

# Comparative Analysis of Digital and Industrial Entrepreneurship: Unveiling Current Trends and Dynamics

## تحليل مقارن لريادة الأعمال الرقمية والصناعية: كشف الاتجاهات والديناميكيات الحالية

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### الملخص:

تقدم هذه الدراسة تحليلاً مقارناً متعمقاً بين ريادة الأعمال الرقمية وريادة الأعمال الصناعية. من خلال التركيز على أوجه التشابه والاختلاف بين هذين المجالين، تتيح الفهم للاتجاهات والديناميكيات الحالية. من خلال استخدام الأطر النظرية والبيانات التجريبية، يقدم هذا التحليل رؤى مفيدة حول كيفية تكيف هذه الأشكال من ريادة الأعمال مع التقدم التكنولوجي والمساهمة في الابتكار وخلق القيمة في الاقتصاد المعاصر.

**الكلمات المفتاحية:** الابتكار، رائد الأعمال، المُعطّل، القابلية للتوسع، القدرة الاستيعابية.

### Abstract:

This study provides an in-depth comparative analysis between digital entrepreneurship and industrial entrepreneurship. By focusing on the similarities and disparities between these two domains, it allows for an understanding of current trends and dynamics. Through the use of theoretical frameworks and empirical data, this analysis offers insightful perspectives on how these forms of entrepreneurship adapt to technological advancements and contribute to innovation and value creation in the contemporary economy.

**Key words:** Innovation, entrepreneur, disruptive, scalability, absorptive capacity.

## **Introduction:**

In the contemporary economic landscape, entrepreneurship emerges as an essential catalyst for development, playing a crucial role in economic growth, innovation, and job creation. However, two distinct forms of entrepreneurship have captured the attention of researchers and practitioners: digital entrepreneurship and industrial entrepreneurship. This study adopts a rigorous comparative approach to examine these two entrepreneurial modalities, shedding light on their similarities, differences, and impacts on contemporary economic dynamics.

The overall context of this study lies in a constantly evolving world, characterized by rapid technological advancements, increasing global interconnectedness, and profound changes in business models. Digital entrepreneurship, leveraging the opportunities provided by information and communication technologies, has emerged as a major transformative force. Meanwhile, industrial entrepreneurship, based on the production of physical goods, continues to play a fundamental role in the economic fabric.

Our study is situated within the broader framework of scientific research on entrepreneurship, aiming to deepen the understanding of the mechanisms underlying these two forms of entrepreneurship. By adopting a comparative approach, we aspire to highlight the distinctive characteristics of digital and industrial entrepreneurship, while examining how these differences influence their performances, challenges, and respective contributions to the global economy.

The main objective of this study is to delve into the similarities and disparities between digital entrepreneurship and industrial entrepreneurship, highlighting their implications for entrepreneurs, policymakers, and researchers. This analysis relies on a scientific approach that uses theoretical frameworks, analytical models, and empirical data to compare and contrast these two forms of entrepreneurship. Through this method, we seek to address crucial questions such as how these two forms of entrepreneurship adapt to technological changes, how they interact with their economic environment, and how they contribute to innovation and wealth creation.

The underlying assumptions of this work are based on the idea that despite apparent disparities, digital and industrial entrepreneurship share common elements and present potential synergies. By observing these similarities and differences, we hope to contribute to a more nuanced understanding of entrepreneurship in a globalized and technologically dynamic context. This comparative study aims, among other things, to enrich the academic debate on entrepreneurship by offering an in-depth analytical perspective on the specific dynamics of digital and industrial entrepreneurship, while highlighting their concrete implications in the contemporary economic landscape.

Examining the limitations of the classical approach to entrepreneurship in understanding the intersections and divergences between digital and industrial entrepreneurship reveals significant shortcomings. Traditional frameworks often fail to account for the rapid technological advancements and the distinct operational dynamics characteristic of digital entrepreneurship. Moreover, classical models may overlook the unique challenges and opportunities posed by digital platforms and technologies in contrast to traditional industrial sectors. This necessitates a nuanced analysis that integrates

contemporary insights from both fields to better comprehend their evolving relationship in the entrepreneurial landscape.

### **I- Incomplete Conceptualization:**

The anchoring of the classical approach to entrepreneurship in models primarily designed to apprehend industrial entrepreneurship has generated significant gaps in understanding the nuances specific to digital entrepreneurship. This tendency has been emphasized by several authors, including Shane (2000) and Davidsson (2015), who criticized the persistence of a traditional vision of entrepreneurship, often focused on manufacturing businesses.

Classical models, such as Timmons' (1978) entrepreneurial process model, have focused on linear and sequential stages of the entrepreneurial process, adapted to more stable industrial contexts. However, in the context of digital entrepreneurship, these models may overlook the dynamic and non-linear nature of development cycles. Blank's (2013) work on the Lean Startup model highlighted the need for rapid iterations, continuous testing, and constant adaptations, aspects often ignored by more traditional approaches.

Furthermore, the importance of intellectual capital in digital entrepreneurship, including the value of programming skills, the ability to innovate rapidly, and effective knowledge management, is often downplayed in classical models that emphasize financial and material resources more. Authors such as Chesbrough (2006) have underscored the shift towards a knowledge-based economy, thus emphasizing the need for a reassessment of traditional models to reflect this emerging reality.

Moreover, the often intangible nature of products in digital entrepreneurship, such as software applications or online services, poses specific challenges that may be underestimated by classical models focused on physical goods. Teece (2010) has advanced the concept of a "dynamic business model" to better understand how digital firms create and capture value, thus providing an alternative perspective to the more traditional view of value creation.

#### **I.1- Insufficient Data Collection Methods:**

The inadequacy of classical data collection methods in the context of digital entrepreneurship has been vigorously discussed by prominent researchers, including Saras Sarasvathy and Steve Blank.

In her seminal work "Causation and Effectuation: Toward a Theoretical Shift from Economic Inevitability to Entrepreneurial Contingency," published in 2001, Saras Sarasvathy proposes an innovative perspective called "effectuation." Through this concept, the author challenges the exclusive focus on causality present in the classical approach, arguing that entrepreneurs do not simply navigate predictable environments where past actions dictate the future. Instead, in an entrepreneurial context, uncertainty is the norm, and Sarasvathy emphasizes the need for constant adaptation and intrinsic flexibility in entrepreneurial development methods. The effectual approach highlights the idea that entrepreneurs use available means to create opportunities, rather than following a strict plan, thus highlighting the crucial difference from the more rigid methods of the classical approach.

On the other hand, Steve Blank, through his book "The Four Steps to the Epiphany," published in 2003, proposes a practical methodology for entrepreneurship, focusing on rapid validation and iterative learning. Blank openly criticizes traditional surveys, suggesting that

they are often unsuitable for capturing the complexity of digital entrepreneurship. He encourages entrepreneurs to get out of the building, interact directly with customers, and iterate quickly based on market feedback. This approach, often associated with the concept of the "Lean Startup," aims to reduce risks by obtaining real-time data from market interaction rather than relying on hypothetical forecasts.

Thus, these two approaches, effectuation and Lean Startup, represent powerful alternatives to the classical approach. They highlight the importance of constant responsiveness, rapid validation of assumptions in the market, and continuous adaptation in a digital entrepreneurial environment characterized by its dynamism and rapid scalability.

## **I.2- Neglected Social and Cultural Dimension:**

The lack of attention to cultural and social dimensions in the classical approach to entrepreneurship has been particularly discussed by researchers such as Geert Hofstede and Mark Granovetter.

Geert Hofstede, in his seminal work "Culture's Consequences: International Differences in Work-Related Values," published in 1984, developed a framework of cultural dimensions that offers a systematic perspective on cultural diversity. By examining aspects such as power distance, social distance, individualism/collectivism, masculinity/femininity, and uncertainty avoidance, Hofstede highlights the profound impact of culture on entrepreneurial decision-making. The classical approach, by ignoring these dimensions, may underestimate the influence of cultural differences on entrepreneurs' reactions to opportunities and their strategic choices.

Similarly, Mark Granovetter introduced the theory of weak ties in his classic article "The Strength of Weak Ties," published in 1973, to highlight the critical role of informal relationships and weak ties in the diffusion of information and opportunities. Weak ties, unlike strong ties, according to Granovetter, connect different social groups, thus fostering information diversity. In the entrepreneurial context, neglecting these weak ties can be a major shortcoming of the classical approach, limiting entrepreneurs' ability to access a wider range of opportunities and leverage diverse resources.

Thus, by integrating the perspectives of Hofstede and Granovetter into the study of entrepreneurship, it becomes evident that cultural and social factors play a central role in understanding entrepreneurial processes. A more holistic approach must consider cultural diversity and recognize the importance of weak ties in opportunity creation and the diffusion of key information. This underscores the need to move beyond the limitations of the classical approach to embrace a more integrated vision that takes into account cultural nuances and social dynamics in the field of entrepreneurship.

## **I.3- Adoption of Simplistic and Binary Models:**

The innovative work of researchers such as Henry Chesbrough and David Teece has profoundly influenced our understanding of contemporary entrepreneurship, particularly by emphasizing the adoption of hybrid models and the management of increasing business complexity.

In this regard, Henry Chesbrough made a pivotal contribution with his concept of Open Innovation, presented in his book "Open Innovation: The New Imperative for Creating and

Profiting from Technology," published in 2003. Chesbrough challenged the traditional paradigm of the firm as a closed entity, highlighting the crucial importance of opening up to external partnerships and collaboration. This approach, particularly relevant in the context of digital entrepreneurship, offers essential flexibility to integrate external ideas and skills, thereby fostering innovation in dynamic environments.

Similarly, David Teece, in his 2010 article titled "Business Models, Business Strategy and Innovation," echoed similar concerns by introducing the concept of Dynamic Business Models. Here, Teece emphasized the imperative of agility and adaptability to thrive in complex entrepreneurial environments. His analytical framework underscores that business models cannot be static but must constantly evolve to adjust to rapid market changes. This approach finds particular relevance in digital entrepreneurship, where flexibility becomes a key skill to successfully navigate a constantly changing landscape.

By combining Chesbrough's Open Innovation principles with Teece's vision of Dynamic Business Models, a more holistic perspective emerges. Contemporary businesses, especially in the field of digital entrepreneurship, effectively benefit from hybrid models that integrate Open Innovation practices while maintaining agility based on Dynamic Business Models. This approach not only allows for a rethinking of traditional firm boundaries but also enables a proactive stance towards the increasing complexity of contemporary entrepreneurial ecosystems.

## **II –Methods and Materials:**

The methodology of this comparative research between digital and industrial entrepreneurship relies on a systematic and integrated approach, combining in-depth exploration of new theoretical perspectives, identification of key concepts, analysis of specific entrepreneurial contexts, and integration of empirical experiences. This approach aims to build a robust conceptual framework grounded in the contemporary reality of entrepreneurship.

### **II.1- Exploration of New Theoretical Perspectives:**

The initial step of our research methodology involves a thorough exploration of new theoretical perspectives in entrepreneurship. This approach relies on targeted literature review, aiming to highlight the most recent advances in the academic field. The underlying objective is to integrate emerging theories such as institutional economics and the concept of disruptive innovation.

This meticulous exploration provides an essential update to our knowledge, allowing us to stay at the forefront of theoretical developments in entrepreneurship. By embracing these new perspectives, our research aims for a deeper understanding of the specificities of digital and industrial entrepreneurship.

Incorporating these new theories is strategic as it diversifies our conceptual framework, equipping us with richer analytical tools. For example, institutional economics can shed light on how institutions influence entrepreneurial choices, while the concept of disruptive innovation offers a crucial perspective for understanding how major innovations transform business models.

This approach is not merely an intellectual quest but rather a strategy to adapt to current realities. In an ever-evolving entrepreneurial environment, constant updating of our theoretical frameworks is imperative. Incorporating cutting-edge theories enables us to grasp

current challenges, especially those arising from the digital revolution and swift shifts in entrepreneurial dynamics.

By adopting theoretical perspectives tailored to each context, such as institutional economics to understand specific institutional influences or the concept of disruptive innovation to analyze the characteristics of innovations in each domain, our methodology is designed to provide a comprehensive and nuanced view of these distinct forms of entrepreneurship.

## **II.2- Identification and Integration of Key Concepts:**

In this phase of our methodology, we focus on identifying and incorporating key concepts from existing models. This step is crucial for laying a solid foundation for developing a comprehensive conceptual framework, which will provide valuable insights into our comparison between digital and industrial entrepreneurship.

The initial step involves a thorough review of established theoretical models to identify concepts deemed essential for understanding entrepreneurship. Among these, we prioritize concepts that are widely recognized and have proven relevance in the field. For example, concepts such as "entrepreneurial opportunity recognition" and "resource mobilization" are often considered fundamental in entrepreneurial studies.

Once identified, these key concepts are carefully integrated and adapted to suit the specific contexts of digital and industrial entrepreneurship. This adaptation process involves considering how each concept manifests and operates within the unique dynamics of each entrepreneurial domain. For instance, in digital entrepreneurship, the concept of "rapid prototyping" may be emphasized due to the iterative nature of product development in digital ventures, while in industrial entrepreneurship, the focus may shift towards "supply chain management" given the importance of manufacturing processes and logistics.

By integrating these key concepts, we aim to develop a robust conceptual framework that captures the essential elements of both digital and industrial entrepreneurship. This framework will serve as a theoretical lens through which we can analyze and compare the two forms of entrepreneurship, enabling us to gain deeper insights into their similarities, differences, and underlying mechanisms.

Overall, the identification and integration of key concepts are essential steps in our methodology, as they provide a solid theoretical foundation for our comparative analysis and enhance the depth and rigor of our research.

## **II.3- Contextualization through Entrepreneurial Contexts:**

Contextualization through entrepreneurial contexts is a crucial step in our comparative methodology. This approach aims to explore the historical and institutional differences between digital and industrial entrepreneurship, providing essential contextual insights for our analysis. By understanding the particularities of each context, we are better equipped to interpret theoretical findings and derive meaningful insights.

As part of this step, we delve into the history of each type of entrepreneurship, examining the evolutions that have shaped their respective trajectories. Institutional influences, specific regulations, and economic developments play a crucial role in defining the contours of entrepreneurship. By analyzing these contexts, we can better grasp the driving forces behind distinct entrepreneurial dynamics.

## **II.4- Empirical Experiences to Consolidate Theoretical Construction:**

The integration of empirical experiences constitutes a subsequent step in our methodology. This phase aims to consolidate the theoretical framework by drawing on concrete examples from case studies, market analyses, and direct observations. These empirical experiences provide tangible illustrations of the identified theoretical concepts, thereby enhancing the external validity of our research.

For example, by examining specific cases of digital and industrial enterprises, we can shed light on how concepts such as advanced absorptive capacity manifest in entrepreneurial reality. These concrete examples add a layer of practical understanding to our conceptual framework, facilitating a more direct application of our theoretical findings to real-world situations.

## **II.5- Data Mastery Protocol:**

Data collection relies on a rigorous methodology. Sources include academic databases, specialized journals, relevant literature, as well as specific case studies for each type of entrepreneurship. A data mastery protocol is established to ensure the quality and relevance of the gathered information.

Meticulous sorting is conducted, selecting the most pertinent data aligned with the research objectives. This approach ensures the reliability of our results by avoiding contamination from irrelevant data. Additionally, it ensures consistency in our comparative analysis, thereby enhancing the robustness of our methodology.

## **II.6- Culmination in Integrated and Holistic Analysis:**

The crucial step of integrated analysis represents the culmination of our comparative methodology. This phase operates on multiple levels, combining in-depth theoretical analysis with contextual and empirical exploration to provide a holistic understanding of the differences and similarities between digital and industrial entrepreneurship.

Theoretical analysis relies on the application of conceptual frameworks identified during thorough literature review. These frameworks, such as institutional economics' advanced absorptive capacity, are used to interpret the gathered documentary data. This analysis unveils trends, patterns, and conceptual relationships among theoretical variables, offering a comprehensive theoretical insight into entrepreneurial dynamics. For example, we might examine how the speed of absorbing new technologies differs between digital and industrial entrepreneurship, using the concept of advanced absorptive capacity as an analytical lens. This approach enables us to grasp the specific conceptual nuances of each type of entrepreneurship.

Concurrently, contextual and empirical analysis aims to validate the relevance of concepts in real-world situations. Concrete examples from case studies, market analyses, and direct observations are scrutinized in light of theoretical frameworks. This helps determine the extent to which identified concepts apply and provide relevant insights in actual entrepreneurial contexts. For instance, a digital company successfully absorbing a major technological innovation could be analyzed in the context of our theoretical framework, thereby confirming the validity and relevance of advanced absorptive capacity in the digital context.

Consequently, synthesizing theoretical, contextual, and empirical analysis allows for a

holistic interpretation of results. Differences and similarities emerge clearly, addressing initial research questions while providing valuable insights for understanding digital and industrial entrepreneurship.

### III-Results of the Study:

This section presents the results of our comparative research between digital and industrial entrepreneurship, exploring nuances through the application of innovative concepts and theories. Digital entrepreneurship, characterized by its organizational agility, network effect, and emphasis on innovation, stands out for its dynamism and ability to revolutionize business models. On the other hand, industrial entrepreneurship, guided by sustainability, incremental innovation, and the process of creative destruction, redefines traditional production chains through advanced technologies. By analyzing inclusivity, adaptability, value creation, and other key concepts, this section provides an informed perspective on the coexistence and complementarity of these two entrepreneurial paradigms in our constantly evolving economic landscape.

It is in this section that we will highlight the divergences and convergences between entrepreneurial approaches in comparative tables.

#### III.1- Digital innovations have often been considered more disruptive than industrial innovations:

Digital innovations have frequently been regarded as more disruptive than industrial innovations due to their capacity to rapidly overhaul entire sectors. Advances such as artificial intelligence, blockchain, and the Internet of Things have a profound impact on how businesses operate, create value, and interact with consumers. These technologies can disrupt established business models and facilitate rapid and radical changes in various domains, sometimes surpassing the impact of traditional industrial innovations. The reasons for this difference are manifold:

**Table 01: Level of Disruption of Digital and Industrial Innovations**

| Concept                                       | Digital Innovations                                                                                              | Industrial Innovations                                                                                            |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Speed of Implementation</b>                | Digital innovations are often implemented rapidly, enabling agile changes.                                       | Industrial innovations may require longer development and production cycles.                                      |
| <b>Scalability</b>                            | Digital solutions can easily scale and adapt to changing needs.                                                  | Industrial innovations may be more rigid and require significant investments for adaptations.                     |
| <b>Disruption of Business Models</b>          | Digital technologies have the potential to profoundly disrupt existing business models.                          | Industrial innovations can enhance efficiency, but disruption of business models may be less pronounced.          |
| <b>Impact on Connectivity</b>                 | Digital innovations facilitate global connectivity, enabling rapid interactions on a global scale.               | Industrial innovations may have localized impacts, without necessarily immediately extending global connectivity. |
| <b>Integration of Artificial Intelligence</b> | Digital innovations often incorporate artificial intelligence technologies, enhancing automated decision-making. | Industrial innovations may utilize automation, but artificial intelligence may not be as predominant.             |

**Source:** author

In summary, digital innovations have the advantages of speed, adaptability, and the potential to disrupt existing business models, making them more likely to be disruptive

compared to industrial innovations. For example, the advent of digital music, with platforms like iTunes, Spotify, and Apple Music, has radically changed how consumers access and listen to music. These digital innovations have enabled rapid and global distribution of musical works, eliminating the need for physical media such as CDs or vinyl records. On the other hand, the music industry has also seen industrial innovations such as improved recording techniques, the manufacturing of high-quality physical media, and advancements in audio equipment. However, while these innovations are significant, they have not fundamentally disrupted the existing business model as much as digital innovations.

### **III.2- Digital innovations are often associated with a high absorptive capacity:**

Digital innovations are often associated with a high absorptive capacity, primarily due to their flexible nature and rapid adoption. Companies integrating digital technologies can assimilate new knowledge more quickly and adjust their processes accordingly. In comparison, industrial innovations may involve more complex structural changes, sometimes requiring significant investments in terms of time and resources for organizations to fully absorb new advancements. Thus, digital innovations tend to offer better absorptive capacity due to their agility and ease of integration into existing operations. The table below highlights how digital innovations often outperform industrial innovations in terms of adoption speed, flexibility, implementation cost, technological evolution capacity, information accessibility, and automation integration.

**Table 02: Difference between the absorptive capacity of digital and industrial innovations**

| <b>Aspect</b>                               | <b>Digital Innovations</b>                                                                                          | <b>Industrial Innovations</b>                                                                                                                       |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Speed of Adoption</b>                    | Digital innovations are often adopted quickly due to their agility and the rapid availability of technologies.      | Industrial innovations may require longer periods to be fully adopted due to more complex manufacturing and implementation processes.               |
| <b>Flexibility</b>                          | Digital solutions offer high flexibility, allowing companies to quickly adapt to market or technology changes.      | Industrial innovations may be less flexible, sometimes requiring significant adjustments in production processes.                                   |
| <b>Capacity for Technological Evolution</b> | Digital technologies are often modular, allowing for easier evolution with technological advancements.              | Industrial innovations may be more static, requiring considerable efforts to stay up-to-date with technological advances.                           |
| <b>Accessibility to Information</b>         | Digital innovations facilitate quick access to and sharing of information, promoting rapid knowledge dissemination. | Industrial innovations may face challenges related to the efficient dissemination of information due to more traditional organizational structures. |

**Source:** author

In the example of a company manufacturing electronic products seeking to improve its processes, exploring a digital innovation based on process automation with AI and IoT, as well as an industrial innovation consisting of a new automated production line, the digital innovation, characterized by rapid adoption, flexibility, potentially lower initial cost, and continuous technological evolution capability, demonstrates a higher absorptive capacity than the industrial innovation, which may present challenges related to adoption speed, limited flexibility, high initial costs, and more complex technological upgrades.

### **III.3- Digital innovations are often associated with shorter creative destruction processes than industrial innovations :**

Creative destruction, a concept developed by economist Joseph Schumpeter, describes the cycle by which new innovations lead to the disappearance of old economic models. In the digital context, product and business model life cycles can evolve rapidly, allowing for quick adoption of new technologies and faster disruption of old paradigms. Industrial innovations, on the other hand, may involve more gradual changes and longer transition periods due to the complexity of manufacturing processes, capital investments, and necessary structural adjustments.

Thus, the fast and adaptable nature of digital innovations often contributes to shorter creative destruction processes compared to industrial innovations. The following table highlights how characteristics such as product life cycle, business model agility, barriers to entry, impact on employment, response to market trends, and ease of replacement contribute to shorter creative destruction processes in the realm of digital innovations compared to industrial innovations.

**Table 03: Comparison of creative destruction processes in digital and industrial innovations**

| Aspect                           | Digital Innovations                                                                                       | Industrial Innovations                                                                            |
|----------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>Product Life Cycle</b>        | Digital products often have shorter life cycles, allowing for rapid adoption and obsolescence.            | Industrial products can have longer life cycles, leading to more gradual transitions.             |
| <b>Business Model Agility</b>    | Digital business models can quickly adjust to market changes, facilitating creative destruction.          | Industrial business models can be more rigid, requiring slower adjustments.                       |
| <b>Barriers to Entry</b>         | Digital innovations can be more easily adopted, reducing barriers to entry for new players.               | Industrial innovations may require massive investments, creating higher barriers to entry.        |
| <b>Impact on Employment</b>      | Digital transformations can rapidly change skill requirements, impacting employment more quickly.         | Industrial innovations can have effects on employment, but often at a slower pace.                |
| <b>Response to Market Trends</b> | Digital innovations can quickly align with market trends, fostering rapid changes.                        | Industrial innovations may require longer cycles to adapt to market evolutions.                   |
| <b>Ease of Replacement</b>       | Digital technologies can be more easily replaced by newer innovations, accelerating creative destruction. | Industrial technologies may sometimes endure longer, prolonging the creative destruction process. |

**Source:** author

In this scenario, smartphones provide an example of rapid creative destruction in the telecommunications industry, quickly surpassing traditional phones with their versatility and advanced features such as internet browsing, instant messaging, and high-quality photography. On the other hand, the shift from internal combustion engine vehicles to electric vehicles represents a major transformation in the automotive industry, but with a more gradual process. Electric vehicles are slowly emerging due to advancements in battery technology and increasing awareness of sustainability, yet the complete transition is hindered by challenges such as developing charging infrastructure and higher initial costs. These two examples illustrate the dynamics of creative destruction, demonstrating how digital innovations can swiftly outpace traditional models, while industrial innovations, though significant, may require a more drawn-out process over time due to various obstacles.

#### **III.4- Digital innovations often feature dynamic and flexible business models:**

Digital innovations often rely on dynamic and flexible business models, distinguishing them from industrial innovations that may be associated with more rigid business models. The table below highlights how the business models of digital innovations, characterized by agility, scalability, continuous experimentation, data monetization, rapid development cycles, and direct customer interaction, are often more dynamic and flexible compared to business models associated with industrial innovations.

**Table 04: Comparison of network and platform dynamics in digital vs. industrial innovations**

| Aspect                           | Digital Innovations                                                                                            | Industrial Innovations                                                                                   |
|----------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Network Effect Dependency</b> | Digital innovations often derive their value from user interaction, creating significant network effects.      | Industrial innovations may not depend as much on user connectivity to deliver value.                     |
| <b>Platform Value</b>            | Digital platforms like social networks and online marketplaces increase in value as the user base grows.       | Industrial innovations may have intrinsic value regardless of the number of users or actors involved.    |
| <b>Rapid Diffusion</b>           | Digital innovations can spread quickly by leveraging network effects once a critical mass of users is reached. | Industrial innovations may require more gradual diffusion cycles and rely less on rapid network growth.  |
| <b>Economies of Scale</b>        | Network effects in digital innovations can lead to significant economies of scale as the network expands.      | Economies of scale in industrial innovations may stem more from large-scale production and distribution. |
| <b>User-to-User Interactions</b> | User interactions are often central to digital innovations, reinforcing the network effect.                    | User interactions in industrial innovations may play a role but often in a less central manner.          |

**Source:** author

In this regard, taking the example of the entertainment sector. Content streaming platforms such as Netflix and Spotify embody dynamic and flexible digital business models, quickly adjusting to user preferences through subscriptions that offer a variety of personalized on-demand content. Their agility is evident in ease of access, customization, and constant evolution of content offerings in response to emerging trends and preferences. In contrast, industrial innovation in traditional film production represents a more rigid model, characterized by lengthy, structured processes, high production costs, and dependence on cinema distribution models. This difference underscores the inherent flexibility of digital business models compared to their industrial counterparts, even within the same entertainment sector.

### III.5-Digital innovations pose higher risks:

Digital innovations are often associated with increased risks compared to industrial innovations. The rapid, technologically complex, and user-dependent nature of digital innovations can contribute to higher levels of risk compared to industrial innovations, which are often more rooted in physical processes and longer life cycles. The following table highlights different types of risks such as intellectual property risk, competitive risk, cyberattack risk, volatility in digital markets, and user adoption risk, comparing how these risks may manifest in digital innovations versus industrial innovations.

**Table 05: Nature of risks of digital and industrial innovations**

| Risk Type                            | Digital Innovations                                                                                                                                              | Industrial Innovations                                                                                                                           |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Intellectual Property Risk</b>    | Digital innovations may face intellectual property challenges due to ease of reproduction and digital distribution. Copyright and patent protection are crucial. | Industrial innovations may also face intellectual property risks, but specific challenges may vary across sectors.                               |
| <b>Competitive Risk</b>              | In the digital realm, competition can be fierce, with rapid imitation cycles. Companies must innovate constantly to remain competitive.                          | Industrial innovations may also face competition, but development and production cycles can provide some protection against rapid imitation.     |
| <b>Cyberattack Risk</b>              | Digital innovations are vulnerable to cyberattacks, jeopardizing data and system security. Cybersecurity is a major concern.                                     | Industrial innovations may be less exposed to cyberattack risks, though security of industrial systems can also be a concern.                    |
| <b>Volatility in Digital Markets</b> | Digital markets can be volatile due to rapid changes in demand, evolving technologies, and competition.                                                          | Industrial markets may exhibit different volatility, often influenced by factors such as the global economy, raw material costs, etc.            |
| <b>User Adoption Risk</b>            | Digital innovations often depend on rapid user acceptance. Slow user adaptation can lead to higher adoption risks.                                               | Industrial innovations may have slower adoption cycles, but they must also meet market needs to avoid risks associated with inadequate adoption. |

**Source:** author

Consolidating with real examples, in terms of cybersecurity risks, in 2017, the global cyberattack known as WannaCry affected businesses and institutions worldwide, exploiting a vulnerability in Windows operating systems. This attack impacted essential services such as healthcare, logistics, and financial services. Companies heavily reliant on digital technologies experienced major disruptions, with significant financial costs for data recovery and implementing enhanced security measures.

On the other hand, the case of Snapchat illustrates competitive and copying risks in the mobile app sector. When Snapchat introduced the innovative "Stories" feature in 2013, allowing users to share ephemeral content, Instagram and WhatsApp quickly copied this feature onto their own platforms, capitalizing on its success without the initial development costs. This rapid imitation led to intense competition and highlighted the vulnerability of digital companies to rapid replication of unique features by competitors, emphasizing the increased copying risks in digital innovations compared to industrial innovations where intellectual property protection can be more robust.

Regarding the conflict over intellectual property rights in the digital sector, the case of Google is instructive: In 2010, Oracle filed a lawsuit against Google, alleging that Google had infringed Java's (owned by Oracle) copyright by developing Android, its mobile operating system. Oracle claimed that Google had unlawfully used certain Java APIs in Android development. This lawsuit underscored the frequent tensions related to intellectual property in the software industry, where concepts and code can be easily replicated. While Google argued fair use, the case highlighted the risks and potential litigation related to intellectual property rights in the context of digital innovations.

### **III.6- The digital products are characterized by a continuous consumption model, encouraging a collaborative and collective approach:**

The consumption model of digital products is distinguished by its more collaborative and collective nature, largely due to the ease of sharing information, content, and experiences online. Digital products such as software, applications, and multimedia content, often accessible via the Internet, promote sharing and collaboration. Social media, streaming platforms, and file-sharing applications facilitate rapid dissemination and sharing of information among users.

In contrast, industrial products, often associated with physical goods, may be characterized by consumption exclusion driven by pricing. The high cost of production, physical ownership, and logistical limitations can make these products less likely to be shared and more susceptible to traditional models of purchase and ownership. This divergence in consumption models underscores how the intrinsic characteristics of digital or industrial products influence the dynamics of sharing and collaboration within their respective markets.

The following comparative table highlights the main distinctions between the consumption models of digital products and industrial products, emphasizing the collaborative and collective nature of the former, in contrast to the more individualistic and exclusive trend of the latter. These differences arise from the intrinsic characteristics of these types of products and the technologies associated with their respective models.

**Table 06: Characteristics of the consumption and distribution model of digital and industrial products**

| Aspect                                | Digital Products                                                                                 | Industrial Products                                                                                             |
|---------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Accessibility and Distribution</b> | Easy online distribution, rapid sharing via the Internet, instant access to content.             | Physical distribution, reliance on logistics chains, acquisition often based on ownership.                      |
| <b>Collaboration and Sharing</b>      | Encourages collaboration, easy sharing of information, content, and experiences among users.     | Less inclined to direct sharing, physical ownership limits dissemination, often focused on individual purchase. |
| <b>Consumption Inclusion</b>          | Inclusive consumption model, license sharing, subscriptions, promoting a collective experience.  | Often based on exclusive consumption model, individual purchase with high acquisition and possession costs.     |
| <b>Costs and Barriers</b>             | Often more affordable costs, subscription models, reducing access barriers.                      | High production, acquisition, and possession costs, creating economic barriers to acquisition.                  |
| <b>Environmental Impact</b>           | Less dependence on physical resources, environmental impact often related to digital energy use. | Material production, use of natural resources, environmental impact related to manufacturing and distribution.  |
| <b>Scalability and Adaptability</b>   | Ease of evolution, online updates, rapid adaptation to changing user needs.                      | Potentially less scalable, requiring longer production cycles for significant adaptations.                      |

**Source:** author

As an example, in the context of books, the advent of e-books has introduced a significantly different consumption model compared to physical books. E-books provide instant access to a vast library of titles, promoting a continuous consumption model. Features like digital sharing and lending enhance a collaborative approach to reading, where users can share passages, recommend titles, and even borrow books virtually. On the other hand, purchasing physical books involves exclusive ownership of a tangible object, highlighting a traditional consumption model with physical limits on storage and distribution. This contrast illustrates the shift towards a more fluid and interactive reading experience with e-books, contrasting with the more tangible and individual nature of physical books.

### **III.7- The scalability of digital innovations is often considered more significant:**

Scalability of digital innovations is often considered more important compared to industrial innovations. This is due to several factors inherent to the nature of digital activities. This table compares the characteristics of digital and industrial innovations, highlighting the flexibility, speed, and profitability associated with the scalability of digital innovations compared to the challenges often faced by industrial innovations.

**Table 07: Difference in the scalability level between digital and industrial innovations**

| Characteristics                     | Digital Innovations                                             | Industrial Innovations                                                    |
|-------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>Marginal Costs</b>               | Low, minimal reproduction costs.                                | Often higher, significant marginal costs for physical production.         |
| <b>Replication and Distribution</b> | Easy and instant at large scale.                                | Limited by physical production, logistics, and distribution costs.        |
| <b>Technical Scalability</b>        | Allows rapid updates and improvements without high fixed costs. | Often faces high fixed costs when expanding or adapting.                  |
| <b>Global Accessibility</b>         | Can be accessible to a global audience.                         | Global reach may be limited by logistics and distribution constraints.    |
| <b>Agile Economic Models</b>        | Easily adjust economic models, quickly test new ideas.          | Can be more rigid due to fixed costs involved in production changes.      |
| <b>Speed to Market</b>              | Ability to quickly launch new products or services.             | Development and production cycles can be longer.                          |
| <b>Adaptation to Market Changes</b> | Flexibility to quickly adapt to market shifts.                  | May require slower adjustments due to the nature of industrial processes. |

**Source:** author

In this context, iconic technology companies such as Google, Amazon, Facebook, and Apple (GAFA) have demonstrated the power of scalability in the realm of digital innovations. Their ability to achieve considerable sizes in a relatively short time stems from low marginal costs, the ability to replicate and distribute services globally instantly, rapid technical scalability, and agile economic models. In comparison, traditional industries like the automotive sector face high marginal costs, constraints related to physical production and global distribution, leading to longer development cycles and substantial economic adjustments.

### **III.8- Digital innovations foster connectivity, sharing, social interactions, and inclusion to a greater extent than industrial innovations.**

Advances in digital technologies have significantly enhanced connectivity and social interactions, creating global networks where individuals can connect and share experiences regardless of their location. Social media platforms have fundamentally changed how people share information, encouraging the formation of virtual communities and facilitating online interaction. These innovations have also contributed to narrowing the digital divide, enabling more people to access the internet and promoting digital inclusion.

Through crowdsourcing and online collaboration, digital platforms have created spaces where diverse ideas are encouraged, reinforcing more inclusive environments. Moreover, the accessibility features inherent in digital innovations have improved technology use for individuals with specific needs, contributing to a more equitable society. However, it is important to note that despite these benefits, challenges such as privacy protection and the spread of misinformation need to be addressed when evaluating the overall impact of these innovations on society.

The comparative table below briefly explains why digital innovations promote greater connectivity, sharing, social interactions, and inclusion compared to industrial innovations. Digital innovations leverage the opportunities provided by the internet and communication technologies to create global networks, encourage online collaboration, reduce digital barriers, and foster diversity of ideas. In contrast, industrial innovations often focus on physical connectivity, mass production, and improving the physical accessibility of products and services.

**Table 08: Comparison of the networking level achieved by digital and industrial innovations**

| Aspects                    | Digital Innovations                                                                                             | Industrial Innovations                                                                      |
|----------------------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Connectivity</b>        | Enables global connection through the internet, social networks, and communication apps.                        | Fosters physical connectivity through transportation and communication infrastructures.     |
| <b>Sharing</b>             | Facilitates instant sharing of information, experiences, and content on digital platforms.                      | Promotes sharing of physical goods through mass production and distribution.                |
| <b>Social interactions</b> | Encourages the creation of virtual communities, online discussions, and collaboration.                          | Favors face-to-face interactions in workplaces and public spaces.                           |
| <b>Digital inclusion</b>   | Reduces the digital divide by making the internet accessible to more people.                                    | Contributes to economic inclusion by providing jobs and stimulating growth                  |
| <b>Diversity of ideas</b>  | Promotes diversity of ideas through online collaboration and crowdsourcing.                                     | Encourages technological innovation and development of new products and services.           |
| <b>Accessibility</b>       | Improves accessibility for individuals with specific needs through specific features and adaptive technologies. | Enhances physical accessibility by designing ergonomic and universally accessible products. |

**Source:** author

At this stage of comparison, digital innovation, such as online social networks like Facebook and Twitter, plays a crucial role in creating an inclusive and connected environment where individuals can interact and share experiences worldwide, transcending geographical and cultural barriers. These platforms offer increased accessibility, allowing everyone, including people with disabilities, to actively participate in discussions and exchange ideas. Moreover, they strengthen social bonds by facilitating connections among friends, family, and colleagues, fostering a sense of belonging and community.

In contrast, industrial innovation, such as warehouse automation with autonomous robots, while improving logistical efficiency, can pose challenges in terms of inclusion and social interactions. This automation often reduces the need for human labor, limiting job opportunities for some low-skilled workers and compromising economic inclusion. Furthermore, increased automation may decrease social interactions among human workers, leading to feelings of isolation and reduced team cohesion.

### **III.9- Beyond their points of difference, digital and industrial innovations also intersect and create synergistic relationships:**

Digital and industrial innovations are two essential facets of the contemporary technological landscape. Far from being interchangeable, they complement each other to

generate synergies and significant competitive advantages. Digital innovations, such as artificial intelligence, the Internet of Things, and data analytics, are often associated with digital transformation and the optimization of business processes. They enable companies to streamline operations, improve efficiency, and drive innovation in areas like product customization and customer experience.

In contrast, industrial innovations focus on enhancing manufacturing processes, designing physical products, and optimizing the supply chain. They are central to the production and delivery of tangible goods, providing concrete solutions to meet market needs.

Where digital innovations advance in data collection and analysis, industrial innovations contribute to the creation of innovative physical products. For instance, AI advancements can be integrated into industrial machinery to enhance production efficiency, while advanced manufacturing technologies such as 3D printing or robotics enable the creation of more complex and customized products. This convergence creates a technological ecosystem where data and algorithms directly translate into tangible products and services.

Furthermore, digital innovations often facilitate the implementation of industrial innovations and vice versa. Companies that invest in digital solutions to optimize their manufacturing processes can enhance visibility and traceability in their supply chain. Meanwhile, integrating IoT sensors into industrial products enables valuable data collection on their usage and performance. This symbiosis between the two types of innovations strengthens companies' competitiveness by enabling them to better respond to changing market needs and anticipate future trends.

**TABLE 09: Impact of digital innovations on industrial practices and infrastructure**

| Domain of Change                     | Description                                                                                                                                                                                              | Examples                                                                                                                          |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>Organizational Changes</b>        | Digital innovations enable redesign of production and management processes, leading to operational optimization and improved efficiency.                                                                 | Implementation of on-demand manufacturing systems, automation of workflows with digital tools.                                    |
| <b>Institutional Changes</b>         | Companies must adapt to new standards and regulations related to the use of digital technologies in the industrial sector, requiring changes in practices and processes.                                 | Compliance with data protection regulations (GDPR), adaptation to industrial cybersecurity standards.                             |
| <b>Technological Changes</b>         | Advances in digital technologies such as Internet of Things (IoT), Artificial Intelligence (AI), and cloud computing are integrated into industrial processes to enhance efficiency and competitiveness. | Use of IoT sensors to monitor industrial machines, adoption of AI systems for optimizing production operations.                   |
| <b>Partnerships and Ecosystems</b>   | Digital innovations encourage the formation of strategic partnerships and collaborations within industrial ecosystems, fostering open innovation and knowledge exchange.                                 | Creation of consortia to develop digital industrial standards, partnerships with technology startups for exploring new solutions. |
| <b>Collaboration and Co-creation</b> | Digital technologies facilitate collaboration between internal and external teams, promoting information sharing and co-creation of innovative solutions.                                                | Collaborative project management platforms, online communication tools for distributed teams.                                     |

**Source:** author

On the other hand, industrial innovations stimulate the potential for digital innovation in various ways. The table below illustrates how they impact institutions, organizations, and technologies to foster digital innovation, thereby creating an ecosystem conducive to the growth of digital technologies in the industrial sector.

**Table 10: Impacts of industrial innovations on digital innovation**

| Domain of Impact                | Description                          | Example                                                                                                                      |
|---------------------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Impacts on Institutions</b>  | Encouragement of supportive policies | Government grants for digital technology R&D, tax incentives for innovative businesses.                                      |
| <b>Impacts on Organizations</b> | Transformation of business models.   | Shift from product sales to service-based and subscription models, adoption of digital platforms for sales and distribution. |
| <b>Impacts on Technologies</b>  | Adoption of new technologies.        | Integration of IoT sensors for real-time data collection, use of AI for predictive maintenance.                              |

**Source:** author

The dynamic interaction between digital and industrial innovation has significant implications for the economy, institutions, organizations, and technology. It promotes the creation of new business models, enhances competitiveness, and encourages the adoption of innovation-supportive policies. At the organizational level, it leads to profound changes in production and management processes, as well as increased interdisciplinary collaboration. On the technological front, it fosters the adoption of new technologies such as the Internet of Things (IoT) and artificial intelligence (AI), along with infrastructure modernization. Overall, this dynamic interaction creates an environment conducive to integrated technological ecosystems and accelerates innovation across the economy.

#### **IV-Discussion of Results:**

The comparison between industrial and digital innovation provides an insightful perspective on entrepreneurship, expanding our understanding beyond Schumpeter's model. While Schumpeter. J.S emphasized innovative entrepreneurs in the industrial sector and the concept of "creative destruction," this comparison reveals a continuous nature of innovation, integrating rapid technological advancements and synergies between the industrial and digital domains. This holistic approach to entrepreneurship highlights contemporary challenges, such as the adaptability required in a constantly evolving economic environment and the increasing need for sustainability and corporate social responsibility.

##### **IV.1- Toward a radical redefinition of the entrepreneurship concept:**

Indeed, the rise of digital entrepreneurship represents a significant transformation in the traditional paradigm of entrepreneurship, integrating new institutional and organizational dimensions. While the classical approach, influenced by Joseph Schumpeter's conception, focused primarily on radical innovation and creative destruction, digital entrepreneurship broadens this vision by addressing specific challenges related to the rapidly evolving digital environment.

Firstly, digital entrepreneurship challenges established institutional structures and norms. Unlike traditional entrepreneurship that operated in relatively stable and regulated economic environments, digital entrepreneurship emerges in a context characterized by

unprecedented speed of change and permanent uncertainty (Dacin, 2018). Digital entrepreneurs are forced to navigate often outdated regulatory frameworks and adapt to constantly evolving rules, requiring institutional agility and legislative innovation capacity (Gioia et al., 2013).

Moreover, digital disrupts traditional organizational models. Digital startups are often distinguished by their flexible organizational structure and culture of continuous innovation, breaking away from the rigid hierarchies and bureaucratic processes of conventional enterprises (Sussan and Acs, 2017). Digital entrepreneurs are encouraged to adopt agile and iterative approaches, promoting rapid experimentation and continuous learning (Blank, 2013), which necessitates a rethinking of conventional management and leadership methods (Osterwalder et al., 2014).

By integrating these institutional and organizational dimensions, digital entrepreneurship fundamentally redefines the very concept of entrepreneurship by emphasizing the need for constant adaptation and institutional and organizational agility in response to a constantly changing digital economic environment (Zott and Amit, 2010). This evolution challenges the foundations of the classical approach, centered on the individual entrepreneur and technological innovation, highlighting instead the importance of institutional and organizational structures in promoting entrepreneurship and innovation in the digital age.

#### **IV.2- Impacts on entrepreneur well-being:**

Digital entrepreneurship proves to be fertile ground for a variety of psychological and behavioral manifestations that can impact the mental and emotional well-being of entrepreneurs. Several elements warrant particular attention in this regard:

- **Anxiety and Stress:** The dynamic and uncertain context of digital entrepreneurship can induce significant anxiety and stress among entrepreneurs. The demands related to rapid innovation, adaptation to technological advancements, and meeting investor expectations can be overwhelming, leading to high levels of stress and anxiety (Cardon & Patel, 2015; De Carolis et al., 2009).
- **Performance Pressure:** Digital entrepreneurs often face high expectations in terms of performance and growth. Faced with intense competition in the digital market, they must constantly outperform and surpass their competitors, which can increase pressure and affect their mental health (Nabi et al., 2017; Wiklund & Shepherd, 2003).
- **Rapid Adaptation to Change:** Digital entrepreneurship requires the ability to quickly adapt to market fluctuations, technological changes, and emerging trends. Entrepreneurs must challenge their preconceptions, adjust their strategies rapidly, and make crucial decisions within tight deadlines, which can be a source of stress and anxiety (Shepherd & Patzelt, 2011; Shepherd et al., 2015).
- **Professional Isolation:** Despite the benefits of digital connectivity, many digital entrepreneurs may experience a sense of professional isolation. Often working independently or in small teams, they may lack social and professional support, contributing to issues such as loneliness and depression (Stam et al., 2014; Williams et al., 2019).
- **Work-Life Balance:** Digital entrepreneurship can disrupt the balance between work and personal life due to the demanding and time-consuming nature of starting a

business. Entrepreneurs may struggle to reconcile their professional responsibilities with their personal needs, which can have negative repercussions on their mental health and overall well-being (Hatak et al., 2015; Spence et al., 2011).

Digital entrepreneurship presents substantial psychological and behavioral challenges that require careful attention to ensure the mental and emotional well-being of entrepreneurs. Awareness of these issues and the implementation of appropriate adaptation strategies are crucial to promoting the mental health of entrepreneurs in the demanding context of digital entrepreneurship.

#### **IV.3- Towards Social Entrepreneurship:**

The advent of digital technologies has opened new perspectives for promoting solidarity and social entrepreneurship. These advancements have enabled the creation of platforms and networks that foster collaboration, resource sharing, and social value creation. Several aspects are worth highlighting in this context:

- **increased connectivity:** Digital technologies enable individuals and organizations from around the world to connect, facilitating remote collaboration and networking among social entrepreneurship actors. This increased connectivity promotes the exchange of ideas, best practices, and resources, thereby strengthening the social entrepreneurship ecosystem (Mair & Martí, 2006; Nicholls et al., 2019).
- **Access to information and education:** Digital platforms provide easy access to information and education on social entrepreneurship, allowing entrepreneurs to learn, develop their skills, and benefit from best practices in social impact. Initiatives such as online courses and virtual communities of social entrepreneurs contribute to democratizing access to knowledge and enhancing the capacities of sector actors (Lehner et al., 2020; Zott et al., 2011).
- **Crowdfunding and impact investing:** Crowdfunding platforms and impact investment networks have emerged as powerful tools for mobilizing financial resources in favor of high-impact social projects. These mechanisms allow social entrepreneurs to raise funds from a diverse community of investors and donors, enabling them to realize their initiatives and maximize their impact (Burtch et al., 2013; Schumpeter, 1942).
- **Collaboration and partnerships:** Digital technologies facilitate collaboration among social entrepreneurship actors, including businesses, NGOs, governments, and universities. Online collaboration platforms enable resource sharing, project coordination, and the development of strategic partnerships, creating synergies and opportunities for social innovation (Austin et al., 2006; Nicholls & Cho, 2006).

#### **IV.4-Towards entrepreneurship with positive externalities:**

The rise of digital entrepreneurship has generated significant positive externalities in terms of social and environmental responsibility. These externalities manifest at multiple levels, thereby enhancing the social impact and sustainability of digital enterprises:

- **Social and environmental innovation:** Digital entrepreneurship fosters the emergence of innovative solutions to address social and environmental challenges. Impact-driven companies develop novel technologies aimed at solving issues such as

healthcare access, education, reducing inequalities, and environmental conservation (George et al., 2006; Yunus et al., 2010).

- **Accessibility and inclusion:** Digital enterprises contribute to increasing accessibility to goods and services, particularly for marginalized or disadvantaged populations. Digital technologies help overcome geographical, economic, and physical barriers, providing opportunities for social and economic inclusion to a broader range of people (Kapor Klein et al., 2011; World Bank, 2016).
- **Transparency and accountability:** Digital platforms facilitate corporate transparency and accountability by enabling closer monitoring of business practices and their social and environmental impact. Consumers and stakeholders now have access to a wealth of information about companies, encouraging informed decision-making and promoting responsible business practices (Porter & Kramer, 2011; Thiel et al., 2019).
- **Collaboration and partnerships:** Digital entrepreneurship promotes collaboration between businesses, governments, NGOs, and other civil society actors to address common social and environmental challenges. Online collaboration platforms help mobilize diverse resources and skills, facilitating the implementation of large-scale impact projects (Bocken et al., 2014; Prahalad & Hart, 2002).

In summary, digital entrepreneurship generates positive externalities by fostering social and environmental innovation, promoting accessibility and inclusion, enhancing transparency and accountability, and facilitating collaboration and partnerships for the common good. These externalities contribute to creating a more inclusive, sustainable, and socially responsible economy.

## **Conclusion:**

The comparative study between digital entrepreneurship and industrial entrepreneurship reveals substantial disparities, leading to significant implications for entrepreneurs, institutions, and organizations.

Digital entrepreneurship, with its technological nature and dynamic context, demands heightened adaptability and agility. Unlike industrial entrepreneurship, which is more oriented towards stability and long-term planning, digital entrepreneurship requires the ability to respond promptly to market and technological changes.

From an institutional perspective, digital entrepreneurship challenges established norms and regulations. Regulatory frameworks designed for industrial entrepreneurship may prove inadequate for the fast-paced dynamics of digital entrepreneurship, necessitating constant reevaluation and adaptation of public policies.

Organizationally, digital entrepreneurship often encourages more flexible structures and cultures of perpetual innovation. Traditional companies can learn from these models and adopt more agile practices to maintain their competitiveness in a constantly evolving environment.

In summary, this comparison highlights the specific challenges and distinct opportunities presented by digital entrepreneurship compared to its industrial counterpart. To

thrive in the digital economy, entrepreneurs must be ready to adapt quickly, institutions must show flexibility in their regulations, and organizations must foster a culture of continuous innovation. This transition towards digital entrepreneurship paves the way for unprecedented opportunities for value creation and economic advancement, but requires a profound shift in the mindsets and strategies of all involved actors.

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