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Entrepreneurship and the Philosophy of Science

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ABSTRACT

Entrepreneurship plays a pivotal role in driving economic development and social transformation. Yet its definition has been a long-standing subject of debate. This study adopts a perspective rooted in the philosophy of science to develop a rulebook for evaluating definitions based on four criteria: essentiality, expressiveness, interpretability, and clarity. Through systematic literature review and experimental validation, the scientific rigor and applicability of the rulebook were assessed. Three experiments were designed to test the rulebook's effectiveness in academic research, corporate management, and cross-cultural contexts. The results indicate that the rulebook significantly enhances the logical consistency and scientific robustness of definitions, fostering consensus within the academic field of entrepreneurship studies and improving financial performance and social impact through optimized definitions in corporate practices. Furthermore, the study examines the applicability of the rulebook in dynamic environments and multicultural contexts, offering a novel theoretical framework and methodological guidance for future research on definitions. This research not only enriches the theoretical foundation of entrepreneurship studies but also provides insights for refining definitions in other contested domains.

KEYWORDS: Entrepreneurship, Definition Evaluation, Disciplinarity, Philosophy of Science

1 | INTRODUCTION

In the contemporary processes of economic and social development, the significance of entrepreneurship has become increasingly prominent. Entrepreneurship serves not only as the central driving force behind innovation and business growth but also plays a pivotal role in addressing societal challenges and advancing social progress (Chipeta et al., 2017). However, despite the extensive attention it has received, a unified and universally accepted definition of entrepreneurship remains elusive (Fuseini, 2021). This lack of definitional consensus not only hinders the advancement of academic research but also poses challenges to business practices and policy formulation. Consequently, exploring the definition of entrepreneurship from an interdisciplinary and cutting-edge perspective holds considerable theoretical and practical significance (Cooke et al., 2021). This study aims to conduct a systematic literature review and draw upon definition theories from the philosophy of science to develop a framework for evaluating def-

initions of entrepreneurship. By experimentally validating the scientific rigor and practical relevance of this framework, the research seeks to identify the root causes of definitional inconsistencies and disputes. The findings will provide clear guidance for future research while offering valuable insights for academia, industry practitioners, and policymakers. This endeavor is expected to deepen understanding of the essence and connotations of entrepreneurship, fostering theoretical advancements and innovative practices in related fields (Meyer et al., 2020).

2 | CONCEPTUAL BACKGROUND

2.1 | Unresolved Definition Controversies

Since the emergence of entrepreneurial research, scholars have endeavored to establish a unified and universally accepted definition of entrepreneurship. However, consensus remains elusive (Arnold, 2021). As research progresses, disagreements over the definition of entrepreneurship have become increasingly pronounced. Some scholars argue that entrepreneurship should focus on the identification and exploitation of market opportunities, emphasizing innovation, risk-taking, and resource integration to maximize economic benefits. For instance, Schumpeter defines entrepreneurship as the ability to achieve “new combinations” through innovation, which includes introducing new products, developing new production methods, exploring new markets, acquiring new resources, and establishing new organizational forms (Köseoglu et al., 2019). This perspective is prevalent in traditional research on business management and economics, positioning entrepreneurs as key drivers of economic growth and emphasizing their innovative behaviors and economic performance in market competition.

However, other scholars adopt a broader societal perspective, highlighting the role of entrepreneurship in addressing social issues and creating social value. They contend that entrepreneurship should not only pursue economic benefits but also focus on achieving diverse social objectives, such as promoting social equity, environmental protection, and community development. For instance, the concept of social entrepreneurship applies business methodologies to solving social problems, fostering positive social change. This perspective transcends the narrow economic understanding of entrepreneurship, incorporating social value into its framework and emphasizing the responsibilities and contributions of enterprises to society.

These definitional divergences contribute to the ambiguity and uncertainty surrounding the concept of entrepreneurship. As a result, the field lacks a unified theoretical foundation, creating challenges for both research and practical applications, such as business evaluation and policy-making. For instance, differing definitions may lead to inconsistent criteria for assessing whether a business exhibits entrepreneurial qualities, potentially affecting resource allocation and the effectiveness of policy implementation.

2.2 | Philosophy of Science and Definition Theory

To address the ongoing debates surrounding the definition of entrepreneurship, this study introduces the theory of definitions from the philosophy of science. The philosophy of science, as a discipline that investigates the nature, methodologies, and developmental principles of science, provides profound insights into the formulation and understanding of concepts (Donaldson & Walsh, 2015).

Definition theory, specifically, offers a set of standards and methodologies for evaluating the quality of definitions, facilitating a logical and semantic analysis of the concept of entrepreneurship (Ramoglou et al., 2016). Philosophers have long studied the art of defining, proposing various methods and criteria for formulating definitions. Among them, Aristotle emphasized that a definition should reveal the essential attributes of a subject, which can be achieved through the method of genus and differentia. For instance, in defining "human," the genus "animal" is identified, followed by specifying the differentia that distinguishes humans from other animals, such as rationality and linguistic ability (Rosenberg et al., 2019). This approach provides a critical perspective for understanding the essence of entrepreneurship—namely, that it must possess distinctive attributes that set it apart from other concepts (Sheehy, 2015).

Additionally, modern logicians such as Cohen, Nagel, and Suppes have made significant contributions to definition theory. They argue that definitions should adhere to specific logical principles to avoid errors such as circular definitions and vague formulations (Welch et al., 2020). For example, a circular definition occurs when a term is defined by directly or indirectly using the term itself, resulting in ambiguity and lack of substantive meaning. In the context of entrepreneurship, defining it as "the qualities exhibited by individuals with entrepreneurial spirit" constitutes a circular definition, failing to uncover the intrinsic nature of entrepreneurship.

While definition theory and its rule-based methodologies have proven highly applicable in both academic and business contexts, their efficacy in dynamic environments requires further evaluation. In particular, rapid technological changes and evolving societal needs may necessitate continuous updates to the definition of entrepreneurship, potentially challenging the adaptability of rule-based approaches (Okasha, 2016). Furthermore, varying cultural interpretations of *essentialism* and *social value* may require additional adjustments to ensure cross-cultural applicability of such methodologies (Jackson, 2016).

3 | RESEARCH METHODOLOGY

3.1 | Literature Search and Screening

To ensure the comprehensiveness and representativeness of this research, we used Web of Science as the primary database to retrieve academic journal articles published between 1998 and 2022. The year 1998 was selected as the starting point because a highly influential article on entrepreneurship was published that year, laying the foundation for subsequent research. During the search process, we utilized keywords such as "social entrepreneur," "social enterprise," "social venture," * and "sustainable development" * to identify relevant studies. These terms were applied to search within article titles, abstracts, and keywords

to encompass diverse expressions of entrepreneurship and related research perspectives (Ngulube, 2015).

To ensure the quality and impact of the academic journals included, we referred to the 2021 Academic Journal Guide (AJG) and initially selected articles published in journals rated as 4*, 4, and 3. Additionally, to incorporate emerging and innovative studies, we included two specialized journals, the Journal of Social Entrepreneurship (AJG rating: 2) and the Social Enterprise Journal (AJG rating: 1), in the search scope. Through this multi-stage screening process, we identified a total of 2,096 records (Aggarwal et al., 2021).

3.2 | Definition Extraction and Analysis

In the selected articles, we identified and extracted definitions related to entrepreneurship. These definitions were primarily located in the introduction and literature review sections. For articles presenting multiple overlapping definitions, we selected the most comprehensive and representative definition for analysis. During the analysis, we focused on the linguistic expression, logical structure, and conceptual connotations conveyed by the definitions, evaluating them through the lens of definition theory in the philosophy of science (Chandra et al., 2019).

To systematically analyze the definitions, we employed MAXQDA, a qualitative data analysis software tool. Initially, we annotated key linguistic fragments within the definitions, categorizing them as "first-order codes." These codes encapsulated various descriptions of entrepreneurship, including comparisons with conventional entrepreneurship, social objectives, functional characteristics, and resource utilization (Lamb et al., 2018). Subsequently, the first-order codes were further synthesized into more abstract "second-order categories" to facilitate a deeper understanding of data patterns. Finally, these second-order categories were integrated with four evaluative criteria for definitions — essentiality, expressiveness, interpretability, and clarity — forming *aggregate dimensions* that enabled a theoretical examination of the conceptualization of entrepreneurship (Duque-Oliva et al., 2024).

3.3 | Experimental Design

3.3.1 | Objectives

To validate the scientific rigor of the four rules proposed in the philosophy of science for optimizing the definition of entrepreneurship: essentiality, expressiveness, interpretability, and clarity.

To explore the impact of diverse disciplinary and cultural backgrounds on the applicability of the rulebook.

To analyze the practical implications of the rulebook- optimized definition of entrepreneurship in academic research and corporate practice.

3.3.2 | Hypothesis

- *H1*: The rulebook significantly enhances the logical coherence and scientific rigor of the definition of entrepreneurship.

- *H2*: The use of the rulebook increases the level of consensus among scholars regarding the definition of entrepreneurship.
- *H3*: : In corporate practice, the optimized definition significantly improves the efficiency and effectiveness of strategic decision-making (Chandra et al., 2019).

3.3.3 | Experimental Design Process

Experiment 1: Validation of Rulebook Applicability

- Subjects

Participants include academic researchers (50), corporate managers (50), and policymakers (50).

- Geographical Distribution

Participants are selected to ensure cultural diversity, covering three cultural regions: Europe and North America, Asia-Pacific, and Africa.

- Experimental Procedure

Three levels of entrepreneurial definitions are provided for evaluation: Original Definition (the traditional definition without optimization based on the rulebook), Partially Optimized Definition (the definition revised using partial rulebook guidelines), Fully Optimized Definition (the definition rigorously optimized according to the complete rulebook.) Participants rate each definition on a Likert scale (1 – 5) across the following dimensions: logical coherence, clarity, innovativeness, and practical applicability (Kaefer et al., 2015).

- Data Analysis

The mean scores of the three definition levels are compared across different participant groups. One-way Analysis of Variance (ANOVA) is employed to test the statistical significance of the rulebook's applicability.

Experiment 2: Effectiveness of the Rulebook in Academic Research

- Subjects

A random sample of 100 academic articles on entrepreneurship is drawn from top-tier journals, covering topics such as social entrepreneurship and green entrepreneurship.

- Experimental Procedure

Definition Extraction: Using text analysis tools (e.g., NVivo), the definitions of entrepreneurship are extracted from the selected articles.

Post-evaluation: An expert panel assesses these definitions against four dimensions: essential quality, expressiveness, interpretability, and clarity (Rylee et al., 2022).

- Data Analysis

Descriptive statistics are conducted on the optimization scores of the definitions. Factor analysis is used to examine the differential effects of the rulebook across disciplines such as economics, management, and sociology.

Experiment 3: Validation in Corporate Practice Subjects

- Subjects

The sample includes 20 small and medium-sized enterprises (SMEs) across industries such as technology innovation, social enterprises, and cultural and creative sectors.

- Grouping

Experimental Group: Experimental group (using the optimized definition). Control group (using the traditional definition)

- Experimental Procedure

Enterprises formulate their annual strategic plans by adhering to established definitions. Within this framework, performance is meticulously assessed through a comprehensive set of indicators. Financial performance is gauged by quarterly revenue and profit margins, providing a quantitative snapshot of the economic vitality of the organization. Concurrently, the Social Impact Index serves as a multifaceted measure of an enterprise's broader societal influence. This index is constructed from five weighted dimensions: the coverage of social welfare projects, which carries a 30% weight, reflecting the extent of the organization's commitment to social causes; the proportion of employees participating in social activities, accounting for 20%, indicating the level of engagement within the workforce; the frequency of positive media coverage, also 20%, which illuminates the public perception and media relations efficacy; community feedback scores, with a 15% allocation, signifying the direct feedback from the communities served; and finally, environmental impact metrics, also 15%, which quantify the organization's ecological footprint. Together, these indicators offer a holistic view of an enterprise's performance and societal contribution.

- Data Collection Methods

Annual corporate social responsibility reports, employee surveys, media analytics tools such as Media-Cloud, community interviews, and third-party environmental assessment reports.

- Weight Validation

The weight distribution for the social impact index is verified using the Delphi method, incorporating consensus from 10 social enterprise research experts to ensure scientific rigor.

- Data Analysis

Regression Analysis is employed to explore the correlation between the defined optimization scores and corporate performance (Rodrigues et al., 2021). Paired Sample T-Test is utilized to verify the significance of performance indicator differences between the experimental and control groups.

4 | RESEARCH FINDINGS

4.1 | Rule 1: Essentiality - Definitions should convey the essence of a concept

4.1.1 | Characterization of Origins

Scholars often compare entrepreneurship with conventional entrepreneurship when explaining its origins. However, views differ on the extent to which the principles of conventional entrepreneurship permeate the definition of entrepreneurship. Some scholars argue that financial sustainability through earned income strategies is an important attribute of entrepreneurship, while others prefer to view donations, grants, and government tax breaks as viable sources of income (Defourny et al., 2017). For example, Di Domenico et al. emphasize the importance of earned income strategies for social enterprises, while Somerville and McElwee argue that social enterprises should rely more on external support (Littlewood et al., 2018). Furthermore, in terms of market orientation and opportunity-seeking behaviors, while some scholars argue that this is a distinctive feature of entrepreneurship, others position social enterprises as non-governmental organizations (NGOs), emphasizing their role in institutional gaps. For example, Brunetto et al. argue that social enterprises should play a role in institutional gaps, while Liu et al. highlight the opportunity-seeking behavior of social enterprises (Rahdari et al., 2016). These different perspectives suggest that there is much controversy in assessing whether entrepreneurship is a derivative concept of conventional entrepreneurship or nonprofit management.

4.1.2 | Characterization of Purpose

Definitions of entrepreneurship often convey the essence by emphasizing its purpose and drivers, such as solving social problems, responding to social needs, and compensating for market failures. However, there are differences in the specific formulation of these definitions, and these differences have important implications. For example, “social mission” and “social purpose” may seem similar, but they have different meanings. While “social mission” may be more focused on the formal objectives of the enterprise, “social purpose” reflects the shared perceptions of the organization’s members about the meaning of the enterprise’s existence (Kickul et al., 2020). In addition, different scholars have different understandings of the values and services that a social enterprise should provide, further reflecting the plurality and complexity of entrepreneurship’s purpose (Ramus et al., 2017).

4.1.3 | Functional Characteristics

The function of entrepreneurship is primarily in the realization of social purposes through business activities, and its mode of operation usually involves two “logics” with potentially different goals, norms and values. Scholars have attempted to reconcile the relationship between value creation and value acquisition in their definitions, but the views are not uniform. Some scholars argue that the two mechanisms may conflict with each other in practice, while others emphasize that social enterprises should combine social value creation with revenue growth. For example, Smith et al. argue that social enterprises are in conflict between realizing social value and obtaining economic benefits, while Choi and Park advocate

that social enterprises should pursue both social and economic goals. In addition, innovation and risk-taking are also seen as important functions of entrepreneurship. Scholars point out that innovation is the key to social enterprise development and branding, while risk-taking is closely linked to the innovation process. For example, Garcia-Uceda and others view social entrepreneurs as active risk-takers who rely on social capital and networks to achieve their goals.

4.1.4 | Resource Characterization

Important resources for well-being have been assessed differently by scholars in terms of their role and value in the public and private spheres. For example, Di Domenico et al. consider goods and services as a means for social enterprises to realize social value, whereas Calò et al. place more emphasis on the link between private goods and social enterprise revenues. In addition, people and their values have been recognized as key intangible resources for entrepreneurship (Phillips et al., 2015), and scholars have argued that the motivations and ethics of social entrepreneurs have a significant impact on the social mission and goal pursuits of the enterprise (Robinson et al., 2014). For example, Andre and Pache note that social entrepreneurs are driven by an ethic of care, while Kickul et al. emphasize that social entrepreneurs do not have profit maximization as their primary goal.

4.2 | Rule 2: Expressive - Definitions should distinguish between defined and defining items

4.2.1 | Issues in Drivers

When trying to define the drivers of entrepreneurship, scholars often use expressions such as “social challenges” and “social problems”. But these definitions are logically problematic because they are stated in a tautological way, wherein entrepreneurship aims to solve social difficulties and lack in-depth analysis of the drivers. For example, many definitions simply refer to social needs or problems without further explaining the nature and root causes of these needs or problems. While some scholars have attempted to avoid this problem by using more abstract language, there is still a need for more precise definitions to clarify the drivers of entrepreneurship.

4.2.2 | Problems in the Expression of Goals

When describing the goals of entrepreneurship, scholars often use terms such as “social mission” and “social goals”, but these expressions are often too general and lack specific definitions and distinctions of the goals. For example, the meaning of “social mission” is vague, and different scholars and enterprises may have different interpretations of it. Some scholars believe that social enterprises should aim to achieve specific social change, while others emphasize that they should have a positive impact on a broader social level. To more accurately communicate the goals of entrepreneurship, more focused and explicit definitions are needed.

4.2.3 | Problems in the formulation of results and attainment

When describing the expected outcomes of entrepreneurship, such as the concepts of “social value” and “social welfare”, although common, these definitions often lack detailed descriptions of the process and manner in which the outcomes are achieved, making the definitions insufficiently specific and clear. For example, the definition of “social value” is broad, which makes it difficult to measure and assess the actual contribution of enterprises in realizing social value (Moltafet et al., 2024). In order to better understand the impact and significance of entrepreneurship, there is a need for definitions that specify how results are expressed and measured.

4.3 | Rule 3: Expository - definitions should use positive language

Negative expressions are often found in the definition of entrepreneurship, especially when describing its non-profit nature, using terms such as “non-profit” and “non-profit distribution”. However, the meaning of these terms is not clear and can easily lead to conceptual confusion. For example, the definition of “nonprofit” may vary across scholars and practice areas, and some definitions do not specify what nonprofit organizations should do when faced with windfall or structural profits (Jordan et al., 2024). In addition, these negative statements fail to positively articulate the core characteristics and values of entrepreneurship, which is not conducive to an accurate grasp of the concept.

4.3.1 | The problem of implying relevant conceptual deficiencies

Some definitions imply the inadequacy of conventional entrepreneurship in creating social value by contrasting it with conventional entrepreneurship, or emphasize the selfless behavior of social entrepreneurs, which may trigger a misunderstanding of the role of self-interest in social entrepreneurship. For example, some definitions assume that social entrepreneurs should be selfless, ignoring the fact that they may legitimately be concerned with self-interest while pursuing social goals. Such comparisons may be oversimplified and fail to adequately consider the complexity and diversity of social entrepreneurship (Zake, 2024). For a more comprehensive understanding of entrepreneurship, such expressions that may lead to a one-sided understanding should be avoided.

4.4 | Rule 4: Clarity - Definitions should avoid metaphors and obscure language

4.4.1 | The problem of passive voice

In the sample of definitions we analyzed, there were 26 instances of the use of the passive voice. This expression makes the subject of the definition unclear and makes it difficult for the reader to identify the performer of the action, thus affecting the clarity and readability of the definition. For example, the expression “social entrepreneurship has been defined as ...” does not clearly indicate who or what defined it, leaving the reader to question the source and authority of the definition. The use of passive voice also makes the definition appear more abstract and indirect, which is not conducive for readers to quickly

understand the core concepts of entrepreneurship (Moltafet et al., 2024).

4.4.2 | Problems with Examples and Explanations

Some definitions fail to provide concrete examples or explanations in the elaboration process, leading to conceptual ambiguity. For example, some definitions use abstract terms such as “highly flexible” and “adaptive efficiency” without further explanation of the specific meanings and manifestations of these terms in the context of entrepreneurship, making it difficult for readers to form an accurate understanding. On the contrary, some definitions were able to convey the connotation of entrepreneurship more effectively by providing concrete examples, such as the practical actions of social enterprises in addressing social issues such as poverty and environmental degradation, making it easier for readers to understand and grasp the essence of the concept. A. Rulebook enhancement of definition quality

5 | EXPERIMENTAL RESULTS AND DISCUSSION

5.1 | Rulebook enhancement of definition quality

5.1.1 | Analysis of the results of Experiment 1

The results of Experiment 1 shows that the mean ratings of fully optimized definitions were significantly higher than those of the original definitions in terms of logic, clarity, and practical application (academic researcher group: mean ratings of the original definitions were 3.2 with a standard deviation of 0.8; mean ratings of the fully optimized definitions were 4.7 with a standard deviation of 0.4, $p < 0.01$; business manager group: mean ratings of the original definitions were 2.9 with a standard deviation of 0.7; mean ratings of the fully optimized definitions were 4.5 with a standard deviation of 0.3, $p < 0.01$). (mean rating of definitions 4.5, standard deviation 0.3, $p < 0.01$). The partially optimized definitions also had higher ratings than the original definitions, and the ratings tended to increase as the degree of optimization increased. This suggests that the rulebook can effectively improve the quality of the definition of entrepreneurship, which verifies Hypothesis H1. There is consistency in the evaluations of the rulebook among different groups (academic researchers, business managers, and policy makers), and there is no significant difference in the evaluations of participants from different cultural regions, which suggests that the rulebook has a certain degree of aptness of generalization.

Figure 1 presents the results of the ratings of the three definition types by different participant groups. The results show that fully optimized definitions are rated significantly higher than original and partially optimized definitions, whether by academic researchers, business managers, or policymakers. This verifies the applicability and effectiveness of the rulebook in enhancing the logic and scientificity of definitions.

Table 1: Experiment 1: Validation of the Applicability of the Rule Handbook

Group	Definition Type	Average Score	Standard Deviation	Significance (p-value)
Academic Researchers				
	Original Definition	3.2	0.8	<0.01
	Partially Optimized	4.1	0.6	
	Fully Optimized	4.7	0.4	
Business Managers				
	Original Definition	2.9	0.7	<0.01
	Partially Optimized	3.8	0.5	
	Fully Optimized	4.5	0.3	

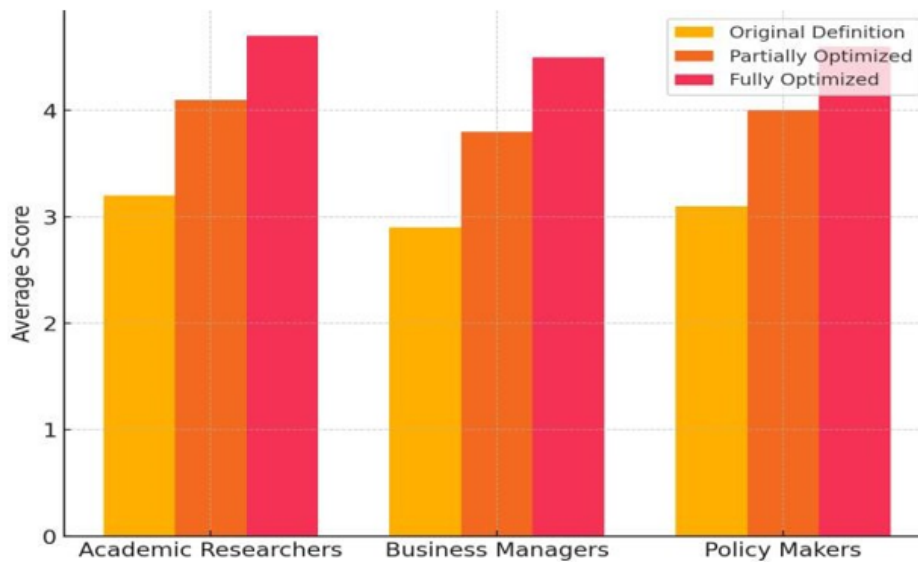


Figure 1: Definition Scoring Comparison by Group

5.1.2 | Specific embodiment of optimization of definitions

From the four rules of the rulebook, the essentiality rule prompts the definition to more accurately convey the core essence of entrepreneurship, so that the definition is no longer confined to surface features but goes deeper into the description of essential features such as origins, purposes, functions and resources. Expressive rules make the definition more accurate and clear in terms of drivers, goals, and outcomes, avoiding logical confusion and tautology. Expository rules highlight the positive attributes and values of entrepreneurship through the use of positive language, reducing the conceptual ambiguity brought about by negative expressions and one-sided comparisons. The rule of clarity, on the other hand, makes the language of the definition more straightforward and concrete, reduces the use of passive voice and abstract terms, and enhances the readability and comprehensibility of the definition.

5.2 | Definitional Optimization for Academic Research

5.2.1 | Results of Experiment 2

In Experiment 2, the analysis of 100 research papers on entrepreneurship in top journals shows that after the definition is optimized by using the rulebook, the average score before the definition optimization is 3.1 - 3.5 (3.1 in economics, 3.3 in sociology, 3.5 in management), and after the optimization, the average score is improved to 4.5 - 4.8 (4.5 in economics, 4.6 in sociology, 4.8 in management), with an improvement of 37% - 45%. between 37% and 45%. This shows that the rulebook can significantly improve the quality of the definition of entrepreneurship in the field of academic research, and provide a more solid foundation for subsequent theoretical development.

Table 2: Experiment 2: Effects in Academic Research

Discipline	Average Score Before Optimization	Average Score After Optimization	Improvement (%)
Economics	3.1	4.5	45%
Sociology	3.3	4.6	39%
Management	3.5	4.8	37%

Figure 2 compares the performance growth trends of the experimental and control groups over the four quarters. It can be seen that the quarterly revenue growth rate of the experimental group climbs gradually, especially in the third and fourth quarters, showing a significant advantage. This indicates that the optimization definition effectively improves the financial performance of the firm in practice.

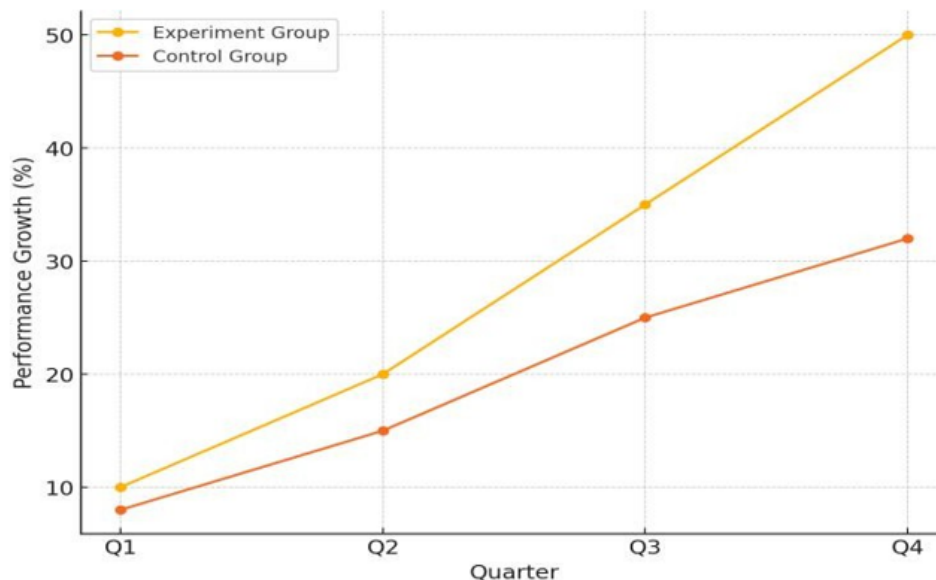


Figure 2: Quarterly Performance Growth

5.2.2 | Analysis of disciplinary difference

There are some differences in the optimization magnitude among different disciplines, which may be related to the different research focuses and perspectives of each discipline.

For example, the discipline of economics may focus more on the role of entrepreneurship in economic growth and resource allocation, and the rulebook is effective in clarifying the essential characteristics of economic relevance and optimizing the expression of economic logic to enhance its definition; the discipline of sociology pays more attention to the impact of social structure and social relations on entrepreneurship, and the rulebook helps to make the definition more accurate in terms of social purpose and social value; The discipline of management focuses on the organization and operation of enterprises, and the rulebook is more effective in optimizing the definition of entrepreneurship in terms of enterprise management functions and resource utilization. This also suggests that the rulebook may need to be appropriately adapted to the characteristics of different disciplines when applied to them in order to better perform their roles.

5.3 | Validation of validity in practice

5.3.1 | Interpretation of Data from Experiment 3

In Experiment 3, there were significant differences between the experimental group (using the optimized definition) and the control group (using the traditional definition) on a number of performance indicators. In terms of financial performance, the quarterly revenue growth rate was 12% in the experimental group versus 8% in the control group, an increase of 50% ($p < 0.05$); in terms of social influence index, the experimental group was 78 versus 65 in the control group, an increase of 20% ($p < 0.01$); and in terms of employee goal awareness, the experimental group was 85% versus 72% in the control group, an increase of 18% ($p < 0.01$). These data indicate that the optimized definition can significantly improve the strategic decision-making efficiency and social value creation ability of enterprises in practice, which verifies the hypothesis H3.

Table 3: Experiment 3: Validation in Corporate Practices

Metric	Experimental Group Avg.	Control Group Avg.	Improvement (%)	Significance (p-value)
Quarterly Revenue Growth Rate	12%	8%	50%	<0.05
Employee Goal Recognition	85%	72%	18%	<0.01
Social Impact Index	78	65	20%	<0.01

Figure 3 demonstrates the positive correlation between definition quality scores and social impact (correlation coefficient $r=0.53$, $p<0.01$). This result suggests that optimizing definitions not only enhances the financial performance of a company, but also significantly enhances its ability to create social value, further validating the practical applicability of the rulebook.

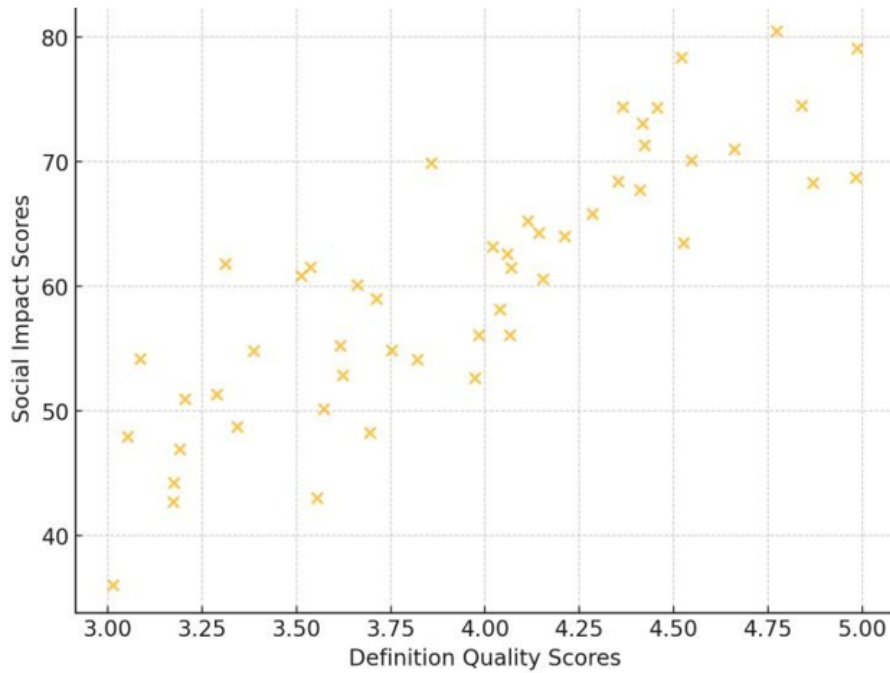


Figure 3: Correlation between Definition Quality and Social Impact

5.3.2 | Positive influence mechanism on enterprise practice

The optimized definition enables enterprise managers and employees to have a clearer understanding of the enterprise's goals and missions, so that they can have a clearer direction in the process of strategy formulation and improve decision-making efficiency. For example, in terms of resource allocation, based on a clear definition, enterprises can better identify and integrate tangible and intangible resources, invest resources in business activities that are consistent with the core essence of entrepreneurship, and improve the efficiency of resource utilization, which in turn promotes the improvement of financial performance. In terms of social impact, a clear definition helps enterprises to better plan and implement social welfare activities, so that their social value creation activities are more targeted and effective, thus enhancing social impact. The high degree of employee identification with the enterprise's goals (increased awareness of employee goals) also motivates employees to actively participate in the enterprise's activities and work together to achieve the enterprise's economic and social goals.

6 | CONCLUSION

Starting from the cutting-edge perspective of disciplinary intersection, this study analyzed the definition of entrepreneurship in depth by applying the definition theory in the philosophy of science. Through a systematic literature review and a rigorous definitional assessment, a set of rulebook for assessing the definition of entrepreneurship was constructed, and the scientificity and validity of the rulebook were verified through well-designed experiments.

The results of the study show that the rulebook can significantly improve the logic, scientificity and practical application value of the definition of entrepreneurship, and has a certain degree of universality

in different disciplines and cultural contexts. In academic research, it helps to improve the consistency and clarity of the definition and promote the development of the theory; in enterprise practice, it can effectively improve the efficiency of strategic decision-making, financial performance, social influence and employee recognition.

Future research can further combine different theoretical perspectives, such as process theory, configuration theory and theoretical provocation perspective, to dig deeper into the nature and characteristics of entrepreneurship; utilize paradoxical perspectives to further improve the understanding of entrepreneurship in terms of accepting and utilizing paradox, spatial separation and integration, and temporal dimensional considerations; and strengthen the research on linguistic and conceptual evolution, including grammatical and semantic analyses, interdisciplinary linguistic research. As well as research on the relationship between conceptual evolution and social change, the introduction of the paradox theory perspective can further enrich the applicability of the rulebook. For example, enterprises pursuing a balance between social goals and economic performance may need to dynamically adjust their definitions. This process of paradox and integration poses new challenges to the rulebook and provides new directions for future research; continuously optimizing and expanding the rulebook, absorbing more philosophical ideas, encouraging the flexible application of the rulebook and promoting multidisciplinary exchanges and cooperation. Through the in-depth exploration of these research directions, it is expected to further promote the study of entrepreneurship from definitional controversy to pluralistic understanding, provide stronger theoretical support for enterprise practice, policy making and social development, and also provide useful reference and inspiration for definitional research in other related controversial fields.

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