THE IMPACT OF CONTENT DESIGN, CONTENT DISSEMINATION AND CROSS-BORDER COOPERATION ON CUSTOMER PARTICIPATION IN CHINESE ESCAPE ROOMS

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AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION GRADUATE SCHOOL OF BUSINESS SIAM UNIVERSITY 2025

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This Independent Study Has Been Approved as a Partial Fulfillment of the Requirements for the Degree of Master of Business Administration

Advisor..

(Dr. Zhang Li)
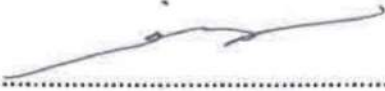
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Title: The Impact of Content Design, Content Dissemination and Cross-border Cooperation on Customer Participation in Chinese Escape Rooms

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ABSTRACT

With the booming development of the experience economy, Chinese escape room, as an emerging business format that integrates traditional culture and immersive interaction, has rapidly emerged in the Chinese market. This study focused on the Chinese escape room industry and aimed to explore the impact of content design, content dissemination and cross-border cooperation on customer participation. The study took adults over 20 years old in Beijing as samples, collected 600 valid questionnaires through surveys, and used descriptive statistical analysis, correlation analysis, and regression analysis to analyze the data. The results of the study show that content design, content dissemination, and cross-border collaboration all have significant positive effects on customer participation. Specifically, unique and logically coherent content design can enhance customers' sense of immersion and accomplishment; effective multi-channel content communication strategies can increase brand influence and stimulate customers' interest in experience; and cross-border cooperation with other industries enriches the content and form of escape rooms and enhances the brand's market competitiveness. These findings not only validate the significant impact of the three independent variables on customer participation, but also reveal their important roles in enhancing customer experience and value perception. The conclusions of this study provide specific strategic guidance for practitioners in the Chinese escape room industry, which will help optimize business models and increase customer participation. At the same time, the research results also provide a theoretical basis for the formulation of industry standards and the implementation of policies, promoting the sustainable development of the immersive entertainment industry.

Keywords: Chinese escape rooms, content design, content communication, cross-border cooperation, customer participation.

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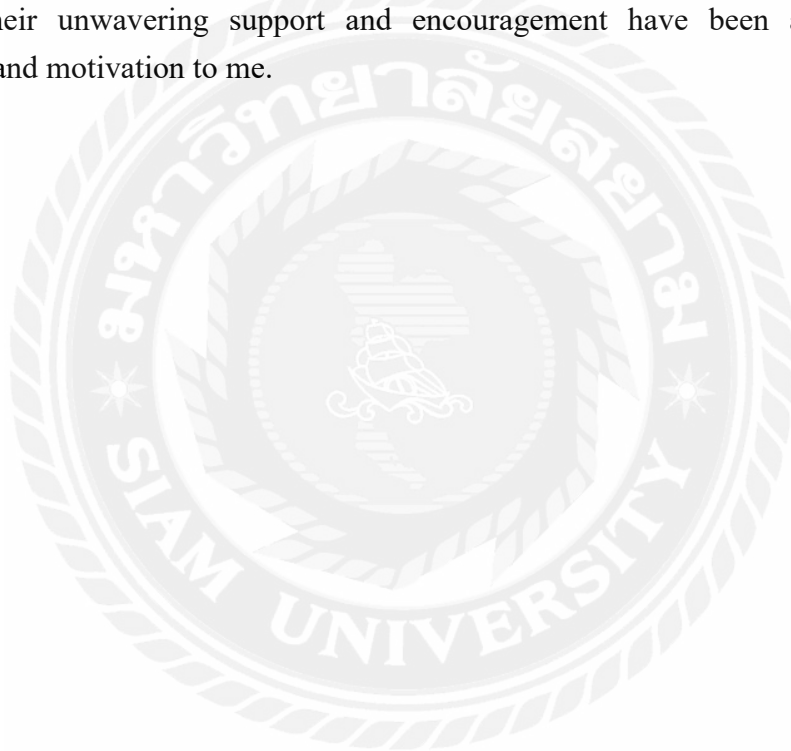
DECLARATION

I, Zhang Jie, hereby certify that the work embodied in this independent study entitled "The Impact of Content Design, Content Dissemination and Cross-Border Cooperation on Customer Participation in Chinese Escape Rooms" is result of original research and has not been submitted for a higher degree to any other university or institution.
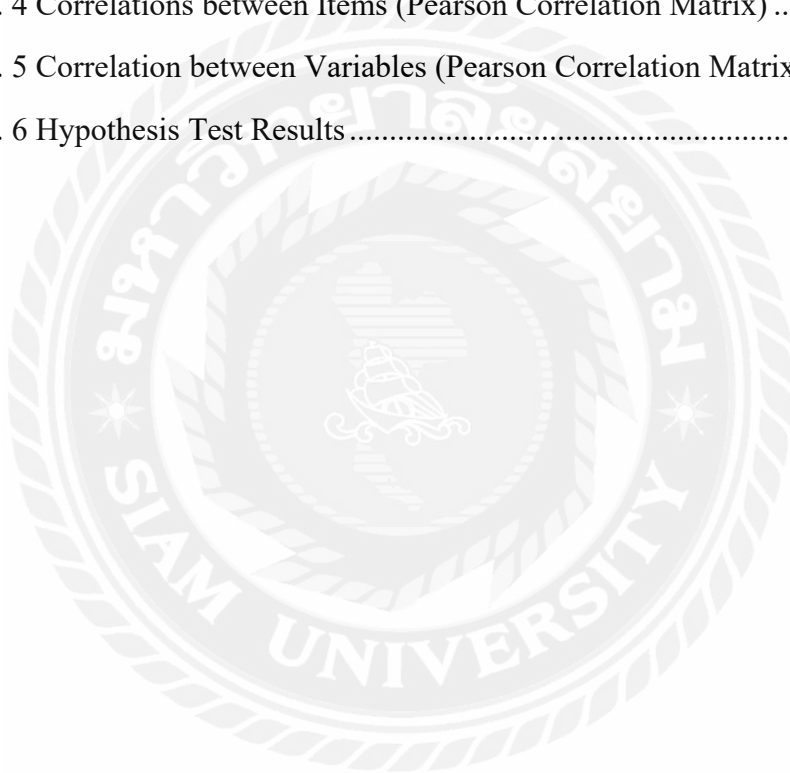
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Chapter 1 Introduction

1.1 Research Background

Escape rooms, as a new form of entertainment experience, have gradually penetrated multiple fields such as education, mental health, and team building over the past five years.In this context, factors such as content design, content dissemination, and cross-border cooperation in Chinese escape room have increasingly drawn attention for their impact on customer participation. Relevant literature exploring this topic indicates that content design must not only consider the interests and needs of the audience but also enhance customer participation through diverse dissemination methods. Within the framework of cross-border cooperation, content design can integrate knowledge and experiences from different fields to make escape room content more diverse and engaging.

Charlo et al. (2021) pointed out that educational escape room can enhance students' cooperation, motivation, and exploratory abilities, and this design approach can encourage participants to learn through interaction. When content design effectively integrates knowledge from multiple disciplines or fields, participants' cognitive engagement significantly increases. Zhong et al. (2024) found that escape room design can effectively improve trainees' learning outcomes and teamwork abilities.These studies provide strong support for understanding the importance of content design. The way content is disseminated is also an important factor influencing customer participation.

In previous research, Nowacki & Stasiak (2023) mentioned that the unique atmosphere and challenges of escape room can enhance visitors' enjoyment and emotional experiences, emphasizing the importance of focusing on how to attract and retain customers through communication strategies during the design process. Effective content dissemination strategies can not only enhance the experience of participants but also promote repeat visits.cross-border cooperation is a crucial component of Chinese escape room, as it enables the integration of elements from other fields to unlock greater potential. León et al. (2021) found that collaboration with different disciplines can deepen participants' content absorption.

At the same time, the design of escape rooms must consider participants' empathy experiences. As Hamilton et al. (2021) mentioned, good teamwork and critical thinking skills are enhanced through the escape room experience. Therefore, when designing and disseminating content for Chinese escape rooms, it is essential to

emphasize connections with other fields to create content that is both attractive and educational.

The content design, dissemination methods, and cross-border cooperation of Chinese escape rooms constitute the three primary factors influencing customer participation. Through a solid theoretical foundation and vivid practical cases, this study provides important reference guidelines for practitioners in planning and implementing Chinese escape room projects, enabling customers to gain knowledge and enjoyment through unique experiences. These research findings not only drive the sustained development of the escape room industry but also offer new perspectives for the integration of other forms of entertainment and education.

1.2 Research Questions

With the rise of the experience economy, consumers' demand for immersive entertainment has gradually shifted from traditional material consumption to emotional and experiential consumption. As an emerging form of immersive entertainment, escape rooms have rapidly gained widespread attention and participation around the world with their unique interactivity and immersion. On this basis, Chinese escape rooms have further enhanced their cultural connotations and market appeal by incorporating traditional Chinese cultural elements (such as historical stories, folk tales, and artistic symbols). In this context, content design, content dissemination, and cross-border cooperation have become key factors affecting customer participation. Content design creates immersion through storylines, puzzle design, and scene layout; content dissemination uses social media, brand stories, and user-generated content to expand brand influence; and cross-border cooperation expands market coverage and enriches customer experience through linkage with film and television, tourism, education, and other fields. However, existing research lacks a systematic discussion on the interaction between the three and their comprehensive impact on customer participation. Based on this, this study focuses on the Chinese escape room industry and proposes the following three research questions:

1. How do content design, content dissemination, and cross-border cooperation interact to influence customer participation in Chinese escape rooms?

2. What is the synergistic effect of content design, content dissemination, and cross-border cooperation on enhancing customer participation in Chinese escape room scenarios?

1.3 Research Objectives

With the rapid development of the experience economy, escape rooms, as an emerging format that integrates immersive entertainment and cultural experience, have gradually become an important part of the cultural and creative industry. Chinese escape rooms have further enhanced their cultural connotations and market appeal by incorporating traditional Chinese cultural elements, such as historical stories, folk tales, and artistic symbols. In this context, content design, content dissemination, and cross-border cooperation have become key factors affecting customer participation. Content design creates immersion through storylines, puzzle design, and scene layout; content dissemination uses social media, brand stories, and user-generated content to expand brand influence; and cross-border cooperation expands market coverage and enriches customer experience through linkage with film and television, tourism, education, and other fields. However, existing research lacks a systematic discussion of the interaction between the three and their comprehensive impact on customer participation. Based on this, this study proposes the following two research objectives:

1. To explore the interplay between content design, content dissemination, and cross-border cooperation, and their comprehensive impact on customer participation in Chinese escape rooms.

2. To explore the mechanisms underlying the synergistic effects of content design, content dissemination, and cross-border cooperation.

3. To provide empirical support for designing more effective customer participation strategies for the Chinese escape room industry.

1.4 Research Scope

Population and sample

The research population was adults aged 20 years and above in Beijing , China . In order to ensure the representativeness of the sample and the reliability of the data, this study adopted a random sampling method to select a representative sample from adults aged 20 years and above in Beijing, China, and the number of sample was 600.

Content/Variables

Independent variables: content design, content dissemination, and cross-border cooperation.

Dependent variable: customer participation.

Study Area

Beijing , China.

Data collection time

From November 12 to December 12, 2024, questionnaire surveys were conducted in batches to ensure the scientificity and effectiveness of data collection, strictly control the quality of data collection, and ensure the authenticity and completeness of questionnaire filling. At the same time, the data of this study were collected through online questionnaires, and quantitative analysis methods were used, including descriptive statistical analysis, reliability and validity analysis, and correlation analysis.

1.5 Research Significance

This study focuses on the Chinese escape room industry, systematically exploring the impact of content design, content dissemination, and cross-border cooperation on customer participation. It holds significant theoretical and practical implications. From a theoretical perspective, this study breaks away from traditional single-factor analysis paradigms, positioning Chinese escape rooms at the intersection of the experience economy and the cultural industry, and delves into the comprehensive effects of their interplay on customer participation.By integrating experience economy theory and the cultural and creative industry framework, this study expands the application boundaries of content production and dissemination mechanisms in immersive entertainment, providing a new perspective on the creative transformation of traditional cultural elements in modern entertainment formats. Additionally, the study fills a gap in existing literature on systematic research into the business model of Chinese escape rooms, revealing the synergistic effects of content design, content dissemination, and cross-border cooperation, and providing a theoretical model for future research.

At the practical level, this study provides optimization strategies for industry practitioners. Optimizing content design can enhance immersion, precise communication strategies can strengthen brand influence, and cross-border cooperation can enrich the diversity of experiences, providing practical guidance for practitioners to optimize business models and enhance customer participation. At the same time, the study provides a basis for industry standardization and policy formulation, helping to implement the Ministry of Culture and Tourism's "14th

Five-Year Plan for Cultural Industry Development" and promoting the sustainable development of the immersive entertainment industry.

1.6 Definition of Key Terms

Chinese escape room is an emerging industry that combines traditional Chinese culture with immersive entertainment. It provides consumers with unique immersive entertainment activities through scene layout, storyline and interactive experience. Its core features include immersive experience, interactivity and teamwork. Immersive experience creates a realistic environment through multi-sensory stimulation, interactivity promotes the development of the plot through role-playing and teamwork, and teamwork enhances the sense of participation and achievement. Chinese escape room optimizes customer experience through content design, content dissemination and cross-border cooperation, while incorporating cultural elements such as historical stories, folk tales and traditional art to enhance consumers' sense of immersion and cultural identity.

Content design is the core element of escape room product construction. It creates an immersive interactive experience for consumers through narrative drive, multi-sensory stimulation and the integration of gameplay mechanisms. Narrative design emphasizes the coherence of the storyline and character settings, and combines visual, auditory and tactile elements to create a realistic atmosphere. The gameplay mechanism enhances the player's desire for challenge and sense of achievement through puzzle difficulty gradients and real-time feedback systems.

Content dissemination is a key link in the escape room business model. Through multi-channel communication strategies, the experience value is delivered to target consumers, thereby enhancing brand influence and customer participation. Content dissemination includes traditional channels such as social media, short video platforms, and offline activities, as well as the incentive and dissemination of user-generated content (UGC). Communication effect evaluation optimizes communication strategies through data monitoring (such as click-through rate and conversion rate) to ensure wide coverage and accurate reach of information.

Cross-border cooperation promotes brand innovation and value creation through resource sharing, technological complementarity and market integration. In Chinese escape rooms, cross-border cooperation expands market coverage and enhances brand competitiveness through linkage with industries such as film, games, tourism, and education. Cross-border cooperation also involves communication channels and derivative development, such as introducing VR technology or cooperating with

educational institutions to develop entertaining themes to achieve the effect of "1+1>2".

Customer participation is the multi-dimensional input of the customer in the experience process, including interaction at the sensory, emotional, cognitive and behavioral levels. In an escape room scenario, customer participation is reflected in puzzle solving, task completion, emotional resonance, role-playing, and teamwork. Customer participation is influenced by content design, content dissemination and cross-border cooperation. It is an important indicator for measuring experience quality and also affects customer loyalty and brand value.

Chapter 2 Literature Review

2.1 Introduction

As an emerging form of experience economy, Chinese escape room combines traditional culture with immersive entertainment and has developed rapidly in the Chinese market in recent years. Its core is to provide consumers with a unique immersive interactive experience through content design, content dissemination and cross-border cooperation. Content design constructs immersive scenes with cultural depth through narrative-driven, multi-sensory stimulation and gameplay mechanisms; content dissemination uses social media, user-generated content and brand stories to expand brand influence; cross-border cooperation expands market coverage and enhances brand competitiveness by integrating resources with other industries. These elements work together to significantly influence customers' willingness and behavior to participate. This study takes Chinese escape rooms as the research object and explores how content design, content dissemination and cross-border cooperation affect customer participation. It aims to reveal the mechanism of action and their interactive effects among the three, provide theoretical support for enterprises to optimize their business models, and contribute new perspectives to the research in the field of experience economy.

2.2 Chinese Escape Room

Chinese escape rooms have rapidly gained popularity in the Chinese market in recent years, emerging as a unique interactive entertainment experience. Compared to Western escape rooms, Chinese escape rooms incorporate rich cultural elements and diverse game mechanics, offering a higher level of engagement and immersion. This design has attracted a wide range of consumers while also sparking academic research into its content design, dissemination methods, and cross-border cooperation.

The content design of Chinese escape rooms is highly creative, often combining traditional Chinese culture, historical stories, and modern technology. By seamlessly integrating cultural elements into game mechanics, escape rooms are not merely puzzle-solving experiences but also become a means of exploring and learning about Chinese culture. Charlo et al. (2021) found that educational escape rooms can stimulate students' cooperative spirit and curiosity, and such designs effectively promote the internalization and externalization of learning content.In addition, the integration of various media and technological tools such as AR (augmented reality)

and VR (virtual reality) can further enrich the participants' experience (Morrell & Eukel, 2020).

Content dissemination also plays an important role in Chinese escape rooms. Through diverse channels such as social media, online advertising, and word-of-mouth, operators can quickly spread the unique experience of escape rooms to potential customers. Gabriel et al. (2021) emphasized that active online communication and feedback mechanisms can enhance customer participation and satisfaction.Additionally, the shared experience of escape rooms encourages participants to share their stories, photos, and tips on social media platforms, creating a spontaneous promotional effect (Zhong et al., 2024). cross-border cooperation is one of the key factors contributing to its success.

Chinese escape rooms often collaborate with educational institutions, cultural groups, or other entertainment industries to create cross-disciplinary interactive experiences. León et al. (2021) found that cross-border cooperation can enrich escape room content and adapt it to multiple educational objectives, thereby improving participants' absorption and understanding of the content.This model not only enhances learning outcomes but also provides participants with new perspectives and experiences, motivating consumers to continue participating (López-Pernas et al., 2019).

The rise of Chinese escape rooms represents not only a new form of entertainment but also an integration and innovation of cultural content design, dissemination methods, and cross-border cooperation best practices. This multi-dimensional participation model helps enhance customer participation and satisfaction while providing new insights and references for future research in related fields.

2.3 Content Design

Content design is one of the key factors contributing to the success of Chinese escape rooms, significantly influencing participants' experiences and reactions. Effective content design must not only possess cultural significance but also guide participants in logical reasoning and teamwork. Charlo et al. (2021) noted that educational escape rooms, by applying gamification strategies to problem-solving, can enhance students' collaborative and exploratory abilities, thereby making them more appealing.This design can effectively integrate diverse learning content, such as incorporating historical stories, cultural symbols, and modern technology in Chinese escape rooms to create an immersive cultural experience.

Houwelingen et al. (2023) emphasized that the design of educational escape rooms should align with learning objectives, ensuring that puzzles and challenges facilitate a deeper understanding of the learning content. Such design not only improves learning outcomes but also enhances participants' immersion and engagement. Related research indicates that the content design of Chinese escape rooms can promote team interaction and improve communication skills (Zhong et al., 2024).

In content design, designers must continuously assess and revise to meet participants' needs. Morrell and Eukel (2020) pointed out that the design and evaluation process is a necessary step to ensure the success of educational escape rooms. This iterative process not only improves the quality of course design but also ensures that participants' feedback is incorporated into subsequent design iterations.Additionally, the use of multimedia and interactive technologies can attract younger audiences and enhance their immersive experience (Ang et al., 2020).

2.4 Content Dissemination

Content dissemination is equally crucial to the success of Chinese escape rooms. Effective dissemination strategies can attract potential customers and enhance the engagement of existing customers. With the widespread adoption of social media and online platforms, the methods of disseminating escape room experiences have become more diversified. Gabriel et al. (2021) found that interactive communication via social media can enhance customers' experiences and learning outcomes. Additionally, positive word-of-mouth communication can guide potential customers in making pre-visit decisions, thereby influencing their willingness to participate.

Research also shows that the timeliness and richness of information dissemination are directly related to user engagement. Zhong et al. (2024) pointed out that designing WeChat Moments activities and live puzzle-solving sessions can fully mobilize customer enthusiasm. Compared with traditional advertising models, modern digital communication methods not only expand the reach of information but also enhance customers' psychological sense of belonging, making them more willing to participate in subsequent activities.

However, the quality of content dissemination should not be overlooked. Morrell and Eukel (2020) argued that content dissemination should be personalized according to audience needs and preferences to make it more acceptable to customers. By conducting in-depth analyses of the target audience, designers can optimize recommendations to make dissemination strategies more effective.

2.5 Cross-border Cooperation

Cross-border cooperation is a major highlight in the development of Chinese escape rooms. By integrating with different fields, it can drive innovation and development. León et al. (2021) pointed out that cross-border cooperation can effectively enhance the content quality of educational escape rooms, making them more aligned with the needs and interests of the audience. Combining psychology, education, and game design not only enriches the content format but also improves participants' immersion experience and learning outcomes.

Cross-border cooperation can also be achieved through joint branding or cultural activities. Haimovich et al. (2022) pointed out that by collaborating with industry experts and cultural institutions, the depth and breadth of content can be increased, thereby driving higher engagement. This collaborative model enables knowledge from different fields to interpenetrate, creating more diverse and valuable experiences for participants.

Additionally, existing research indicates that cross-disciplinary collaboration effectively enhances group collaboration and problem-solving abilities. Cohen et al. (2020) mentioned that escape rooms, as a team collaboration scenario, help participants develop leadership and work skills during problem-solving. Through cross-disciplinary collaboration, designers can create more challenging and enjoyable game environments, thereby increasing customer participation.

2.6 Customer Participation

Customer participation is one of the key indicators of the success of Chinese escape rooms. High levels of customer participation not only enhance participant satisfaction but also increase brand loyalty. Extensive research has shown that contextualization and immersive experiences are important factors influencing customer participation. Zhong et al. (2024) pointed out that the structural design of escape rooms can effectively encourage customers to increase interaction and immersion while solving puzzles.

Active interaction among participants during tasks can enhance their teamwork and problem-solving abilities. Morrell and Eukel (2020) suggested that participants are more likely to immerse themselves in the game scenario under peer motivation, leading to a state of deep engagement. This state not only improves the overall customer experience but also enhances their psychological sense of belonging toward the escape room activity.

Additionally, customer feedback is a significant factor influencing customer participation. According to observations by Gabriel et al. (2021), timely feedback can guide customers toward more active participation while enhancing their understanding of the game content. In summary, the depth of customer participation is closely related to individual experience, team effectiveness, and feedback mechanisms. Designers should therefore create diverse interactive modes to enhance participation.

2.7 Experience Economy Theory

Experience Economy Theory (Pine & Gilmore, 2020) is one of the core theoretical frameworks of this study. The theory emphasizes that companies create customer value by providing unique and memorable experiences. In the context of Chinese escape rooms, Experience Economy Theory emphasizes satisfying consumers' needs for emotion and immersion through immersive scenes and interactive design. Escape rooms enhance customer participation and satisfaction through content design (such as storyline, puzzle design, and scene layout) and content dissemination (such as social media and word-of-mouth). Cross-border collaborations , such as collaborations with well-known IPs or other industries , further expand the brand's influence and the depth of customer participation. Research shows that immersion and interactivity in the experience economy can significantly increase customer participation and loyalty (Pine & Gilmore, 2020).

2.8 Cultural Industry Theory

Cultural Industry Theory emphasizes the importance of cultural products in economic and social structures, particularly in modern market economies. Hughes et al. (2007) argued that the relationship between open-source culture and the entertainment industry involves the intersection of economic, design science, and art and cultural theories, highlighting the transformative and influential role of technological change on cultural products.For example, the application of open-source concepts in the arts and entertainment sectors has not only altered production methods but also influenced consumers' values and participation patterns, thereby reshaping the landscape of the cultural industry. This theory provides new perspectives on cultural product innovation and reveals how economic conditions influence creative practices.

Additionally, Throsby (2010) explored the relationship between the economic and cultural values of the cultural industry in "Cultural Policy Economics,"

emphasizing the importance of understanding this relationship for effective policy-making. He argued that cultural policy-making must consider the economic impacts of cultural resources and seek balance within the cultural market to promote the sustainable development of the cultural industry and related sectors.This perspective offers significant guidance for understanding the complexity of modern cultural industries and how to advance the realization of cultural value within an economic framework.

2.9 Customer Experience Theory

Customer Experience Theory (Schmitt, 1999) emphasizes improving customer satisfaction and loyalty through multi-dimensional experiences (such as sensory, emotional, cognitive, behavioral, and social). In escape rooms, content design stimulates customer participation and emotional resonance through storylines and puzzle design; content dissemination enhances customer social interaction through social media and word-of-mouth; and cross-border cooperation enhances customer immersion and satisfaction through innovative experiences (such as introducing VR technology in collaboration with technology companies). Research shows that the multidimensional design of customer experience can significantly improve customer participation and brand loyalty (Schmitt, 1999).

2.10 Customer Value Theory

Customer Value Theory centers on the value that consumers seek in products and services, emphasizing the importance of meeting consumer needs. Bayraktar et al. (2022) found that organizational culture and leadership styles influence consumers' values and expectations across different countries, thereby affecting customer loyalty and purchasing behavior. Their research indicates that cultural background significantly influences how businesses understand and deliver customer value, prompting companies to adjust their customer value propositions based on regional cultural differences.

Meanwhile, Lee (2015) explored the impact of policies on customer value in the cultural and creative industries, pointing out that policy orientations can shape the industry's value orientation, thereby influencing consumers' cultural experiences and consumption behavior. Through an in-depth analysis of the connection between cultural policies and customer value, the study found that effective policies not only enhance the market competitiveness of cultural products but also strengthen consumers' identification with and satisfaction toward cultural products. Therefore, the application of customer value theory in the cultural industry provides theoretical

support for understanding and improving the market performance of cultural products.

2.11 Relevant Research

In recent years, Chinese escape rooms have emerged as a new form of entertainment, attracting increasing academic attention. Related research has explored various aspects such as content design, dissemination methods, and cross-border cooperation, examining their impact on customer participation and providing theoretical foundations and practical guidance for game design and implementation.

In terms of content design, many studies emphasize how innovative design can enhance participants' immersive experiences. Charlo et al. (2021) proposed that educational escape rooms combine gamification elements with culturally relevant content, enabling participants to learn through puzzle-solving, thereby enhancing learning motivation and teamwork skills.Additionally, Houwelingen et al. (2023) noted that the content design of escape rooms should be closely aligned with educational objectives, thereby improving students' understanding and application of knowledge in specific domains. Such research provides accurate direction for content design in Chinese escape rooms, thereby enhancing customer participation.

In terms of communication, Gabriel et al. (2021) found that utilizing emerging communication channels such as social media can significantly increase customer participation and overall satisfaction. Especially in the digital age, interactive communication and word-of-mouth effects can not only attract potential customers but also enhance the loyalty of existing customers. Zhong et al. (2024) mentioned that designing fun digital marketing activities can greatly enrich the customer experience and increase the likelihood of repeat participation.Such research provides new reference for the operation and marketing strategies of escape rooms.

In terms of cross-border cooperation, León et al. (2021) explored how cooperation between educational institutions and the cultural industry can enrich the content of escape rooms and thereby enhance the customer experience.This is supported by Haimovich et al. (2022), who pointed out that through cross-border cooperation with experts from multiple fields, escape rooms can achieve interdisciplinary integration of content, creating more attractive interactive experiences for participants. Cohen et al. (2020) further emphasized that the teamwork characteristics of escape rooms make cross-border cooperation an important platform for enhancing participants' social skills and problem-solving abilities.

Related research provides important insights into the design and participation of Chinese escape rooms. These studies indicate that effective content design, communication strategies, and innovative cross-border cooperation are key factors in enhancing customer participation. This lays the foundation for further exploration of the driving mechanisms behind customer participation and provides reasonable recommendations and guidance for related practices.

2.12 Conceptual Framework

This study aims to explore the relationship between content design, content dissemination, and cross-border cooperation on customer participation in Chinese escape rooms. The variables and dimensions are as follows:

Independent variables: Chinese escape rooms, with main dimensions including content design, content dissemination, and cross-border cooperation.

Dependent variable: customer participation.
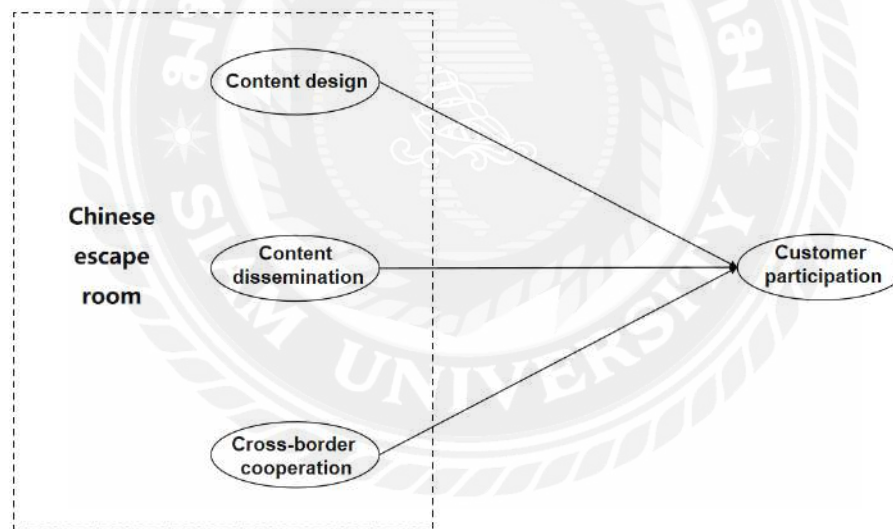
Figure 2. 1 Conceptual Framework

Chapter3 Research Methods

3.1 Introduction

In recent years, escape rooms, as an emerging form of immersive entertainment, have gradually become a popular choice for young people's leisure consumption. Chinese escape rooms have attracted a large number of consumers with their unique cultural elements and creative design. However, how to improve customer participation through content design, content dissemination and cross-border cooperation is still an urgent problem to be solved in the industry. This study took Chinese escape rooms as the research subject to explore the impact of content design, content dissemination and cross-border cooperation on customer participation, aiming to provide theoretical support and practical guidance for industry optimization. Through questionnaire surveys and data analysis, this study revealed the relationship between various variables and provided a reference for the sustainable development of Chinese escape rooms. The study used questionnaire surveys to collect data, and ensures data quality through reliability and validity tests, ultimately providing a scientific basis for industry optimization.

3.2 Questionnaire design

This study aims to explore the impact of content design, content dissemination, and cross-border cooperation on customer participationt in Chinese escape rooms. A survey questionnaire using a 5-point Likert scale was employed to measure variables including Chinese escape room experiences, which encompass three dimensions: content design, content dissemination, cross-border cooperation, and customer participation.

Table 3. 1 Measurement Items

Variable	Measurement Items	Serial Number
Content design	I think the level design of the escape room is very unique, providing different levels of challenge without being boring.	Q1
	I think the scene design of the escape room is real and vivid.	Q2
	The story development of the escape room can arouse my interest and is logical.	Q3
	I think the props and technology used in the escape room are very professional.	Q4
	I think the mission setting of escape room can reasonably guide players to gradually deepen into the situation.	Q5
	I think the interactive design of the escape room adds to the pleasure and sense of accomplishment.	Q6
Content dissemination	Escape rooms publish event information through various channels (such as social media) and can attract me.	Q7
	I think the promotional content of escape rooms is authentic, consistent with the actual experience, and can accurately convey its core experience.	Q8
	I learned about Chinese escape room through advertisements or promotional materials.	Q9
	I think the advertising content of Chinese escape room games can accurately express the characteristics of its products.	Q10
	The dissemination information of Chinese escape room games can attract my attention to its brand.	Q11
	After watching the promotional content for Chinese escape rooms, I became interested in trying it.	Q12
Cross-border cooperation	I think the crossover adaptation of escape rooms appeals to me.	Q13
	The cross-border cooperation design of the escape room derivative development is innovative and can keep up with market changes and trends, making me willing to experience it again.	Q14
	I think the cross-border cooperation between Chinese escape rooms and other industries has enhanced the brand's appeal.	Q15

	Chinese Escape Room's collaboration with other brands has increased my interest in its products.	Q16
	I like the cross-border collaboration between Chinese escape rooms and brands from different fields.	Q17
	I think the collaboration between Chinese escape rooms and other industries makes their products more innovative.	Q18
Customer participation	The design of the escape room allowed me to fully participate in the storyline.	Q19
	The tasks in the escape room felt interesting and challenging to me.	Q20
	I was able to have fun in the escape room experience.	Q21
	The interactivity of the escape room kept me engaged.	Q22

3.3 Hypotheses

The independent variables of this study are the three main dimensions of Chinese escape room: content design, content dissemination, and cross-border cooperation. The dependent variable is customer participation. The construction of the model is based on the analysis of the relationship between the independent variables and the dependent variables. The relationships between variables are set through hypotheses. Combined with the above analysis, the hypothesized model of factors influencing customer participation in Chinese escape rooms and the relationships between the variables are proposed.

H1: The effect of content design on customer participation is positive and significant.

H2: The effect of content communication on customer participation is positive and significant.

H3: The effect of cross-border collaboration on customer participation is positive and significant.
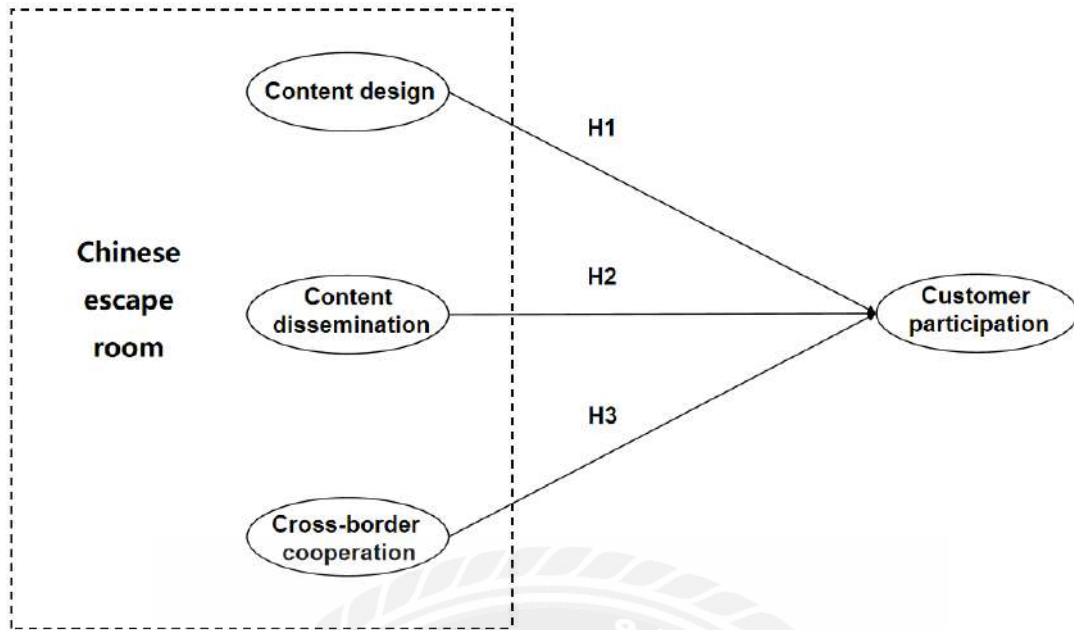
Figure 3. 1 Hypothesis Model

3.4 Population and Sampling

Since the research population was adults aged 20 and above in Beijing, China, the questionnaire survey method can effectively obtain data from this specific population.Following the principle of random sampling, this study employed a random sampling survey method to determine the required sample size, ensuring the representativeness and accuracy of the research.

$$n = \frac{s^2 * p^2}{E^2}$$

The sample size was determined based on the principle of random sampling. The standard normal distribution is represented by n (sample size) and s (standard deviation). The confidence level is 95%, with the corresponding Z-value being 1.96. The sample standard deviation is denoted by p.The margin of error (E) represents the maximum allowable difference between the sample mean and the population mean, set at 0.05. The calculated sample size is 383.78. In this study, 600 samples were planned to be collected, which exceeds the minimum requirement based on the aforementioned method.

3.5 Data Collection

The survey questionnaires were distributed and collected via "Wenjuanxing" (an online survey platform). From November 12, 2024, to December 12, 2024, a total

of 615 questionnaires were distributed during the survey period, of which 600 were valid and effective, with an effectiveness rate of 96.39%.

3.6 Data Analysis

3.6.1 Reliability

The questionnaire used in this study is a modification of a mature assessment questionnaire. It was significantly adjusted before being utiliged in this study, and the validity and reliability of the questionnaire were verified. In scientific research, the conclusions drawn through empirical testing of the connections between categories are reliable and true only when the information quality is high, that is, the credibility and relevance of the data are high. In order to confirm the authenticity of the model fit analysis and hypothesis verification, it is necessary to test the quality of the data, that is, reliability and validity tests, before any empirical confirmation of any connection between variables.

Reliability refers to the consistency and stability of measurement results.It assesses the ability of researchers to produce comparable results when evaluating similar phenomena or groups in different forms or at different time points. The reliability of a scale depends on its stability, repeatability, and internal cohesion. All measurements include current values and error values. The higher the reliability and the lower the error value, the more stable the results are, and they are not affected by fluctuations in form or time. In this study,Cronbach's α coefficient was used to assess internal consistency and reliability. The larger the α coefficient of each latent variable, the more reliable the variable being measured, which means that the internal validity of the entire scale is higher.

The Cronbach's α coefficient of content design is 0.882 , the Cronbach's α coefficient of content dissemination is 0.884 , the Cronbach's α coefficient of cross-border cooperation is 0.885 , the Cronbach's α coefficient of customer participation is 0.849 . They are all within the range of 0.8~0.9, indicating that the reliability of the questionnaire in this study is good and further validity analysis can be carried out, as shown in Table 3.2.

Table 3. 2 Reliability Test for Variables

Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
Q1	0.695	0.861	
Q2	0.69	0.862	
Q3	0.684	0.863	0.882
Q4	0.695	0.861	
Q5	0.647	0.869	
Q6	0.738	0.854	
Q7	0.687	0.865	
Q8	0.726	0.859	
Q9	0.669	0.868	0.884
Q10	0.686	0.865	
Q11	0.696	0.864	
Q12	0.708	0.862	
Q13	0.681	0.867	
Q14	0.699	0.865	
Q15	0.702	0.864	0.885
Q16	0.691	0.866	
Q17	0.703	0.864	
Q18	0.706	0.863	
Q19	0.713	0.797	
Q20	0.681	0.811	0.849
Q21	0.667	0.817	
Q22	0.689	0.808	

3.6.2 Validity

Validity analysis assesses the relationship between a measurement and an external standard. Validity is usually divided into content validity and construct validity. Construct validity can be further divided into convergent validity and discriminant validity, both of which must be demonstrated for a measurement to be considered construct valid. Content validity refers to the ability of a measurement tool to cover all items of the concept it is intended to measure. If a measurement tool can cover representative items of the concept it measures, it is considered to have content validity. The measurement variables in this study were derived from a mature scale that was revised and designed based on actual research conditions, with new question items added and further adjustments made in the pre-survey. Therefore, the measurement tool used in this study has content validity.

Construct validity refers to the extent to which a measurement tool can measure theoretical concepts or traits, and is mainly assessed through convergent validity and

discriminant validity. Convergent validity assesses the degree of correlation between different items in the same latent variable, while discriminant validity assesses the degree of difference between one variable and another. Exploratory factor analysis and confirmatory factor analysis can be used to determine convergent validity and discriminant validity. Since this study refers to a developed scale but does not follow the scale in measuring variables, exploratory factor analysis will be used first to test construct validity, and then confirmatory factor analysis will be used after determining the structural relationship.

In this study, the Kaiser-Meyer-Olkin (KMO) sample measurement method and Bartlett's test of sphericity were used to assess the associations between the research question items. The KMO value is an important indicator to measure whether the data meets the conditions of factor analysis. A value higher than 0.9 is very suitable, 0.8-0.9 is suitable, 0.7-0.8 is poor, 0.6-0.7 is not very suitable, 0.5-0.6 is unsuitable, and a value lower than 0.5 is very unsuitable. Bartlett's test of sphericity determines whether the connectivity matrices are identical. Significant p-values (usually less than 0.05) indicate that there is a strong correlation between the features of the scale, making it well suited for factor analysis.

Table 3. 3 KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.987
Bartlett's Test of Sphericity	Approx. Chi-Square	9110.913
	df	231
	Sig.	0

In this study, the KMO value was 0.987 , and the Bartlett test showed that there was a great correlation between the relevant indicators (p value = 0.000), indicating that the conditions for factor analysis were met.

3.6.3 Descriptive Statistics and Correlation Analysis

Descriptive statistical analysis is a statistical analysis method that classifies, characterizes and describes the basic situation of sample data and converts raw data into information and statistical data that can be analyzed. The analysis content mainly includes the frequency, mean standard deviation and variance of the data. This study uesd descriptive statistitics to analyze the relevant data of the respondents to lay the foundation for the subsequent verification of the hypothesis.

Correlation analysis was used in this study to describe the strength and direction of the relationship between multiple variables, measured by the correlation coefficient. In existing literature, the Pearson coefficient (usually represented by R) is usually used to indicate the correlation between variables, that is, whether it is positively correlated or negatively correlated. This value reflects the strength of the relationship. When the R value is lower than 0.3, it indicates that the correlation between the two variables is low; when the R value is between 0.3 and 0.7, it indicates that the correlation between the two variables is moderate; when the R value is higher than 0.7, it indicates that the correlation between the two variables is high.

Chapter 4 Finding and Disscusion

4.1 Introduction

This study employed a quantitative research method to analyze data collected through questionnaires, with a total of 600 valid questionnaires obtained, yielding a response rate of 96.39%. Descriptive statistical analysis was conducted on the collected data, and Pearson correlation analysis was used to determine the relationships between variables.

4.2 Descriptive Statistics of Sample

The main demographic parameters include gender, age, education, and gaming experience, as shown in Table 4.1. Overall, the sample meets the statistical requirements.

Table 4. 1 Demographic Data

Basic Information	Count	Percentage
1. Gender		
male	285	47.5
female	315	52.5
2. Age		
20-29 years old	298	49.67
30-39 years old	205	34.17
40-49 years old	62	10.33
50-59 years old	35	5.83
3. Education		
Middle School	89	14.83
College	165	27.5
Bachelor's degree	170	28.34
Master's degree and above	176	29.33
4. Gaming Experience		
New to the game (occasionally play)	56	9.33
Beginner (less than 1 year)	102	17
Experienced (1-3 years)	156	26
Old Players (Non-Traditional Years)	286	47.67

From the perspective of demographic data, the research sample is relatively balanced in terms of gender distribution, with females accounting for 52.5%, slightly higher than males at 47.5%, which may reflect the slightly higher participation of females in the customer base of Chinese escape rooms, but the gender difference is not significant. The age distribution shows a distinct younger trend, with the 20-39 age group accounting for as high as 83.84%, of which 20-29 age groups account for 49.67%, indicating that the main audience of Chinese escape rooms are young consumers, especially college students and newcomers to the workplace, which is consistent with the characteristics of this form of entertainment that emphasizes immersive experience, social interaction and physical activity. The group over 40 years old accounts for less than 20%, which may suggest that escape rooms have limited appeal to middle-aged and elderly people, or there is a gap in market promotion.

Education data show that those with a bachelor's degree or above account for 57.67% (28.34% for bachelor's degree, 29.33% for master's degree or above), which is significantly higher than the high school (14.83%) and college (27.5%) groups. The concentration of highly educated people may be related to their deep demand for cultural consumption. This group tends to pay more attention to the logic of content design, the cultural connotation of narrative, and the innovative experience brought by cross-border cooperation. This provides potential explanatory space for the "content design" and "cross-border cooperation" dimensions in the research independent variables. The distribution of gaming experience shows polarization, with old players accounting for 47.67% and experienced players accounting for 26%, indicating that 73.67% of the participants have rich real-life gaming experience. This may lead to a higher sensitivity to content innovation, dissemination forms and cross-border linkage, but it may also mean that the research conclusions are more applicable to mature player groups, and attention should be paid to the limitations of the extrapolation of the conclusions to novice groups.

4.3 Descriptive Statistics of Variables

Descriptive statistical analysis mainly involves screening, analyzing and summarizing the large amount of data obtained from the survey, and summarizing the central tendency and dispersion of these data. Using SPSS statistical software for descriptive analysis can generate relevant descriptive statistical data. The central tendency of the analyzed data includes the mean and median, and the descriptive data deviation includes the maximum value, minimum value, variance and standard

deviation. These descriptive statistical data comprehensively analyze the characteristics of the variables.

This study used a 5-level Likert scale questionnaire (agreement level) to collect the sample's attitude towards each measured variable. To interpret the data obtained, the following arbitrary scale was used to interpret the mean of each variable.

Table 4. 2 Arbitrary Levels of Interpretation of Questionnaire Data

Arbitrary level	Account for
1.00 - 1.79	Strongly disagree
1.80 - 2.59	Disagree
2.60 - 3.39	Neutral
3.40 - 4.19	Agree
4.20 - 5.00	Strongly agree

As shown in Table 4.3 , the score range for each question is 1 to 5 points, representing the frequency of use or attitude of the respondents towards different aspects of Chinese escape rooms (content design, content dissemination, cross-border cooperation) and the degree of customer participation. As can be seen from the table, the average values of questions Q1 to Q18 (content design, content dissemination, cross-border cooperation) are mostly around 3.2 (for example: Q1 is 3.22, Q2 is 3.3, Q4 is 3.27, etc.), which shows that the frequency of use or attitude of the respondents towards various aspects of Chinese escape rooms is at a medium to high level. Although the median is not clearly given, from the average value, the answers of most respondents tend to be in the medium to high range, reflecting that the respondents are more positive about the use of Chinese escape rooms, but there is still room for improvement. In terms of standard deviation, most of them are between 1.34 and 1.4 (for example: Q1 is 1.391, Q2 is 1.397, Q4 is 1.39, etc.), which shows that there are certain differences in the use behavior of the respondents. Although the overall average score is above average, different respondents' usage frequencies and attitudes towards various aspects of Chinese escape rooms are not completely consistent. Some use them more frequently, while others use them relatively less frequently.

From the descriptive statistics, it can be found that the respondents showed a relatively positive frequency of use and attitude towards the content design, content dissemination and cross-border cooperation of Chinese escape rooms (Q1-Q18),

which was generally at a medium to high level. However, the existence of standard deviations also reflects that there are obvious individual differences in usage behavior among different respondents. For customer participation (Q19-Q22), the average value is between 3.2 1 and 3.2 6 , close to the level of "Neutral" or "Agree". This shows that most respondents hold a medium to positive evaluation of the customer participation of Chinese escape rooms, reflecting a certain degree of satisfaction. The standard deviation is between 1.33 1 and 1.406, showing that there are differences in the evaluation of customer participation by different respondents. Although the overall evaluation is at a medium to high level, some respondents still gave lower or higher evaluations. From the analysis of these four customer participation issues, the respondents' evaluation of the customer participation of Chinese escape rooms is generally at a medium to high level, and there are certain differences between individuals. Most respondents' self-assessments fell into the "Neutral" or "Agree" range, indicating that they were neither pessimistic nor overly optimistic about the level of customer participation, but maintained a relatively balanced perception.

Table 4. 3 Descriptive Statistics of Variables

Items	N	Minimum	Maximum	Mean	Std. Deviation
Q1	600	1	5	3.22	1.391
Q2	600	1	5	3.3	1.397
Q3	600	1	5	3.21	1.354
Q4	600	1	5	3.27	1.39
Q5	600	1	5	3.23	1.374
Q6	600	1	5	3.2	1.376
Q7	600	1	5	3.26	1.349
Q8	600	1	5	3.22	1.352
Q9	600	1	5	3.28	1.387
Q10	600	1	5	3.26	1.358
Q11	600	1	5	3.22	1.393
Q12	600	1	5	3.21	1.371
Q13	600	1	5	3.29	1.355
Q14	600	1	5	3.22	1.387
Q15	600	1	5	3.27	1.38
Q16	600	1	5	3.24	1.362
Q17	600	1	5	3.19	1.344
Q18	600	1	5	3.29	1.402
Q19	600	1	5	3.26	1.406
Q20	600	1	5	3.22	1.332
Q21	600	1	5	3.24	1.331
Q22	600	1	5	3.21	1.339

From the overall analysis, customers' evaluation of the content design, content dissemination and cross-border cooperation of Chinese escape rooms is above average and has certain differences. This provides a preliminary background basis for further exploring how these factors affect customer participation.

4.4 Correlation Analysis

Correlation analysis requires establishing a relationship or probability between the related elements. Using correlation analysis has undoubtedly become the most effective method for studying the relationships between multiple groups.

The closer the correlation coefficient (r) is to 1 or -1, the stronger the correlation; the closer it is to 0, the weaker the correlation. As shown in table, the correlation coefficients (r values) range from 0 to 1, with a high degree of correlation at the 0.01 level. There is a significant correlation between the factors (P<0.01).

This study used the Pearson correlation coefficient to analyze the correlation between content design, content dissemination and cross-border cooperationand customer participation (Q1-Q22) in Chinese escape rooms based on data from questionnaires.

All dimensions of content design, content dissemination and cross-border cooperation show significant positive correlations with customer participation (p<0.01) (Q1-Q22). This indicates that the better the content design, the more effective the content dissemination, and the more active the cross-border cooperation, the higher degree of customer participation there is in Chinese escape rooms.

Table 4. 4 Correlations between Items (Pearson Correlation Matrix)

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22
Q1	1																					
Q2	.539**	1																				
Q3	.552**	.560**	1																			
Q4	.571**	.555**	.542**	1																		
Q5	.509**	.521**	.527**	.515**	1																	
Q6	.615**	.594**	.568**	.604**	.550**	1																
Q7	.511**	.581**	.524**	.526**	.554**	.593**	1															
Q8	.601**	.556**	.595**	.581**	.598**	.623**	.589**	1														
Q9	.572**	.512**	.529**	.526**	.490**	.562**	.526**	.550**	1													
Q10	.570**	.534**	.552**	.481**	.572**	.598**	.528**	.572**	.553**	1												
Q11	.549**	.565**	.572**	.538**	.557**	.592**	.567**	.600**	.523**	.545**	1											
Q12	.585**	.553**	.568**	.551**	.548**	.580**	.561**	.591**	.554**	.569**	.568**	1										
Q13	.562**	.567**	.580**	.524**	.542**	.565**	.561**	.588**	.540**	.554**	.522**	.561**	1									
Q14	.593**	.565**	.578**	.571**	.531**	.596**	.535**	.611**	.540**	.587**	.592**	.571**	.546**	1								
Q15	.525**	.564**	.567**	.537**	.588**	.579**	.576**	.580**	.532**	.548**	.571**	.549**	.547**	.565**	1							
Q16	.561**	.561**	.542**	.535**	.548**	.568**	.544**	.574**	.532**	.518**	.557**	.537**	.532**	.550**	.578**	1						
Q17	.588**	.588**	.566**	.555**	.600**	.576**	.538**	.584**	.534**	.592**	.538**	.567**	.562**	.567**	.565**	.572**	1					
Q18	.563**	.569**	.567**	.578**	.558**	.560**	.548**	.620**	.574**	.548**	.580**	.588**	.566**	.585**	.569**	.553**	.564**	1				
Q19	.558**	.599**	.612**	.532**	.566**	.614**	.616**	.648**	.534**	.595**	.610**	.586**	.595**	.575**	.594**	.585**	.590**	.581**	1			
Q20	.511**	.557**	.550**	.540**	.528**	.582**	.547**	.598**	.521**	.562**	.591**	.573**	.544**	.581**	.556**	.547**	.557**	.565**	.613**	1		
Q21	.582**	.591**	.560**	.530**	.541**	.599**	.559**	.624**	.524**	.567**	.561**	.605**	.568**	.593**	.560**	.538**	.604**	.564**	.578**	.560**	1	
Q22	.612**	.563**	.569**	.539**	.543**	.615**	.581**	.585**	.545**	.589**	.594**	.583**	.608**	.608**	.531**	.584**	.611**	.630**	.614**	.566**	.575**	1

Note: *Correlation is significant at the 0.05 level (two-tailed). *Correlation is significant at the 0.01 level (two-tailed).

The correlation coefficients between the 22 items of the three dimensions (Q1-Q22) and the 4 items of customer participation (Q19-Q22) are mostly above 0.5, indicating a strong correlation. Specifically:

The correlation coefficient between Q1 (I think the level design of the escape room is very unique, providing different levels of challenge without being boring) and Q19 (The design of the escape room allowed me to fully participate in the storyline) is 0.558, showing that better content design is linked to higher customer participation.

The correlation coefficient between Q7 (Escape rooms publish event information through various channels (such as social media) and can attract me) and Q20 (The tasks in the escape room felt interesting and challenging to me) is 0.547, indicating that more effective content dissemination is associated with more interesting and challenging tasks for customers.

The correlation coefficient between Q13 (I think the cross - border adaptation of escape rooms appeals to me) and Q21 (I was able to have fun in the escape room experience) is 0.568, suggesting that more active cross - border cooperation is related to more fun customer experiences.

The correlation coefficient between Q6 (I think the interactive design of the escape room adds to the pleasure and sense of accomplishment) and Q22 (The interactivity of the escape room kept me engaged) is 0.615, implying that better content design is associated with higher customer participation.

These results show that various dimensions of content design, content dissemination, and cross - border cooperation (including level design, information publishing, and cross - border adaptation) significantly and positively impact customer participation.

The four dimensions of customer participation (Q19-Q22) exhibit varying correlations with the three dimensions:

Q19 (The design of the escape room allowed me to fully participate in the storyline) shows strong correlations with most dimensions of the three independent variables, the coefficients are all above 0.5.

Q20 (The tasks in the escape room felt interesting and challenging to me) also has high correlations with the three dimensions, the coefficients are all above 0.5.

Q21 (I was able to have fun in the escape room experience) has relatively high correlations with the three dimensions, the coefficients are all above 0.5.

Q22 (The interactivity of the escape room kept me engaged) has high correlations with the three dimensions, the coefficients are all above 0.5.

4.5 Hypothesis Test Results

This study used the Pearson correlation coefficient to analyze the correlation between content design, content dissemination and cross - border cooperation of Chinese escape rooms and customer participation based on data from 600 questionnaires.

Table 4. 5 Correlation between Variables (Pearson Correlation Matrix)

Variable	Content Design	Content dissemination	Cross-border cooperation	Customer participation
Content design	1			
Content dissemination	0.884 **	1		
Cross-border cooperation	0.893 **	0.885 **	1	
Customer participation	0.861 **	0.877 **	0.874 **	1

Note: *.Correlation is significant at the 0.05 level (two-tailed). **.Correlation is significant at the 0.01 level (two-tailed).

H1: The effect of content design on customer participation is positive and significant.

There is a significant positive correlation between content design and customer participation. The Pearson correlation coefficient is 0.861, indicating that good content design can significantly improve customer participation. Therefore, Hypothesis 1 is supported.

H2: The effect of content communication on customer participation is positive and significant.

There is also a significant positive correlation between content dissemination and customer participation. The Pearson correlation coefficient is 0.877, indicating that effective communication can significantly enhance customer participation. Therefore, Hypothesis 2 is supported.

H3: The effect of cross-border collaboration on customer participation is positive and significant.

There is a significant positive correlation between cross-border collaboration and customer participation . The Pearson correlation coefficient is 0.874, reflecting the positive impact of cross-border cooperation on customer participation. Therefore, Hypothesis 3 is supported.

In summary, the three hypotheses of this study are all supported, indicating that content design, content dissemination, and cross-border cooperation have significant positive effects on customer participation in Chinese escape rooms.

Table 4. 6 Hypothesis Test Results

No.	Hypothesis	Result
H1	The effect of content design on customer participation is positive and significant.	Supported
H2	The effect of content dissemination on customer participation is positive and significant.	Supported
H3	The effect of cross-border collaboration on customer participation is positive and significant.	Supported

Chapter 5 Conclusion and Recommendation

5.1 Conclusion

This study focused on the Chinese escape room industry and explored the impact of content design, content dissemination and cross-border cooperation on customer participation. A total of 600 valid questionnaires were collected through a questionnaire survey of adults over 20 years old in Beijing. Using descriptive statistical analysis, and correlation analysis , the following key conclusions were drawn.

5.1.1 The relationship between content design and customer participation

The study found that there is a significant positive correlation between content design and customer participation, with a correlation coefficient of 0.861 (P<0.01). Good content design, including unique level design, realistic scene layout, fascinating and logically coherent story development, professional props and technical application, and reasonable task setting and interactive design, can significantly enhance customer participation in the escape room process. Well-designed puzzles and plots can enhance customers' sense of accomplishment and pleasure in the puzzle-solving process, while realistic scenes and vivid stories can immerse customers more deeply in the gaming experience, thereby increasing their interest and involvement in escape room activities.

5.1.2 The relationship between content dissemination and customer participation

Content dissemination also has a significant positive impact on customer participation, with a correlation coefficient of 0.877 (P<0.01). An effective multi-channel communication strategy, using social media, short video platforms, etc. to publish attractive event information and promotional content, can attract customers' attention to Chinese escape rooms and stimulate their interest in experiencing them. Customers are more likely to engage when the content is authentic and accurately communicates the core experience. In addition, the dissemination of brand stories and the encouragement and dissemination of user-generated content (UGC) have further expanded the brand's influence and enhanced the emotional resonance between customers and the brand, thereby prompting customers to participate more actively in escape room activities.

5.1.3 The relationship between cross-border cooperation and customer participation

Cross-border cooperation also has a significant promoting effect on customer participation, with a correlation coefficient of 0.874 (P<0.01). The cross-border cooperation between Chinese escape rooms and other industries, such as film, tourism, education and other fields, has not only enriched the content and form of escape rooms, but also enhanced the brand's attractiveness and market competitiveness. Cooperation with popular film and television IPs can attract a large number of fans to participate in themed escape room activities, while combination with tourist attractions can attract tourists to experience the fun of escape room while sightseeing. This cross-border cooperation provides customers with more diverse and innovative experiences, meets their needs for freshness and personalization, and thus increases customers' willingness and depth of participation.

5.2 Recommendation

Based on the key findings of this study, which indicate that content design, content dissemination, and cross-border cooperation all have a significant positive impact on customer participation in Chinese escape rooms, the following targeted recommendations are provided for industry practitioners to optimize business practices, enhance market competitiveness, and promote the sustainable development of the industry:

5.2.1 Deepen content innovation to build a cultural core and deliver an exceptional experience

The core competitiveness of Chinese escape rooms lies in their unique cultural experience and engaging content design. It is recommended that practitioners strengthen original IP and narrative depth, encourage more investment in the development of original stories, deeply explore the rich connotations of traditional Chinese culture, such as historical anecdotes, myths and legends, and intangible cultural heritage, and skillfully integrate them into the escape room themes and puzzle designs.

1. Avoid simply replicating existing IPs, and pursue narrative logic, uniqueness, and emotional tension to create a brand experience with distinctiveness and cultural depth.

2. Enhance the immersive experience through the integration of scenes and technology.

3. Pursue the ultimate realism and attention to detail in scene design, while actively exploring the application of emerging technologies such as VR/AR, holographic projection, and smart sensing to enhance multi-sensory interaction and immersive experiences.

4. Balance the application of technology with the natural integration of the storyline to avoid the sense of detachment caused by excessive technology.

5. Optimize puzzle design and interactive mechanisms, focusing on the balance between puzzle diversity, logical coherence, and challenge levels, and set reasonable difficulty gradients to ensure players experience both the joy of intellectual challenges and a sense of achievement throughout the puzzle-solving process.

6. Strengthen team collaboration mechanisms and design elements that encourage player communication and cooperation to enhance social interaction experiences.

5.2.2 Build a multi-dimensional communication matrix to achieve precise targeting and emotional resonance

Effective communication is the key bridge connecting high-quality content with target customers. It is recommended that practitioners integrate online and offline communication channels, fully leverage the immediacy and interactivity of social media (such as Weibo, WeChat, Xiaohongshu, and Douyin), and conduct precise marketing through formats like short videos, live streams, and collaborations with key opinion leaders (KOLs).

1. Combine offline experiential activities, themed salons, and campus promotions to build a comprehensive communication network.

2. Drive user-generated content (UGC) and word-of-mouth marketing by encouraging and guiding players to actively share their experiences after use, such as setting up attractive check-in points, holding share-and-win events, and establishing player communities, to convert users into active brand promoters.

3. Pay attention to reputation management and respond to user feedback in a timely manner.Strengthen brand storytelling and cultural value output.

4. Enhance emotional connections and cultural identity by sharing stories about brand philosophy, creative intentions, and cultural background, shaping a unique brand personality and values to stand out in a highly competitive market.

5.2.3 Expand value-co-creation cross-border cooperation to enrich the experience ecosystem

Cross-border cooperation effectively expands experiential boundaries and enhances brand value. It is recommended that practitioners deepen collaborations with cultural tourism and cultural heritage IPs.

1. Seek partnerships with museums, cultural heritage sites, and renowned tourist attractions to co-develop escape room themes with regional cultural characteristics, integrating escape room experiences into broader cultural tourism consumption scenarios to achieve deep integration of "cultural tourism + escape rooms."

2. Explore integration with emerging technologies and creative industries, collaborate with companies in fields such as AI, big data, gaming, animation, and film production to introduce cutting-edge technologies to enhance intelligent and personalized experiences, or jointly develope products and themed activities to create a more comprehensive entertainment ecosystem.

3. Focus on the value alignment and sustainability of partnerships, select partners whose brand identity and target audience align with our own, clarify cooperation objectives and profit-sharing mechanisms, and jointly plan marketing and promotional activities to ensure that collaborations effectively enhance brand value and expand market reach.

5.2.4 Future research

To further expand the depth and breadth of this study, future research can focus on the following key directions.

1. Expand the scope of research and sample diversity. It is recommended to extend the geographical scope of the study to more representative cities and include a wider age range (such as adolescents and middle-aged and elderly groups) as well as specific consumer groups with particular needs (such as family-oriented and corporate team-building clients) to enhance the generalizability of research conclusions and the targeted application of market strategies.

2. Deepen research on the integration of cultural elements and technology in content design. This involves conducting detailed investigations into the specific

effectiveness of different types of Chinese cultural elements (such as specific historical dynasties, folk legends, and traditional festival symbols) in narrative construction, and conducting in-depth analyses of the integration paths of emerging technologies such as XR and AI with narrative design, as well as their specific impact mechanisms on enhancing customer immersion and interactivity.

3. Evaluate the long-term effectiveness and interactive mechanisms of emerging content distribution channels. Focus on analyzing the unique advantages and interactive models of emerging social media platforms such as short videos and live streaming in the dissemination of escape room information, as well as their role in shaping users' long-term participation behavior and brand loyalty, and explore optimization paths for multi-channel collaborative distribution strategies.

4. Explore innovative models of cross-industry collaboration and value co-creation mechanisms.It is recommended to explore the potential for cross-industry collaboration with emerging technologies (such as the metaverse and digital twins), health and wellness, interactive theater, and other more diverse industries.

5. Conduct in-depth research on the key success factors, interest distribution mechanisms, and potential risks and challenges under different collaboration models to provide the industry with more diverse business model references.

6. Refine the measurement of customer participation dimensions and introduce a dynamic evolution perspective. Future research can further deconstruct the emotional (e.g., cultural identity, brand belonging) and social (e.g., team collaboration quality, social relationship expansion) dimensions of customer participation, develop more precise measurement tools, and combine industry development trends and technological iterations for longitudinal tracking studies to reveal the dynamic evolution patterns of customer participation, providing the industry with more forward-looking development strategies.

References

Ang, W., Ng, Y., & Liew, R. (2020). Physical and digital educational escape room for teaching chemical bonding. *Journal of Chemical Education, 97*(9), 2849-2856. https://doi.org/10.1021/acs.jchemed.0c00612

Bayraktar, S., Karaçay, G., Dastmalchian, A., & Kabasakal, H. (2022). Organizational culture and leadership in egypt, iran, and turkey: The contextual constraints of society and industry. *Canadian Journal of Administrative Sciences / Revue Canadienne Des Sciences De L Administration, 39*(4), 413-431. https://doi.org/10.1002/cjas.1665

Borrás-Gené, O., Díez, R., & Guillén, A. (2022). Digital educational escape room analysis using learning styles. *Information, 13*(11), 522. https://doi.org/10.3390/info13110522

Charlo, J., García, P., & Román-García, S. (2021). Formative potential of the development and assessment of an educational escape room designed to integrate music-mathematical knowledge. *Education Sciences, 11*(3), 131. https://doi.org/10.3390/educsci11030131

Cohen, T., Griggs, A., Keebler, J., Lazzara, E., Doherty, S., Kanji, F., … & Gewertz, B. (2020). Using escape rooms for conducting team research: Understanding development, considerations, and challenges. *Simulation & Gaming, 51*(4), 443-460. https://doi.org/10.1177/1046878120907943

Gabriel, P., Lieb, C., Holland, S., Ballinghoff, J., Cacchione, P., & McPeake, L. (2021). Teaching evidence-based sepsis care: a sepsis escape room. *The Journal of Continuing Education in Nursing, 52*(5), 217-225. https://doi.org/10.3928/00220124-20210414-05

Haimovich, I., Yayon, M., Adler, V., Levy, H., Blonder, R., & Rap, S. (2022). "the masked scientist": Designing a virtual chemical escape room. *Journal of Chemical Education, 99*(10), 3502-3509. https://doi.org/10.1021/acs.jchemed.2c00597

Hamilton, F., Hile, K., Skelley, D., Roller, S., Lampley, S., & Young, E. (2021). Exploring students' perceptions of collaboration and critical thinking skills following an escape room experience.. *JCAPS, 3*(1), 5-16. https://doi.org/10.52499/2021011

Houwelingen, A., Heegde, F., Boschloo, W., Piek, L., & Wubbels, T. (2023). Development and evaluation of an escape room based on general pharmacokinetics: students' perceptions of its motivational climate. *Pharmacology Research & Perspectives, 11*(6). https://doi.org/10.1002/prp2.1155

Hughes, J., Lang, K., Clemons, E., & Kauffman, R. (2007). A unified interdisciplinary theory of open source culture and entertainment. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1077909

Lee, C. (2015). Cultural policy and governance: reviewing policies related to cultural and creative industries implemented by the central government of taiwan between 2002 and 2012. *Review of Policy Research, 32*(4), 465-484. https://doi.org/10.1111/ropr.12131

León, A., Rodríguez-Ferrer, J., Aguilar-Parra, J., Martínez, A., Rosa, A., García, D., … & Campoy, J. (2021). Escape rooms as a learning strategy for special education master's degree students. *International Journal of Environmental Research and Public Health, 18*(14), 7304. https://doi.org/10.3390/ijerph18147304

López-Pernas, S., Gordillo, A., Barra, E., & Quemada, J. (2019). Examining the use of an educational escape room for teaching programming in a higher education setting. *Ieee Access, 7*, 31723-31737. https://doi.org/10.1109/access.2019.2902976

Morrell, B. and Eukel, H. (2020). Escape the generational gap: a cardiovascular escape room for nursing education. *Journal of Nursing Education, 59*(2), 111-115. https://doi.org/10.3928/01484834-20200122-11

Nowacki, M. and Stasiak, A. (2023). Identification of memorable game experiences: analysis of escape rooms visitors' experiences. *Games and Culture, 20*(1), 125-147. https://doi.org/10.1177/15554120231190648

Pine, B. J., & Gilmore, J. H. (2020). *The experience economy: Competing for customer time, attention, and money* (Updated ed.). Harvard Business Review Press.

Pine, B. J., II, & Gilmore, J. H. (2013). The experience economy: Past, present and future. In *Handbook on the experience economy* (pp. 21-44).Harvard Business Review Press.

Schmitt, B. (1999). Experiential Marketing. *Journal of Marketing Management, 15*(1-3), 53-67.

Throsby, D. (2010). *The economics of cultural policy.*Harvard Business Review Press. https://doi.org/10.1017/cbo9780511845253

Zhong, D., Dong, S., Chu, V., Gabriel, N., Lusardi, K., Searns, J., … & Pottinger, P. (2024). Out-break!: An idweek 2023 escape room to break out of the educational mold. *Open Forum Infectious Diseases, 11*(10). https://doi.org/10.1093/ofid/ofae558

Appendix

THE IMPACT OF CONTENT DESIGN, CONTENT DISSEMINATION AND CROSS-BORDER COOPERATION ON CUSTOMER PARTICIPATION IN CHINESE ESCAPE ROOMS

Dear Respondent: Hello

Thank you for taking the time out of your busy schedule to participate in our survey. The purpose of this survey is to understand your views on the relationship between content design, content dissemination and cross-border cooperation on customer participation in Chinese escape rooms. Please note that there is no right or wrong answer, and we value your honest opinion.

This survey is conducted anonymously and your answers will only be used for academic research purposes. We assure you that all personal information will be kept strictly confidential.

Part I

1. What is your gender?

○ Male ○ Female

2. How old are you?

○ 20-29 years old ○ 30-39 years old

○ 40-49 years old ○ 50-59 years old

3. What is your education level?

○ Secondary school ○ College

○ Undergraduate   ○ Master degree and above

4. Your experience with escape room games.

○ New to the game (occasionally play)

○ Beginner enthusiast (less than 1 year)

○ Experience (1-3 years)

○ Old Players (Non-Traditional Years)

Part 2

Please select the most appropriate option and put a "√" on the corresponding number. The questionnaire uses a 1-5 Likert scale, where 1 means "strongly disagree", 2 means "disagree", 3 means "neutral", 4 means "agree", and 5 means "strongly agree".

Question	1	2	3	4	5
Content Design					
I think the level design of the escape room is very unique, providing different levels of challenge without being boring.					
I think the scene design of the escape room is real and vivid.					
The story development of the escape room can arouse my interest and is logical.					
I think the props and technology used in the escape room are very professional.					
I think the mission setting of escape room can reasonably guide players to gradually deepen into the situation.					
I think the interactive design of the escape room adds to the pleasure and sense of accomplishment.					
Content dissemination					
Escape rooms publish event information through various channels (such as social media) and can attract me.					
I think the promotional content of escape rooms is authentic, consistent with the actual experience, and can accurately convey its core experience.					
I learned about Chinese escape room through advertisements or promotional materials.					
I think the advertising content of Chinese escape room games can accurately express the characteristics of its products.					
The dissemination information of Chinese escape room games can attract my attention to its brand.					

After watching the promotional content for Chinese escape rooms, I became interested in trying it.					

<table>
<tr><td colspan="6" align="center">Cross-border cooperation</td></tr>
<tr><td>I think the crossover adaptation of escape rooms appeals to me.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The cross-border cooperation design of the escape room derivative development is innovative and can keep up with market changes and trends, making me willing to experience it again.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I think the cross-border cooperation between Chinese escape rooms and other industries has enhanced the brand's appeal.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Chinese Escape Room's collaboration with other brands has increased my interest in its products.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I like the cross-border collaboration between Chinese escape rooms and brands from different fields.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I think the collaboration between Chinese escape rooms and other industries makes their products more innovative.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="6" align="center">Customer participation</td></tr>
<tr><td>The design of the escape room allowed me to fully participate in the storyline.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The tasks in the escape room felt interesting and challenging to me.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I was able to have fun in the escape room experience.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The interactivity of the escape room kept me engaged.</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

บันทึกข้อความ

ส่วนงาน บัณฑิตวิทยาลัย สาขาบริหารธุรกิจ   โทร.ภายใน 5336

ที่ มส 0210.01 / 0228   **วันที่** 21 สิงหาคม 2568

เรื่อง ขออนุมัติสำเร็จการศึกษาประจำปีการศึกษา 2567

เรียน ท่านอธิการบดี

      เรื่องเดิม นักศึกษาหลักสูตรบริหารธุรกิจมหาบัณฑิต MR. ZHANG JIE รหัสนักศึกษา 6417195805 ได้ศึกษารายวิชาครบถ้วนสมบูรณ์ และได้ปฏิบัติตามเกณฑ์สำเร็จการศึกษาตามที่มหาวิทยาลัยสยามกำหนดเรียบร้อยแล้ว ทั้งนี้พร้อมยื่นเรื่องขออนุมัติสำเร็จการศึกษา โดยมีรายละเอียด ดังต่อไปนี้

1. ผ่านการตรวจสอบความซ้ำซ้อนด้วยโปรแกรม Grammarly เมื่อวันที่ 1 สิงหาคม 2568
2. ผ่านการสอบประมวลความรู้ข้อเขียน เมื่อวันที่ 26 เมษายน 2568
3. ผ่านการสอบปากเปล่าขั้นสุดท้ายวิชาการค้นคว้าอิสระ เมื่อวันที่ 8 พฤษภาคม 2568
4. ผ่านเกณฑ์มาตรฐานความรู้ภาษาอังกฤษ Oxford Placement Test score 75 CEFR B2 เมื่อวันที่ 23 พฤษภาคม 2568
5. ผ่านการประชุมวิชาการระดับนานาชาติ at the 1st Thailand –Sino International Conference and 17th National and International Academic Conference on "Innovation and Management for Sustainability" Subject : Sustainability Practices in Enterprenurial Ventures and Their Impact on Business Performance on 14-16 November at Siam University, 2024, Bangkok Thailand

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(รศ.ดร.จอมพงศ์ มงคลวนิช)
คณบดีบัณฑิตวิทยาลัย สาขาบริหารธุรกิจ

ตรวจ ทนงหองาน 18 เรื่องเชื่อแจ้ง
ไม่ตรวจอนุมัติ

22 ส-ค. 68