreneurs. Including these laws in society will both raise public awareness and increase customer potential for green entrepreneurship. In addition, studies to be carried out in this context will enable the development of green cities and the strengthening of natural capital.

Policymakers in different countries and cities should work for the formation of green cities, as a society that adopts the concept of green city and sustainability culture that ensures the continuity of the green city makes positive contributions to green entrepreneurship. Companies can contribute to reducing CO<sub>2</sub> emissions by switching to electric vehicles to reduce greenhouse gas emissions. In addition, shared use of company cars should be ensured to save electricity. For this purpose, shared vehicle use can be made effective by developing applications such as bla-bla-car. These practices should be well conveyed to society outside of companies. Because society's adoption of these practices can contribute to reducing CO<sub>2</sub> emissions.

Green entrepreneurs should focus on green innovation and develop practices that will enable every sector to do environmentally friendly business. Policymakers and the units they cooperate with should require the use of these applications by other businesses. Green financial loans can be opened for the development of green practices and innovation. In this way, entrepreneurs who will become green entrepreneurs will have more capital (risk capital) to access. However, these loans should be more encouraging than others.

The zero-waste management and pfand system (leergutannahmestelle) implemented in Essen should be established and encouraged in all societies. Local governments and businesses should work together in this context to facilitate the spread of the system to everyone. To spread green thought to the entire base, environmental training should be provided in educational institutions and should be addressed especially in the context of immigration policies. Immigrants should be directed to green entrepreneurship. In this direction, both foreign capitals brought by immigration will enter the market and immigrants will voluntarily participate in the sustainability culture accepted by the society. Elements such as philanthropy, which are especially common in Turkish society, will accelerate the spread of entrepreneurial activities and sustainability culture.

Suggestions for future researchers to develop the concept and practices of green entrepreneurship and fill the gaps in the field are as follows: Taking into account the limitations of the study, studies can be carried out with entrepreneurs at different education levels and green producer companies. Green enterprises operating in the production and service sectors can be examined comparatively. Working in specific sectors such as energy, transportation, and tourism can reveal the practices and shortcomings of green entrepreneurs. Especially the concepts of green jobs and green innovation emerging in these sectors can be studied. Elements such as waste management and recycling, which are important in green entrepreneurship, can be measured

within companies and the most successful companies (according to company size) can be presented each year. A green entrepreneurship scale can be developed for a general measurement. In addition, gaps in the field can be filled by comparing green entrepreneur typologies in unfamiliar cultures and practices in different green cities.

Migration studies can be addressed from the perspective of environmental and entrepreneurship studies. On the other hand, the role of local cultural values and social capital in green entrepreneurship has been observed. In this direction, the place of local or national culture in green entrepreneurship can be evaluated in the context of all countries and Hofstede's national culture model can be re-evaluated in the context of environment and entrepreneurship. This assessment can be made by considering that the most influential element in green entrepreneurship is society. In addition, a new comparative analysis can be made on how green entrepreneurship ecosystems are shaped in different cities in Europe, based on the example of Essen.

Finally, as the world changes, the digital world is increasingly intertwined with sustainability, and the twin transformations are taking shape. Future researchers can contribute to the literature by addressing green entrepreneurship in the context of digital dynamic capabilities, especially in line with technology-based facilitators and innovation capabilities.

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#### DATA AVAILABILITY STATEMENT

The authors confirm that the data that supports the findings of this study are available within the article. Ethical approval was obtained for data collection and stated that the data would not be shared with third parties.

#### CONFLICT OF INTEREST

The author declares that there is no conflict of interest with any individual, institution, or organization in the preparation, evaluation, or publication of this study.

#### USE OF AI FOR WRITING ASSISTANCE

Not declared.

#### ETHICS

The Istanbul University Ethics Committee received approval for the study.

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