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# Exploration of the Deep Impact of Digital Platforms on Innovation and Entrepreneurship Activities of Entrepreneurs under the Information Management Framework

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**Abstract:** With the rapid development of information technology, digital platforms (DPs) have emerged as an indispensable aspect of the entrepreneurial landscape, which has a profound impact on entrepreneurial innovation and practice. However, there remains a gap in understanding the specific ways in which DPs influence the entrepreneurial process. Therefore, within the framework of information management theory, this study aims to deepen the understanding of how DPs foster entrepreneurial innovation and enhance entrepreneurial effectiveness, thereby enhancing the overall efficiency of DPs. Firstly, the concept of information management in contemporary social enterprise management is thoroughly examined and reviewed to establish a robust theoretical foundation for further research. Secondly, the conceptual framework and core elements of DPs are extensively discussed, elucidating their role and function in the entrepreneurial process. On this basis, a theoretical model illustrating the impact of DPs on entrepreneurial innovation and activities is formulated, along with six specific research hypotheses. These hypotheses encompass the effects of DPs on entrepreneur behavior, enterprise development, and the platform–entrepreneur relationship. To verify the validity of these hypotheses, a questionnaire survey involving 398 entrepreneurs is conducted to facilitate in-depth communication. Simultaneously, the various attributes of entrepreneurs are categorized, and the resulting classifications are thoroughly analyzed and evaluated. The results show that the DP plays a positive role in promoting the development of platform enterprises, improving intrapreneurship activities, and enhancing the ability of intrapreneurship. In addition, DPs can effectively regulate the relationship between platform enterprises and entrepreneurs and promote the self-development of entrepreneurs. Furthermore, the entrepreneurial growth process has positively influenced platform enterprises. This finding strongly supports the practical application of DPs and provides valuable guidance for entrepreneurs to leverage them effectively in fostering innovation and entrepreneurial activities in the digital era. Meanwhile, this offers crucial insights for platform enterprises on enhancing their service offerings to entrepreneurs and fostering the sustainable development of the entrepreneurial ecosystem. In summary, through rigorous theoretical discourse and empirical analysis, this study emphasizes the significant role of DPs in the entrepreneurial journey, providing robust backing for their continued advancement and utilization in the entrepreneurial realm.

**Keywords:** digital platform; entrepreneurial field; enterprise management; information management; entrepreneurial innovation



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## 1. Introduction

With the swift growth of computer, network, and communication technology, information management has assumed a more prominent role in enterprise operations and market competition. Moreover, it serves as a pivotal factor in enabling enterprises to attain sustainable development and bolster competitiveness. Faced with the challenges and opportunities of the information age, enterprises must proactively pursue enterprise informatization, align with the demands of the era's evolution, and capitalize on market opportunities [1]. Digital platforms (DPs), defined as technology-driven business models rooted in information management, are increasingly becoming a vital support for enterprise innovation and development. These platforms leverage advanced information technology (IT) means and offer an open, inclusive, and shared development environment for enterprises based on sound scientific enterprise management principles and methods [2]. In this context, enterprises can acquire and utilize information resources more effectively, streamline business processes, and enhance operational efficiency, thereby bolstering overall performance and market competitiveness. Concurrently, DPs offer abundant resources and opportunities for entrepreneurs. Through the utilization of DPs, entrepreneurs gain facilitated access to market dynamics, technological trends, competitive landscapes, and other critical information, providing robust support for entrepreneurial decision-making. Additionally, DPs offer entrepreneurs channels to establish connections and collaborations with investors, partners, and stakeholders, thereby nurturing the sustainable growth of the entrepreneurial ecosystem. Verhoef et al. [3] highlighted that digital transformation comprises a multifaceted process encompassing three stages: digitalization, digital transformation, and digital development. At each stage, enterprises are required to meticulously strategize and plan various aspects, including their digital resources, organizational frameworks, growth trajectories, and performance metrics. However, existing DPs demonstrate deficiencies and limitations in functionality, performance, and service quality, thus warranting further investigation and refinement. Therefore, undertaking in-depth research on DPs can enhance their overall performance and more effectively address the needs of enterprises and entrepreneurs. Additionally, it also promotes the further advancement of entrepreneurial activities and injects new impetus into economic and social growth [4,5]. The existing research has furnished valuable references and inspiration for the construction and optimization of DPs, but it still needs to be deepened and expanded.

Putz et al. [6] proposed the enterprise information management system (EIMS). Firstly, they defined the information management system (IMS) and explained its theoretical basis. Secondly, they examined 11 elements of the EIMS from a managerial viewpoint. They correspond to five processes: the quality management system (QMS), management responsibility formulation, resource management, network project implementation, measurement and improvement, and their interrelations. Subsequently, they established three tiers of system objectives encompassing system-level, process-level, and activity-level goals. Additionally, they analyzed the primary and secondary relationships among control objects in IT. Lastly, an illustrative planning scenario was presented to illustrate the implementation of the EIMS for overseeing enterprise informatization endeavors. Some people have pointed out that in the context of the era of big data, enterprises have paid more attention to the data value. Data mining (DM) plays a vital role in the development of enterprises. Reim et al. [7] suggested that recent developments in digital technologies have emerged as a crucial facilitator of resource-efficient internationalization and business development, an innovation discovered by small and medium-sized enterprises (SMEs). Peng and Tao [8] concluded that digital transformation greatly improved the performance of enterprises, which could stimulate the motivation of enterprise innovation. Meanwhile, the digital transformation of enterprises was mainly based on the construction of DPs of big data, supplemented by data guidance business. DPs of big data can connect all business units with data, unlocking the latent value of data assets while enhancing operational efficiency and facilitating informed management decision-making processes. Thus, in line with the overarching market demand, constructing an industrial chain connecting scattered

industries can deeply explore the data value of each business segment. This approach can strengthen the correlation between existing information systems and enhance enterprises' added value and core competitiveness. This study focuses on the transformation of leather enterprises through the DP. To sum up, when discussing the DP's impact on the entrepreneurial process, the current research mainly focuses on the macro-level analysis, and the specific mechanism and micro-level research are still insufficient. Moreover, most studies fail to fully consider the dynamic interaction between entrepreneurs and platform enterprises, and how this relationship affects entrepreneurial outcomes. The advantage of this study is that it deeply analyzes the construction concept of a DP and its core elements. Additionally, the study develops and applies a theoretical model of the impact of a DP on entrepreneurs' innovation and entrepreneurial activities and verifies the validity of the hypothesis through empirical methods. Notably, this study comprehensively considers the interactive relationship between entrepreneurs and platform enterprises and reveals the positive impact of this relationship on entrepreneurial effectiveness. Consequently, this study makes up for the shortcomings of existing research and provides a more in-depth and comprehensive understanding, thus offering a valuable reference for the DP's further optimization and its application in the entrepreneurship domain.

Initially, this study systematically elaborates on the basic concepts and core principles of information management, deeply analyzing its vital role in today's information society. Subsequently, this study comprehensively discusses the development status and future trends of enterprise DPs in depth. Moreover, it highlights the significant role of DPs in promoting the enterprise informatization process and advancing innovation and entrepreneurship activities. On this basis, the study further focuses on the impact of DPs on the innovation and entrepreneurship activities of entrepreneurs. Through the construction of a research model, the study analyzes in depth the mechanism of how DPs provide resource support for entrepreneurs, optimize the entrepreneurial environment, and improve the success rate of entrepreneurship. This study not only enriches the theoretical achievements in the domain of DPs, innovation, and entrepreneurship but also affords useful references and inspiration for entrepreneurs in practical operations. Finally, this study summarizes the research findings and proposes prospects for the future development of DPs. By doing so, it aims to contribute wisdom and strength to improve the comprehensive development of innovation and entrepreneurship activities for entrepreneurs and to foster the continuous optimization and improvement of DPs.

## 2. Research Theory and Method

### 2.1. Research Overview

Information management is widely recognized as an advanced and widely adopted management method in the current society, exerting a pivotal influence on enterprise development. Consequently, numerous scholars have conducted extensive research in this area. Iqbal et al. [9] asserted that digital management is effective for manufacturing enterprises to improve work efficiency and reduce production costs. From the perspective of simplifying business processes by focusing on manufacturing resources, the researchers put forward an overall scheme of DP management in manufacturing enterprises. By classifying manufacturing resources, they delineated the principal division of the DP into operational, engineering, and production systems, elucidating their core functions and the information exchange mechanisms among them. Finally, the method was constructed to achieve integration and interoperation between the three systems. Thereby, the designed DP conformed to the application requirements of the actual business of manufacturing enterprises and reduced the implementation cost. It facilitated the management of business finances, materials, and operations. Khan and Tao [10] utilized the structural equation model to analyze the responses collected by 325 manufacturing firms. The empirical results revealed the positive relationship among firms' knowledge absorption capacity, agility, and innovation performance mediated by big data analysis and DP capability. Additionally, the competitiveness and innovation ability of enterprises were improved. Habib et al. [11]

reviewed the value co-creation theory and analyzed the process of value co-creation and distribution in the entrepreneurial DP ecosystem. They implemented a multi-agent model and simulated the effects of opening strategy on system evolution and platform enterprise performance. The research had several findings: (1) Under the static opening strategy, the relationship between corporate profit and the opening was roughly inverted U-shaped in the short term. In the long run, as the growth rate of system value co-creation increased, the profits of platform enterprises could also increase with enhanced platform openness. (2) By implementing a dynamic opening strategy and stimulating innovation enthusiasm, platform enterprises can provide more open resources for capable digital entrepreneurs than a static opening strategy. Hence, the long-term profits of platform enterprises were enhanced. (3) When platform enterprises implemented a dynamic opening strategy, diverse opening incentives had little influence on the enthusiasm and innovation achievements of digital entrepreneurs. Thus, the increasing open incentives did not have a significant impact on the long-term profits of platform enterprises. Cozzolino et al. [12] argued that with the progress and wide application of the Internet, the convenience and superiority of the Internet were becoming more and more obvious, bringing new development opportunities to many industries. Heredia et al.'s [13] experience demonstrated that digital skills had a greater impact in low high-density interconnector (HDI) economies. In summary, the development of the information management model progressed significantly and found application in many domains. Consequently, based on the information management model, the entrepreneurs' entrepreneurial activities were studied under the DP, providing a great impetus for the development of society. Abubakre et al. [14] explored how DPs provided resources, reduced entry barriers, and facilitated the development of entrepreneurial activities. The research findings indicated that DPs markedly increased the entrepreneurs' success rate and efficiency by offering support in various aspects such as information, technology, and the market. Furthermore, DPs promoted the formation of an entrepreneurial ecosystem, facilitating cooperation and communication among entrepreneurs. Sedera et al. [15] focused on how DPs influenced entrepreneurs' innovative behavior. The study revealed that DPs provided entrepreneurs with abundant innovative resources and stimulated their innovation intentions and capabilities through unique business models and operational mechanisms. Additionally, DPs facilitated interaction between entrepreneurs, consumers, and partners, providing a continuous driving force for innovation. Battisti et al. [16] analyzed the inherent mechanisms of how DPs influenced the entrepreneurial performance of entrepreneurs. The research pointed out that DPs created a better entrepreneurial environment for entrepreneurs by optimizing resource allocation, reducing transaction costs, and improving market efficiency. Moreover, DPs directly enhanced entrepreneurial performance by improving entrepreneurs' information literacy and strengthening their market competitiveness. Hevner and Gregor [17] concentrated on the influence of DPs on entrepreneurs' entrepreneurial risks. The study found that DPs played a crucial role in reducing entrepreneurial risks. By providing risk warnings, market analysis, risk assessment, and other services, DPs helped entrepreneurs better identify and manage entrepreneurial risks. Furthermore, DPs enhanced entrepreneurs' ability to deal with risks by promoting information sharing and collaboration among entrepreneurs. Vrontis et al. [18], using empirical research methods, explored the relationship between DPs and entrepreneurs' entrepreneurial success. The research results illustrated a significant positive correlation between the use of DPs and entrepreneurial success. Specifically, the use of DPs increased entrepreneurs' market sensitivity, innovation capabilities, and operational efficiency, thereby increasing the likelihood of entrepreneurial success. Merdika Mansur [19] investigated the influence of DPs on entrepreneurs' identification of entrepreneurial opportunities. The study revealed that DPs assisted entrepreneurs in more accurately identifying market demands and potential business opportunities by providing a wealth of market information and data analysis tools. Additionally, DPs facilitated entrepreneurs' in-depth exploration and grasping of entrepreneurial opportunities by connecting them with potential consumers, partners, and others. Holzmann and

Gregori [20] analyzed how the DP contributes to building and expanding entrepreneurs' networks. The research indicated that DPs furnished entrepreneurs with convenient social and interactive tools, enabling them to establish wider connections, share experiences, and exchange resources. Simultaneously, DPs, through algorithms and recommendations, assisted entrepreneurs in discovering and connecting with partners who shared common interests and goals, thereby expanding their social networks. Lagna and Ravishankar [21] investigated how DPs influenced entrepreneurs' learning behavior. The study discovered that DPs offered entrepreneurs rich online learning resources and opportunities, allowing them to engage in self-improvement and updates anytime, anywhere. Additionally, DPs enhanced the learning experience and outcomes for entrepreneurs through interactive learning and case analyses. Gawer [22] explored how DPs influenced entrepreneurs' fundraising activities. The research revealed that DPs, by lowering fundraising barriers and costs, offered entrepreneurs more fundraising choices and opportunities. Moreover, through transparent information disclosure and risk assessment mechanisms, DPs enhanced investors' confidence and recognition of entrepreneurial projects. Furthermore, DPs facilitated direct communication and interaction between entrepreneurs and investors, improving fundraising efficiency and success rates. Gupta and Bose [23] examined the impact of DPs on the internationalization of entrepreneurs. The research found that DPs offered entrepreneurs broader international markets and cooperation opportunities by breaking down geographical restrictions and information barriers. Additionally, DPs aided entrepreneurs in adapting and understanding different countries' business environments and cultural backgrounds by providing services such as cross-cultural communication and language translation. These factors collectively promoted the international development process for entrepreneurs. In summary, existing research on the DP's impact on entrepreneurs' innovation and entrepreneurial activities has yielded abundant results. Most of the literature generally agrees that DPs provide entrepreneurs with convenient access to resources and channels for information exchange, fostering the generation of innovative thinking and the unfolding of entrepreneurial activities. Simultaneously, these platforms lower entry barriers, optimize resource allocation, and contribute to the construction of a thriving entrepreneurial ecosystem. However, some studies also illustrated potential challenges associated with DPs, such as information overload, intense competition, and data security issues, which may impact entrepreneurs' decision-making and the smooth progress of entrepreneurial activities. Therefore, future research should delve deeper into exploring the dual roles of DPs, providing more comprehensive and specific guidance for entrepreneurs.

## 2.2. The Concept of Information Management

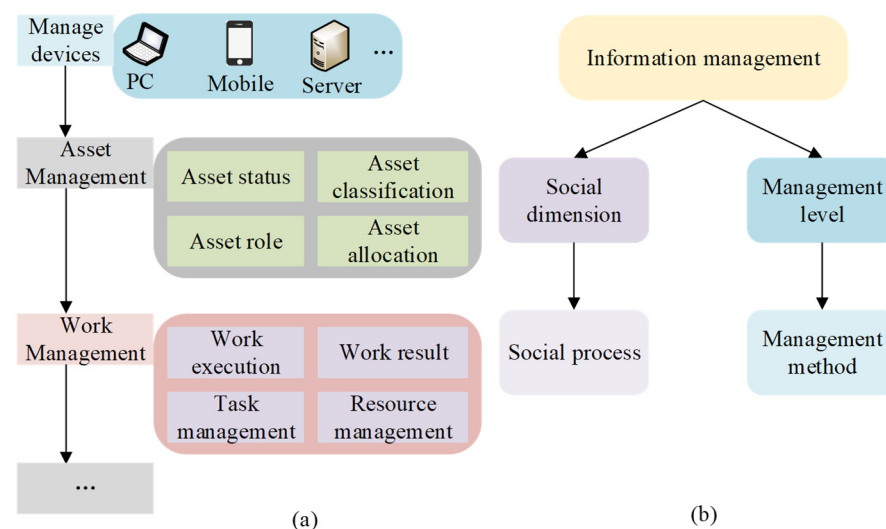
The concept of informatization emerged in Japan in the 1960s. Social phenomena associated with informatization first emerged as early as the 1940s. The third scientific and technological revolution, characterized by the rapid development of electronic computers, atomic energy, and space technology, epitomizes this transformational era. Nowadays, informatization has become an essential support for social development [24]. Precisely, informatization is a social and economic transformation from an industrial to an information economy, propelled by Internet production tools and computer technology. It encompasses the informatization of traditional industries, IT, infrastructure, lifestyle, and production modes [25].

From a sociological perspective, informatization is construed as a social process. The specific principle is state guidance with the support of national policies and the broad application of information resources via the information industry, technology, and talents [26]. The overarching objective is to consistently address society's information demands, foster informatization development across all social domains, and enhance social productivity and economic progress. At the sociological level, informatization represents the dynamic evolution from an industrial to an information society [27]. Consequently, advancing in-



formatization remains intricately linked to the overall progress and development of society across all spheres.

In a managerial context, informatization emerges as an exemplary management methodology [28]. Leveraging modern IT, it comprehensively transforms organizations, optimizing resource-sharing mechanisms through the extensive utilization of information resources. Concurrently, it establishes channels for information communication and interaction, augments organizational reflection, and perpetually enhances decision-making efficiency and management proficiency. The essence of informatization lies in the paradigm shift of management concepts and the iterative process of analysis, reorganization, and transformation within the management framework. Figure 1 displays the specific principles of information management.

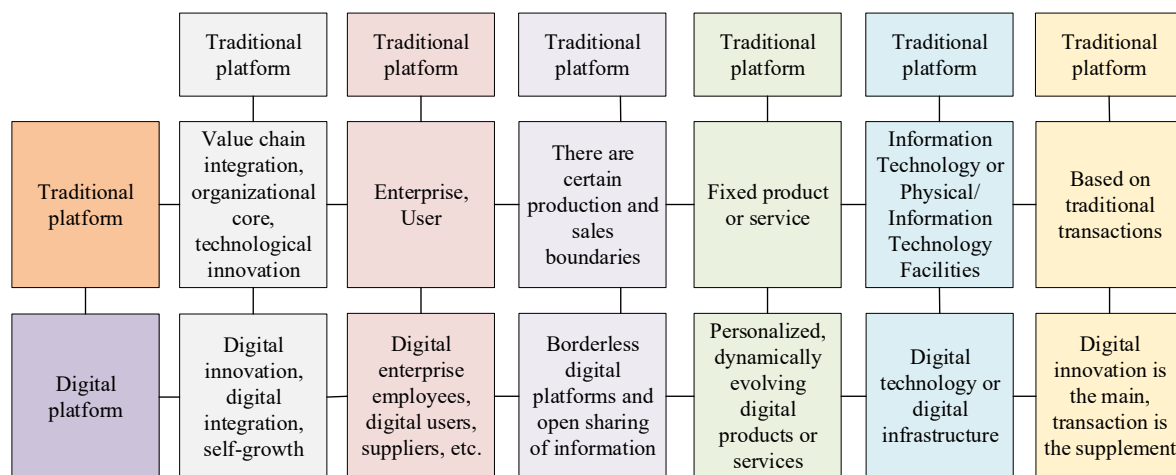


**Figure 1.** Specific principles of information management. (a) Technical principles; (b) Overall principles.

Information management is divided into three main categories in Figure 1: work management, asset management, and management decision-making. These categories include the social dimension and management level. Notably, by utilizing cutting-edge technology like computer, digital, and biotech technologies, informatization deviates from industrialization. Globalization, electronization, and intelligence define it. This refers to a historical process that is intended to support and develop new creative energies for the good of society, represented by clever tools [29]. Informatics development leads to the emergence of informatics as a progressive driving force that permeates every aspect of social life. It acts as a major stimulus for innovation, entrepreneurship, and societal advancement. It also initiates a wave of entrepreneurial informatization reform [30].

### 2.3. The Concept of DP

DP is a relatively new working concept. Compared with the traditional working platform, the DP has many strong and unique attributes [31]. The DP emphasizes the importance of combining multi-subjects in the platform, such as enterprise employees, suppliers, and users. Concurrently, the DP realizes the change and application of the capability structure, platform subject, output, boundary, function, infrastructure, and its theoretical basis through new digital technologies, such as big data analytics (BDA), artificial intelligence (AI), and blockchain [32]. Figure 2 depicts the capability advantages of DPs over traditional platforms.



**Figure 2.** Advantages of the DP over the traditional platform.

Figure 2 demonstrates that the DP represents an essential technological breakthrough in comparison to the traditional platform, with a high degree of digitization. On the one hand, enterprises in DPs emphasize positive value concepts, such as sharing, openness, win–win, and cooperation [33]. On the other hand, user entrepreneurial behaviors predominantly unfold through enterprise channels within DPs. Entrepreneurial entities within large enterprises refer to specific independent groups. They facilitate enterprises to realize major entrepreneurship, including introducing, developing, and implementing innovation and entrepreneurial activities. These activities may encompass product research and development, as well as the commercialization of products and services [34]. Such entrepreneurial activities typically rely on various resources within the enterprise, effectively managed by DPs [35].

Antecedent variables influencing in-enterprise entrepreneurship predominantly target individual, organizational, and environmental factors. Specifically, individual antecedent variables encompass individual characteristics such as age and working ability, with related factors comprising individual self-efficacy, entrepreneurial attitude, managerial norms, and behavior control [36]. Firstly, age negatively correlates with individuals' entrepreneurial activities. That is, with the growth of employees' age, the enterprise's entrepreneurship probability is smaller. Secondly, employees' working ability can be positively correlated with the development of entrepreneurial activities. The stronger the working ability is, the greater the probability of entrepreneurial success within the enterprise. Various aspects of employees' characteristics exert diverse influences on entrepreneurial activities within the enterprise [37]. Organizational antecedents encompass the quality of the relationship between managers and employees and the organization's ability to identify and develop. Environmental antecedent variables primarily consider economic income and institutional environments [38].

Internal entrepreneurship, also termed corporate entrepreneurship, warrants further exploration within a theoretical framework. It specifically refers to entrepreneurial activities conducted within an existing organization, emphasizing the cultivation of an innovative culture and risk-taking propensity [39]. At an individual level, internal entrepreneurship fosters an environment conducive to personal innovation and risk acceptance. A strong entrepreneurial atmosphere within a company can enhance individuals' innovative capabilities, giving them the courage to face the challenges and risks associated with new ventures. This atmosphere also helps improve individuals' ability to cope with pressure, which is crucial for overcoming obstacles that may arise during entrepreneurial activities [40]. Particularly in challenging external environments, frequent internal entrepreneurial activities catalyze improving the organization's financial health and overall competitiveness [41]. Guided by information management, DPs play a crucial role in shaping the entrepreneurial activities of entrepreneurs. By leveraging the resources provided by these platforms, en-

trepreneurs can benefit from an open and collaborative environment, which helps stimulate creativity and foster collaboration [42]. Hence, examining DPs' impact on entrepreneurial activities from the perspective of internal entrepreneurship can offer valuable insights into the development of these platforms and the promotion of internal entrepreneurial activities within organizations. This study holds significant potential for guiding the strategic direction of DPs and enhancing the success of entrepreneurial initiatives.

### 3. Research Design

Enterprises in the DP are investigated and evaluated based on the Questionnaire Survey (QS) method. Subsequently, the impact of the DP on the entrepreneurs' entrepreneurial activities is analyzed through the QS results.

#### 3.1. Ethical Approval

This study was approved by the Academic Ethics Review Committee of Guangzhou University, China, on 15 December 2023. It did not involve animal or human clinical trials and adhered to ethical standards. Following the ethical principles outlined in the Declaration of Helsinki, all participants provided informed consent before engaging in the study. The anonymity and confidentiality of the participants were guaranteed, and participation was completely voluntary. Participants willingly accessed the questionnaire link, having been informed of the research's purpose, and acknowledging that "submitting answers" constitutes informed consent. Participants can exit at any time during the questionnaire-filling process.

#### 3.2. Research Questions

The rapid progress of computer technologies such as BDA, AI, and cloud computing (CC) has reshaped the entire society, affecting management models, organizational forms, and production models. Hence, the traditional management model is failing [43]. Nevertheless, the maturity of DP applications is still worrying, and various problems deserve further study. The main problem lies in the overall impact of DP application on the entrepreneurial activities of entrepreneurs [44].

In view of the impact of DPs on society in many aspects, this study mainly studies entrepreneurs' entrepreneurial activities. It plays a vital role in the future development of DPs. Meanwhile, it also provides valuable references for individuals engaged in DP entrepreneurship [45]. In this study, "measuring entrepreneurial self-efficiency" is used as the main measuring tool [46]. The scale is a measuring tool specially used to evaluate individuals' attitudes and characteristics in multiple dimensions. Its design aims to comprehensively and deeply understand the psychological and behavioral characteristics of the respondents through a series of questions or statements. This scale has carefully designed six main dimensions, including self-cognition, learning adaptation, emotional experience, interpersonal communication, personality traits, and professional values, and each dimension is specifically presented through carefully selected topics. For example, the dimension of self-cognition helps to reveal individuals' cognition and reflection on their own abilities. The dimension of learning adaptation evaluates the individual's ability to cope with new situations. The dimension of emotional experience deeply explores the individual's emotional state and depression tendency. In addition, the interpersonal communication dimension examines the individual's ability in interpersonal communication, the personality trait dimension reveals his personality characteristics, and the professional values dimension reflects his views on his own career orientation and development planning. The scale is very flexible in design and use, and can be evaluated by the Questionnaire Survey method, so that respondents can easily participate and truly express their views and feelings. Meanwhile, this measurement method is also convenient for quantitative analysis of the results to provide targeted mental health counseling and intervention for individuals or organizations. In addition, the scale has a wide range of application value in modern social investigation and research, which can not only be used for individual mental



health assessment, but also provide important information about employees' attitudes, values, and behavior characteristics for organizations or institutions, which is helpful to formulate more effective management strategies and plans.

### 3.3. Research Hypotheses

As the core hub of modern business, the digital platform plays a key role in closely connecting different enterprises. In this context, entrepreneurial activities on the digital platform are mainly based on the interior of the enterprise, and a series of innovative practices are launched. These entrepreneurial activities do not exist in isolation but are deeply dependent on entrepreneurial resources within the enterprise, which include capital, technology, talents, and other aspects. Because of this, entrepreneurial activities on the digital platform have a unique and far-reaching impact on enterprises. Specifically, the digital platform provides a broad and efficient stage for enterprises, which enables enterprises to find partners, obtain market information and promote products and services on this platform. These functions not only reduce the operating cost of enterprises, improve the operating efficiency, but more importantly, bring unprecedented business opportunities to enterprises. On this platform, enterprises can grasp the market pulse more accurately and respond to the market demand more quickly, thus achieving rapid business growth. Entrepreneurial activities within enterprises are an important part of digital platform entrepreneurship. These activities are initiated by employees in the enterprise, relying on the resources and platform of the enterprise to carry out a series of innovative projects. These projects not only help enterprises to expand their business fields and improve their market competitiveness, but also stimulate employees' innovative spirit and entrepreneurial enthusiasm, injecting new vitality into enterprises [46]. Based on this, this study puts forward the following hypotheses:

**H<sub>1</sub>:** *The DP has a positive influence on the development of platform enterprises.*

**H<sub>2</sub>:** *Internal entrepreneurship under the DP positively impacts platform enterprises' development.*

As mentioned above, entrepreneurial activities on the digital platform are mainly in the form of internal entrepreneurship, which has many obvious advantages [47]. In a highly complex and dynamic external environment, platform-based enterprises are more inclined to entrepreneurial orientation to cope with the rapid changes in the market. The digital platform has evolved into an indispensable tool for platform-based enterprises to carry out entrepreneurial activities. They rely on digital platforms to identify market opportunities, optimize resource allocation, and promote business innovation. In order to keep pace with the development of digital platforms, platform-based enterprises must continuously optimize themselves to ensure the smooth operation of enterprises. Meanwhile, entrepreneurial activities based on a digital platform can make full use of the advanced resources provided by the platform, thus increasing the probability of entrepreneurial success. These resources include, but are not limited to, data support, market analysis, technical support, etc. They provide a strong backing for entrepreneurs and enable entrepreneurial activities to be carried out more efficiently and accurately [48]. Based on the above premise, it shows that the internal entrepreneurial activities on the digital platform not only contribute to the sustainable development and optimization of platform-based enterprises, but also can improve the success rate of entrepreneurial activities with the help of advanced resources on the digital platform. This theory can provide an important basis for studying the internal mechanism of digital platform entrepreneurship, and also provide valuable references and guidance for platform-based enterprises and entrepreneurs. Based on this, this study puts forward the following hypotheses:

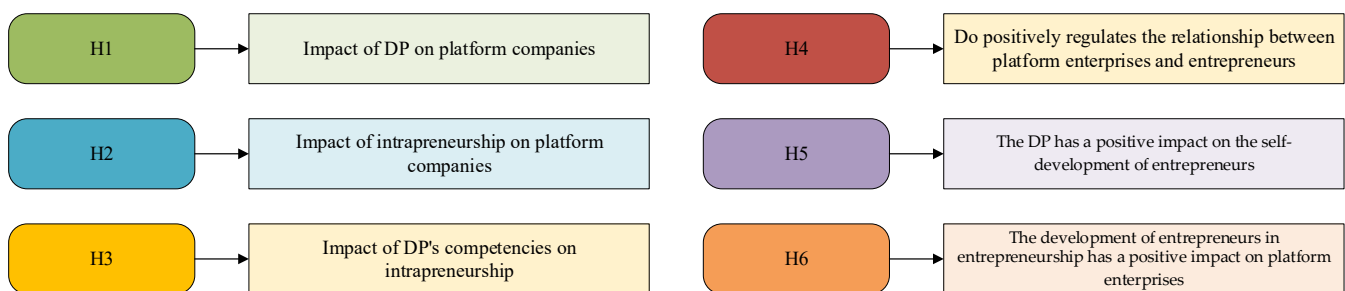
**H<sub>3</sub>:** *The capability of the DP has a positive impact on entrepreneurial activities within enterprises.*

**H<sub>4</sub>:** *The DP positively regulates the relationship between platform enterprises and entrepreneurs.*

The individual level plays a dual role in entrepreneurial activities within enterprises, which is both its antecedent variable and its result variable. Therefore, entrepreneurial activities within enterprises on the digital platform have a significant impact on individuals. Firstly, the digital platform greatly improves the comprehensive ability of individuals by promoting the wise use of enterprise resources. This includes the ability in resource allocation, project planning, teamwork, and so on, which enables individuals to be more comfortable in the process of starting a business. Secondly, the digital platform also enhances the individual's comprehensive recognition ability by cultivating the concepts of openness and shared resource utilization. This means that individuals can grasp market opportunities more accurately and use resources more efficiently to achieve greater success on the road of entrepreneurship. Therefore, it is of great significance to deeply study how the digital platform affects the performance of individuals in entrepreneurial activities for understanding the essence of entrepreneurial activities within enterprises and promoting their healthy development [49]. According to this, the following hypotheses are made:

**H<sub>5</sub>:** *The DP has a positive impact on the self-development of entrepreneurs.*

**H<sub>6</sub>:** *The development of entrepreneurs in entrepreneurship has a positive impact on platform enterprises. Figure 3 shows the role of the hypothesis.*



**Figure 3.** Illustration of the hypothesis.

#### 4. Research Data Setting

After careful planning and preparation, this study carries out this Questionnaire Survey, aiming at deeply exploring the multi-dimensional performance of entrepreneurs in innovation and entrepreneurial activities. The contents of the questionnaire are carefully designed to ensure that every question is full of logic and pertinence. The purpose is to ensure that the questionnaire can truly reflect entrepreneurs' behaviors, attitudes, and experiences in innovation practice, resource utilization, and market insight. Through this series of well-designed questions, this study strives to collect real and detailed data and lays a solid foundation for subsequent analysis. In the selection of sample members, the diversity and representativeness of samples are fully considered. A variety of channels are used to distribute questionnaires, including industry associations, corporate partners, online communities, etc., to ensure that entrepreneurs in different industries, different scales, and different stages of development could be covered. Meanwhile, according to the key information of the respondents, such as age, gender, business years, enterprise nature, etc., a detailed classification is carried out to understand the differences and commonalities of different groups in the use of digital platforms and innovation and entrepreneurship.

In the process of data collection, strict quality control measures are taken. Firstly, this study ensures that the questionnaire distribution and collection process is standardized to avoid data omission and duplication. Secondly, the collected data were carefully screened and sorted out, and invalid and abnormal data were eliminated to ensure the authenticity and validity of the data. Finally, 398 valid questionnaires were successfully obtained, which provided reliable data support for subsequent analysis. Through the in-depth analysis of these questionnaire data, combined with statistical methods and data analysis tools, the potential relationship and law between digital platform and entrepreneurial behavior

are revealed. Furthermore, by constructing mathematical models and related analysis methods, the questionnaire data are mined and analyzed in multiple dimensions, and the specific influence path and effect size of digital platforms on entrepreneurs' innovation and entrepreneurial behavior are revealed. In addition, in order to fully understand the relationship between digital platforms and entrepreneurs' behavior, this study also refers to the relevant literature in China and other countries, and sorts out and summarizes it. Through a comparison with the literature, the shortcomings and gaps of the existing research are found, which provides valuable references and enlightenment for further research.

Generally speaking, this study reveals the influence mechanism of digital platforms on entrepreneurs' innovation and entrepreneurial activities through well-designed questionnaires, extensive sample collection, and in-depth data analysis. This study not only enriches the theoretical system of innovation and entrepreneurship, but also provides valuable guidance and suggestions for entrepreneurs in practice. The future research will continue to pay attention to the development of digital platforms, deeply explore their application potential in the fields of innovation and entrepreneurship, and contribute more to the healthy development of innovation and entrepreneurship ecology. In Tables 1 and 2, the statistical results of the sample and the reliability analysis results of the questionnaire are displayed.

**Table 1.** QS respondents' information.

User Classification	Classification	Number of People	Proportion (%)
Gender	Male	302	75.9
	Female	96	24.1
Age	<30	41	10.3
	30–50	326	81.9
	>50	31	7.8
Years of enterprise operation	<10	140	35.2
	10–20	215	54.0
	>20	43	10.8
Enterprise nature	State-owned enterprise (SOE)	87	21.9
	Private enterprise	175	44.0
	Foreign-owned enterprise	69	17.3
	Joint venture	67	16.8

**Table 2.** Reliability and validity analysis results.

Validity Aspect	Index	Data Result
Content validity	Correlation between problems and research objectives	92% of the questions are directly related and 8% are indirectly related
	Coverage of key constructs	96% of the key constructs are covered by questionnaires
Structural validity	Number of significant factors extracted by factor analysis	4
	Cumulative explanatory variance	75%
	Coefficient of correlation among construals	The average value is 0.45 (range: 0.30–0.60)
Reliability	Cronbach's alpha value of the overall scale	0.85
	Cronbach's alpha value of subscale	Range: 0.70–0.88

Tables 1 and 2 classify entrepreneurs by gender, age, business years, and business nature. The tables comprehensively discuss the influence of digital platforms on the innovation and entrepreneurship of different entrepreneurs. In addition, the table shows the validity analysis results of the questionnaire data in terms of content validity, structural validity, and reliability. In terms of content validity, the questions in the questionnaire

are highly related to the research objectives, and the key constructs are fully covered, ensuring the pertinence and comprehensiveness of the survey. In terms of structural validity, significant factors are extracted by factor analysis. The cumulative explanatory variance is high, and the correlation coefficient between constructs is moderate. This indicates that the questionnaire structure is reasonable and can accurately reflect the research constructs. In terms of reliability, Cronbach's alpha values of the whole scale and the subscale are at a high level, which shows the stability and reliability of the questionnaire results. On the whole, the questionnaire shows good validity in content, structure, and reliability, which provides a reliable basis for subsequent data analysis.

## 5. Impact Evaluation of the DP on Entrepreneurs' Innovation and Entrepreneurship

### 5.1. DP Effectiveness Test

To ensure that the research topic is reasonable, this section first runs the common method biases (CMB) test. A synthetic covariant phenomenon between explanatory variables is the CMB. When experimenters fill in the same data in the same circumstances, covariates may result. Deviation can have a detrimental impact on the rigor and science of this investigation and result in inaccurate research conclusions [50]. The artificial covariance between predictor and criterion variables resulting from the same data source, rater, measurement setting, project context, and project features themselves is referred to as the CMB. Testing the CMB of the research data is required to demonstrate the validity of the questionnaire's content and the importance of this investigation. Figure 4 shows the plot of the CMB for this test.

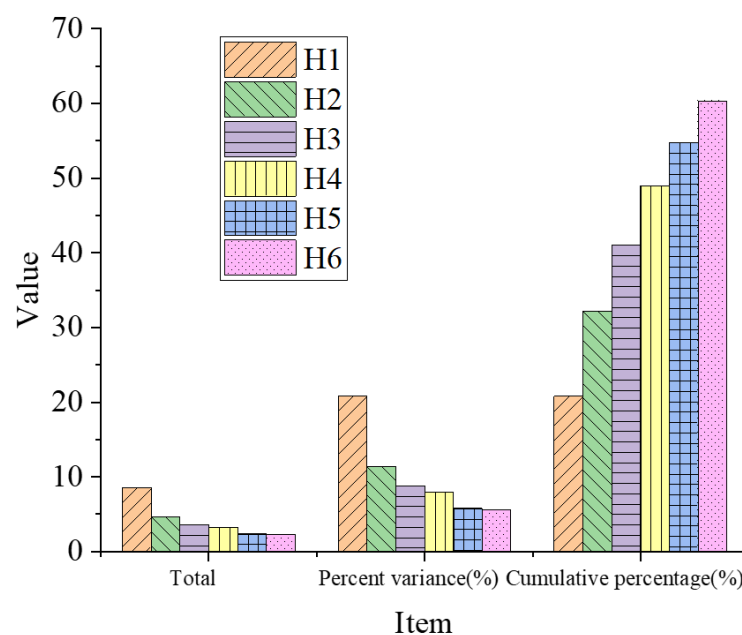
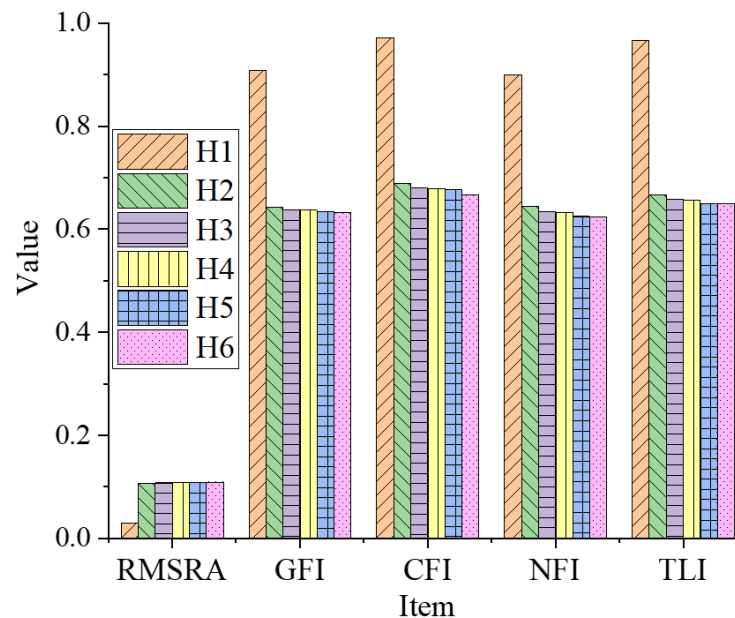


Figure 4. CMB test.

Figure 4 shows that six components are identified in this study following a thorough CMB. Each of these components has an eigenvalue greater than 1, which is indicative of strong statistical properties. The fact that the first factor's total explained variance is 20.829%, much below its crucial criterion of 40%, is very noteworthy. This outcome provides compelling proof that the study data lacks any discernible common deviation. This accomplishment strengthens the validity of the investigation and provides strong backing for the research premise. Additionally, a thorough investigation of the model variables' discriminant validity is conducted in this study. Through a series of rigorous tests and analyses, the discriminant validity of each variable in the model is validated, thus ensuring this study's accuracy and effectiveness. This discovery offers more substantial support for the hypotheses and deepens the understanding of the research questions. In

conclusion, the research outcomes not only provide robust support for the hypotheses but also enhance this study's scientific rigor and credibility through in-depth data analysis and model validation. These findings contribute to advancing the theoretical development in related fields and offer valuable references and insights for future research. Figure 5 presents the results of the model's discriminant validity test.



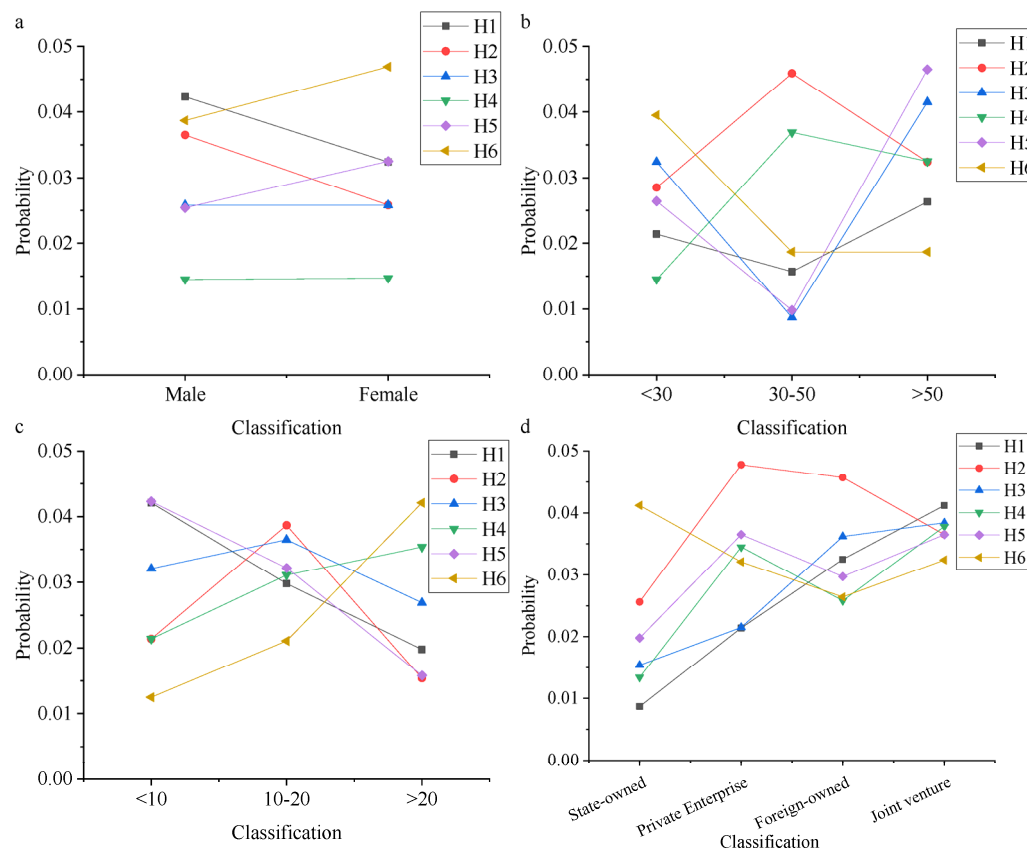
**Figure 5.** Discriminant validity test results of the model.

Figure 5 indicates that numerous fit indices are used in this study to thoroughly evaluate the suitability of the model. The magnitude of the model's fitting mistakes is measured using the root mean square error of approximation (RMSEA), which is the square root of the estimation error. The RMSEA score in this study is 0.029, which is significantly less than the crucial threshold of 0.08 and indicates a well-fitting model with few fitting errors. Furthermore, the goodness of fit index (GFI) is employed as an index of overall fit. In this case, the GFI value exceeds the crucial 0.8 criterion, reaching 0.909, indicating a strong overall fit with the model. The assessment of the model's fit is further enhanced by the non-normalized fit index (NFI) and comparative fit index (CFI). The CFI and NFI values further prove the model's great fit, which are 0.972 and 0.900, respectively, both over the crucial criterion of 0.8. In the end, one of the most important metrics for evaluating model fit is the Tucker–Lewis index (TLI). Moreover, the TLI value is 0.967, significantly higher than the cutoff of 0.8, supporting the notion of a well-fitting model. When the outcomes of various fit indices are combined, it becomes clear that the suggested theoretical model fits the requirements, offering strong support for the model's strong discriminant validity. Consequently, the fit of the main variables studied in the theoretical model meets the standards, offering robust evidence to validate and support the research hypotheses. This study outcome enhances the study's scientific rigor and reliability and offers valuable references and insights for research in related areas.

## 5.2. Impact of DPs on Entrepreneurs' Entrepreneurial Activities

Entrepreneurs typically conduct their business within the enterprise on the DP. This section investigates the effect of the DP on entrepreneurs' entrepreneurial activity and performs a QS on entrepreneurs. The precise results of the research are shown in Figure 6.





**Figure 6.** Evaluation of the impact of the DP on entrepreneurs' entrepreneurial activities. (a) Gender-based classification; (b) age-based classification; (c) years of enterprise operation-based classification; and (d) enterprise nature-based classification.

Figure 6 depicts that through in-depth investigation and categorical analysis, this study has achieved prominent research outcomes that robustly support the research hypotheses proposed here. Specifically, for male entrepreneurs, the highest and lowest  $p$ -values are about 0.045 and 0.015, respectively, while for female entrepreneurs, the two corresponding  $p$ -values are about 0.049 and 0.015, respectively. Therefore, the overall  $p$ -values for the gender classification-based evaluation are below 0.05, indicating a notable gender difference. This finding aligns with the expected impact of gender on entrepreneurial activities in the proposed research hypotheses, providing empirical support. In the research classified by age, conspicuous differences are also identified. For entrepreneurs under 30 years old, the highest and lowest  $p$ -values are around 0.040 and 0.013, respectively. Entrepreneurs aged 30 to 50 exhibit the highest and lowest  $p$ -values at approximately 0.048 and 0.010, respectively. Entrepreneurs above 50 years old have  $p$ -values ranging from around 0.049 to 0.020. These results indicate a remarkable impact of age on entrepreneurial activities, consistent with the anticipated age-related factors in the hypotheses. Furthermore, in the research categorized by the years of enterprise operation, noticeable differences are found. For enterprises with less than ten years of operation, the highest and lowest  $p$ -values are approximately 0.044 and 0.013, respectively. The  $p$ -value range for enterprises with an operating period of 10 to 20 years and exceeding 20 years is approximately 0.040 to 0.020 and 0.045 to 0.015, respectively. These findings further validate the expected impact of the years of enterprise operation on entrepreneurial activities in the research hypotheses. Lastly, significant differences are observed in the research classified by the enterprise nature for SOEs, private enterprises, joint ventures, and foreign-funded enterprises. SOEs have the highest and lowest  $p$ -values at approximately 0.042 and 0.008, respectively. Private, foreign-funded enterprises and joint ventures exhibit  $p$ -values between approximately 0.048 and 0.020, 0.046 and 0.025, and 0.043 and 0.030, respectively. These findings verify the anticipated

impact of the enterprise nature on entrepreneurial activities in the hypotheses. Moreover, the findings also provide valuable insights into the differences among enterprises of diverse natures in the entrepreneurial process. In summary, this study's outcomes comprehensively demonstrate the influence of factors such as gender, age, years of enterprise operation, and the enterprise nature on entrepreneurial activities, offering robust empirical support for the proposed hypotheses. These findings enrich theoretical research in the entrepreneurship field and afford valuable references and guidance for entrepreneurial activities in practice. Table 3 lists the verification results of the proposed hypotheses.

**Table 3.** Hypothesis test results.

Hypothesis	Hypothetical Content	Result
H <sub>1</sub>	H <sub>1</sub> : The DP has a positive impact on the development of platform companies	Supported
H <sub>2</sub>	H <sub>2</sub> : Intra-enterprise entrepreneurship under the DP has a positive impact on the development of platform enterprises	Supported
H <sub>3</sub>	H <sub>3</sub> : DP capabilities have a positive impact on intra-firm entrepreneurial activity	Supported
H <sub>4</sub>	H <sub>4</sub> : DPs positively regulate the relationship between platform companies and entrepreneurs	Supported
H <sub>5</sub>	H <sub>5</sub> : DPs have a positive impact on the entrepreneur's development	Supported
H <sub>6</sub>	H <sub>6</sub> : The development of entrepreneurs in entrepreneurship has a positive impact on platform companies	Supported

As indicated in Table 3, the research results support these hypotheses.

### 5.3. Discussion

In this study, the impact of DPs on entrepreneurial activities of entrepreneurs is explored and the research hypothesis is verified. The following is a discussion and explanation of the findings. Firstly, from a gender perspective, it is found that there are remarkable differences between male and female entrepreneurs in their entrepreneurial activities on DPs. Statistical results show that male entrepreneurs have a highest *p*-value of approximately 0.045 and a lowest *p*-value of about 0.015, while female entrepreneurs have corresponding *p*-values of approximately 0.049 and 0.015. This suggests that gender has an appreciable impact on entrepreneurial activity on DPs. One possible explanation is that males and females have different opportunities and barriers to accessing resources, networking, and marketing. Further exploration could examine gender differences in resource access, partnership establishment, and marketing strategies on DPs to deepen understanding of this phenomenon. Secondly, age is also found to have a marked impact on entrepreneurial activity on DPs. Statistically, entrepreneurs across different age groups exhibit significant differences in their entrepreneurial activities on DPs. This indicates differences in entrepreneurial activity strategies, risk tolerance, and market adaptation abilities among entrepreneurs of various age groups on DPs. Further research can explore differences in entrepreneurial strategy choices, innovation capabilities, and competitive advantages among entrepreneurs of diverse age groups on DPs, thus better guiding entrepreneurial activities in the digital age for entrepreneurs of different age groups. Moreover, the operating years of an enterprise significantly impact entrepreneurial activities on DPs. According to the statistical results, there are notable differences in entrepreneurial activities on DPs among enterprises with operating periods of less than ten years, 10 to 20 years, and over 20 years. This suggests that the length of enterprise operation affects strategies for entrepreneurial activities on DPs, organizational changes, and market expansion. Further analysis could investigate differences in entrepreneurial strategy adjustments, organizational innovation, and market expansion among enterprises with different operating years on DPs, guiding continuous entrepreneurship in the digital era. Finally, the nature of the enterprise significantly in-

fluences entrepreneurial activities on DPs. Significant differences exist among SOEs, joint ventures, private enterprises, and foreign-funded enterprises. This indicates differences in entrepreneurial activity strategies, resource allocation, and competitive advantages among diverse enterprise natures on DPs. The following research can explore differences in innovation capabilities, degree of internationalization, and market positioning among enterprises of different natures on DPs, thus better guiding entrepreneurial activities in the digital era. In summary, this study explores the impact of DPs on entrepreneurial activities and validates the related hypotheses. Factors like gender, age, enterprise operation duration, and enterprise nature significantly influence entrepreneurial activities on DPs. These findings contribute to a deeper understanding of entrepreneurial activities in the digital age and provide valuable references and guidance for practice and policy. However, this study still has some limitations. For example, the specific circumstances of the sample and research environment may limit the universality and applicability of the study. Future research can expand the sample size, increase the diversity of research scenarios, and comprehensively and deeply study the impact of other factors on entrepreneurial activities.

In addition, this study has prominent theoretical and practical significance. Theoretically, this study deepens the understanding of the role of DPs in the entrepreneurial process. By constructing theoretical models and validating relevant hypotheses, this study reveals how DPs promote entrepreneur innovation, enhance entrepreneurial effectiveness, and regulate the relationship between platform enterprises and entrepreneurs. This not only enriches the content of entrepreneurship management and information management theories but also offers new perspectives and ideas for subsequent research. Practically, this study offers valuable insights for optimizing DPs and their integration into the entrepreneurial landscape. For entrepreneurs, the research results help them better utilize DPs to drive innovation and entrepreneurial activities, thereby increasing the probability of entrepreneurial success. For platform enterprises, these results help them better serve entrepreneurs, optimize platform functions and service models, and promote the entrepreneurial ecosystem's healthy development. Therefore, this study not only contributes theoretically but also has vital guiding significance in practice, promoting the continuous development and innovation of the entrepreneurial field.

## 6. Conclusions

With societal progress and technological advancements, information management has emerged as the predominant concept in enterprise management. The DP based on the principle of information management has become the mainstream trend of the technology platform widely used in today's society. This study first expounds on the basic idea and application design of information management. Then, it discusses the application concept of the DP under information management. Lastly, through the QS method, the impact of DP application on the entrepreneurial activities of entrepreneurs has been comprehensively investigated. The results reveal that all  $p$ -values are less than 0.05, indicating significant differences among study factors and verifying the validity of the hypotheses ( $H_1$ – $H_6$ ). The DP plays an active role in the development of platform enterprises. Intrapreneurship under the DP has a positive impact on the development of platform enterprises. DP capacity actively promotes intrapreneurship activities; the DP plays a positive regulating role in the relationship between platform enterprises and entrepreneurs. The DP has a positive effect on the personal development of entrepreneurs, and the entrepreneurial development of entrepreneurs has a positive effect on platform enterprises. However, there are still some limitations. Firstly, regarding entrepreneur classification, while this study categorizes entrepreneurs based on various attributes, it may not provide a comprehensive coverage of all entrepreneur types, potentially impacting the generalizability of the findings. The following research can further expand the classification dimension of entrepreneurs to more comprehensively explore the impact of the DP on diverse types of entrepreneurs. Secondly, this study mainly focuses on the impact of the DP on entrepreneurs' entrepreneurial activities. However, the DP's specific effects in practical applications, such as how to improve the

innovation ability of entrepreneurs and how to promote the cooperation between platform enterprises and entrepreneurs, have not been deeply analyzed. Future research can further delve into the specific action mechanism of the DP in practical applications and offer more targeted and operable suggestions for entrepreneurs and platform enterprises.

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**Institutional Review Board Statement:** This study was approved by the Academic Ethics Review Committee of Guangzhou University, China, on 15 December 2023. This study did not involve animal or human clinical trials and was not unethical. In accordance with the ethical principles outlined in the Declaration of Helsinki, all participants provided informed consent before participating in the study. The anonymity and confidentiality of the participants was guaranteed, and participation was completely voluntary. Participants voluntarily clicked on the link to fill out the questionnaire. Before filling out the questionnaire, they were informed of the research purpose and informed that "submitting answers" is considered informed consent. Participants could exit at any time during the questionnaire-filling process.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** The data that support the findings of this study are available upon request from the corresponding authors, upon reasonable request.

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## References

1. Edwards, J.S. Where knowledge management and information management meet: Research directions. *Int. J. Inf. Manag.* **2022**, *63*, 102458. [\[CrossRef\]](#)
2. Wang, Z.; Deng, Y.; Zhou, S.; Wu, Z. Achieving sustainable development goal 9: A study of enterprise resource optimization based on artificial intelligence algorithms. *Resour. Policy* **2023**, *80*, 103212. [\[CrossRef\]](#)
3. Verhoef, P.C.; Broekhuizen, T.; Bart, Y.; Bhattacharya, A.; Qi Dong, J.; Fabian, N.; Haenlein, M. Digital transformation: A multidisciplinary reflection and research agenda. *J. Bus. Res.* **2021**, *122*, 889–901. [\[CrossRef\]](#)
4. Rohn, D.; Bican, P.M.; Brem, A.; Kraus, S.; Clauss, T. Digital platform-based business models—An exploration of critical success factors. *J. Eng. Technol. Manag.* **2021**, *60*, 101625. [\[CrossRef\]](#)
5. Wang, Z.; Zhang, S.; Zhao, Y.; Chen, C.; Dong, X. Risk prediction and credibility detection of network public opinion using blockchain technology. *Technol. Forecast. Soc. Chang.* **2023**, *187*, 122177. [\[CrossRef\]](#)
6. Putz, B.; Dietz, M.; Empl, P.; Pernul, G. EtherTwin: Blockchain-based Secure Digital Twin Information Management. *Inf. Process. Manag.* **2021**, *58*, 102425. [\[CrossRef\]](#)
7. Reim, W.; Yli-Viitala, P.; Arrasvuori, J.; Parida, V. Tackling business model challenges in SME internationalization through digitalization. *J. Innov. Knowl.* **2022**, *7*, 100199. [\[CrossRef\]](#)
8. Peng, Y.; Tao, C. Can digital transformation promote enterprise performance?—From the perspective of public policy and innovation. *J. Innov. Knowl.* **2022**, *7*, 100198. [\[CrossRef\]](#)
9. Iqbal, N.; Jamil, F.; Ahmad, S.; Kim, D. A Novel Blockchain-Based Integrity and Reliable Veterinary Clinic Information Management System Using Predictive Analytics for Provisioning of Quality Health Services. *IEEE Access* **2021**, *9*, 8069–8098. [\[CrossRef\]](#)
10. Khan, A.; Tao, M. Knowledge absorption capacity's efficacy to enhance innovation performance through big data analytics and digital platform capability. *J. Innov. Knowl.* **2022**, *7*, 100201. [\[CrossRef\]](#)
11. Habib, M.N.; Jamal, W.; Khalil, U.; Khan, Z. Transforming universities in interactive digital platform: Case of city university of science and information technology. *Educ. Inf. Technol.* **2021**, *26*, 517–541. [\[CrossRef\]](#)

12. Cozzolino, A.; Corbo, L.; Aversa, P. Digital platform-based ecosystems: The evolution of collaboration and competition between incumbent producers and entrant platforms. *J. Bus. Res.* **2021**, *126*, 385–400. [\[CrossRef\]](#)
13. Heredia, J.; Castillo-Vergara, M.; Geldes, C.; Carbajal Gamarra, F.M.; Flores, A.; Heredia, W. How do digital capabilities affect firm performance? The mediating role of technological capabilities in the “new normal”. *J. Innov. Knowl.* **2022**, *7*, 100171. [\[CrossRef\]](#)
14. Abubakre, M.; Zhou, Y.; Zhou, Z. The impact of information technology culture and personal innovativeness in information technology on digital entrepreneurship success. *Inf. Technol. People* **2022**, *35*, 204–231. [\[CrossRef\]](#)
15. Sedera, D.; Tan, C.-W.; Xu, D. Digital business transformation in innovation and entrepreneurship. *Inf. Manag.* **2022**, *59*, 103620. [\[CrossRef\]](#)
16. Battisti, S.; Agarwal, N.; Brem, A. Creating new tech entrepreneurs with digital platforms: Meta-organizations for shared value in data-driven retail ecosystems. *Technol. Forecast. Soc. Chang.* **2022**, *175*, 121392. [\[CrossRef\]](#)
17. Hevner, A.; Gregor, S. Envisioning entrepreneurship and digital innovation through a design science research lens: A matrix approach. *Inf. Manag.* **2022**, *59*, 103350. [\[CrossRef\]](#)
18. Vrontis, D.; Chaudhuri, R.; Chatterjee, S. Adoption of Digital Technologies by SMEs for Sustainability and Value Creation: Moderating Role of Entrepreneurial Orientation. *Sustainability* **2022**, *14*, 7949. [\[CrossRef\]](#)
19. Merdika Mansur, D. Digital-based SME Innovation Development Strategy: Marketing, Entrepreneurship Insight and Knowledge Management. *Gold. Ratio Mapp. Idea Lit. Format* **2021**, *2*, 65–84. [\[CrossRef\]](#)
20. Holzmann, P.; Gregori, P. The promise of digital technologies for sustainable entrepreneurship: A systematic literature review and research agenda. *Int. J. Inf. Manag.* **2023**, *68*, 102593. [\[CrossRef\]](#)
21. Lagna, A.; Ravishankar, M.N. Making the world a better place with fintech research. *Inf. Syst. J.* **2022**, *32*, 61–102. [\[CrossRef\]](#)
22. Gawer, A. Digital platforms and ecosystems: Remarks on the dominant organizational forms of the digital age. *Innovation* **2022**, *24*, 110–124. [\[CrossRef\]](#)
23. Gupta, G.; Bose, I. Digital transformation in entrepreneurial firms through information exchange with operating environment. *Inf. Manag.* **2022**, *59*, 103243. [\[CrossRef\]](#)
24. Lytras, M.D.; Visvizi, A.; Chopdar, P.K.; Sarirete, A.; Alhalabi, W. Information Management in Smart Cities: Turning end users’ views into multi-item scale development, validation, and policy-making recommendations. *Int. J. Inf. Manag.* **2021**, *56*, 102146. [\[CrossRef\]](#)
25. Almomani, A.; Al-Nawasrah, A.; Alomoush, W.; Al-Abweh, M.; Alrosan, A.; Gupta, B.B. Information management and IoT technology for safety and security of smart home and farm systems. *J. Glob. Inf. Manag. (JGIM)* **2021**, *29*, 1–23. [\[CrossRef\]](#)
26. Kuang, K.; Wilson, S.R. Theory of Motivated Information Management: A Meta-Analytic Review. *Commun. Theory* **2021**, *31*, 463–490. [\[CrossRef\]](#)
27. Cui, C.; Li, F.; Li, T.; Yu, J.; Ge, R.; Liu, H. Research on direct anonymous attestation mechanism in enterprise information management. *Enterp. Inf. Syst.* **2021**, *15*, 513–529. [\[CrossRef\]](#)
28. Setyowati, W.; Widayanti, R.; Supriyanti, D. Implementation of E-Business Information System in Indonesia: Prospects and Challenges. *Int. J. Cyber IT Serv. Manag.* **2021**, *1*, 180–188. [\[CrossRef\]](#)
29. Liu, C. Health information systems amid COVID-19 outbreak: Lessons from China. *Health Inf. Manag. J.* **2021**, *50*, 99–100. [\[CrossRef\]](#)
30. Uniyal, S.; Mangla, S.K.; Tseng, M.-L.; Patil, P.; Sarma, P.R.S. ICT as “Knowledge Management” for Assessing Sustainable Consumption and Production in Supply Chains. *J. Glob. Inf. Manag.* **2021**, *29*, 164–198. [\[CrossRef\]](#)
31. Murthy, R.K.; Madhok, A. Overcoming the Early-stage Conundrum of Digital Platform Ecosystem Emergence: A Problem-Solving Perspective. *J. Manag. Stud.* **2021**, *58*, 1899–1932. [\[CrossRef\]](#)
32. Kusumastuti, R.D.; Nurmala, N.; Rouli, J.; Herdiansyah, H. Analyzing the factors that influence the seeking and sharing of information on the smart city digital platform: Empirical evidence from Indonesia. *Technol. Soc.* **2022**, *68*, 101876. [\[CrossRef\]](#)
33. Stallkamp, M.; Schotter, A.P.J. Platforms without borders? The international strategies of digital platform firms. *Glob. Strategy J.* **2021**, *11*, 58–80. [\[CrossRef\]](#)
34. Kapkaeva, N.; Gurzhiy, A.; Maydanova, S.; Levina, A. Digital Platform for Maritime Port Ecosystem: Port of Hamburg Case. *Transp. Res. Procedia* **2021**, *54*, 909–917. [\[CrossRef\]](#)
35. Fan, T.; Schwab, A.; Geng, X. Habitual entrepreneurship in digital platform ecosystems: A time-contingent model of learning from prior software project experiences. *J. Bus. Ventur.* **2021**, *36*, 106140. [\[CrossRef\]](#)
36. Bamshad, A.; Cho, H.J. Laserjet Printed Micro/Nano Sensors and Microfluidic Systems: A Simple and Facile Digital Platform for Inexpensive, Flexible, and Low-Volume Devices. *Adv. Mater. Technol.* **2021**, *6*, 2100401. [\[CrossRef\]](#)
37. Palmer, M.; Toral, I.; Truong, Y.; Lowe, F. Institutional pioneers and articulation work in digital platform infrastructure-building. *J. Bus. Res.* **2022**, *142*, 930–945. [\[CrossRef\]](#)
38. Garud, R.; Kumaraswamy, A.; Roberts, A.; Xu, L. Liminal movement by digital platform-based sharing economy ventures: The case of Uber Technologies. *Strateg. Manag. J.* **2022**, *43*, 447–475. [\[CrossRef\]](#)
39. Nambisan, S.; Baron, R.A. On the costs of digital entrepreneurship: Role conflict, stress, and venture performance in digital platform-based ecosystems. *J. Bus. Res.* **2021**, *125*, 520–532. [\[CrossRef\]](#)



40. Ali, L.; Wallström, S.; Fors, A.; Barenfeld, E.; Fredholm, E.; Fu, M.; Goudarzi, M.; Gyllensten, H.; Lindström Kjellberg, I.; Swedberg, K.; et al. Effects of Person-Centered Care Using a Digital Platform and Structured Telephone Support for People with Chronic Obstructive Pulmonary Disease and Chronic Heart Failure: Randomized Controlled Trial. *J. Med. Internet Res.* **2021**, *23*, e26794. [\[CrossRef\]](#)
41. Fleischer, A.; Ert, E.; Bar-Nahum, Z. The Role of Trust Indicators in a Digital Platform: A Differentiated Goods Approach in an Airbnb Market. *J. Travel Res.* **2022**, *61*, 1173–1186. [\[CrossRef\]](#)
42. Wang, Z.; Lu, J.; Li, M.; Yang, S.; Wang, Y.; Cheng, X. Edge Computing and Blockchain in Enterprise Performance and Venture Capital Management. *Comput. Intell. Neurosci.* **2022**, *2022*, 2914936. [\[CrossRef\]](#)
43. Wang, G.; Albayrak, A.; Kortuem, G.; van der Cammen, T.J. A Digital Platform for Facilitating Personalized Dementia Care in Nursing Homes: Formative Evaluation Study. *JMIR Form. Res.* **2021**, *5*, e25705. [\[CrossRef\]](#)
44. Rybak, G.; Strzecha, K.; Krakós, M. A New Digital Platform for Collecting Measurement Data from the Novel Imaging Sensors in Urology. *Sensors* **2022**, *22*, 1539. [\[CrossRef\]](#)
45. Wang, Z.; Li, M.; Lu, J.; Cheng, X. Business Innovation based on artificial intelligence and Blockchain technology. *Inf. Process. Manag.* **2022**, *59*, 102759. [\[CrossRef\]](#)
46. Yao, G.; Miao, J. Service Value Co-Creation in Digital Platform Business: A Case of Xianyu Idle Trading Platform. *Sustainability* **2021**, *13*, 11296. [\[CrossRef\]](#)
47. Fucà, E.; Costanzo, F.; Bonutto, D.; Moretti, A.; Fini, A.; Ferraiuolo, A.; Vicari, S.; Tozzi, A.E. Mobile-Health Technologies for a Child Neuropsychiatry Service: Development and Usability of the Assioma Digital Platform. *Int. J. Environ. Res. Public Health* **2021**, *18*, 2758. [\[CrossRef\]](#)
48. Gawer, A. Digital platforms' boundaries: The interplay of firm scope, platform sides, and digital interfaces. *Long Range Plan.* **2021**, *54*, 102045. [\[CrossRef\]](#)
49. Dun, L.; Yuan, G. The model of the state digital platform on labor contracts in China. *Digit. Law J.* **2022**, *3*, 20–31. [\[CrossRef\]](#)
50. Swani, K.; Milne, G.R.; Slepchuk, A.N. Revisiting Trust and Privacy Concern in Consumers' Perceptions of Marketing Information Management Practices: Replication and Extension. *J. Interact. Mark.* **2021**, *56*, 137–158. [\[CrossRef\]](#)

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