Jurnal Ekonomika, Bisnis dan Teknologi (EBISTEK)
Volume (7), Issue (1), (2024)
ISSN: 2721-4435 (Print)

Influencing Factors Affecting Innovative Development of Private Enterprises in Sichuan under Western Region Policy

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Abstract

New energy vehicles are emerging as a sustainable alternative to reduce gasoline consumption and emissions in the transportation sector. To address environmental challenges, governments worldwide have introduced a range of policies to promote the production and ado There are two types of inter-regional mutual assistance for development policies. The first is called the "Hand-in-Hand" or "Counterpart Support" policy. The definition of hand-in-hand aid is to promote the development of a region or an industry; the government establishes paired mutual assistance relationships or partnerships between different areas and industries based on their respective advantages. Innovative business is a complex characteristic that reflects its ability to update through the development and implementation of new ideas and the transfer of ideas from the outside. Thus, the concept of innovativeness of the enterprise is innovation potential, broadly defined as a combination of scientific, technical, technological, infrastructural, financial, legal, cultural, and other opportunities to provide perception and realization of innovations, i.e., the introduction of innovations. The number of enterprises for this study was 380. The results of this study show that enterprise innovative development would be impacted by their market value, sustainability, and reliability under the Western Region Policyption of new energy vehicles (NEVs). However, some policies may require updates and modifications to meet consumers' changing demands and the NEV industry's performance that matches consumer expectations. Utilizing an innovative online questionnaire, this study investigates the impact of environmental policy and usage expectations on NEV sales in the Guangxi Zhuang Autonomous Region and its relationship with consumer purchase intention. The hypotheses were tested using data from 402 respondents in China. The results of this study highlight the role of government policy, perceived usefulness, and perceived ease of use in influencing consumers' purchase intention on NEVs.

Keywords : *Innovative Development, Private Enterprises, Western Region Policy*

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INTRODUCTION

In the present times, the outcomes of innovative activities, which have been spurred by the rapid progress of science and technology, are substantially influencing all aspects of human society development. They are changing the environment of life and human activities, as well as ways of ensuring human existence and growth (Brychko et al., 2022). The modern economy is characterized by fierce competition. Thus, innovations have become a mandatory component of enterprise economic activities, the primary motive force and precondition of their growth. This is why innovative activity is one of the most crucial activities of any company that interacts with various fields of knowledge, including technology, economy, ecology, social psychology and sociology, basic and applied sciences, production and management theory and practice, and strategy and tactics (Cepel & Rozsa., 2019). The Balanced Development Strategy is based on balance, commonwealth, and the idea of the economy being subordinated to politics. In this stage, national

investment favored central and western regions, and two GO-WEST campaigns were implemented (Xiong, 2018). In response to the national call, the Sichuan Provincial Government has introduced a series of policies to support innovation and entrepreneurship development and promote the rapid growth of innovation and entrepreneurship in the province (Wang et al., 2018).

This study explores the innovative development of private enterprises in Sichuan, China, under the Western Region Policy. It has two main objectives

1. To examine the mechanisms that influence the intention of Sichuan private enterprises to develop innovatively based on market value, sustainability, and reliability.
2. To evaluate the factors influencing the Western Region Policy in supporting the innovative drive for developing private enterprises in Sichuan through a practical review.Therefore, this study will determine the impact of three independent variables (market value, sustainability, and reliability) on the dependent variable of innovative development of Sichuan private enterprises.

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THEORITICAL FOUNDATION

Theory of Innovation

According to Schumpeter, technological change in a free market involves three parts: invention (coming up with a new idea or process), innovation (planning the economic requirements needed to implement an invention), and diffusion (whereby people who observe the discovery adopt or imitate it). Creative destruction happens when innovations make long-standing arrangements obsolete, freeing up resources for use elsewhere and leading to greater economic efficiency (McDaniel, 2016). Innovation is driven almost exclusively by economic demand: people engage in innovation because they believe the economic returns will be greater than its costs. The Schumpeterian growth model is based on three main ideas: (a) long-term growth is a result of innovations; (b) innovations come from entrepreneurial investments that are themselves motivated by the prospects of monopoly profits; and (c) innovations replace old technologies (Piano, 2020).

Opportunity Recognition Theory

Opportunity recognition is a crucial process that enables individuals, businesses, and organizations to identify and capitalize on new opportunities that were previously unknown or overlooked (Ding, 2019). This process involves skills and strategies, including problem-solving, creativity, market research, and networking. By recognizing and seizing opportunities, individuals and organizations can improve their prospects for success and growth and stay ahead of their competitors in a rapidly changing business landscape. This study comprehensively analyzes the factors that play a crucial role in entrepreneurial opportunity recognition (Alvarez & Barney., 2007). The factors examined include individual attributes such as entrepreneurial alertness, prior knowledge, social capital, creativity, and opportunity factors contributing to recognizing an opportunity. The study also explores how each of these factors interacts with one another to influence opportunity recognition. Furthermore, this study delves into the objective and subjective viewpoints of opportunity identification. Scholars who hold an objective view believe that opportunities exist independently in the external environment and should be discovered by entrepreneurs. On the other hand, subjective scholars view opportunity recognition as a creative process rather than a discovery process or even suggest that it is creative (Ferreira et al., 2019). By

providing this in-depth analysis, this study sheds light on the complex nature of opportunity recognition and suggests potential avenues for future research.

Need for Achievement Theory

The theory of the Need for Achievement was primarily focused on the economic growth of a country and the factors that influence it. The theory aims to identify internal factors, such as human values and motives, that push individuals to take advantage of favorable trade conditions and exploit opportunities (Saif & Ghania., 2020). Therefore, the theory gives significant importance to the innovative characteristics of the entrepreneurial role. McClelland believed that the need for achievement is the driving force behind an entrepreneur's success. Individuals with a high need for achievement are not motivated by monetary incentives, but monetary rewards signify accomplishment. Similarly, social recognition or prestige is not their priority, but their ultimate goal is personal accomplishment. They strive to do better than their previous performance and take on challenging tasks that help them grow and improve their skills. In short, the Need for Achievement theory emphasizes that the desire to accomplish, not the external rewards, is the primary motivation for individuals seeking success (Gielnik et al., 2017).

Terms

1. Enterprise innovation development is a crucial element for all corporate advancements. To achieve this, companies must have a broad vision, be open to learning and progress, have a global outlook, prioritize peers, and develop original ideas and breakthroughs in corporate management, business concepts, production concepts, etc. This can be achieved by adopting new measures that enable the company's philosophy to keep up with or surpass the pace of market development (Ma et al., 2017). Management innovation is the foundation of all enterprise innovations. It involves the application of management knowledge and the scientific systematization of management. Companies can restructure talent, capital, technology, and other factors through management innovation, optimize various production factors and conditions, and enhance the company's strength and market competitiveness (Mumiek et al., 2018). This lays the foundation for continued innovation. Effective utilization of human resources is essential to management innovation, and talent is the driving force of enterprise development (Neessen et al., 2019). Companies can effectively advance various tasks and drive progress by attracting capable, thoughtful, and motivated individuals through reasonable human resources management.
2. The concept of market value to enterprise innovative development is essential to understanding the innovative capacity, activity, and outcomes within a research enterprise Wang et al., 2023). To fully comprehend these phenomena, it is imperative to identify and nalyze the factors that determine their parameters. A detailed classification of factors is necessary for a more comprehensive understanding of a company's innovation. These factors should be grouped according to multiple criteria to identify their location in the overall population and their role in achieving innovation and competitiveness (Brychko et al., 2022).
3. Sustainable development and innovation are both centered on people. Innovation is the driving force behind sustainable development, while sustainable development, in turn, promotes innovation (Zhang & Lucey., 2022). In green innovation, like renewable energy, clean transportation, and smart cities, technological innovation transforms people's lifestyles, reduces environmental pollution, and improves resource utilization and social efficiency (Yin et al., 2022). Sustainable development and innovation complement each other. Innovation provides the impetus and support needed for sustainable development, and the goals of sustainable development, in turn, encourage innovation development. The interaction and influence between the two work together to promote the development of society in a greener, more efficient, and harmonious direction (Yu & Xu., 2022).

4. Improving reliability is crucial for enterprises as it can help enhance product reputation, expand market share, and improve economic benefits (Todtling et al., 2009). A reliable product can prevent accidents and failures, reduce downtime, and avoid product liability compensation cases, reducing maintenance costs and preventing financial losses. In addition, reliability testing can help improve the user experience and satisfaction, giving companies an edge in a highly competitive market environment. Reliability management is a technical guarantee and a vital business decision that can help enhance a company's overall quality and market position (Safa et al., 2016).

HYPOTHESIS

The Effect of of Market Value on Innovative Development

There has been a growing interest in the private sector's innovative development in academic and managerial research, particularly in digitalizing the economy. Innovation is crucial for companies to achieve economic efficiency, increasing enterprise value in the market (Badykova & Romanova., 2021). Such improvements are partly due to the positive response from different groups of stakeholders. Innovation is a promising approach to increasing the value of companies because it opens up new opportunities for production and sales, as well as organizing production and sales and management.

H1. Market value does not significantly impact the innovative development of private enterprises in Sichuan under the Western Region Policy.

The Impact of Sustainability on Innovative Development

As businesses try to stay ahead in the ever-growing competitive market, sustainability has become crucial to innovation. While sustainability is essential, the differentiation of products and services ultimately determines a company's success. Nowadays, companies that differentiate themselves are often the result of sustainability-driven innovation. Innovation efforts can be either sustaining, providing a slight advantage within the current competitive landscape, or they can be disruptive, offering new opportunities that organizations may not have considered previously. When organizations recognize the significance of sustainability, they can drive both types of innovation, adding value to the company and creating a unique selling proposition (Stawicka, 2023).

H2. Sustainability does not significantly impact the innovative development of private enterprises in Sichuan under the Western Region Policy.

The Impact of Reliability on Innovative Development

The primary objective of reliability management is to have reliability design goals during the design phase, ensure the realization of reliability during manufacturing, and maintain reliability levels during use. Since reliability management covers a wide range of areas, it is not limited to the engineering design, production and manufacturing, and quality management departments. It also involves other departments such as personnel, education, procurement, and supply. The reliability, quality of personnel, factory style, and factory appearance are potent forces for enterprises to produce reliable products in the long term. The overall goal of reliability management is to have reliability design goals during design, ensure the realization of reliability during manufacturing, and maintain reliability levels during use. Since reliability management covers a wide range of areas, it is not only directly related to the engineering design department, production and manufacturing department, and quality management department but also to the enterprise's personnel department, education department, and procurement and supply department (Liu et al., 2023).

H3. Reliability does not significantly impact the innovative development of private enterprises in Sichuan under the Western Region Policy.

CONCEPTUAL FRAMEWORK

The achievements of the Western Development Strategy are reflected in various fields, such as economic development, infrastructure, education, and ecological and environmental protection (Golley, 2007). This study focuses on the financial and innovative development of private enterprises in Sichuan because the most critical goal of the Western Development Strategy is the economic and innovative development of private enterprises in Sichuan. The Western Development Strategy aims to promote economic development and narrow regional gaps. In this study, private enterprises should pay close attention to what they need to cope with innovative development, including the variables of market value, which lay the importance of staying in the market, sustainable performance of future development, and operational reliability of building corporate image.

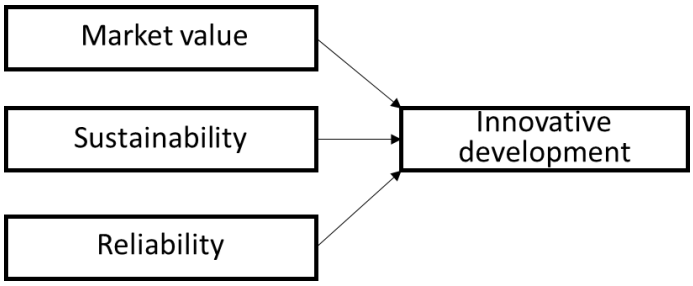

Figure 1. The Conceptual Framework

RESEARCH METHODS

Population and Sample

his research focuses on private enterprises in Sichuan, China, striving to improve their innovative development process in response to the Western Region Policy. The study collected a sample of 380 enterprises for analysis in February 2024 using the WeChat Survey Online Platform. This study's minimum research sample size is based on the following formula, widely accepted for analysis (Fox et al., 2006).

This study's minimum research sample size is based on the following formula, widely accepted for analysis.

1. The margin of error (confidence interval) – 95%
2. Standard deviation 0.5
3. 95% - Z Score = 1.96
4. Sample size formula = (Z-score) ^{2} * Std Dev*(1-StdDev) / (margin of error) ^{2}
5. (1.96) ^{2} x 0.5(0.5) / (0.05) ^{2}
6. (3.8416 x 0.25) / 0.0025
7. 0.9604 / 0.0025 = 384
8. 384 respondents would be needed for this study based on a confidence level of 95%

Correlation Analysis

Correlation analysis is a commonly used method to investigate the degree of correlation between variables. The Pearson correlation coefficient is the statistical measure used to test the correlation. The value of the correlation coefficient, denoted as "r," indicates the strength of the

correlation between variables. In addition, the P-value can be used to determine the significance level of the correlation.

Table 1. Correlation Coefficient Classification Table

Correlation coefficient r	Degree of relevance
$\|r\| = 1$	Totally correlated
$0.70 \leq \|r\| < 0.99$	Highly correlated
$0.40 \leq \|r\| < 0.69$	Moderately correlated
$0.10 \leq \|r\| < 0.39$	Low correlation
$\|r\| < 0.10$	Weak or unrelated

Regression Analysis

Regression analysis is a statistical method used to analyze the relationship between multiple independent variables and a set of dependent variables in a hypothesis. It helps to determine the strength of relationships between variables and predicts future relationships between them. This study used SPSS 20.0 to test the correlation coefficient of determination and multiple linear regression and test the hypotheses.

RESULT AND DISCUSSION

Correlation Analysis of Market Value and Innovative Development

The correlation coefficient r between market value and innovative development is 0.811, and P=0.025 is less than 0.05. Thus, it shows that market value is significantly correlated with innovative development.

Table 2. Correlation analysis results between market value and innovative development

	Market Value
Innovative development	1
Sig. (1-tailed)	
Market value	.811**
Sig. (2-tailed)	(.025)

The correlation coefficient r between sustainability and innovative development is 0.836, and P=0.012 is less than 0.05. Thus, it shows that sustainability is significantly correlated with innovative development.

Table 3. Correlation analysis results between sustainability and innovative development

	Sustainability
Innovative deveopment	1
Sig. (1-tailed)	
Market Value	.836**
Sig. (2-tailed)	(.012)

The correlation coefficient r between reliability and innovative development is 0.829, and P=0.013 is less than 0.05. Thus, it shows that reliability is significantly correlated with innovative development.

Table 4. Correlation analysis results between reliability and innovative development

	Sustainability
Innovative deveopment	1
Sig. (1-tailed)	
Market Value	.829**
Sig. (2-tailed)	(.013)

Regression analysis of various variables on innovative development

The model summary is R=0.935, R2=0.918, and the adjusted R2 is 0.915. This indicates that the model has a high degree of explanation - 91.5% - between market value, sustainability, reliability, and innovative development. Additionally, the Durbin-Watson test result is 2.102, approximately equal to 2. This suggests that the residuals are independent and that the model does not suffer from serial correlation problems.

Table 5. Summary of the regression analysis model of constructs and Innovative Development

Model	R	R^2	Adjust R Square	Standard estimate error	Durbin-Watson
1	0.935a	0.918	0.15	0.92213	2.102

The single-factor analysis results indicate significant differences between the independent and dependent variables. The regression sum of squares is 3876.122, while the residual sum is 223.335. Moreover, the significance level is 0.000, less than the predetermined level of 0.01. This dramatically affects market value, sustainability, reliability, and innovative development.

Table 6. ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3876.122	3	3552.225	4425.221**	.000c
	Residual	223.335	376	.668		
	Total	4099.457d	379			

** p ≤ .01

a. Dependent variable: Innovative development

b. Predictor variables: Market value, sustainability, and reliability

Table 7. Multiple Linear Regression Analysis Test

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.223	1.335		4.225	.024
	Market Value	.562*	.021	.582	1.112	.022

Sustainability	.225*	.026	.243	1.278	.015
Reliability	.421**	.032	.477	3.266	.000

*p≤0.05

a. Dependent Variable: Innovative development
b. Predictor variables: Market value, sustainability, and reliability

The regression equation of the multiple linear regression analysis

$$Y = \alpha + ßX1 + ßX2 + ßX3 + e$$

$$Y = 1.223 + 0.562\ X1 + 0.225\ X2 + 0.421\ X3$$

Description:
Y = Innovative development
α = Constant
X1 = Market value
X2 = Sustainability
X3 = Reliability
e = Error
ß1 = First Regression Coefficient Number
ß2 = Second Regression Coefficient Number
ß3 = Third Regression Coefficient Number

After adding constants to the inequality, the coefficient table shows the market value, sustainability, reliability, and innovative development. It can be concluded that there is a significant influence between these levels.

Interpretation of Research Results

Private enterprises are critical in the correlation between market value, sustainability, and reliability and the subsequent impact on innovative development. By effectively navigating and adapting to national policies, these enterprises can foster business growth and contribute to the economy's overall progress. This relationship highlights the importance of the private sector in driving sustainable and reliable business practices that ultimately lead to innovation and progress.

The Summary of Market Value on Private Enterprise Innovative Development

The result of testing the first hypothesis indicates that market value significantly impacts the innovative development of Sichuan private enterprises based on the standard regression coefficient of the market value is 0.52, t=1.112, and the significance level is 0.022<0.05. It shows that the market value significantly impacts innovative development.

The Summary of Sustainability on Private Enterprise Innovative Development

The result of testing the second hypothesis indicates that sustainability significantly impacts the innovative development of Sichuan private enterprises based on the standard regression coefficient of sustainability, which is 0.225, t=1.278, and the significance level is 0.015<0.05. It shows that sustainability significantly impacts innovative development.

The Summary of Reliability on Private Enterprise Innovative Development

The result of testing the third hypothesis indicates that reliability significantly impacts the innovative development of Sichuan private enterprises. The standard regression reliability coefficient is 0.421, t=3.266, and the significance level is 0.00<0.01. It shows that reliability significantly impacts innovative development.

CONCLUSIONS

Research Results

H1 Market value significantly impacts the innovative development of private enterprises in Sichuan under the Western Region Policy.

H2 Sustainability significantly impacts the innovative development of private enterprises in Sichuan under the Western Region Policy.

H3 Reliability significantly impacts the innovative development of private enterprises in Sichuan under the Western Region Policy.

Managerial Implications:

The research study concluded that market value, sustainability, and reliability significantly impact innovative development for Sichuan private enterprises in China under the Western Region Policy. The results showed that all three influencing variables experienced by Sichuan private enterprises proved crucial to developing innovation for better future growth. By reducing environmental uncertainty, the management can ensure that the enterprise remains competitive and innovative in the long run. Innovation in an enterprise is influenced by internal and external factors that impact its essential characteristics. These factors can be grouped under micro and macro environments. Considering both these environments can help address internal factors and prepare for external factors. This can help reduce environmental uncertainty and maintain or improve the enterprise's innovativeness and competitiveness.

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