„Dunărea de Jos" University of Galați
Doctoral School of Social Sciences and Humanities
Doctoral field: Management

DOCTORAL THESIS ABSTRACT

The effects of transforming the passion for equine activities into entrepreneurial initiatives in the development of this sector in Romania

PhD Candidate **OANA-DANIELA LUPOAE**

President **Professor Nicoleta CRISTACHE, PhD**
„Dunărea de Jos" University of Galati
Scientific Coordinator **Professor Alexandru CĂPĂȚÎNĂ, PhD**
„Dunărea de Jos" University of Galati
Scientific Reviewers **Professor Constantin BRĂTIANU, PhD**
National University of Political Studies and Public Administration of Bucharest
Professor Andrei Ștefan NEȘTIAN, PhD
„Alexandru Ioan Cuza" University of Iași
Professor Adrian MICU, PhD
„Dunărea de Jos" University of Galati

Series E 2: Management No. 24

Galați, 2023

The series of doctoral theses defended publicly in UDJG starting with October 1, 2013 are:

Field **ENGINEERING SCIENCES**

Series I 1**: Biotechnologies**
Series I 2**: Computers and information technology**
Series I 3**: Electrical engineering**
Series I 4**: Industrial engineering**
Series I 5**: Material engineering**
Series I 6**: Mechanical engineering**
Series I 7**: Food engineering**
Series I 8: **Systems Engineering**
Series I 9**: Engineering and management in agriculture and rural development**

The fundamental field **SOCIAL SCIENCES**

Series E 1**: Economics**
Series E 2**: Management**
Series E 3**: Marketing**
Seria SSEF: **Science of sport and physical education**

The fundamental field **HUMANITIES AND ARTS**

Series U 1**: Philology - English**
Series U 2**: Philology - Romanian**
Series U 3**: History**
Series U 4**: Philology - French**

The fundamental field **MATHEMATICS AND NATURAL SCIENCES**

Series C**: Chemistry**

The fundamental field **BIOLOGICAL AND BIOMEDICAL SCIENCES**

Series M**: Medicine**

Table of contents

Chapter I. Sustainable entrepreneurship

„We use resources as if we had two planets, not one.
This time there can be no "plan B" because there is no "planet B".
(Ban Ki-Moon)

Humanity's way of life and consumption far exceeds the regenerative capacity of our planet. Using resources "as if we had two planets" reflects a carelessness or ignorance towards the limits and fragility of the environment, therefore we must take responsibility for protecting and preserving it. This chapter explores the idea that entrepreneurship is not only an engine of innovation and economic growth, but also a catalyst for sustainable solutions to societal problems.

As CO2 emissions have raised the degree of pollution, many researchers have become interested in environmental issues (Yu et al., 2022), thus academic interest in sustainable entrepreneurship research has increased in recent years (Muñoz and Cohen, 2018).

The need for a performance analysis of scientific publications is determined by the speed with which research evolves in all fields, but also by the researcher's responsibility to provide added value by carrying out specialized studies.

Bibliometric analysis is a precise method of examining and analyzing a large volume of scientific information. Van Eck and Waltman (2017) argued that there are three main reasons why researchers use the bibliometric method: it helps to obtain overall scientific reviews, research evaluations are less subjective, and critical summaries of scientific papers can be obtained through traditional reviews.

VOSviewer is a widely accepted software for conducting bibliometric research (Costa et al., 2017). Researchers frequently use this program to visualize and build bibliometric networks. It is used to visualize and create co-occurrence networks for the topic and/or theme that have been drawn from high-impact literature.

Pranckutė (2021) points out that the most compared and used databases by the scientometric community are Web of Science (WoS) and Scopus, but no verdict has been reached regarding the superiority of one over the other.

Through the "sustainability" search key, 15.604 scientific papers were identified, which were published in the period 1994-2023 in the WoS database.

In order to establish the visualization map of the scientific base on the sustainable business model, 262 keywords were identified and only 29 passed the co-occurrence threshold of 3, forming 237 links between concepts. The most popular clustered keywords represent the main streams of research on sustainability in business management.

The results allowed the identification of five large analysis groups that reflect the sustainable business model, according to Figure no. 1.

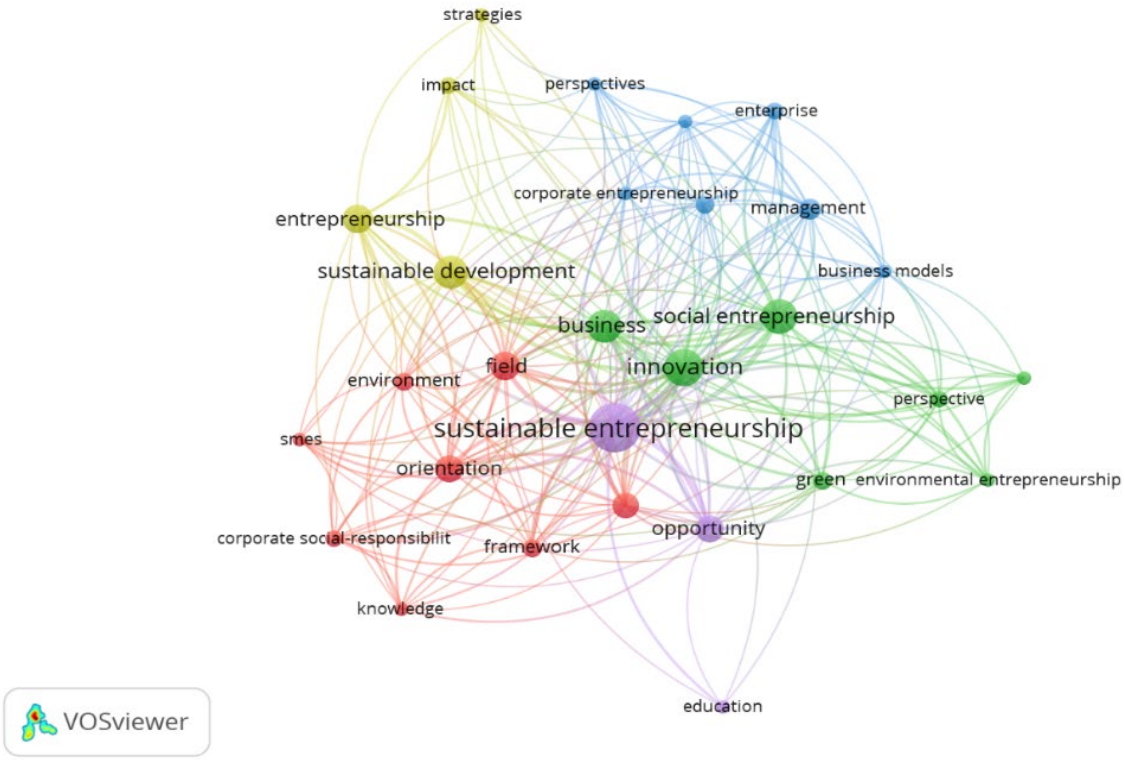

Figure 1. Map of key concepts related to sustainability
Source: VOS Viewer 1.6.19

The SCOPUS database indexes for the period 1982-2023, 56.913 publications. Following the application of the Boolean operators with the tags <<sustainability>> and <<sustainable development>>, 19.969 bibliographic materials, published in English, were obtained in the area of Business, Management and Accounting. From the 19.969 bibliographic materials, 58.176 keywords were identified. Of these, only 6.333 words passed the occurrence threshold of at least 5. For graphical representation, from the 6.333 words that passed the occurrence threshold of at least 5, the first 1000 words with the highest total link strength were selected, resulting in 5 clusters, according to Figure no. 2.

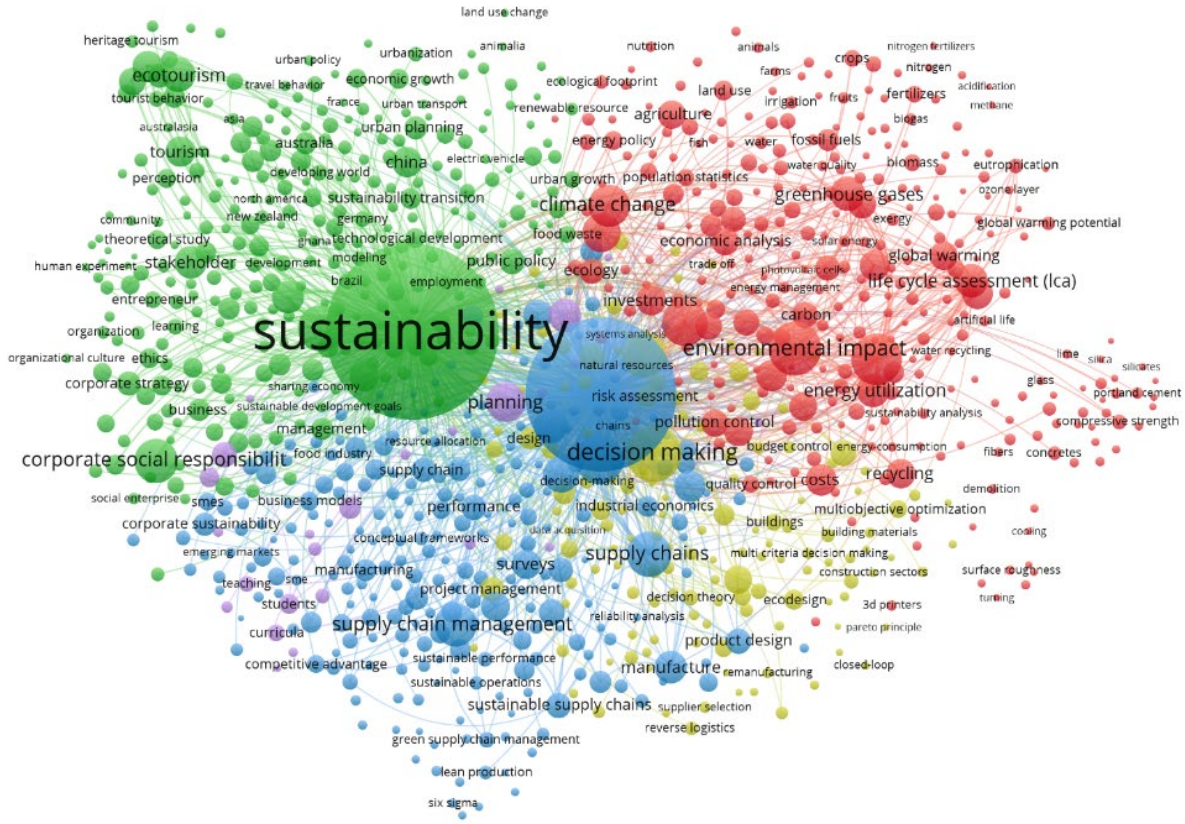

Figure 2. Graphical analysis of articles based on sustainable entrepreneurship
Source: processed with Vosviewer based on articles published on the SCOPUS platform

Wahl (2014) claimed that "sustainable management and values are the heart and soul of the company", and the graphic representation in Figure no. 1.6. in the shape of a heart is not purely coincidental and reinforces the remarks made by Lans et al. (2014) explaining that sustainable development sometimes requires responsible entrepreneurs with initiatives that want to change the world and come from the heart. Also, Cardon et al. (2012) presented this connection between entrepreneurship and the exploration of the heart, emphasizing that entrepreneurship is a generator of strong emotions on the heart, because it is an environment where uncertainty, decision-making, the application of sustainable strategies and the magnitude of consequences can radically change the fate of a firm.

The structure and function of the heart can illustrate how sustainability is an integral part of a sustainable business. Each chamber of the heart, represented in Figure no. 3, and each element of the business contributes to the overall flow and functioning of the entire system, emphasizing the importance of sustainable practices and decisions for the long-term success of a business.

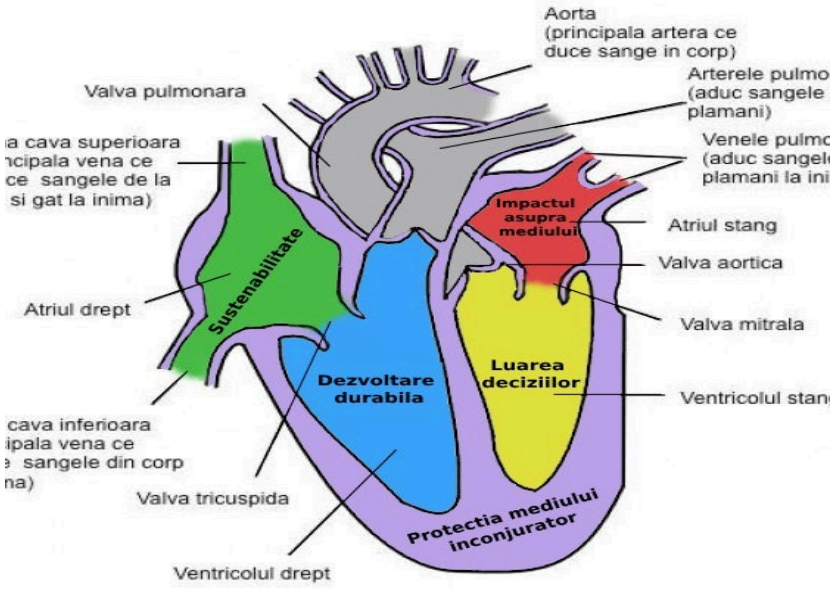

Figure 3. The structure of the heart
Source: https://cardioprevent.org/functionarea-inimii/

Sustainable entrepreneurship contributes to improving the health of the planet and human communities. By analogy with the anatomy of the heart, which is central to the functioning of the human body, sustainability can be considered central to the health and well-being of society.

It is essential to keep in mind that this connection between the anatomy of the heart and sustainable entrepreneurship does not have a direct scientific connection, but is merely an analogy and a metaphor. In any case, the use of analogies of this kind is an interesting method of approaching difficult problems and provokes thinking in new and inventive directions in the field of sustainable entrepreneurship.

Chapter II. Features of sustainable entrepreneurship in the equine sector

„The essential joy of being with horses is that it puts us in touch with the rare elements of grace, beauty, spirit and freedom."
(Sharon Ralls Lemon)

A number of factors influence the decision to approach the equine world: it is a very little-addressed niche at a regional level, it is a topic of interest because it integrates aspects of rural development, from agricultural diversification to tourism, including mobility, human services and the rural economy , and the line between passion and reason is quite thin and interesting to study.

The equestrian services sector can be seen as an important sector for the sustainable development of businesses due to the benefits that can be developed. et al., 2018).

Equestrian sport is considered a key factor of sustainable development with effects on the economy, society and environment and should be promoted in this sense by official bodies (Theodorou et al., 2018). The sustainability of equestrian sports depends on its ability to evolve and, in particular, to address ethical, environmental and equine welfare issues (Douglas et al., 2022).

There is research that has shown that the involvement of entrepreneurs and athletes in sustainability campaigns causes society to be aware of the risks it is subject to and to improve its sustainability behaviors both in terms of protecting the environment and social well-being (Dawson et al., 2011) .

Cultural attractions and socio-natural constructs have long been considered elements of sustainability, and equestrian tourism is one of the activities that support sustainable entrepreneurship in the equine sector (Ray, 2000).

France (2011) states that entrepreneurship in the equine sector develops in a sustainable way due to the transformation of rural areas through community integration and the association of services in a region, thus horse riding and equestrian tourism contribute to sustainable development (Sharpley and Telfer, 2015).

On the other hand, the horse has been used as a therapeutic agent since the time of the ancient Greeks, and Hippocrates spoke of the "riding rhythm of healing" (Bliss, 1997). The ancient Greeks offered horse rides to lift the spirits of people who had incurable diseases (Bizub et al., 2003).

Horses have a significant role in terms of ecological assets, and it is important to highlight their role as a green energy alternative in management practices, in the ecological transition of agriculture (Rzekęć et al., 2020). Manure is a nutrient resource that should be recycled efficiently. The transformation of manure into bioenergy and biofertilizers offers a sustainable alternative measure for the valorization of a waste.

The equine sector presents many advantages, but the fragmentation and lack of synthetic knowledge about the impact of horses on the environment do not allow the promotion of these biological assets and their effective inclusion in management practices. The knowledge possessed by entrepreneurs is particularly important because it influences individual development, the progress of society and the understanding of the world around, because an entrepreneur can make the difference between success and failure in business.

Bejinaru (2019) in the paper „Opportunities of harnessing organizational knowledge" presents the importance of correctly identifying the types of knowledge, explaining that it is essential for an entrepreneur to understand each category of knowledge and the processes underlying their formation, because it brings added value to the organization, contributes to successful completion of organizational tasks and more than that helps prevent errors.

The knowledge spiral, also known as the Nonaka-Takeuchi Spiral, is a conceptual model, developed by the Japanese theorists Ikujiro Nonaka and Hirotaka Takeuchi in the work "The knowledge creating" (Nonaka and Takeuchi, 1995), often used to describe the processes of learning and knowledge transfer within organizations. This model illustrates four processes: socialization, externalization, combination, and internalization (SECI).

Constantin Brătianu (2015) wrote about knowledge that "it includes both scientific ideas and theories as well as our emotions. Our spirituality is organically added to these. Recent research in cognitive science demonstrates the integrality of knowledge and the fact that it encompasses rational, emotional and spiritual knowledge".

The data and information presented were synthesized in graphic form, resulting in Figure no. 4, which visually presents the application of the SECI model and the Triple Helix of Knowledge in sustainable equestrian entrepreneurship.

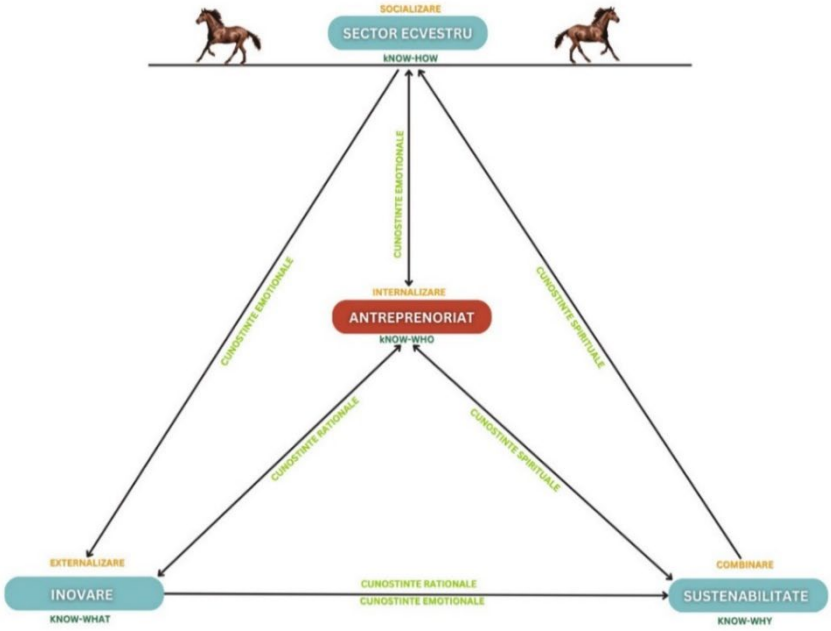

Figure 4. Knowledge management in the equestrian sector
Source: developed by the author based on the SECI and Triple Helix of Knowledge models

"Equine", "innovation" and "sustainability" are three concepts that can form a pivotal knowledge structure in equine-based entrepreneurship.

This graphic representation in the form of a pivot illustrates how the three types of knowledge (rational, emotional and spiritual) can work together and contribute to the development of sustainable entrepreneurship in the equestrian sector. Rational knowledge provides the technical and operational foundation, emotional knowledge supports relationships and community engagement, and spiritual knowledge provides deeper vision and direction for the sustainable equestrian business.

All three types of knowledge are interconnected with SECI processes (socialization, externalization, combination and internalization). This model promotes the idea that it is not enough to just have certain knowledge, but it is important to understand and evaluate in depth "how", "what" and "why" this knowledge can be effectively applied in different contexts in the equestrian sector .

When using the pivot structure metaphor, it emphasizes the importance of a solid foundation, effective leadership, and stability in business development or goal achievement. Figure 4 helps illustrate how the key elements of innovation and sustainability contribute to the success of a business in the equestrian sector. Like a solid foundation, a well-built structure provides stability and resilience in the face of challenges.

In an entrepreneurial context, it symbolizes the solid foundation on which a sustainable and innovative business can be built. Entrepreneurship is the center of balance or center of gravity, this is where all the elements meet and coordinate to maintain stability and efficiency.

By evaluating the applicability of theoretical concepts in the equine sector in Romania, this thesis proposes recommendations for entrepreneurs, highlighting methods by which they can improve the operational efficiency and ecological impact of their businesses.

By identifying the links between sustainability, innovation and economic success in the equestrian sector, the study highlights the strategic importance of this sector to the economy, as well as the social impact of sustainable practices on local communities.

These contributions highlight not only the academic relevance of the research, but also the practical and strategic impact it can have on the equestrian sector and, by extension, the economy. In conclusion, this study brings valuable insight and a significant contribution to understanding and improving sustainable entrepreneurship in the equestrian sector.

Chapter III. Analysis of entrepreneurial behavior regarding sustainable development in the equine sector

This chapter focuses on the analysis of entrepreneurial behavior in the equine sector, with particular attention to aspects related to sustainable development.

The main objective of this chapter is to investigate how entrepreneurs in the equine sector adapt and respond to the demands of sustainable development, what strategies and initiatives they develop and how these efforts influence both the business environment and the surrounding communities.

Also, this chapter studies the factors that motivate entrepreneurs to turn their attention to sustainable development and what are the obstacles they face in their transformation process. In Figure no. 5 the research questions and hypotheses are presented.

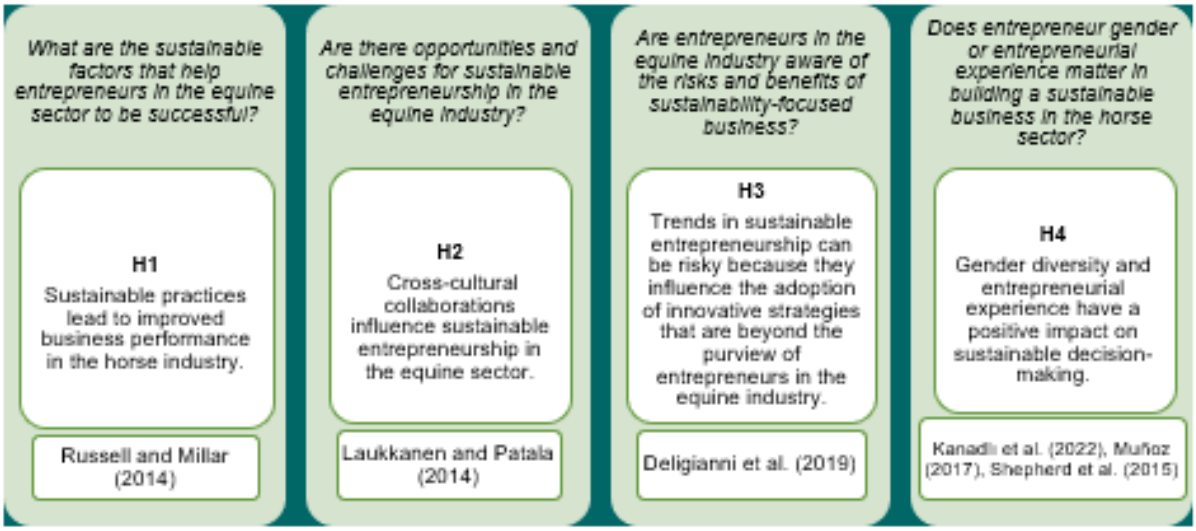

Figure 5. Research questions and hypotheses
Source: Personal contribution

This study is based on the theory of reciprocal determinism (Bandura, 1978), as it has been found that the entrepreneurial patterns observed in the horse industry influence other entrepreneurs in this field to adopt sustainable behaviors.

The study presented in this chapter refers to an exploration of qualitative data, therefore the thematic content analysis was carried out using Leximancer software (Leximancer, 2023) because it offers the possibility of an objective analysis (Smith and Humphreys, 2006).

In order to identify different entrepreneurs in the equine industry, research was carried out with the Google search engine and, in parallel, the professional social network LinkedIn, recognized for its business connections and collaborations, was used. Of the more than 50

entrepreneurs contacted, 20 accepted the invitation to respond to the interview, a sufficient number for the purpose of the study. Bernard and Bernard (2013, p. 175) suggest that to study the lived experience in any field of activity or region, 10 – 20 respondents are sufficient.

The entrepreneurs who responded to the interview are from: Europe - Spain, Ireland, Germany, England, Portugal, Slovakia, France, Italy, Romania, Republic of Moldova, America - Mexico, USA, Argentina, Africa - Senegal, Morocco, Asia - Jordan, Cyprus , Japan, China and Australia.

The first thematic analysis of the entire content segmented by years of experience and gender, can be found in Figure no. 6. The findings reveal 14 key themes, from the most prominent, represented by the concept of 'Horses', to the least prominent, 'Risk'.

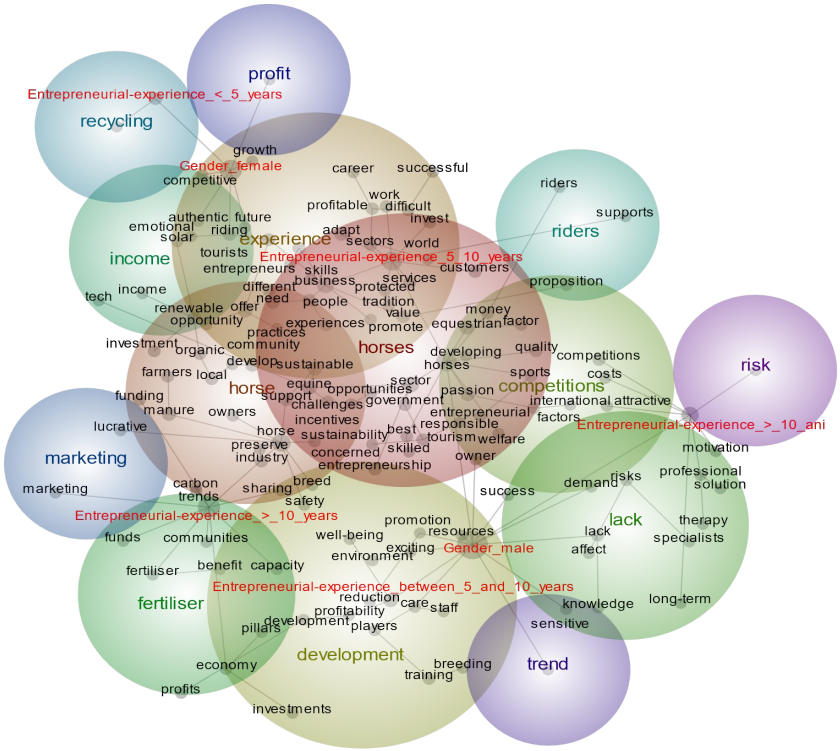

Figure 6. The Leximancer concept map: associating key themes and concepts by entrepreneurial experience and gender
Source: Leximancer software

Conceptual map from Figure no. 6 answers the first question (Q1) and the fourth research question (Q4).

As can be seen from Figure no. 6, there seems to be no relationship between the most important theme "horses" and "profit", "recycling", "fertilizer", "development", "shortages", "marketing", " trend' and 'risk'. It can be deduced that, until now, entrepreneurs have not been so interested in recycling products from the horse sector.

Conceptual map from Figure no. 7 presents the perspective on the second research question (Q2), and reveals twelve dominant themes: horses, riding, sector, passion, future, farmers, economy, lack, demand, recycling, solution and motivation. Although passion was the basis for establishing an equine business, the future of this sector is marked by its staying power and the government's ability to support this industry.

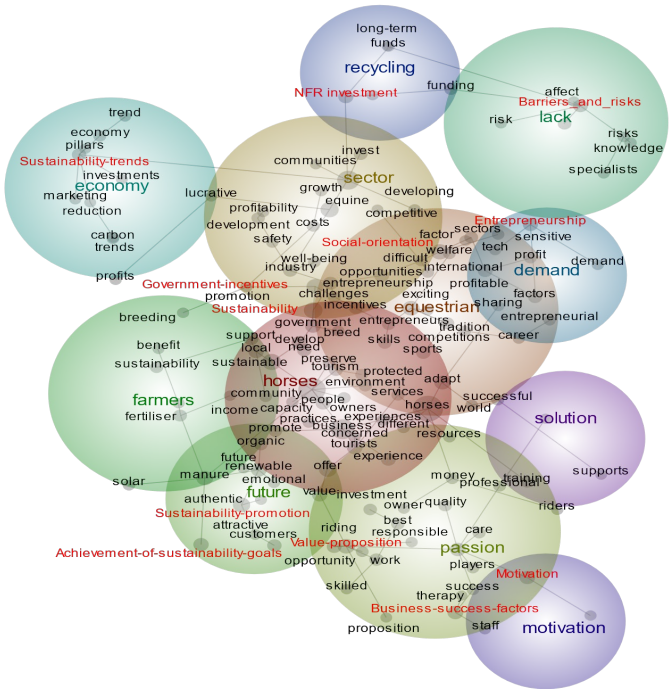

Figure 7. Leximancer concept map for associating enduring themes and concepts
Source: Leximancer software

Conceptual map from Figure no. 8 answers the third research question (Q3), and this presents ten dominant themes: future, passion, sector, factors, care, carbon, economy, solar, risk, risks.

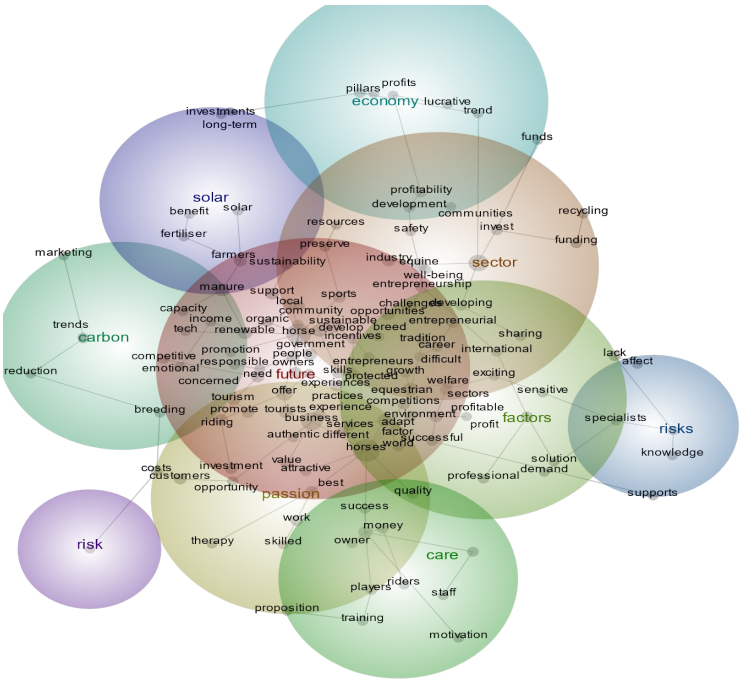

Figure 8. Leximancer concept map for the association of themes and general concepts
Source: Leximancer software

Figure 8 shows that there is no connection between the most important theme "future" and "economy" or "future" and "risk". Entrepreneurs who are passionate about horses see few opportunities in this sector that lead to profit maximization and, on the other hand, lack the courage to take certain risks.

The results show that the most important factors that keep this field a strong business is the passion for horses, the legacy of carrying on the traditions and skills required by this industry, the power to create social well-being through therapy and connection with nature, and not in lastly, the potential of this industry to be introduced into the circular economy through the processing of manure.

For sustainable and strong entrepreneurship in the horse industry, it is necessary for entrepreneurs to collaborate and look at the sector in a general sense, at an international level, not in a narrow perspective focused at a local level (Hypothesis 2 -validated). The equine sector needs this online communication to build a strong industry internationally and to strengthen a sustainable business model. The implementation of sustainable solutions can be discussed at the international level (Q3).

There are entrepreneurs from different nations with different cultures that encourage innovation, risk-taking, and embracing new ideas that can accelerate the adoption of sustainable technologies and practices in the horse industry, so hypothesis H3 is invalid.

Following the results obtained through the Leximancer analysis, women entrepreneurs play an important role in today's society and contribute to the implementation of a sustainable system in the economy because they are not only focused on profit, but also on recycling, cost reduction and denote a greater concern for marketing (Q4).

The gender of the entrepreneur may also play a role in shaping personal characteristics, perspectives, and networking opportunities. An entrepreneur's previous experiences in industry or running a business can significantly influence decision-making (Hypothesis 4-validated) and problem-solving skills. Past successes or failures can affect their confidence, risk-taking tendencies and approach to sustainability strategies.

This research highlighted that including cultural differences, entrepreneurial experience and gender perspectives improves our understanding of implementing a sustainable business model in the equine sector. The trend in the horse industry is closely related to the behavior of the entrepreneur which, in turn, is influenced by the social and ecological environment, as explained by Bandura in the theory of reciprocal determinism.

Chapter IV. Exploring entrepreneurial intentions in the equine sector in Romania: a correlational approach

Exploring entrepreneurial intentions in the equine sector through a correlational approach provides an objective and methodical analysis framework, focusing on identifying correlations between different variables or factors that can influence the entrepreneurial intentions of individuals in this field. This type of research relies on collecting quantitative data and using statistical analysis to assess relationships between variables.

The equine industry operates on two distinct components: the core activities, which include operations centered on the ownership and breeding of horses, and the specific activities, which include segments such as equine tourism, sports competitions, hippotherapy, as well as the processing of manure into bioenergy or biofertilizers . The present analysis focuses on the specific activities, considering the significant potential they represent in the configuration of a sustainable business model.

Therefore, in order to achieve the research objectives, three studies were carried out on entrepreneurial intentions in the equine sector, related to the specific activities, shown in Figure no. 9.

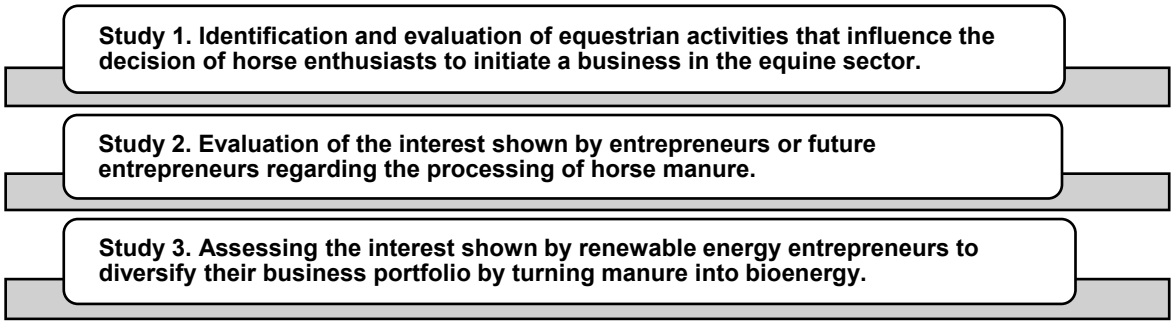

Figure 9. Objectives of quantitative research
Source: Personal contribution

The purpose of the first study is to investigate whether there are opportunities and interest for the establishment and development of a business in the equine sector in Romania based on the sustainable services offered by horses.

The purpose of the second study, which assesses the interest shown by entrepreneurs or future entrepreneurs regarding the processing of horse manure, is to analyze the intentions and perspectives of entrepreneurs regarding the sustainability of a business. For some entrepreneurs, the main objective may be to achieve maximum financial return in the short term, without necessarily focusing on social and environmental impact. So these studies analyze the financial, societal and environmental interests of entrepreneurs.

Mustafa et al. (2023) state that if entrepreneurs are aware of the benefits their business can have on the environment, they would be much more determined to invest in biomass-based renewable energy. Therefore, the third study analyzes the intentions and availability of entrepreneurs who are already active in the field of renewable energy and are aware of the environmental benefits of processing manure into bioenergy.

The Theory of Planned Behavior (TPB) provides a useful theoretical framework for understanding and analyzing entrepreneurial intentions and behaviors. According to this theory, an individual's decision to engage in a particular action can be influenced by his or her level of motivation to carry it out. The greater an entrepreneur's purpose in undertaking sustainable behavior, the greater the chance of developing it. Therefore, TPB can be applied in entrepreneurship to understand and improve the behaviors and decisions of entrepreneurs.

The research is based on the use of structural equations through the method of partial least squares PLS-SEM, where it is examined, by extracting the linear correlations of the observed variables, under which conditions entrepreneurs want to change their sustainable behavior and where the desire to change should be encouraged more , as well as on descriptive statistical analyses, regression analyzes and chi-square analyses.

Work tools such as SPSS or SmartPLS are often used to determine correlation coefficients and perform statistical tests to determine whether identified associations are statistically significant.

Figure no. 10 presents the hypotheses of the study on the identification and evaluation of equestrian activities that influence the decision of horse enthusiasts to initiate a business in the equine sector, providing an outline of the causal models investigated.

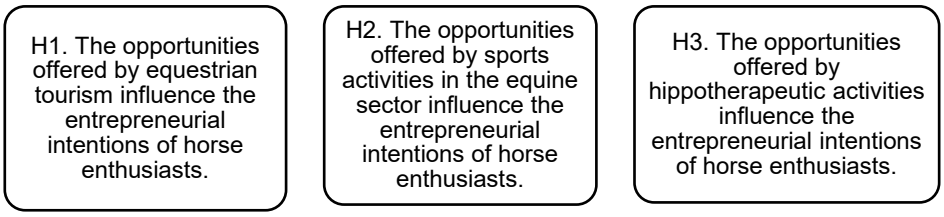

Figure 10. Study hypotheses on the identification and evaluation of equestrian activities influencing the decision of horse enthusiasts to start a business in the equine sector.
Sursa: Personal contribution

This study was aimed to identifying and analyzing the characteristics of a particular phenomenon: the involvement and preferences of Romanian horse enthusiasts. In this sense, an online questionnaire was developed to collect primary data directly from the target group of respondents, horse lovers. The goal was to include a variety of participants, from amateurs to professionals, and to capture a true picture of the horse community across the country. Following data collection efforts, 111 responses were collected and validated.

The results provided by SPSS demonstrate that sports and therapeutic activities have the greatest influence on entrepreneurial intention in the equine sector.

In order to truly identify the interest shown by current entrepreneurs or those who want to establish a start-up, we conducted the research starting from the hypotheses presented in Figure no. 11.

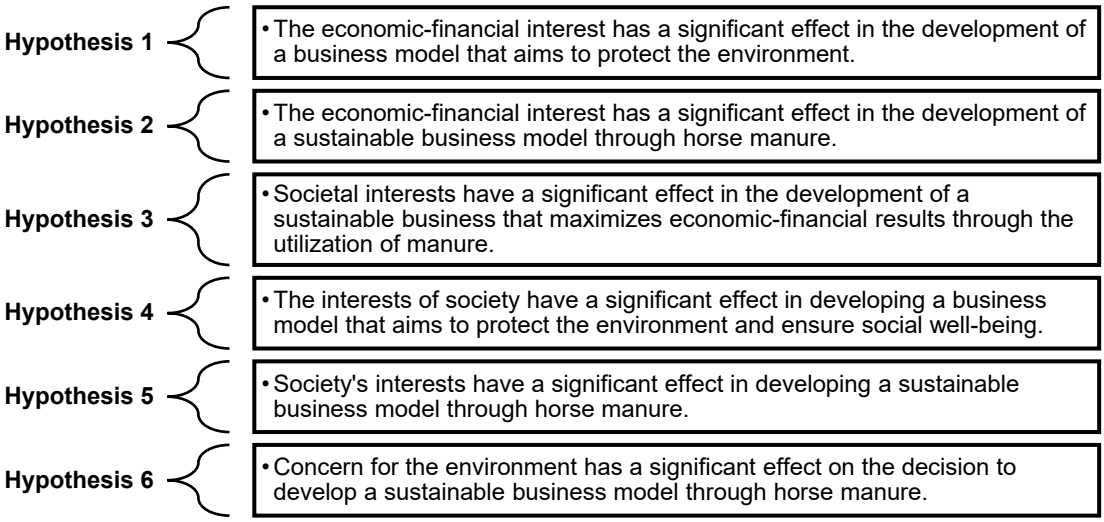

Figure 11. The hypotheses of the study regarding the valuation of the interest shown by entrepreneurs or future entrepreneurs regarding the processing of horse manure
Source: Personal contribution

In this study, data collection was done through a standardized research instrument: a questionnaire designed to capture the perceptions and experiences of entrepreneurs or aspiring entrepreneurs. This questionnaire was distributed online, being accessible through professional social platforms and forums dedicated to entrepreneurship, with the aim of

reaching as wide and diverse a sample as possible. After the end of the collection period, a total of 154 responses were validated and included in the analysis. The structural model from Figure no. 12 shows that society's interest (IOS) has the strongest effect on the economic-financial interest in developing a sustainable business model through horse manure (FEI) (relation coefficient 0.783). The strongest effect on the development of a sustainable business model through horse manure resulting in bioenergy (RBIO) is the societal interest in such an entrepreneurial endeavor (IOS) - relationship coefficient 0.558. Surprisingly, the study does not reflect an expected correlation between expressed interest in the environment (IFE) and the development of a sustainable business model through horse manure resulting in bioenergy (RBIO).

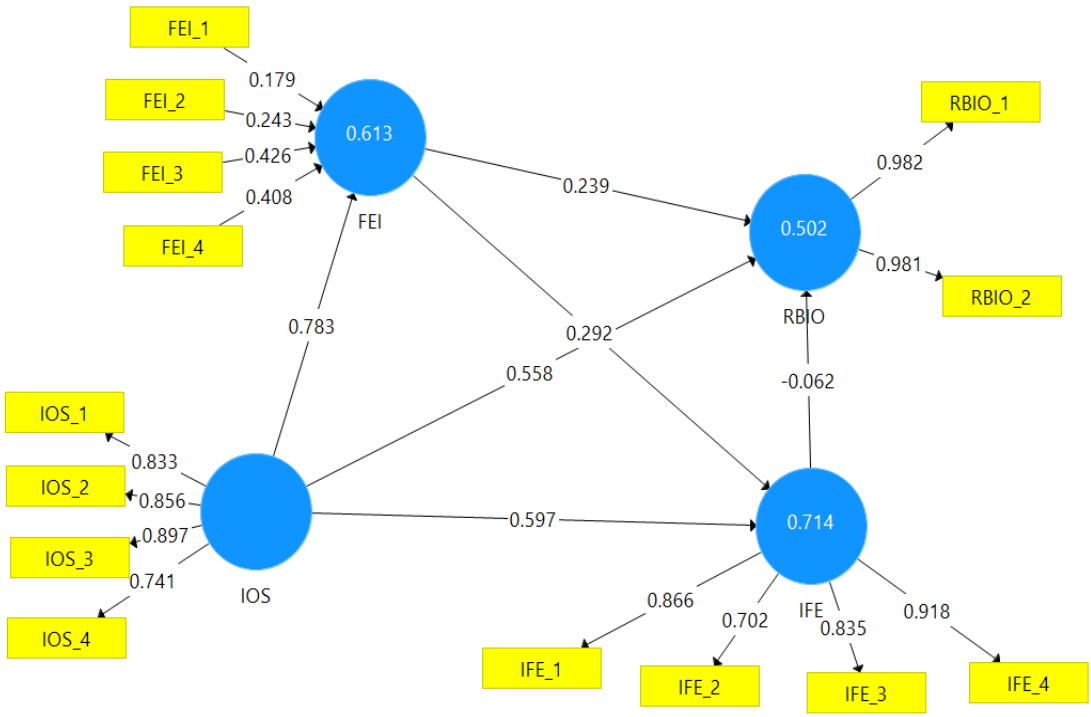

Figure 12. Highlighting the relationship coefficients within the structural model of the study regarding the evaluation of the interest shown by entrepreneurs or future entrepreneurs regarding the processing of horse manure.
Source: Smart PLS 3 software processing

Only 5 hypotheses out of 6 are validated, the p-value exceeds the maximum significance level allowed of 0.05 for the IFE-RBIO hypothesis (Interest for the environment has a significant effect on the decision to develop a sustainable business model through horse manure , 0.589> 0.05).

In order to identify the intentions of entrepreneurs in the field of renewable energy, we conducted the research starting from the hypotheses presented in Figure no. 13.

Hypothesis 1	• The pollution of the environment by the manure produced by horses represents for entrepreneurs an important factor in making the decision to develop the business portfolio based on renewable energy.
Hypothesis 2	• The concern for the environment determines the entrepreneurs to take an attitude towards the improper management regarding the storage and processing of horse manure.
Hypothesis 3	• The attitude of entrepreneurs towards manure management can significantly influence the development of a sustainable business based on renewable energy through the processing of garbage.
Hypothesis 4	• The financial benefits that can be obtained from the transformation of manure into renewable energy influence the interest of entrepreneurs to protect the environment.
Hypothesis 5	• The financial benefits that can be obtained by processing horse manure lead entrepreneurs to take an attitude towards its management and storage conditions.
Hypothesis 6	• The financial benefits that can be obtained from the processing of manure arouse the interest of entrepreneurs in renewable energy.

Figure 13. The hypotheses of the study regarding the evaluation of the interest shown by entrepreneurs in the field of renewable energy to diversify their business portfolio by transforming manure into bioenergy
Source: Personal contribution

The questionnaire was distributed digitally, targeting entrepreneurs operating in the field of renewable energy, with the aim of collecting authentic and up-to-date primary data. Online distribution provided accessibility and convenience, which fostered a prompt response and a significant participation rate. A total of 104 valid responses were obtained from the data collection efforts.

The structural model presented in Figure no. 14 suggests that the financial benefits (FBHMP) that can be obtained from the transformation of manure into renewable energy can generate entrepreneurs' concern for environmental protection (ECHM) (correlation coefficient 0.670), but entrepreneurs' concern for environmental pollution is not a sufficient factor of important to develop its business portfolio through garbage processing - negative correlation coefficient - 0.018.

However, there is interest in developing a sustainable business model through horse manure resulting in renewable energy only if the financial benefits that can be obtained are as expected - correlation coefficient 0.640.

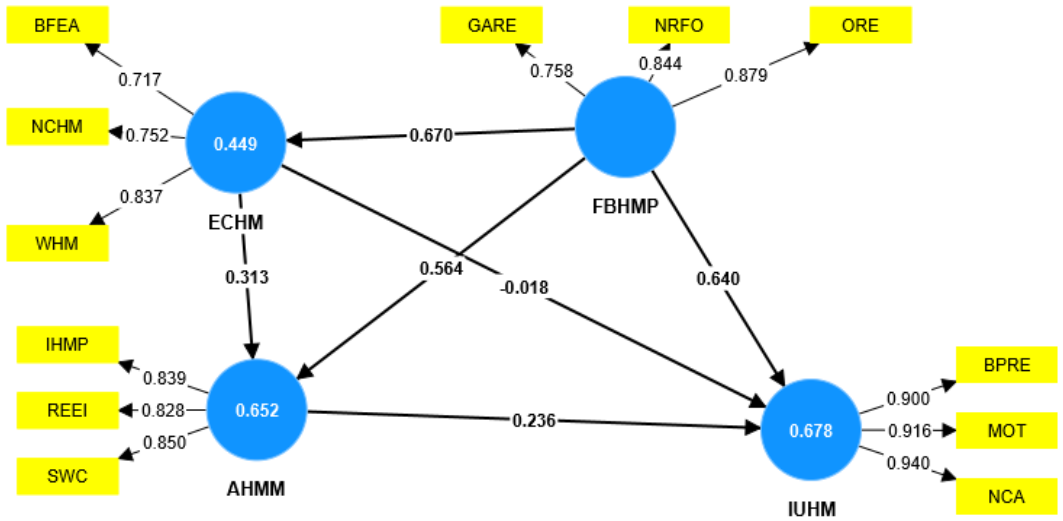

Figure 14. Highlighting correlation coefficients within the structural model
Source: Smart PLS 4 software processing

Only 4 hypotheses out of 6 are validated, the p-value exceeds the maximum significance level allowed of 0.05 for the hypothesis ECHM-IUHM (0.855 > 0.05) and AHMM IUHM (0.078 > 0.05).

The study on the evaluation of entrepreneurs' interest in modeling a sustainable business model may be relevant to draw attention to the main impediments facing society in order to develop a start-up regarding the management of horse manure, especially following the results obtained through through the PLS-SEM method.

The results of this study highlighted the influence of factors driving entrepreneurial intentions among energy entrepreneurs. The TPB basic model was tested in the context of sustainable entrepreneurship, by processing the manure produced by horses, finding that attitudes towards sustainability, subjective norms and perceived behavioral control determine entrepreneurial intentions in the perspective of economic-financial interests and less sustainable.

Chapter V. Entrepreneurial dynamics in the equine sector: a qualitative-comparative analysis of business intent and motivation

This chapter aims to explore two complementary facets of this new paradigm in entrepreneurship: on the one hand, the entrepreneurial intention of horse enthusiasts to build business initiatives based on sports competitions, hippotherapy and agritourism, and on the other hand, the interest of entrepreneurs for the transformation of an often ignored by-product – manure – into valuable bioenergy and biofertilizer resources.

In this context, studying entrepreneurial intention and through a comparative-qualitative approach becomes essential because it analyzes the relationships and interdependencies between the variables and provides a significant perspective on the direction in which this sector is heading.

The purpose of the study is to investigate whether there are combinations of causal conditions necessary for the development of a business in the equine sector in Romania.

Therefore, as in the previous chapter, in order to define the objectives of this research, two studies were carried out on entrepreneurial intentions in the equine sector, related to the specific activities, shown in Figure no. 15.

Figure 15. Objectives of qualitative-comparative studies
Source: Personal contribution

The first study exploring configurations of entrepreneurial intention in equine sector activities addresses the research question presented in Figure no. 16. FsQCA tests which combinations of antecedent conditions (interests in each of the three equestrian activities:

sport, tourism and hippotherapy) lead to the presence of a strong interest in developing a business in this sector.

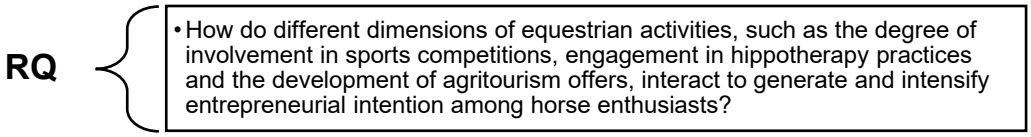

Figure 16. Research question related to the first comparative qualitative study
Source: Personal contribution

The research questions related to the study of the interests of manure entrepreneurs shown in Figure 17., focus on testing the interactions between different interests to determine the combinations that are most likely to be associated with an entrepreneurial commitment to the conversion of horse manure in bioenergy.

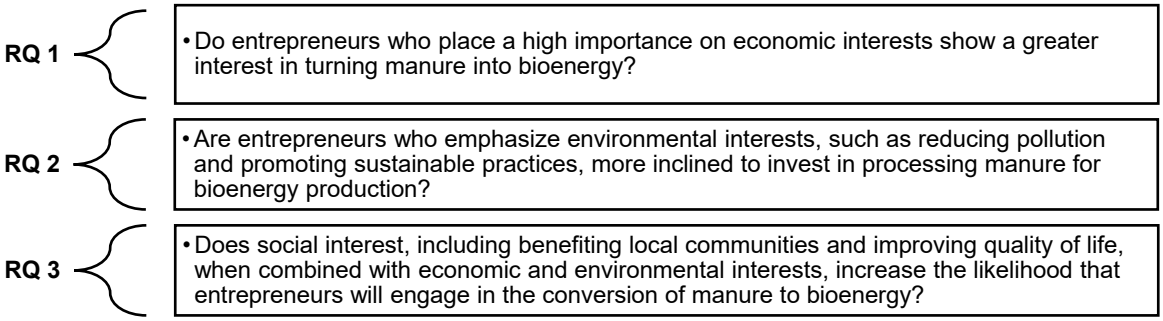

Figure 17. Research questions related to the second comparative qualitative study
Source: Personal contribution

Using examples from the field of physics, such as kinetic energy, helps to illustrate these relationships, contributing to the development of innovative approaches in qualitative-comparative research. Just as a moving object can have more kinetic energy and accomplish more work, so a passionate and determined entrepreneur can generate more "energy" to achieve their entrepreneurial goals.

By applying the FsQCA results, the coverage solution is considered to be comparable to the velocity (v) in the kinetic energy formula, and the consistency solution can be associated with the mass (m).

The connection between the kinetic energy formula and the FsQCA methodology is a metaphorical one, focusing on quantifying and understanding interactions and relationships in a given context. The aim is to see if and how the characteristics of activities in the equine sector, when integrated into an entrepreneurial model, can be "charged" with the necessary energy to "set in motion" the entrepreneurial intention. This analysis provides new insight into the driving forces behind entrepreneurial intention, with the potential to advance entrepreneurial theory and practice.

In the case of the study exploring entrepreneurial intention in activities in the equine sector, the majority of respondents are male, aged between 20-50 years, from the urban environment, with entrepreneurial experience, and the majority of respondents in the second study targeting the interests of entrepreneurs of manure recovery, are female, aged between 36-50 years, come from the urban environment and have entrepreneurial experience.

The complex solution offered by the Quine-McCluskey algorithm to the study of the exploration of entrepreneurial intention in activities in the equine sector, presented in Table no.

1, points out that sports and hippotherapeutic activities are the strongest indicators of entrepreneurial intention.

Table 1. The complex solution of the configurational model

Complex solution	**Gross coverage**	**Unique coverage**	**Consistency**
sports activities* therapeutic activities	0.93299	0.93299	0.845794
Coverage solution: 0.93299			
Consistency solution: 0.845794			

Source: FsQCA software processing

Sport and hippotherapy are recognized for their positive effects on physical and mental health, as well as their impact on the development of personal and social skills, all of which have the potential to influence entrepreneurial behaviour.

Also, after testing the conditions necessary to achieve the result, according to Table no. 2, it can be seen that agritourism activities along with sports activities have the highest consistency and sports activities along with therapeutic activities have the highest coverage in determining a horse enthusiast to establish an equine business.

Table 2. Testing the necessary conditions

Tested conditions	**Consistency**	**Coverage**
Ek1 = AGT * AS	0.984536	0.770161
Ek2 = AGT * ATER	0.969072	0.773663
Ek3 = AS * ATER	0.958763	0.775000

Source: FsQCA software processing

Following the application of the kinetic energy formula, it resulted that $E_{k1} > E_{k2} > E_{k3}$.

E_{k1} has the highest "kinetic energy", indicating that the synergy between agritourism and sports activities creates the most efficient and sustainable business model in the equine entrepreneurial context. Agritourism combined with sports activities appeals to a wider market segment, including families, active lifestyle enthusiasts and nature lovers. This combination provides a varied and dynamic experience, which increases attractiveness and growth potential. E_{k1} is distinguished by high "mass" and high "velocity", indicating a solid business model and a rapid ability to attract interest and grow in the market.

E_{k2} has a lower "kinetic energy" than E_{k1}, suggesting that although it is viable, it does not attract as much interest from horse enthusiasts to develop a business based on equestrian tourism and hippotherapy. Although it has a solid "mass", the moderate speed of the E_{k2} combination indicates a more gradual growth. Agrotourism combined with hippotherapeutic activities requires specialized staff and adapted facilities, which limits the speed of development and coverage.

E_{k3} has the lowest "kinetic energy", indicating that while it is an interesting niche, it does not have the same coverage potential or consistency as the other combinations. Sports activities combined with hippotherapy require a much higher level of specialization. This specialization increases costs and limits the number of entrepreneurs able to provide such services. While it has value and potential, this combination features lower "mass" and reduced "velocity", signaling challenges in terms of expandability. This model requires a more innovative and niche-oriented approach to be successful.

The results suggest that diversification and combining different types of activities are

essential for the success of a business in the equine sector. Business models that combine agritourism with other activities (sports or therapeutic) demonstrate potential for growth. It is important for entrepreneurs to choose strategies that align not only with market potential, but also with their resources, expertise, and passions. While some models may offer rapid growth and broad reach, others may offer opportunities for specialization and long-term satisfaction in niche markets.

Assuming that the intention to develop a business model through the transformation of horse manure varies from one entrepreneur to another, alternative combinations of causal conditions were considered, interpreted as determinants that may ultimately lead to the outcome.

As shown in Table no. 3, the consistency score is 0.846553, while the coverage score is 0.964165. These scores explain the fact that the distribution of the fuzzy sets is very consistent with the statement that the economic-financial interests together with the societal and environmental interests represent a subset of the result, for example the transformation of horse manure into bioenergy for the modeling of a sustainable business (factor of coverage 96.42%).

Table 3. Complex solution (testing sufficient conditions)

Tested conditions	Gross coverage	Unique coverage	Consistency
Economic and financial interests * societal interests * environmental interests	0.9606	0.844465	0.858412
Coverage solution: 0.964165			
Consistency solution: 0.846553			

Source: FsQCA software processing

The complex solution provided by the fsQCA software demonstrates that a combination of specific antecedent conditions of economic-financial, social and environmental interests most influence the outcome: the development of a sustainable business model in the equine sector (coverage score: 0.964165, consistency score : 0.846553).

Also, after testing some subsets of conditions, according to Table no. 4, it can be observed that the economic-financial interest together with the interest in protecting the environment have the greatest impact in making a decision by an entrepreneur (or future entrepreneur) in creating a business based on the transformation of manure.

Table 4. Testing the necessary conditions

Tested conditions	Consistency	Coverage
Ek1 = cIEF * cIS	0.991745	0.789368
Ek2 = cIEF * cIM	0.997280	0.765647
Ek3 = cIS * cIM	0.995122	0.773968

Source: FsQCA software processing

According to the obtained results, this study demonstrates that all three antecedent conditions combined lead to the outcome.

Following the application of the kinetic formula, it resulted: $\boldsymbol{E_{k1} > E_{k3} > E_{k2}}$.

Value $\boldsymbol{E_{k1}}$ higher than the other two kinetic energy values, indicates a strong potential for action when entrepreneurs balance economic and social interests. In the context of turning manure into bioenergy, this suggests that entrepreneurs may be more motivated to initiate and support this type of project when they see not only financial benefits, but also social value -

such as job creation, development community or improving the quality of life.

Value E_{k3} higher than E_{k2}, but lower than E_{k1}, suggests that entrepreneurs are quite motivated by a dual ethic - social and environmental responsibility. This implies that initiatives that bring benefits to the community and at the same time contribute to protecting the environment are considered valuable by entrepreneurs.

Value E_{k2} lower than E_{k1} and E_{k3}, suggests that financial interests combined with environmental concerns do not provide the same motivational force for entrepreneurs as the other two combinations. Entrepreneurs are more reserved in initiating projects that require a direct balance between profitability and ecological sustainability, as such initiatives may be more difficult to implement.

The result obtained from the perspective of the analogy with kinetic energy, the combination of economic-financial and societal interests generates the greatest motivational "force" or "energy". In this case, "mass" and "velocity" can symbolize the impact and speed with which these interests push entrepreneurs to act.

On the other hand, fsQCA identified the combination of economic-financial interests with those for environmental protection as having the greatest consistency, and the combination of economic-financial interests with social ones as having the greatest coverage. This could indicate that there is a repeatable combination of conditions that favor entrepreneurial intent in bioenergy, even if there is no meaningful "energy" in terms of the kinetic energy analogy.

Therefore, the studies conducted answered the research questions, showing that entrepreneurs and future entrepreneurs, in addition to the interest in profit maximization, are also interested in economic development, protecting the needs of society and protecting the environment, so that they can implement a model sustainable business by turning manure into bioenergy or biofertilizer.

In conclusion, this chapter contributes significantly to the understanding of the complexity of the conditions necessary for business development in the equine sector in Romania. It highlights a clear orientation of entrepreneurs towards business models that integrate both sporting and therapeutic benefits as well as those related to sustainability and ecological responsibility. These findings pave the way for further investigation and the development of business strategies to meet the complex needs of the sector, with the potential to influence the directions of economic development in the field.

Chapter VI. Proposals of innovative strategies for the development of sustainable entrepreneurship in the equine sector

In the complex dynamics of contemporary entrepreneurship, the equine sector faces unique challenges and opportunities, amplified by the need for a sustainable and responsible approach. This chapter proposes an in-depth analysis of the internal and external factors that influence this sector, aiming to identify the driving forces, vulnerabilities, growth prospects and potential risks that shape entrepreneurship in the equine sector in Romania.

Equine entrepreneurs must find a balance and combine their passion for equestrian activities with sustainable practices. This balance requires a clear understanding of the current state of the industry and its future trajectory. The SWOT analysis not only provides a detailed map of the current entrepreneurial landscape in this sector, but also serves as a foundation for building strategies aimed at supporting sustainable growth and ensuring a business centered

on ecological and ethical principles at the same time.

Based on previous studies, this chapter is dedicated to synthesizing the strategies that can be implemented for the development of sustainable businesses in the equine sector. The proposed strategies are designed to support entrepreneurial initiatives in transforming the passion for equestrian activities into profitable businesses that contribute positively to both economic, social and ecological development.

Through this multidimensional approach, this doctoral thesis offers to entrepreneurs in this sector a guide to best practices and strategic actions. These strategies aim not only to strengthen the current business position, but also to embrace innovation and technology, essential for long-term relevance and sustainability in the equestrian sector.

Therefore, in Table no. 5, the SWOT analysis of entrepreneurship in the equine sector is presented based on the findings made in the previous chapters.

Table 5. SWOT analysis of the equine sector in Romania

STRENGTHS	**WEAKNESSES**
▪ **Tradition and culture:** Romania has a rich history and a culture deeply rooted in equestrian activities, which can be a strong attraction factor for national and international tourism. ▪ **Landscape diversity**: The varied landscapes offer ample possibilities for equestrian tourism, training and sports competitions. ▪ **Local expertise:** There is a knowledge base and experts in horse training and care that can serve as resources for education initiatives and specialized services. ▪ **Passionate entrepreneurs and dedicated communities:** The presence of a large number of horse enthusiasts who can support equestrian activities.	▪ **Limited infrastructure:** lack of modern facilities or maintenance of existing infrastructures. ▪ **Insufficient financing:** Limited access to financing and investment for the expansion and modernization of businesses in this sector. ▪ **Low awareness:** Low level of awareness of the importance of animal welfare and sustainable practices. ▪ **Limited financial resources:** High initial investment and limited access to finance can represent significant barriers to implementing sustainable practices. ▪ **Lack of sustainability expertise:** Entrepreneurs may need additional training to understand and correctly apply sustainability principles.
OPPORTUNITIES	**THREATS**
▪ **Equestrian tourism:** Development of themed travel packages and immersive experiences to attract tourism. ▪ **Global partnerships:** Collaboration with international organizations for knowledge exchange and funding. ▪ **Sustainability**: Increasing demand for sustainable and ethical business practices. ▪ **Technology:** Using digital technologies and online platforms for marketing and expanding services. ▪ **Partnerships with NGOs:** Collaborations with non-profit organizations for environmental and educational projects.	▪ **Competition:** Strong competition from other equine destinations and sectors. The global equine sector can offer less expensive alternatives, even if they are less sustainable. ▪ **Climate change:** The impact of climate change on the natural environment and on the living conditions of horses. ▪ **Environmental policies:** Stricter environmental regulations may impose additional restrictions that increase operational costs. ▪ **Economic trends:** Economic fluctuations that may reduce demand for expensive

▪ **Green Marketing:** Using sustainability as a marketing advantage to attract customers who value green practices.	recreational activities, including equestrian tourism. ▪ **Changes in consumer preferences:** Changes in consumption trends that may influence the demand for equestrian activities. ▪ **Animal diseases:** Risk of epidemics that can affect horses and impose restrictions on activities.

Source: Personal contribution

The triple bottom line theory (Elkington, 1994) provides a valuable conceptual framework, focusing not only on short-term profitability, but also on the long-term impact on people and the planet (Glac, 2015). Implementing the principles of this theory can help not only to maximize the benefits identified by the SWOT analysis, but also to reduce the risks and threats that have been brought to attention. Therefore, the next section presents the theory of the triple bottom line, which can be integrated into the development strategies of the equine sector.

The theory of the triple bottom line (also known as "3P" – People, Planet, Profit) was formulated by John Elkington in 1994 and is a basic principle for sustainable practices (Gupta, 2011). This theory suggests that organizations should focus not only on profit, but also on their impact on people and the planet (Brandon-Jones, 2015).

This chapter aims to develop a series of strategies for motivated individuals to embrace their passion for equestrian activities and turn it into sustainable entrepreneurial initiatives. These strategies will not only contribute to the economic prosperity of this sector, but will also play an essential role in preserving cultural heritage and protecting the environment. Through their implementation, entrepreneurs and horse enthusiasts will be able to develop their businesses not only in an economically viable manner, but also in accordance with the principles of sustainable development, which assume a balance between economic growth, environmental protection and social welfare. Therefore, this thesis proposes the following ten strategies:

1. **The strategy for approaching the sustainability paradigm and the motivation to translate it into business in the equine sector**

Reorienting entrepreneurs to a sustainable niche that ensures a financially, socially and environmentally efficient career can be achieved by starting business plans and obtaining grant funding for both business start-up and business development. The desire to succeed as an entrepreneur in a field where the passion for horses is paramount, as well as the transformation of the passion of horse owners into a business idea, based on sustainability and also based on interaction with other entrepreneurs, can lead to the creation of a profitable and long lasting businesses.

Taking action and managing your business correctly will eliminate fears about being a sustainable entrepreneur in the equestrian sector. During the transition from running a passion-based business to sustainable entrepreneurship, identifying and analyzing risk factors is paramount. With their identification comes challenges, challenges that can be transformed or seen as opportunities for development.

2. **The strategy of forming a sustainable entrepreneurial mentality through education and awareness**

Continuous information on the economic and political environment, continuous training and education for the formation of sustainable entrepreneurial mindsets is imperative. Entrepreneurship was, is and will always remain a factor that generates prosperity in a modern society, being a determining economic factor in development.

3. **Strategy for development and innovation in the equine sector by creating a collaborative network**

Repetition of daily tasks causes entrepreneurs to become routinized and stagnate in terms of generating new ideas. Routine can have negative effects and thus reduce creativity and spontaneity in the activity of an entrepreneur in the equine sector.

Collaboration between entrepreneurs in the equine sector is essential in developing a sustainable entrepreneurial ecosystem. It is important that sustainable entrepreneurship in the horse sector stimulates collaborations at a regional, national or even international level. Adopting the latest techniques and innovations in horse care is vital to maximize efficiency and reduce environmental impact.

4. **The strategy of promoting sustainable mobility in the equine sector**

It is important that an equine industry business strategy is tailored to the specifics of the equine sector and involves collaboration with key stakeholders such as equestrian professionals, specialist organisations, local authorities and other relevant stakeholders to ensure effective implementation and success of the strategy promoting sustainable mobility.

5. **The strategy of developing online platforms and using social networks to increase the visibility of equestrian businesses**

Using online platforms and social media to educate the general public about sustainability and promote sustainable equestrian activities is another proposed strategy. The strategy of developing online platforms and the effective use of social networks contribute to the expansion of the market presence, the improvement of communication with customers and the promotion of an ecological brand in the equine sector.

6. **Virtual reality integration strategy through Metaverse for education and immersive experiences in the equine sector**

Entrepreneurs can explore the potential of Metaverse to create immersive experiences that promote equestrian education and sustainability. Through the use of virtual reality (VR), interactive simulations and educational programs can be developed that allow users to learn about horse care, farm management, and the ecological impact of various practices without consuming natural resources or harming the environment.

7. **The strategy of multiplying the impact of entrepreneurial resources and actions in the equine sector**

This strategy focuses on four essential components, like the functions of the heart, which are essential for the health and sustainability of business in the equine sector. It also focuses on multiplying the impact of entrepreneurial resources and actions by increasing their 'mass' and 'speed' in the context of sustainable business development in the equestrian sector.

By implementing this strategy, the equine sector can become an example of vitality and sustainability, promoting a business model that respects ecological and social principles and contributes to a healthier and more prosperous future for Romanian communities.

8. **Strategies for developing a knowledge management system in the equine sector**

This strategy aims to collect, organize and share equestrian knowledge and best practices to support business innovation and sustainability. The implementation of this strategy will help increase the capacity of the equestrian sector to innovate and adapt to environmental, legislative and market changes, thus ensuring a solid foundation for long-term sustainable development.

9. **The strategy of implementing a system of ecological practices at the level of companies in the equine sector**

The implementation of a system of ecological practices at the level of companies in the equine sector aims to reduce the consumption of resources and minimize waste. Investment in renewable energy sources and energy efficiency solutions for equine facilities, as well as the implementation of recycling and reuse systems in all operations related to equestrian activity, are other components of this strategy.

10. **Strategies for monitoring and reporting sustainable performance in the equine sector**

Sustainable performance monitoring and reporting strategies are crucial to ensure that the equine sector not only sets sustainable targets, but also meets them by tracking progress and communicating it to stakeholders.

This strategic approach enables not only the monitoring and reporting of progress in terms of sustainability, but also the continuous improvement of the ecological and social performance of the equine sector. Its implementation requires an organizational culture open to learning and adaptation, as well as a commitment to investing in technology and training.

This chapter proposes a wide range of strategies, designed to present the complexities and challenges of the equine sector, all from a sustainable perspective. The SWOT analysis provided a clear picture of the sector, highlighting the strengths that can be capitalized on, the weaknesses that need attention and improvement, the opportunities that need to be captured, and the threats that need to be managed with prudence and strategic intelligence.

Sustainable entrepreneurship in the equestrian sector through the prism of the "3P" - People, Planet, Profit highlights the deep interconnection between the social well-being of communities, conservation and respect for the natural environment, and the need for solid economic performance to support entrepreneurial initiatives.

The main conclusions drawn from this study are multifaceted and reveal the fact that, despite some present weaknesses and threats, the equine sector in Romania has significant resources and a fertile ground for entrepreneurship, innovation and sustainable growth. The proposed strategies, from the integration of emerging technologies such as metaverse and blockchain, to the focus on equestrian tourism and awareness and education initiatives, illustrate enormous potential for a prosperous and environmentally responsible future.

Chapter VII. Conclusions. Theoretical and practical implications

This research explored the complex dynamics of sustainable entrepreneurship in the equine sector, interweaving bibliometric analysis with qualitative and quantitative investigations to better understand current practices and potential for development.

In this thesis, special attention was paid to the historical evolution of the equine sector in Romania, identifying the major transitions and influences that shaped entrepreneurial practices over time. This retrospective approach provided a solid basis for understanding current trends and anticipating potential future changes. Furthermore, the study incorporated an innovative perspective by applying knowledge management processes, adopting the SECI (socialization, externalization, combination, internalization) and Triple Helix of Knowledge (emotional knowledge, rational knowledge, and spiritual knowledge) models to analyze and potentiate knowledge sharing in equestrian entrepreneurship.

By using VosViewer, a literature mapping was carried out, identifying a "heart" of knowledge in sustainable entrepreneurship. This result not only emphasized the pulsating center of sustainable entrepreneurship research, but also provided a basis for the metaphorical analogy between the circulatory structure of the heart and a healthy entrepreneurial ecosystem.

Interviews with entrepreneurs in the equine sector revealed a significant influence of personal values and perceptions of sustainability. The obtained results support the theory of self-efficacy and highlight a link between individual beliefs and sustainable entrepreneurial actions.

Using Bandura's self-efficacy theory allowed the examination of the confidence that equine entrepreneurs have in their abilities to undertake and complete sustainable actions. Reciprocal determinism theory also helped to understand the interaction between equine entrepreneurs, their behaviors and the social environment. This approach highlighted that sustainable success in the equine sector is not one-way, but the result of continuous and two-way influence. Leximancer software was also used to extract key themes and concepts from the entrepreneur interviews, providing an objective analysis of the qualitative data. This tool allowed the highlighting of unexpected links between different concepts and perceptions, but with the recognition that interpreting the context and subtleties of language remains a methodological challenge.

Quantitative studies using SPSS and SmartPls indicated a strong correlation between passion for equestrian activities (sports competitions, equestrian tourism and hippotherapy) and the intention to develop a business. The connection between entrepreneurs' interests (economic, social or ecological) to develop a sustainable business model based on the processing of manure into bioenergy or biofertilizers was also analyzed, providing empirical support for the theory of planned behavior. This highlights the potential of passion for horses as a predictor of involvement in business initiatives in the equestrian sector.

Integrating the theory of planned behavior has provided a framework to analyze entrepreneurial intentions and how attitudes, subjective norms, and perceived control influence entrepreneurial behavior. This theory represented an important foundation in the interpretation of quantitative data and contributed to the development of a predictive model of entrepreneurial behavior intention in the equestrian sector.

Another distinctive aspect of this research is the use of qualitative-comparative analysis based on fuzzy sets to explore the configurations of antecedent conditions that impact entrepreneurial intentions in the equine sector. The fsQCA approach allowed a more nuanced interpretation than traditional quantitative methods, taking into account the complexity and multidimensional nature of sustainability in entrepreneurial practice.

The solutions provided by fsQCA were analyzed by analogy with elements of kinetic energy theory. The application of the kinetic energy formula in this specific context represents a distinct methodological innovation. Through this analogy, 'mass' (m) has been interpreted as the static entrepreneurial capacity, for example the foundation of knowledge, skills and resources available to an entrepreneur. 'Velocity' (v), on the other hand, has been associated

with the dynamics of this potential, illustrating how strategic entrepreneurial actions can activate and mobilize entrepreneurial potential. This perspective enabled the conceptualization and assessment of the dynamic forces that influence entrepreneurial intention and behavior.

The results of the studies carried out in this thesis led to the development of a SWOT analysis, which was essential in identifying the strengths, weaknesses, opportunities and threats specific to the equine sector. By correlating these aspects with the principles of the triple bottom line theory, an evaluation framework was created that balances economic performance with ecological and social responsibility, represented by the three P (People, Planet, Profit). Based on this analysis, innovative strategies and performance measurement indicators were proposed to guide equine entrepreneurs towards sustainable development.

The methods used in this thesis demonstrated the power of a complementary approach in research, each adding a layer of understanding and verification of results. At the same time, they paved the way for future research to expand these techniques and explore new applications in different contexts of equestrian entrepreneurship.

This thesis enriches the theoretical body of sustainable entrepreneurship in the specific context of the equine sector, offering new insights into the interactions between business, social responsibility and ecological practices.

The findings of this thesis also highlight the vital importance of sustainable entrepreneurship in promoting a more responsible and equitable society. In the equine sector, which intersects with both cultural traditions and business innovations, the social impact of strategic entrepreneurship becomes evident. By emphasizing the relationship between individual passion and entrepreneurial initiative, the paper encourages the equestrian community and those involved to actively harness this passion to generate positive change.

The present paper makes significant contributions not only at the theoretical level, but also in the practical sphere, providing entrepreneurs and managers in the equine sector with a set of strategic tools and practical insights to guide their businesses towards a sustainable future.

Using the results of the study, managers can develop business plans that balance economic requirements with environmental and social responsibility. This balance is essential to ensure longevity and success in an increasingly sustainable business environment.

Any academic research is characterized by certain limitations that must be acknowledged in order to properly frame the results and guide future research.

The main limitation that could affect the presented studies is the use of relatively niche samples. Despite efforts to ensure representativeness, the samples do not include all types of entrepreneurs in the equine sector.

The working tools used may have certain limitations. VosViewer and Leximancer may have constraints in interpreting complex contexts or metaphors. SPSS and SmartPLS are dependent on sample size and quality, and fsQCA can be limited by the quality settings and parameters chosen for the setup.

The use of analogies between the functionality of the heart and entrepreneurship, and between kinetic energy and entrepreneurial dynamics, provide innovative insights, but there may be limitations in their universal applicability or interpretation, given that such comparisons are metaphorical.

Although this thesis has integrated various theories to better understand sustainable entrepreneurship, it is largely based on existing theoretical frameworks, which may be limited in exposing all the complex aspects of the equine sector. This suggests the need for continued development of theories in this area.

These limitations do not diminish the value of the research, but rather emphasize the need for complementary methodological approaches and continued exploration of this dynamic field. They open avenues for future research, suggesting the need to expand the sample, use mixed methods of data collection, apply complementary research methods, and explore new variables and theories.

Future research directions could aim to expand the analysis of entrepreneurial behavior to include a larger and more diverse sample, investigate the potential of emerging technologies, integrate new interdisciplinary perspectives and theories, integrate neuroscience studies, investigate the long-term impact of sustainable strategies proposed in this study.

This thesis stimulates strategic thinking in sustainable entrepreneurship research, and future research can continue to explore and develop these analogies, providing new ways to conceptualize and address challenges in the equine sector.

References - selected

1. Aftab, J., & Veneziani, M. (2023). How does green human resource management contribute to saving the environment? Evidence of emerging market manufacturing firms. *Business Strategy and the Environment*.
2. Ajide, F. M., Soyemi, K. A., & Oladipupo, S. A. (2023). Business climate and environmental degradation: evidence from Africa. Environment, Development and Sustainability, 1-27
3. Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, *50*(2), 179-211.
4. Bakry, W., Mallik, G., Nghiem, X. H., Sinha, A., & Vo, X. V. (2023). Is green finance really “green”? Examining the long-run relationship between green finance, renewable energy and environmental performance in developing countries. *Renewable Energy*, *208*, 341-355.
5. Bandura, A. (1978). The self-system in reciprocal determinism. American psychologist, 33(4), 344.
6. Bandura, A. (2000). Self-efficacy: The foundation of agency. *Control of human behavior, mental processes, and consciousness: Essays in honor of the 60th birthday of August Flammer*, *16*.
7. Barasara, B. R., Kour, H., Naliyapara, H. B., & Vaidya, A. C. (2023). Knowledge of scientific horse rearing practices and constrain as perceived by horse owners of middle Gujarat.
8. Bejinaru, R. (2016). Knowledge dynamics impact on intellectual capital in organizations. *Management Dynamics in the Knowledge Economy*, *4*(4), 515-534.
9. Bogatyreva, K., Edelman, L. F., Manolova, T. S., Osiyevskyy, O., & Shirokova, G. (2019). When do entrepreneurial intentions lead to actions? The role of national culture. Journal of Business Research, 96, 309-321.
10. Bosse, D. A., Harrison, J. S., Pollack, J. M., & Schrempf-Stirling, J. (2023). Entrepreneurial opportunities as responsibility. Entrepreneurship Theory and Practice, 47(1), 3-16.
11. Brandon-Jones, E. (2015). Triple-bottom line. Wiley Encyclopedia of Management, 1-1.
12. Bratianu, C. (2010, March). A critical analysis of Nonaka’s model of knowledge dynamics. In Proceedings of the 2nd European Conference on Intellectual Capital, ISCTE Lisbon University Institute, Lisbon, Portugal (Vol. 29, No. 30, pp. 115-120).

13. BRĂTIANU, C. (2013). The triple helix of the organizational knowledge. *Management dynamics in the knowledge economy*, *1*(2), 207-207.
14. Bratianu, C. (2015). Spiritual knowledge. *Organizational knowledge dynamics: Managing knowledge creation, acquisition, sharing, and transformation*, 72-102.
15. Capatina, A., & Rancati, E. (Eds.). (2017). Key challenges and opportunities in web entrepreneurship.
16. Capatina, A., Bleoju, G., Micu, A., & Dragan, G. B. (2019). The Role of an Eco-Knowledge Hub in Leveraging Intellectual Capital Green Governance. *Intellectual Capital Management as a Driver of Sustainability: Perspectives for Organizations and Society*, 157-175.
17. Chiumenti, A., Owono, B. O., & da Borso, F. (2023). Biomethane potential of fresh horse manure and straw-based litter. In *2023 ASABE Annual International Meeting* (p. 1). American Society of Agricultural and Biological Engineers.
18. Di Vaio, A., Hassan, R., Chhabra, M., Arrigo, E., & Palladino, R. (2022). Sustainable entrepreneurship impact and entrepreneurial venture life cycle: A systematic literature review. Journal of Cleaner Production, 134469.
19. Dias, Á., Silva, G. M., Patuleia, M., & González-Rodríguez, M. R. (2023). Developing sustainable business models: Local knowledge acquisition and tourism lifestyle entrepreneurship. Journal of Sustainable Tourism, 31(4), 931-950.
20. Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of business research*, *133*, 285-296.
21. Drăgan, G. B., Panait, A. A., & Schin, G. C. (2021). Tracking precursors of entrepreneurial intention: the case of researchers involved in eco-label industry. International Entrepreneurship and Management Journal, 1-18.
22. Gansser, O. A., & Reich, C. S. (2023). Influence of the new ecological paradigm (NEP) and environmental concerns on pro-environmental behavioral intention based on the theory of planned behavior (TPB). *Journal of Cleaner Production*, *382*, 134629.
23. Gu, W., & Wang, J. (2022). Research on index construction of sustainable entrepreneurship and its impact on economic growth. Journal of Business Research, 142, 266-276.
24. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). A primer on partial least squares structural equation modeling (PLS-SEM). Sage publications.
25. Heller, R., Roth, P., Hülsemann, B., Böttinger, S., Lemmer, A., & Oechsner, H. (2023). Effects of Pretreatment with a Ball Mill on Methane Yield of Horse Manure. Waste and Biomass Valorization, 1-15.
26. Jiao, X., Zhang, P., He, L., & Li, Z. (2023). Business sustainability for competitive advantage: identifying the role of green intellectual capital, environmental management accounting and energy efficiency. *Economic Research-Ekonomska Istraživanja*, *36*(2), 2125035.
27. Klingenberg, B., & Rothberg, H. N. (2022, August). Why Knowledge Management for Sustainability Needs a Sustainability Mindset. In *European Conference on Knowledge Management* (Vol. 23, No. 1, pp. 646-653).
28. Kumar, P., Singh, A. B., Arora, T., Singh, S., & Singh, R. (2023). Critical review on emerging health effects associated with the indoor air quality and its sustainable management. *Science of The Total Environment*, *872*, 162163.
29. Leximancer, (2023). Available at: https://www.leximancer.com/

30. Lupoae, O. D., & Radu, R. I., Entrepreneurial opportunities through the recycling of renewable resources in the equestrian sector: an fsqca approach, Proceedings of the 16th International Management Conference "Management and resilience strategies for a post-pandemic future" 3rd– 4th november 2022, Bucharest, Romania
31. Lupoae, O.D., Radu, R.I., Isai, V.M. and Mihai, O.I. (2023), "Sustainable entrepreneurship in the equestrian sector through horse manure: a PLS-SEM approach", International Journal of Entrepreneurial Behavior and Research, doi: 10.1108/IJEBR-06-2022-0538.
32. Lupoae, O. D., Wilk, V., & Radu, R. I. (2024). Sustainable entrepreneurship in equine services. Journal of Business Research, 170, 114361.
33. Lupoae, O. D., Radu, R. I., Capatina, A., Isai, V. M., & Bărbuță-Mișu, N. (2023). Exploring Precursors of Renewable Energy Portfolio Diversification Using TPB. Energies, 16(18), 6714.
34. Lupoae, O. D., Capatina, A., Radu, R. I., Isai, V. M., & Schin, G. C. (2023). Exploring entrepreneurial intentions within equine sector from Romania: an environmental economics approach. Journal of Ethics in Entrepreneurship and Technology, 3(1), 33-51.
35. Lupoae, O. D., Radu, R. I., & Muntean, M. C. (2022). Capturing entrepreneurial opportunities in the Romanian equine sector: an Fs-Qca approach. International Entrepreneurship and Management Journal, 1-18.
36. Micu, A. E., Bouzaabia, O., Bouzaabia, R., Micu, A., & Capatina, A. (2019). Online customer experience in e-retailing: implications for web entrepreneurship. International Entrepreneurship and Management Journal, 15(2), 651-675.
37. Nonaka, I., & Takeuchi, H. (1995). The knowledge creating. New York, 304.
38. Ragin, C. C., 2014, The comparative method: Moving beyond qualitative and quantitative strategies, University of California Press.
39. Sharma, B., Tiwari, S., Kumawat, K. C., & Cardinale, M. (2023). Nano-biofertilizers as bio-emerging strategies for sustainable agriculture development: Potentiality and their limitations. *Science of The Total Environment*, *860*, 160476.
40. Tajpour, M., Hosseini, E., & Mohiuddin, M. (2023). Effects of innovative climate, knowledge sharing, and communication on sustainability of digital start-ups: Does social media matter?. Journal of Open Innovation: Technology, Market, and Complexity, 9(2), 100053.