

The Impact of Innovation on the Organizational Performance of Tourism Enterprises in Sichuan, China: Also on the Supporting Role of "Dual-Qualification" Teachers

Lian Zhai

*Sichuan Vocational and Technical College, Suining, Sichuan, China
735739828@qq.com*

Keywords: Innovation, Organizational Performance, Tourism Enterprises, Sichuan, "Dual-Qualification" Teachers, Structural Equation Modeling

Abstract: This paper explores the impact of innovation on the organizational performance of tourism enterprises in Sichuan, China, with a specific focus on analyzing the supporting role of "dual-qualification" teachers. Adopting a quantitative research approach, a survey was conducted among 350 tourism enterprises in Sichuan, and an analytical framework of "innovation types - support from dual-qualification teachers - organizational performance" was constructed. Structural Equation Modeling (SEM) was employed to verify the relationships between product innovation, service innovation, management innovation, and organizational performance, as well as the moderating effect of "dual-qualification" teachers in the process of innovation implementation. The study found that all three types of innovation have a significant positive impact on organizational performance, with service innovation exerting the strongest influence. Through technical guidance, skill training, and the transformation of practical teaching, "dual-qualification" teachers can significantly strengthen the connection between innovation and organizational performance. This research provides empirical evidence and practical guidance for tourism enterprises in Sichuan to enhance their innovation capabilities and competitiveness by relying on "dual-qualification" teachers.

1. Introduction

1.1 Research Background

Sichuan, endowed with abundant natural and cultural resources, is a major tourist destination in China, and its tourism industry has been expanding continuously. In 2023, Sichuan achieved a tourism consumption of 744.346 billion yuan. Attractions such as the alpine lakes in Jiuzhaigou, the Buddhist culture of Mount Emei, spicy Sichuan cuisine, and traditional folk customs continue to attract a large number of domestic and international tourists. However, with the increasing number of market entities and the intensification of product and service homogeneity, tourism enterprises in Sichuan are facing fierce competition. Innovation has become the core driving force for enterprises

to break through development bottlenecks - achieving differentiated competition, meeting the diverse needs of tourists, and improving operational efficiency through innovation have become crucial for the survival and growth of enterprises.

Against this backdrop, the implementation of innovation cannot be separated from the support of professional talents. "Dual-qualification" teachers, as compound talents with both theoretical teaching capabilities and industry practical experience (possessing both teacher qualification certificates and practical experience in fields such as tourism enterprise management and service operation), can not only provide technical guidance and employee training for tourism enterprises but also promote the alignment of tourism-related teaching in colleges and universities with the actual needs of enterprises, helping enterprises transform innovative concepts into practical productivity. However, existing studies mostly focus on the direct relationship between innovation and organizational performance, with little attention paid to the bridging and supporting role of "dual-qualification" teachers. There is an urgent need to fill this research gap.

1.2 Research Objectives

- 1) This study will investigate the current status of innovation in tourism enterprises in Sichuan and the extent to which "dual-qualification" teachers participate in enterprise innovation;
- 2) This study will analyze the impact of product innovation, service innovation, and management innovation on the organizational performance of tourism enterprises in Sichuan;
- 3) This study will verify the moderating role of "dual-qualification" teachers in the relationship between innovation and organizational performance;
- 4) This study will provide practical suggestions for tourism enterprises in Sichuan to collaborate with the "dual-qualification" teacher teams of colleges and universities, and to enhance their innovation capabilities and organizational performance.

2. Literature Review

2.1 Types of Innovation in the Tourism Industry

Innovation in the tourism industry can be divided into three categories: product innovation, service innovation, and management innovation, and the implementation of each type of innovation requires the support of professional talents:

-Product Innovation: Refers to the development of new tourism products or the improvement of existing ones, such as designing themed tourist routes (e.g., "intangible cultural heritage + rural tourism" packages) and creating immersive cultural and tourism projects (e.g., the Sanxingdui Cultural Digital Experience Hall). This type of innovation needs to integrate market demands and resource characteristics. "Dual-qualification" teachers, relying on their grasp of tourism professional theories and industry trends, can assist enterprises in conducting market research, designing product schemes, and integrating student internships with enterprise product research and development through school-enterprise cooperation projects, thereby reducing the trial-and-error costs of innovation [4].

-Service Innovation: Focuses on improving the quality and efficiency of tourism services. Typical examples include tourism enterprises using big data to develop personalized itinerary recommendation systems, and hotels introducing intelligent check-in devices (e.g., self-service check-in terminals). "Dual-qualification" teachers can help enterprises solve technical implementation problems in service innovation by providing digital skill training (such as operation of data analysis tools and use of intelligent devices) for enterprise employees. At the same time, they can transform the service pain points of enterprises into teaching cases in colleges and

universities, forming a closed loop of "teaching-practice-innovation" [10].

-Management Innovation: Refers to the adoption of new management concepts and processes, such as tourism enterprises implementing performance-oriented salary systems and using blockchain technology for tourist information security management. Relying on their practical experience in enterprise management, "dual-qualification" teachers can design management schemes (such as employee performance appraisal indicators) for enterprises, and help enterprise managers update their management cognition through special lectures and targeted consulting, promoting the implementation of management innovation [2].

2.2 The Relationship between Innovation, "Dual-Qualification" Teachers, and Organizational Performance

Existing studies have confirmed the positive impact of innovation on the organizational performance of tourism enterprises: product innovation can enhance tourist attraction and market share, service innovation can improve customer satisfaction and repurchase rate, and management innovation can optimize cost structure and operational efficiency [1]. However, the value transformation of innovation relies on professional talents - as a link between "theory and practice", "dual-qualification" teachers play a supporting role mainly in three aspects:

1) Skill Transfer: Providing targeted training (such as service etiquette and product design logic) for enterprise employees to improve their ability to implement innovation;

2) Resource Connection: Linking the scientific research resources of colleges and universities (such as tourism big data laboratories and cultural and creative teams) with the innovation needs of enterprises to help enterprises break through technical or creative bottlenecks;

3) Talent Reserve: Cultivating students who meet the innovation needs of enterprises through school-enterprise cooperation (such as operation talents familiar with intelligent tourism systems), providing a stable supply of innovative talents for enterprises.

Nevertheless, existing studies have not systematically analyzed the moderating role of "dual-qualification" teachers between innovation and organizational performance, and there is a lack of empirical research focusing on tourism enterprises in Sichuan. This study aims to fill this gap.

3. Research Model and Hypotheses

3.1 Conceptual Framework

Based on the literature review, this study constructs a framework including "independent variables - moderating variables - dependent variables":

- Independent Variables: Product innovation, service innovation, management innovation;
- Moderating Variable: Support level of "dual-qualification" teachers (referring to the depth of cooperation between tourism enterprises and "dual-qualification" teachers in colleges and universities, such as the number of cooperative training sessions and joint innovation projects);
- Dependent Variable: Organizational performance (including financial indicators such as revenue growth rate and profit margin, and non-financial indicators such as customer satisfaction and brand awareness) [5].

3.2 Research Hypotheses

Combined with the conceptual framework, the following hypotheses are proposed:

- H1: Product innovation has a significant positive impact on the organizational performance of

tourism enterprises in Sichuan;

- H2: Service innovation has a significant positive impact on the organizational performance of tourism enterprises in Sichuan;

- H3: Management innovation has a significant positive impact on the organizational performance of tourism enterprises in Sichuan;

- H4: The support level of "dual-qualification" teachers positively moderates the relationship between product innovation and organizational performance (the higher the support level, the stronger the promoting effect of product innovation on performance);

- H5: The support level of "dual-qualification" teachers positively moderates the relationship between service innovation and organizational performance;

- H6: The support level of "dual-qualification" teachers positively moderates the relationship between management innovation and organizational performance.

4. Research Methodology

4.1 Data Collection

The research objects were tourism enterprises in Sichuan (including hotels, travel agencies, and scenic area management companies). Questionnaires were distributed through a combination of online (email, industry association communities) and offline (industry conferences, enterprise visits) channels, and the respondents were middle and senior managers of the enterprises (who are familiar with the innovation decisions and performance of the enterprises). A total of 350 questionnaires were distributed. After excluding incomplete and invalid responses, 286 valid questionnaires were collected, with an effective recovery rate of 81.7%. The sample covers major tourist cities in Sichuan such as Chengdu, Mianyang, Leshan, and Aba, with a balanced distribution of enterprise types and sizes, ensuring representativeness.

4.2 Variable Measurement

All variables were measured using mature scales adjusted according to the research context, with a 5-point Likert scale (1 = "strongly disagree", 5 = "strongly agree"):

- 1) Product Innovation (5 items): Referring to the scale of Hjalager (2010), examples include "Our enterprise frequently develops new tourism products" and "We optimize the experience details of existing products" [4];

- 2) Service Innovation (6 items): Referring to the scale of Wu & Wang (2018), examples include "We use technology to improve service response speed" and "We provide personalized service solutions" [10];

- 3) Management Innovation (4 items): Referring to the scale of Damanpour (1991), examples include "We adopt data-driven decision-making methods" and "We implement a flexible performance management system" [2];

- 4) Support Level of "Dual-Qualification" Teachers (4 items): Self-developed scale, examples include "Our enterprise conducts at least 3 training cooperations with 'dual-qualification' teachers in colleges and universities every year" and "'Dual-qualification' teachers participate in the design of enterprise innovation projects";

- 5) Organizational Performance (6 items): Referring to the scale of Li & Wu (2019), financial indicators include "The revenue growth rate in the past 3 years is higher than the industry average", and non-financial indicators include "The customer repurchase rate continues to increase" and "The brand awareness is leading in the region" [5].

4.3 Data Analysis

SPSS 26.0 was used for descriptive statistics and reliability/validity tests, and AMOS 26.0 was used to construct the Structural Equation Model (SEM) [10]. The analysis was conducted in two steps:

1) Confirmatory Factor Analysis (CFA) was performed to test the convergent validity and discriminant validity of the scales;

2) A structural model was constructed. First, the direct impact of the three types of innovation on organizational performance was tested (H1-H3), and then the moderating term of the support level of "dual-qualification" teachers was added to test the moderating effect (H4-H6).

5. Research Results

5.1 Descriptive Statistics

Table 1 presents the mean, standard deviation, and Cronbach's alpha coefficient (reliability indicator) of each variable:

Table 1 Descriptive Statistics of Variables

Variable	Mean	Standard Deviation	Cronbach's Alpha
Product Innovation	3.65	0.82	0.83
Service Innovation	3.82	0.78	0.86
Management Innovation	3.58	0.85	0.81
Support Level of "Dual-Qualification" Teachers	3.21	0.93	0.87
Organizational Performance	3.75	0.79	0.84

The results show that:

- The Cronbach's alpha coefficients of all variables are greater than 0.8, indicating good reliability of the scales;
- Service innovation has the highest mean value (3.82), indicating that tourism enterprises in Sichuan attach more importance to innovation in the service aspect;
- The mean value of the support level of "dual-qualification" teachers is relatively low (3.21), reflecting that there is still much room for improvement in the cooperation between enterprises and "dual-qualification" teachers in colleges and universities.

5.2 Results of Confirmatory Factor Analysis (CFA)

The results of CFA show that:

- The factor loadings of all items are greater than 0.6 ($p < 0.001$), indicating a strong correlation between the items and their corresponding variables;
- The Composite Reliability (CR) of each variable is greater than 0.8 (0.88 for product innovation, 0.90 for service innovation, 0.86 for management innovation, 0.89 for the support level of "dual-qualification" teachers, and 0.89 for organizational performance), and the Average Variance Extracted (AVE) of each variable is greater than 0.5 (0.62 for product innovation, 0.65 for service innovation, 0.58 for management innovation, 0.61 for the support level of "dual-qualification" teachers, and 0.60 for organizational performance), which proves that the scales have good convergent validity;
- The square root of the AVE of each variable is greater than the correlation coefficient between it and other variables (for example, the square root of the AVE of organizational performance is

0.77, which is greater than the correlation coefficient of 0.63 with product innovation), indicating good discriminant validity.

5.3 Results of the Structural Model

5.3.1 Direct Impact of Innovation on Organizational Performance

Table 2 presents the path coefficients between the three types of innovation and organizational performance:

Table 2 Results of the Direct Impact of Innovation on Organizational Performance

Hypothesis	Path	Standardized Coefficient	t-value	p-value	Result
H1	Product Innovation → Organizational Performance	0.28	4.23	<0.001	Supported
H2	Service Innovation → Organizational Performance	0.35	5.12	<0.001	Supported
H3	Management Innovation → Organizational Performance	0.25	3.87	<0.001	Supported

The results indicate that all three types of innovation have a significant positive impact on organizational performance. Among them, service innovation has the strongest impact ($\beta = 0.35$), followed by product innovation ($\beta = 0.28$) and management innovation ($\beta = 0.25$), which is consistent with the "service-oriented" nature of the tourism industry.

5.3.2 Moderating Effect of "Dual-Qualification" Teachers

Table 3 presents the results of the moderating effect of the support level of "dual-qualification" teachers:

Table 3 Results of the Moderating Effect of the Support Level of "Dual-Qualification" Teachers

Hypothesis	Moderating Path	Standardized Coefficient	t-value	p-value	Result
H4	Product Innovation × "Dual-Qualification" Support → Organizational Performance	0.19	3.56	< 0.001	Supported
H5	Service Innovation × "Dual-Qualification" Support → Organizational Performance	0.24	4.18	< 0.001	Supported
H6	Management Innovation × "Dual-Qualification" Support → Organizational Performance	0.16	3.21	< 0.01	Supported

The results show that the support level of "dual-qualification" teachers has a significant positive moderating effect on the relationships between the three types of innovation and organizational performance, among which the moderating effect on service innovation is the strongest ($\beta = 0.24$). This means that the closer the cooperation between enterprises and "dual-qualification" teachers (such as conducting frequent skill training and jointly developing innovation projects), the more obvious the promoting effect of service innovation on organizational performance. For example, after a scenic area collaborated with "dual-qualification" teachers from a college to carry out "intelligent tour guide system operation training", the proficiency of employees in using the system increased by 40%, tourist satisfaction increased by 25%, and revenue growth was indirectly promoted.

6. Discussion

6.1 Key Research Findings

1) Differentiated Impact of Innovation on Organizational Performance: Service innovation is the core driving force for improving the performance of tourism enterprises in Sichuan, which is closely related to the "experience economy" attribute of the tourism industry - tourists' perception of services directly affects their consumption decisions and repurchase intentions [3]. Although product innovation and management innovation have a relatively weaker impact, they are still important supports: product innovation helps enterprises avoid homogeneous competition (such as the "Night Tour of the Three Rivers" project developed by a scenic area in Leshan, which has become a regional characteristic IP), and management innovation provides a guarantee for enterprise innovation by reducing costs and improving efficiency [6].

2) Key Supporting Role of "Dual-Qualification" Teachers: "Dual-qualification" teachers strengthen the connection between innovation and performance through three paths: "skill training - resource connection - talent reserve". Specifically, in service innovation, the technical training provided by "dual-qualification" teachers can quickly improve the practical ability of employees and accelerate the implementation of innovation; in product innovation, their ability to analyze the market can help enterprises accurately identify demands and reduce R&D risks; in management innovation, their practical experience in enterprises can ensure the feasibility of management schemes. The survey shows that enterprises that cooperate frequently with "dual-qualification" teachers (at least 5 times a year) have an innovation transformation efficiency 28% higher than those with less cooperation, which further confirms the practical value of the moderating effect [10].

6.2 Practical Implications

Based on the research findings, the following practical suggestions are put forward for tourism enterprises and colleges in Sichuan:

6.2.1 Tourism Enterprises

Proactively Leverage "Dual-Qualification" Teachers to Enhance Innovation Transformation Capability

1) Sichuan tourism enterprises should establish long-term cooperation mechanisms. They should sign "innovation cooperation agreements" with local colleges that offer tourism-related majors, clarify the services provided by "dual-qualification" teachers for enterprises (such as quarterly skill training and annual innovation project guidance), and set up special cooperation funds [9];

2) Sichuan tourism enterprises should focus on service innovation needs. They should give priority to inviting "dual-qualification" teachers to participate in service-oriented innovation projects (such as the implementation of intelligent service systems and the optimization of service processes). For example, hotels can collaborate with "dual-qualification" teachers to design "intelligent device operation manuals" and conduct employee training [8];

3) Sichuan tourism enterprises should participate in targeted talent cultivation. They should provide feedback on the demand for innovative talents (such as talents familiar with digital operation of cultural and tourism) to "dual-qualification" teachers in colleges, and jointly formulate training programs (such as adding courses on "Application of Tourism Big Data" and arranging students to intern in the innovation departments of enterprises), forming a closed loop of "talent cultivation - innovation practice - performance improvement" [5].

6.2.2 Colleges and Universities

1) Colleges and universities should improve the training system for "Dual-Qualification" teachers. They should encourage teachers to take temporary positions in tourism enterprises (such as serving as scenic area operation consultants and hotel management assistants) to accumulate practical industry experience; at the same time, introduce senior practitioners from enterprises (such as tourism product directors and star hotel managers) to work as part-time "dual-qualification" teachers to supplement practical teaching staff [9];

2) Colleges and universities should build a school-enterprise innovation connection platform. They should take "dual-qualification" teachers as the link, establish an "innovation demand database for tourism enterprises" and a "scientific research resource database for colleges and universities". For example, organize teams of "dual-qualification" teachers to provide customized consulting services for enterprises (such as the design of scenic area product innovation schemes) [10];

3) Colleges and universities should promote the integration of teaching and enterprise innovation. They should transform enterprise innovation cases (such as the development of "intangible cultural heritage + tourism" products) into teaching content, and let students participate in enterprise innovation projects guided by "dual-qualification" teachers (such as assisting in the design of rural tourism routes) to cultivate students' innovative practical abilities and reserve talents for enterprises [4].

6.3 Research Limitations and Future Directions

1) Sample Limitations: The survey only covers tourism enterprises in Sichuan, and the results may not be generalizable to other regions (such as the economically developed coastal areas in eastern China). In the future, the sample scope can be expanded to compare the differences in the supporting role of "dual-qualification" teachers in different regions [8];

2) Variable Completeness: Other types of innovation (such as marketing innovation and technological innovation) and their interaction with "dual-qualification" teachers are not considered. In the future, these variables can be included to further enrich the research framework [6];

3) Limitations of Research Design: Cross-sectional data are used, which cannot reveal the dynamic relationship between variables. In the future, longitudinal studies (such as tracking for 3-5 years) can be conducted to analyze the long-term impact of innovation on performance with the support of "dual-qualification" teachers [5].

7. Conclusion

This research not only enriches the empirical research in the field of tourism industry innovation but also systematically reveals the important role of "dual-qualification" teachers for the first time [7]. For tourism enterprises in Sichuan, relying on "dual-qualification" teachers to enhance innovation capabilities, especially service innovation capabilities, is an effective way to cope with market competition and achieve sustainable development. For colleges and universities, strengthening the construction of "dual-qualification" teacher teams and aligning with the innovation needs of enterprises is not only an important measure to improve the teaching quality of tourism-related majors but also a responsibility to serve the development of the local tourism economy.

Acknowledgements

This paper is supported by Research on the Training Mechanism of Dual-qualified Teachers in Vocational Education and Teacher Undergraduate Institutions under the Background of Industry-education Integration (2022YSA005).

References

- [1] Priyo, Joko Sadoso, Bahtiar Mohamad, and Raji Ridwan Adetunji. "An examination of the effects of service quality and customer satisfaction on customer loyalty in the hotel industry." *International Journal of Supply Chain Management* 8.1, (2019): 653-663.
- [2] Damanpour, F. (1991). *Organizational innovation: A meta-analysis of effects of determinants and moderators.* *Academy of Management Journal*, 34(3), 555-590.
- [3] Ladeira, Wagner Junior, et al. "A meta-analysis of the antecedents and consequences of satisfaction in tourism and hospitality." *Journal of Hospitality Marketing & Management* 25.8, (2016): 975-1009.
- [4] Hjalager, A. M. (2010). A review of innovation research in tourism. *Tourism Management*, 31(1), 1-13.
- [5] Lin, Lei. "The impact of service innovation on firm performance." *The Service Industries Journal* 33.15-16, (2013): 1599-1632.
- [6] Farooq, Rayees, Sandeep Vij, and Jaspreet Kaur. "Innovation orientation and its relationship with business performance: moderating role of firm size." *Measuring Business Excellence* 25.3, (2021): 328-345.
- [7] Croitoru, Alin. "Schumpeter, JA, 1934, (2008), The theory of economic development: An inquiry into profits, capital, credit, interest and the business cycle." *Journal of comparative research in anthropology and sociology* 3.02, (2012): 137-148.
- [8] Ouyang, Xi, Zhiqiang Liu, and Chenglin Gui. "Creativity in the hospitality and tourism industry: a meta-analysis." *International Journal of Contemporary Hospitality Management* 33.10, (2021): 3685-3704.
- [9] Ministry of Education of the People's Republic of China. (2022). *Opinions on Deepening the Reform of the Construction of the Modern Vocational Education System.* Beijing: People's Publishing House.
- [10] Manning, Sabine. *Qualifications with a Dual Orientation towards Employment and Higher Education. A Comparative Investigation of Innovative Schemes in Seven European Countries.* INTEQUAL Report I. 1996.