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"Four Environment" Method of Leading Entrepreneurship

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ABSTRACT

In the contemporary landscape, genuine wealth stems from entrepreneurial ideas that align with moral, environmental, and economic dimensions, requiring a cohesive evaluation framework grounded in morality, science, and economic analysis. Esthetics serves as the creative bridge that balances rational and ethical principles, a dynamic exemplified by unicorn companies, whose value orientations demonstrate this interconnected approach as a key driver of global market leadership. The study examines the hypothesis by analyzing the value systems of 1,220 unicorn companies through mixed-methods research. The investigation focuses on how ethical, esthetic, and welfare considerations align with these companies' market leadership. Findings indicate a strong relationship between corporate success and adherence to universal humanistic values, fostering social development and equality. Ecological concerns occupy a significant position in these organizations' value hierarchies. The research reveals that entrepreneurs widely recognize both the imperative to generate socially impactful outcomes and the strategic importance of esthetic values in business. The study proposes the "4E Pyramid" (Economy, Ethics, Ecology, Esthetics), also termed the "Four Environment" pyramid, which represents the modern value hierarchy of unicorn companies as of November 2023. The framework demonstrates how entrepreneurial opportunities align with Maslow's hierarchy of human needs. The findings suggest that businesses now position their activities as socially beneficial within the sustainable development paradigm while maintaining economic viability. This underscores the growing necessity of cultivating ethical and esthetic intelligence to emerge as market leaders in the evolving entrepreneurial landscape.

1. Introduction

Significance of the "environmental" value rapidly increases, as evidenced by both the general information background (The Global Risks Report 2025; Market Forecast, 2025) and business leaders' bold statements (Martin et al., 2025). Natural and environmental problems are ubiquitous, but entrepreneurs can solve them, provided existing socio-economic and cultural norms are respected, as well as innovative products are created (Scartozzi et al., 2025). For

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instance, excessive greenhouse gas emissions led to the Kyoto Protocol, which subsequently triggered the development and commercialization of electric vehicles. Similarly, the aggravation of plastic pollution has spurred growth in eco-friendly packaging production, demonstrating how market-driven solutions emerge in response to environmental challenges. As evidenced by Ocicka et al. (2023), rising environmental concerns and regulatory pressures have catalyzed innovations in compostable materials, with niche entrepreneurs and established corporations increasingly adopting these solutions to align with both market demand and sustainability goals (Ocicka et al, 2023). Overfishing crises and subsequent catch restrictions have stimulated the development and adoption of sustainable fisheries management practices (Tolentino-Zondervan et al, 2022).

Constraints that arise in response to human activities should be thought as a source of new entrepreneurial opportunities and innovative initiatives. This approach allows considering them as an integral positive element of the modern economy. Historical evidence indicates that when it comes to the environment, humans can act as both destroyers and creators, responding to emerging opportunities. As Millhauser et al. (2022) note, “humans are both the cause of and the solution to the current biodiversity crisis” (Millhauser et al, 2022). These opposing trends are interrelated. The widespread expectation of an environmental disaster keeps entrepreneurs on their toes about potential growth opportunities. In the ecological economy, environmental legislation should be considered as an incentive for developing technological innovation and entrepreneurship. Entrepreneurs have numerous capacities for solving current problems related to environmental deterioration (Singh et al, 2025). Adjustment to regulations is often slow, so various strategies aimed at solving environmental problems may be of crucial importance.

The progress of the entrepreneurship theory is seen not in separating refined economic motives from humanity's spiritual aspect, but, on the contrary, in returning Homo Economics to Homo Sapiens on the contemporary humanistic basis. Currently, a person’s modernity is primarily determined by the level of responsibility to be assumed and incurred for the results of their actions. As K. Kaesehage et al. (2019) demonstrate, entrepreneurial “green responsibility” frequently stems from intrinsic moral and emotional drivers rather than being solely motivated by external economic incentives or regulatory pressures. (Kaesehage et al, 2019). It is important to emphasize that “green responsibility” has long gone beyond the borders of environmental problems, because of its deeper moral foundations, evolving into an ethical framework that integrates both individual agency and collective structural responsibility toward future generations (Keij, van Meurs, 2023).

The problem lies in the fact that not all creations embodied as part of the biosphere are equally useful.

In the past, John Ruskin sought to differentiate between wealth and what he termed “illth” (Ruskin, 2000). Although this distinction was not universally embraced at the time, it reflected a profound insight that society was not yet fully prepared to adopt. According to Ruskin, wealth encompasses all artifacts or ideas that enhance human life or contribute positively to the world. Conversely, illth represents those elements that degrade, harm, or diminish life. From this perspective, environmental degradation caused by industrial pollution is conceptually aligned with the destructive impacts of weapons or harmful products. This analysis highlights the intricate relationship between environmental concerns and ethical considerations. The notion of national wealth is deeply intertwined with adherence to moral principles, as actions rooted in harm and immorality inherently undermine societal well-being. Consequently, a nation's prosperity can be seen as a reflection of its moral standing. In this context, a moral economy is characterized by entrepreneurs who strive to create positive change and contribute to the improvement of the world. Thus, commitment to values becomes a vital element of the

successful business idea. In the current paradigm, this is considered as a mandatory competitive advantage. It is difficult to envision a time when the prioritization of the common good was an essential condition for attaining success in business. Natural and environmental problems are ubiquitous, but entrepreneurial actions can solve them, provided that socio-economic and cultural rules are followed.

Constraints in response to anthropogenic human activity should be thought as a source of new entrepreneurial opportunities. For instance, restrictions like COVID-19 lockdowns and physical distancing measures spurred digital social innovations, proving that human-imposed limitations can catalyze new business models (Scheidgen et al, 2021). This approach allows considering constraints as an integral positive element of the contemporary economy. And in this context, the constraints provide freedom for new innovative actions that will preserve the environment and eliminate environmental threats. However, all this cannot be realized without respective information flows, the applicable regulatory framework and viable market institutions. Due to the fact that the modern world can be described as a world of growing uncertainty, environmental crises happen one by one. Each current environmental crisis is an unintentional consequence of previous economic innovations and, in turn, can be resolved through new economic innovations. Thus, instead of correctly explaining advantages of integrating evolutionary and ecological economics, J. Gowdy, J. van den Bergh, G. Buenstorf and others underestimate the self-organizing feedback between the consequences of entrepreneurial activity (Buenstorf, 2000, Gowdy, 2000, Van den Bergh, 2007).

Governments develop the regulatory framework aimed at stimulating the process of environmental protection and recovery, but cannot act as quickly as entrepreneurs, who introduce mandatory innovations and necessary creative destruction. Governments' capabilities are limited, and their response is slowed down by the need for considering the interests of various groups. "Green entrepreneurship" gains philosophical meaning. The market leaders operate with signs indicating formation of the worldview relevant to the spirit of the modern scientific paradigm: global co-evolution (Folke, et al. 2021). Environmental ethics has set regulations guiding the entities' actions of and production processes in favor of humanitarian well-being. "Environmental ethics" influences the management of entrepreneurial projects, and defines boundaries, thereby expanding the horizon of innovative ideas. These conclusions are proven by the research conducted in 2021. The study analyzed the value system of unicorn companies (Litau, 2021).

This article makes a significant contribution to both entrepreneurial theory and practice by introducing a humanistic approach to entrepreneurship that transcends traditional business paradigms. Theoretically, it posits that aligning with humanistic values - encompassing ethical, ecological, and esthetic dimensions - is a critical strategy for success in the modern digital economy. By integrating these values into a cohesive framework, the study expands the conventional understanding of entrepreneurial activity, emphasizing their interdependence as essential for sustainable and impactful business practices.

The practical novelty lies in the formulation and empirical validation of the "Four Environment" pyramid (Economy, Ethics, Ecology, Esthetics), which serves as a strategic model for entrepreneurial success in contemporary society. Grounded in the analysis of 1,220 unicorn companies, this pyramid demonstrates how value-driven entrepreneurship aligns with societal needs and Maslow's hierarchy, offering actionable insights for businesses aiming to thrive in a rapidly evolving economic landscape. The study bridges humanistic theory with market reality, proving that the most scalable ventures are those addressing planetary challenges while maintaining profitability - thus redefining competitiveness in the digital age.

2. Methods

This study aims to examine the evolution of value priorities in unicorn companies, with particular focus on how ethical, ecological, and esthetic dimensions are progressively integrated into their business strategies. By analyzing the shift from basic socio-economic responsibility to advanced value-driven models, the research seeks to establish a framework for ethical entrepreneurship in the digital economy.

The research tasks were formulated to achieve the stated objective:

1. Using data from CB Insights for 2023, to examine the value orientations of unicorn companies and classify them according to the value categories applied in the 2021 study (Litau, 2021).
2. To analyze both the absolute and relative changes in indicators by value category over the period from 2021 to 2023.
3. To develop and introduce the concept of an "ethical value" as an integral part of a product price that aligns commercial interests with public benefit and promotes sustainable entrepreneurship.
4. To examine the interconnection between the quantitative expansion of unicorn companies, the shift in their value priorities, and the ongoing processes of digital transformation.

The study employed a mixed-methods research design to comprehensively analyze the value orientations of unicorn companies. The methodology incorporated the following approaches.

Data collection: the core dataset comprised 1,220 unicorn companies (as of November 2023) was collected from CB Insights Database, supplemented by historical data from April 2021 (554 companies). Additional qualitative data on mission statements, corporate communications, and sustainability reports were extracted from company reports to contextualize value orientations.

Content analysis and tehematic categorization: a rigorous content analysis was conducted to identify recurring themes in corporate disclosures. Mission statements were systematically reviewed to distill core values and priorities. Similar themes were grouped into predefined value-based categories, ensuring alignment with the framework established in prior research (Litau, 2021).

Case Studies: In-depth case studies of top unicorn companies illustrated how digital transformation and value-driven strategies synergize.

Quantitative Analysis: Absolute growth (Δ) and relative growth (R%) were calculated for each value category to track shifts in prioritization between 2021 and 2023:

$$\Delta = N_{2023} - N_{2021}$$

Where $N_{2021} = 554, N_{2023} = 1220$ – total number of unicorn companies in 2021 and 2023.

Relative growth (R%) is expressed as a percentage:

$$R\% = \left(\frac{\Delta}{N_{2021}}\right) \times 100\%$$

3. Results

In 2023, the unicorn companies were iteratively researched. According to CB Insights (The complete list of Unicorn companies, 2023), the major analytical platform for the technology, venture capital, startup and patent market, as of November 2023, there were 1,220 companies with the unicorn status in the world. The quantitative growth of unicorn companies by industry, compared to April 2021, is presented in Figure 1.

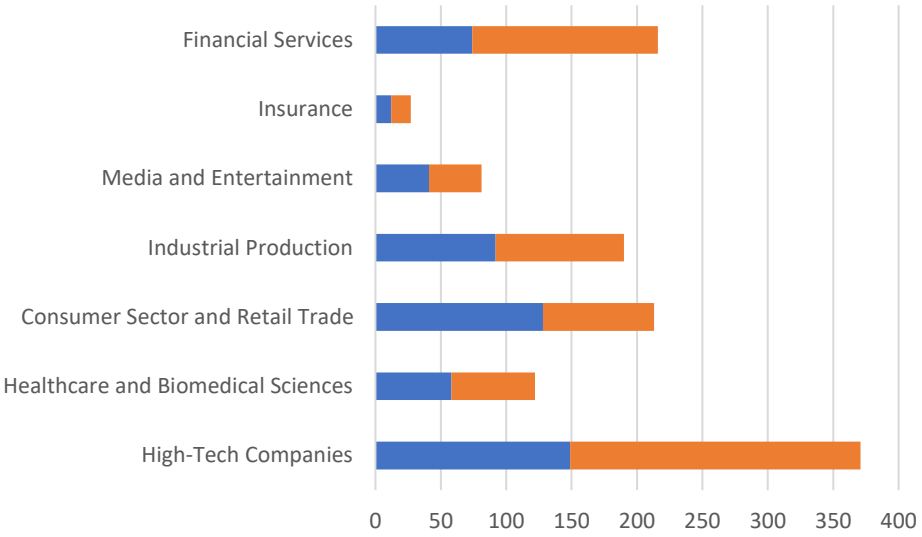

Figure 1: The Dynamics in the Number of Companies (by Industry) from 2021 to 2023

The unicorn companies' value attitudes are represented by the following categories:

- Health (*companies focused on health / healthy lifestyle / healthy nutrition / accessibility of medical services / medical care quality improvement in terms of their values, mission, business ethics and corporate culture*);
- Esthetics (*companies focused on the esthetic element of the good realized*);
- Education, Science (*companies focused on development and accessibility of education / research / implementation and dissemination of innovations*);
- Security, Big Data Analytics (*companies focused on the security of working with electronic data / data storage, processing, exchange / optimization of business and production processes / improvement of labour productivity / offering solutions for analyzing large data arrays for the purpose of solving complex global issues, including environmental, economic, demographic ones, etc.*);
- Ecology / Alternative Energy / Development of New Habitats (*companies focused on reducing harmful effects on the environment / clean production / creation, implementation and use of alternative energy / development of technologies contributing to the search and development of other habitats*);
- Social Equality and Development of Social Environment (*companies focused on accessibility of benefits to all segments of the population from different regions / development and improvement of infrastructure / accessibility of tools for small businesses*).

The distribution of companies by core value categories in 2023 is represented in Figure 2.

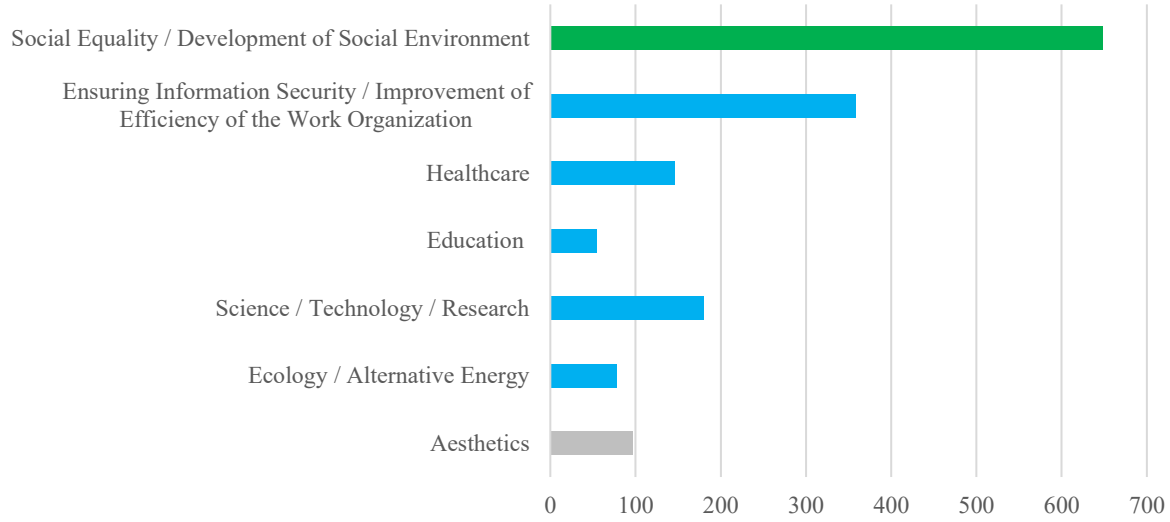

Figure 2: The Number of Unicorn Companies Focused on Value Attitudes (by Category), as of November 2023

As can be seen from Figure 3, 41% of unicorns' value attitudes contribute to establishing and developing social environment and social equality. The concept of "inclusiveness" has become firmly established in modern entrepreneurial discourse, with nearly half of all unicorns asserting that their products contribute to the development of an inclusive economy.

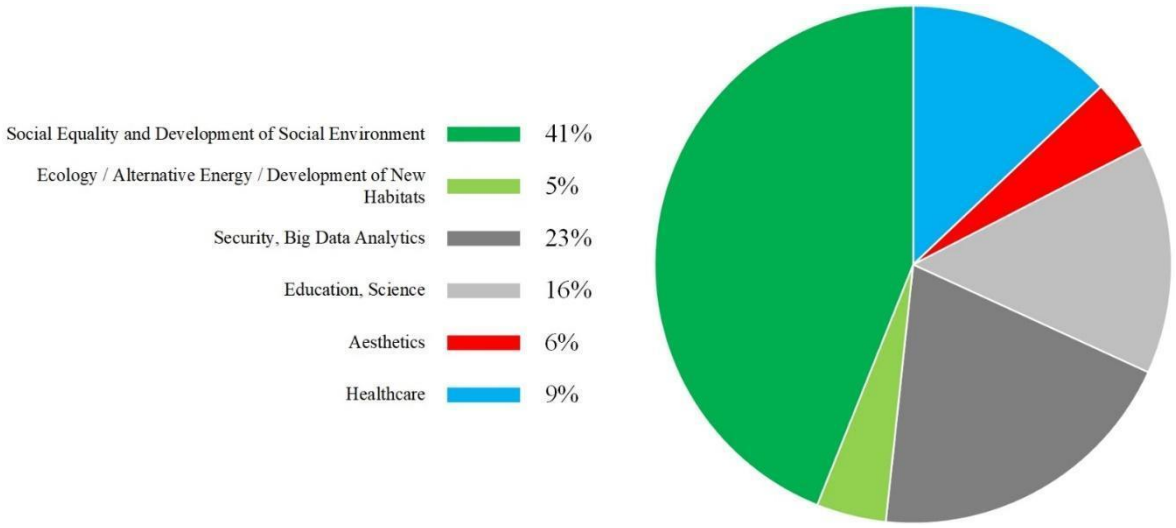

Figure 3: The Unicorn Companies' Value Attitudes (in Relative Indicators), as of November 2023

Changes in value orientations among unicorn companies, by category (relative to April 2021 baseline), are presented in Figure 4.

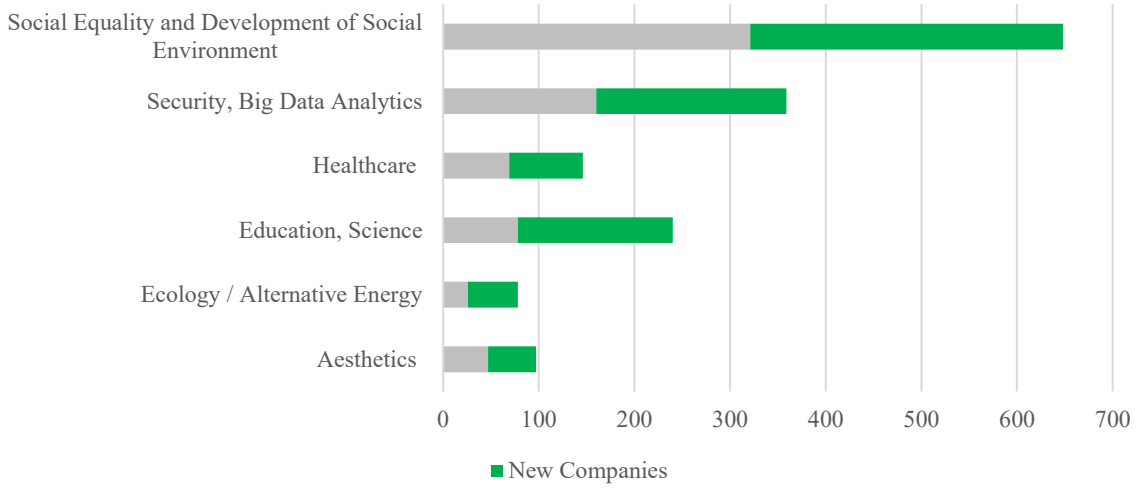

Figure 4: Changes in the Unicorn Companies' Value Attitudes for the Period of April 2021 – November 2023

The analysis reveals striking value-orientation growth across unicorn companies, with *"Education, Science"* leading at 207% (162 companies), closely followed by *"Ecology / Alternative Energy"* at 200% (52 companies). Notably, *"Esthetics"* demonstrated robust expansion (106%, 50 companies), reflecting its rising strategic importance alongside traditional priorities like *"Social Equality and Development of Social Environment"* (327 companies, 102%) and *"Security, Big Data Analytics"* (199 companies, 124%). The *"Healthcare"* category growth (112%, 77 companies) further underscores the holistic integration of human-centric values.

The findings align with the authors' hypothesis regarding the increasing ethical values of business among unicorn companies. The share of firms explicitly articulating their core values rose from 41% in 2021 to 67% in 2023, indicating a broader shift from a profit-centered economy to a values-driven model, in which success is measured by the ability to integrate commercial objectives with contributions to the public good.

4. Discussion

The concept of "green constraints" as a way of developing entrepreneurial thinking is one of the most promising approaches to solving environmental problems through cultivating ethical foundations of entrepreneurship. Promoting the idea of a benevolent and innovative entrepreneur striving for aligning his personal commercial interests with societal benefit is an important and urgent task of all public institutions (Pichlak et al., 2021). So, wind energy, rapidly decomposing packages, electric cars, organic products, eco-friendly building materials are examples of attempts to convince the consumer that these are not just goods, but goods that have additional ethical and esthetic added value. Since this article considers the humanistic aspect of project development, the concept of ethical value is formulated and proposed, which allows perceiving formation of the price in terms of compliance with environmental and other norms directly affecting the level of public benefit of the result of entrepreneurial activity.

Therefore, the price of a product produced by the entrepreneur includes ethical value. The ethical value is an integral part of the price of a product, which is determined in the process of its creation and is conditioned by real contribution to creation of ethical added value that

provides contributing to preservation and development of the environment, including ecology, alternative energy, projects focusing on reducing harmful effects on the environment, clean production.

The ethical value is not strictly a deterministic concept, as it encompasses broader contributions — from healthcare, education, and scientific progress to safety, equality, and community development. For the purposes of this article, the management of developing environment-focused projects related to creation and implementation of the innovative element is considered.

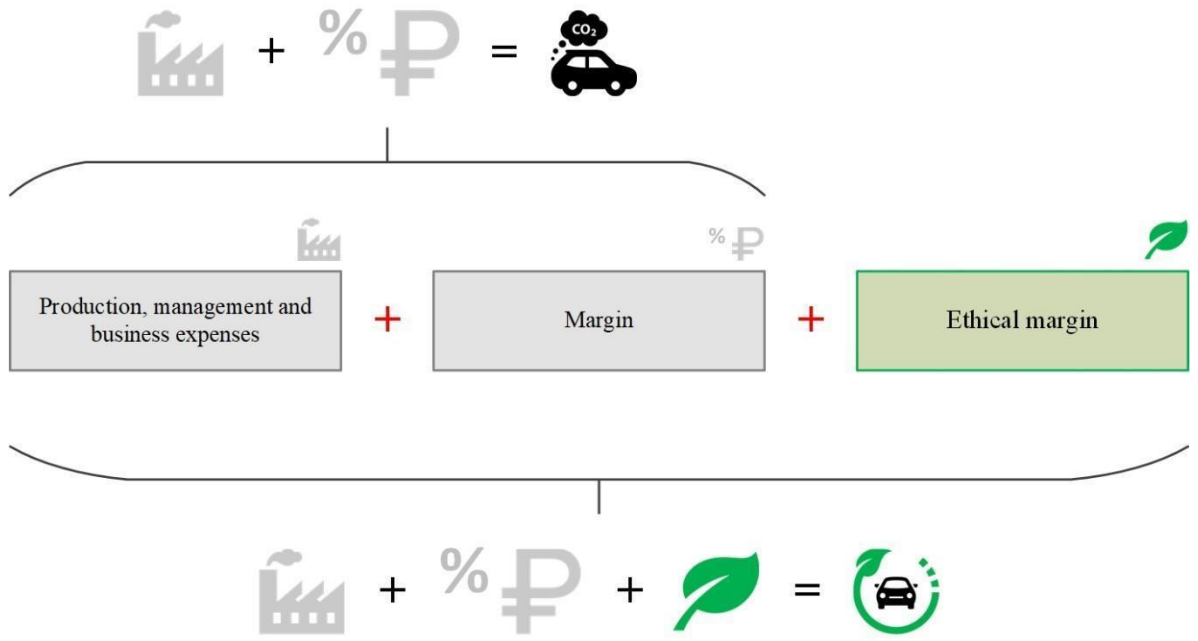

Figure 5: Formation of the Cost of a Product with Ethical Added Value

By emphasizing the importance of creating ethical value (rather than purely economic one), we automatically challenge the assumption of profit and solely material utility being the primary forces that drive entrepreneurial activity. While the economic approach views value as either objective (e.g., exchange value) or subjective (e.g., consumer value), ethical value is considered to be intersubjective, that is, the value of interaction. Viewing value through this ethical lens allows entrepreneurs to balance profitability with genuine societal contribution, transforming markets from purely transactional spaces into platforms for shared progress and collective growth.

This statement is supported by the findings of the study. As of November 2023, 250 out of 1,220 companies set environmental value targets, for the purpose of developing the public good.

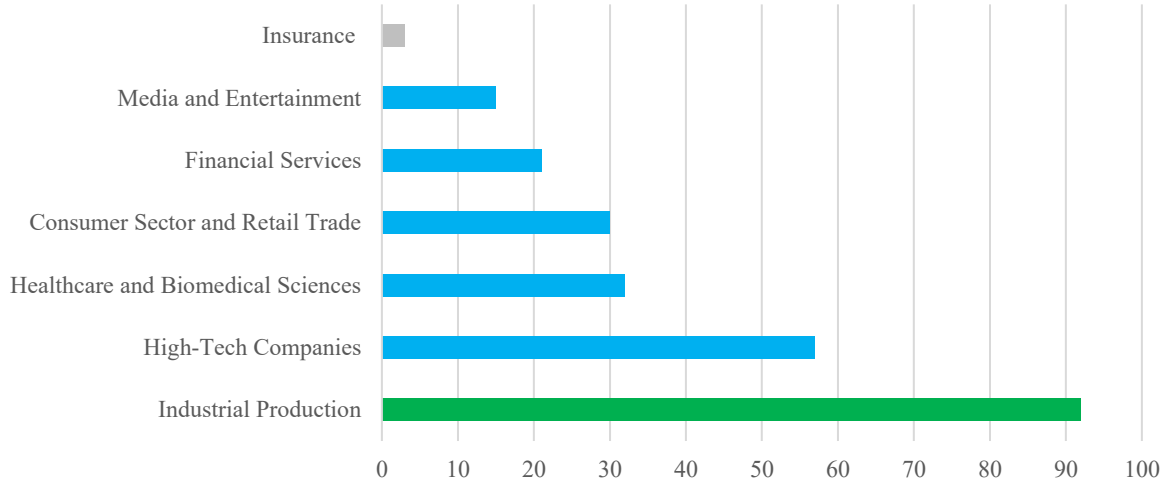

Figure 6: The Number of Environment-Focused Unicorn Companies (by Industry), as of November 2023

The industry affiliation of environment-focused unicorns has distributed as follows: industrial production (*92 companies*), high-tech companies (*57 companies*), healthcare and biomedical sciences (*32 companies*), consumer sector and retail trade (*30 companies*), financial services (*21 companies*), media and entertainment (*15 companies*), insurance (*3 companies*). Having analyzed the sample, we identified the following factors contributing to forming the ethical value:

1. **Efficient use of resources and waste reduction.**

   Advanced solutions based on digital technologies provide companies with the opportunity for optimizing the use of resources, and reducing production waste. For example, introducing Big Data Technology and end-to-end analytics systems allows for highly efficient inventory management, preventing overproduction and minimizing the amount of unused materials.

2. **Monitoring/reducing emissions.**

   Technologies based on artificial intelligence (AI) and the Internet of Things make it possible to track and analyze carbon emissions, helping companies develop strategies aimed at reducing emissions.

3. **"Smart" and eco-friendly technologies.**

   Developing "smart" technologies ("smart" homes, "smart" cities, etc.) contributes to improving energy efficiency and reducing negative environmental impacts.

4. **Ecological products and services.**

   Companies develop products and services aimed at increasing the level of environmental sustainability: platforms for sharing transport, renewable energy management systems, solutions for optimizing the use of water resources.

5. **Improving consumer awareness and involvement.**

   Digital platforms and means of communication (especially social networks) allow companies to educate the target audience on the issue of environmental sustainability, involve users in environmental initiatives, thereby stimulating more responsible public behavior.

6. **Remote services and virtual environments.**

   Popularization of remote work and virtual meetings, migration of the service sector into the virtual space, enhanced by processes of digital transformation (DT), help reduce the need for business and private trips, which in turn reduces carbon dioxide emissions.

7. **Optimization of supply chains and logistics.**

   DT of the mobility industry makes it possible to optimize logistics operations and supply chain management processes, thereby reducing the environmental footprint and enhancing overall environmental sustainability.

Unicorn companies give high priority to sustainable development and environmental responsibility in the process of DT of their activities in the areas, such as electric vehicles, logistics (*mobility industry*), fintech, virtual environments and telemedicine (Wynn & Jones, 2021).

A similar trend is observed in the automotive industry. Development of the electric vehicle market has led to formation of integrated ecosystems, including energy, logistics, and information technology, in addition to the automotive industry (Jan Schlüter, Weyer, 2019). On the basis of electric transport, an innovative platform with many high-tech projects was created. Digital destruction[1], being a special case of creative Schumpetrian destruction (Schumpeter, 2008), is possible due to innovations in design, charging technology, autonomous driving and the environment-focused marketing strategy. Unicorn companies' innovation activity in the following areas has led to formation of the ethical value in the automotive industry:

- Batteries and charging technology: more efficient, durable and fast-charging batteries are a key factor in the blanket distribution of electric vehicles. Cutting-edge developments in the fields of new materials and charging technologies open the way to longer travel distances and shorter charging time.
- Renewable energy sources: Electric transport becomes part of the global ecosystem of renewable energy sources (*solar energy and wind farms*).
- Production innovations: automation and digitalization of production lines, the use of advanced robots and 3D printing technology, for the purpose of optimizing processes and reducing costs.

Thus, computer technologies are evolving in parallel with the planetary interaction between business and the ecosystem.

The research found out the close relationship between quantitative growth of unicorn companies, re-focusing their value attitudes and processes of DT. Managing development of these business structures is carried out due to information technology. Therefore, the ethical value includes expenses for developing, implementing and using IT solutions. In turn, DT does not so much optimize existing production and business processes by applying modern/innovative technologies, without changing their essence (*the concept "digitalization"*), as entails their radical processing (Hsiao, 2024), preserving traditional assets and supplementing them with digital ones (Saarikko et al., 2020).

DT is inherently comprehensive, encompassing not only technological adoption but also profound organizational, societal, and economic shifts, as evidenced by its multidisciplinary impact across industries, consumer behavior, and value creation processes. (Paul et al., 2024).

[1] The process, in which existing products, services, and business models undergo radical changes or become obsolete, due to emergence of new digital technologies and innovations.

Integration of information technologies takes place in each area of business activity, which fundamentally affects the company's development strategy, the consumer value of its goods and services (Pagani, Pardo, 2017). The process entails multiple corporate cultural changes that require managers to review established market trends, experiment and quickly respond to failures. According to Daniele Schilirò, successful DT requires systemic corporate cultural changes, such as embracing innovation, agility, and data-driven decision-making, to overcome resistance and align human and technological dimensions (Schilirò, 2024). In terms of management, DT entails end-to-end transformation of the management system, which results in implementing decision-making through introduction of digital technologies in all spheres of the organization's life (Andrea Sestino et al., 2020).

Today, the digital economy is a global economic system, elements of which interact primarily through information and communication technologies. A distinctive feature of the new economic order is the rapid return on investment (von Leipzig et al., 2017). The ethical margin directly influences the profitability growth. Recent research confirms that "digital" investments yield high returns, significantly enhancing corporate profitability (Ma et al., 2025). From the economic viewpoint, DT can also be considered as an element of the company's innovation activity (Prokhorov, Konik, 2019). Innovation not only contributes to the company's growth and development, but also strengthens its position in the market, increasing its competitiveness in the long term. "The instrument for managing competitiveness in conditions of the digital economy is also based on such factors of competitive advantage as flexibility and the ability to change" (Butko et al., 2023). Unicorns are representatives of the new generation of companies that, unlike large organizations of the traditional type, adapt as quickly as possible to the changed conditions of the digital economy. In these companies, DT turns into the integral management and development tool that transcends technology - it's a strategic lever for scaling, globalizing, and future-proofing growth (Teng, 2025).

The growth in the number of unicorn logistics companies in the period from April 2021 to November 2023 is determined by the increased popularity of e-commerce combined with introduction of flexible payment systems. "Uberization" of means of delivery of retail goods, restaurant dishes and food clearly demonstrate the process of transforming the traditional business model caused by introducing digital technologies: mobile applications and platforms for direct communication between consumers and suppliers of goods and services. (Grabher, & van Tuijl, 2020)

The ethical value of the mobility industry is formed by:

- Electrification of transport (sustainable mobility and environmental responsibility): transition from traditional internal combustion engines to electric ones in the processes of delivering goods to the end consumer.
- Mobile platforms: mobile applications for sharing vehicles (cars, bicycles, electric scooters).
- Integrated transport systems: developing solutions for traffic flow management and logistics optimization, including multimodal transport applications combining different modes of transport into a single whole.

Development of the platform economy (*the term describes economic and social activity centered around online platforms*) and e-commerce has created the need for seamless international digital payment systems. DT in unicorn fintech companies covers a number of key areas affecting development of financial services and the banking industry (Bengt Larsson et al., 2024), from introducing new technologies to changing approaches to customer service and business process management (Beccalli, 2007). The following areas of innovation in the

financial sector implement the environmental aspect (*digitalization of financial services, efficiency of the use of resources*):

- Digital payment solutions: mobile payments, contactless transactions and instant transfers, including integration with digital wallets and development of the online payment-processing platforms.
- Neurobanking and digital banks: development of fully digital banking platforms offering a wide range of services.
- Cloud technologies: solutions for increasing scalability, flexibility and reducing expenses for IT infrastructure.

The concept of virtual space combining various digital environments and platforms completed its establishment during the Covid-19 pandemic. Millions of people had to reorient key aspects of their lives (*education, business communication, leisure*) into IT solutions. DT and transition to the metaverse were supported by representatives of the grown-up generation Z (*born 1997-2012*), becoming active users of services such as streaming, EdTech and online games. In the field of healthcare, transition from traditional medicine to telemedicine has accelerated, with virtual fitness platforms and mental health tracking applications to actively develop. Biotechnologies, which have been helped by big data analysis and artificial intelligence, demonstrate their significant potential. Full impact of innovations on the healthcare market is expected to manifest itself by the 2030s (Braithwaite et al., 2018).

Among the 250 companies to declare environmental values, 47 of them are engaged in developing virtual environments and telemedicine. Unicorns are of great importance for shaping the future of the metaverse as the key area for the digital world development. Processes of DT affect the following areas of innovation:

- Social interaction platforms: the metaverse involves creating spaces for social interaction where users can communicate, play and collaborate in the virtual environment.
- Infrastructure and scalability: powerful and scalable infrastructure for supporting the large number of users and complex computing. This includes projects on developing server solutions, cloud technologies and performance optimization.
- Virtual medical consultations: platforms for video consultations between patients and doctors allow users to access medical care without having to physically visit the clinic.
- Digital monitoring equipment: “smart” medical devices and gadgets are used for monitoring patients’ health at distance.

The survey highlights the strong integration of leading entrepreneurial initiatives into the framework of sustainable development. Driven by key areas of innovation, the demand for environmentally responsible products and services continues to grow. DT offers companies unique opportunities to enhance their value propositions through formation of added ethical value, digitalization of management processes, using new consumer models, increasing competitiveness and stimulating low-waste production.

One of the most significant trends of our time is the growing importance of esthetics in “green” projects.

The authors propose a new field of scholarly inquiry: entrepreneurial esthetics (EE). EE seeks to establish a conceptual foundation for modern entrepreneurship, integrating business, ethics, ecology, and esthetics into a holistic model, powered by cutting-edge IT technologies. Today, our understanding of beauty is undergoing a profound shift. The green agenda has redefined beauty as a mindful, respectful attitude toward nature that is rooted in preserving the

environment. In this sense, modern esthetics is closely aligned with the ethical foundations of today's economy, providing new momentum for the evolution of innovative entrepreneurship. This synthesis of esthetics and ethics creates a powerful cultural narrative for entrepreneurship, one where innovation is not just functional but meaningfully aligned with our shared aspirations for a sustainable future.

5. Conclusion

Digital transformation has dramatically expanded the opportunity range for entrepreneurial growth, enabling market leaders to integrate technological innovation with broader societal goals. By leveraging advanced digital tools, these companies are not only driving economic performance but also advancing environmental sustainability and responsibility and shaping a worldview that aligns with contemporary humanistic theory of entrepreneurship.

A striking example is the Swedish company Northvolt, a battery manufacturer that demonstrates how cutting-edge IT solutions can deliver both economic success and meaningful ecological impact. This unicorn actively uses artificial intelligence and big data analytics to manage production processes with minimal waste: a digital twin of the plant forecasts energy consumption levels and optimizes resource use, while supply chain tracking systems ensure transparency in "green" logistics. As a result, more than 50% of materials used in production come from recycling, and the plant operates entirely on renewable energy (Northvolt, 2019), (IVL Swedish Environmental Research Institute, 2020). Following digital implementation, Northvolt reported a roughly 20% reduction in raw material costs and a 25% decrease in CO_2 emissions, compared to industry benchmarks. Improved production and management efficiency opened new pathways for scaling and securing contracts worth over $55 billion (with BMW, Volkswagen, and other automakers). By the end of 2024, the company's market valuation had reached approximately $12 billion.

Another example of ecologically responsible business success is the U.S.-based company Gradiant, the first water-treatment startup to achieve unicorn status with a valuation exceeding $1 billion (Murray, 2024). Its core innovation lies in its intelligent wastewater treatment platform, modeled and optimized through cloud-based analytics. Sensor-driven controllers and data-pipeline solutions automatically adjust treatment modes, while AI models analyze contaminant composition in real time, fine-tuning system parameters to maximize clean water output and minimize energy consumption.

The results are remarkable: up to 99% of wastewater is recovered (compared to only 50–60% using traditional methods). The company reuses about 1.7 billion gallons of water daily, which is the equivalent to the consumption of roughly 48 million people. Within its first six months on the market, Gradiant generated over $500 million in sales (Gradiant, 2023) and secured long-term contracts with major brands such as Coca-Cola, BMW, Pfizer, and others. This comes as no surprise, given that Gradiant's digital solution reduces treatment costs threefold compared to traditional methods, delivering average savings of ~50% in both cost and energy consumption.

5.1. To Summarize the Key Insights of This Study

Contemporary business leadership demands more than financial performance - it requires a commitment to foundational values. Studies of today's unicorn companies show that while most recognize their socio-economic responsibilities, a growing segment is pushing further. These innovators are integrating ecological sustainability, ethical governance, and esthetic

excellence into their core strategies, transforming what was once considered optional into competitive necessities.

Analysis of 1,220 industry-leading startups confirms this paradigm shift. What began as idealistic differentiation has become fundamental to market success, demonstrating that profitability and planetary impact are not just compatible, but mutually reinforcing. The most scalable modern enterprises are those aligning economic growth with solutions to global challenges, creating a new standard for business excellence.

Processes of DT multiply the range of opportunities for developing entrepreneurial structures. Development of the market leaders through the use of digital technologies significantly affects promotion of ideas of environmental sustainability and environmental responsibility, thereby forming the worldview that corresponds to the modern humanistic theory of entrepreneurship. Consequently, managing ethically significant projects is possible provided that innovative methods of IT solutions are used and developed.

The “4E Pyramid” (Economy, Ethics, Ecology, Esthetics) - or “Four Environment” pyramid - represents an evolutionary model of entrepreneurial strategy, developed through analysis of 1,220 leading unicorn companies as of August 2023. This hierarchy mirrors Maslow's theory of human needs, revealing how business models must adapt to different stages of societal development.

At its foundation, the pyramid confirms that economic viability remains the essential starting point - in less developed contexts, profit-driven strategies yield the best results. However, as societies mature, competitive advantage shifts to companies embracing higher-order responsibilities: ethical business practices, ecological sustainability, and ultimately, esthetic excellence. This top tier represents not merely superficial beauty, but the integration of meaningful values into products' very essence, pointing toward the future of impactful entrepreneurship.

The parallel between Maslow's hierarchy and the “4E Pyramid” creates a powerful strategic tool. For businesses in advanced economies, it directs attention to existing sophisticated demands, while in developing markets, it provides a roadmap for cultivating progressive consumer expectations. In both cases, the pyramid demonstrates that aligning business objectives with society's evolving priorities isn't just ethically sound - it's the most reliable path to sustainable competitive advantage.

This research establishes that today's most successful companies don't simply respond to market needs, but actively participate in shaping societal values through their products and operations. The 4E Pyramid thus serves as both a diagnostic tool for current market positioning and a predictive model for future entrepreneurial success.

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