

## The Impact of Service Innovation and Leisure Satisfaction on Customer Loyalty in Leisure Farms

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### ABSTRACT

**Keywords:**

*Leisure Farms,  
Service  
Innovation,  
Leisure  
Satisfaction,  
Customer Loyalty*

The study explores the impact of service innovation on customer loyalty within leisure farms, an emerging niche in the leisure industry. Utilizing a structured questionnaire targeting residents in the Taoyuan area in Taiwan, we employed factor analysis and multiple regression models to dissect the data. The primary aim was to ascertain whether service innovations such as the introduction of novel recreational activities or enhanced customer service processes significantly influence repeat patronage and word-of-mouth recommendations, which are critical indicators of customer loyalty. Our methodology involved collecting responses from 366 participants, ensuring a comprehensive representation of the demographic and economic diversity within the region. The study rigorously tests the hypothesis that higher levels of service innovation correlate positively with customer loyalty, controlling for variables such as age and educational background. Findings reveal that service innovation and leisure activity satisfaction significantly impact customer loyalty, while environmental satisfaction has no notable effect. The results suggest that providing unique leisure experiences and high-quality services is key to enhancing customer loyalty, with physical facilities being important but not the deciding factor. These findings contribute to the literature by highlighting the potential of service innovation as a strategic tool for cultivating loyalty and enhancing competitive advantage in the leisure farm industry.

### INTRODUCTION

In contemporary society, the acceleration of life's pace and the increase in work pressure have led individuals to place greater emphasis on the utilization of leisure time, seeking relaxation and rejuvenation for both body and mind. Leisure farms, which integrate agricultural

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production, natural environments, and leisure entertainment, have garnered widespread attention and popularity in recent years. They offer a platform for people to connect with nature and experience farming life while serving as a crucial choice for urban residents seeking stress relief and opportunities for parent-child interaction. As the leisure farm industry flourishes, the focus of operators has shifted toward enhancing customer leisure satisfaction through service innovation, thereby fostering increased customer loyalty.

Service innovation, a key strategy for boosting the competitiveness of leisure farms and attracting customers, encompasses the development of new services, the improvement of service processes, and the optimization of customer experiences. Leisure satisfaction, on the other hand, directly reflects customers' contentment with the services and experiences provided by leisure farms, serving as a vital metric for assessing service quality and customer satisfaction. Customer loyalty is not only manifested in repeated consumption behaviors but also includes positive word-of-mouth recommendations and emotional attachments to the leisure farm. Thus, exploring the relationship between service innovation, leisure satisfaction, and customer loyalty at leisure farms is crucial for enhancing their service quality and competitive edge in the market. Consequently, this study aims to investigate the impact of service innovation and leisure satisfaction on customer loyalty at leisure farms.

This study highlights the influence of service innovation and leisure satisfaction on customer loyalty in leisure farms but also underscores the need for broader research due to its geographical limitation to the Taoyuan area in Taiwan. Expanding research to diverse cultural and regional contexts would better generalize the findings and deepen our understanding of these factors on a global scale.

### ***Problem Statement***

This paper seeks to address the problem of how service innovation and leisure satisfaction impact customer loyalty within the leisure farm industry. Specifically, it examines the extent to which innovative services and satisfying leisure activities influence repeat patronage and positive word-of-mouth, which are crucial metrics of customer loyalty. While previous research has explored various facets of customer satisfaction and its impact on loyalty, less attention has been given to how service innovation contributes to these dynamics in the context of leisure farms. Furthermore, the role of environmental satisfaction—often assumed to be a driver of loyalty—has not been thoroughly investigated in relation to its actual impact on customer loyalty in this unique setting. By addressing these gaps, the study aims to

provide actionable insights that can help leisure farm operators enhance their competitive advantage and foster sustainable growth.

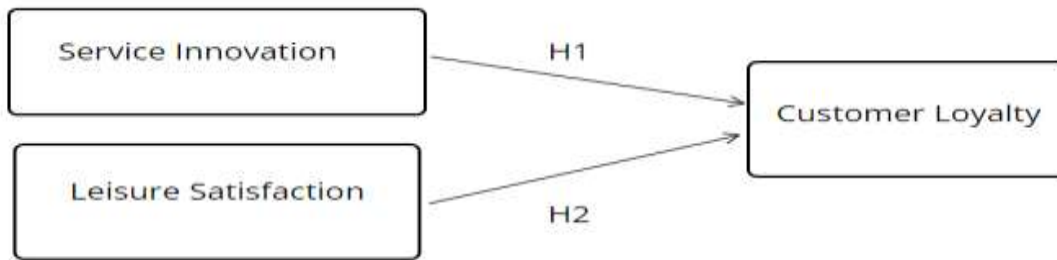
### **Research Gap**

Previous studies have extensively documented the positive impacts of customer satisfaction and service quality on loyalty across various sectors (Anderson and Sullivan, 1993; Berry, 1988; Chen and Chen, 2010; Szymanski and Henard, 2001; Parasuraman, Zeithaml and Berry, 1985). However, recent research highlights the need for a more nuanced understanding of service innovation and leisure satisfaction in driving customer loyalty, particularly in niche contexts such as leisure farms (Nwachukwu, 2022; Al-Dmour, Alkhatib, Al-Dmour, and Amin, 2023; Cheng, Cheah, Jimenez, Chen and Chen, 2024; Poretti, Weisskopf and de Régie, 2024).

While extant literature has begun to explore the role of service innovation in enhancing customer experiences and loyalty (Cheunkamon, Jomnonkwao and Ratanavaraha, 2022), there remains a paucity of research on how specific dimensions of service innovation, such as thematic uniqueness, tailored service enhancements, and experiential novelty, contribute to cultivating customer loyalty in leisure farms. Given the distinctive blend of agriculture, nature, and recreation offered by leisure farms, a more granular examination of service innovation strategies is crucial for understanding their impact on customer loyalty in this unique context (Wang and Hao, 2023).

Moreover, although leisure satisfaction has been recognized as a driver of customer loyalty (Poretti, Weisskopf and de Régie, 2024), existing research often treats it as a unidimensional construct. There is a need to delve into the multifaceted nature of leisure satisfaction and investigate how different aspects, such as activity satisfaction and environmental satisfaction, influence loyalty in the leisure farm sector (Wang, Wang, Niu and Song, 2022).

This study aims to address these gaps by dissecting the roles of various service innovation strategies and the multifaceted nature of leisure satisfaction in fostering customer loyalty within the context of leisure farms. The insights gleaned from this research will be crucial for strategic planning and competitive differentiation in leisure farm operations. Figure 1 presents the conceptual framework of this study.

**Figure 1** Conceptual framework

### ***Service innovation can enhance customer loyalty***

Service innovation is a critical and multidimensional concept in the modern economy, encompassing a wide range of innovative activities in the service sector. Drucker (1986), a pioneer in service innovation research, argued that innovation is not solely a concept in the technological realm but an economic and social activity that can be achieved through systematic training and learning. Drucker emphasized that the essence of innovation lies in changing the output of resources, thereby delivering greater value and satisfaction to consumers. He posited that innovation can not only endow objects with new functions and create wealth but also improve existing resources and create new ways of generating value.

Mumford and Gustafson (1988) expanded on Drucker's (1986) view, suggesting that innovation involves modifying existing inventions to meet current or future needs. They defined invention as the process of introducing new concepts, programs, or products, which can lead to a more comprehensive understanding of phenomena or enhance operational efficiency. Janszen (2000) categorized innovation into four dimensions: organizational, technological, application, and market or customer, and proposed that these dimensions progress in a spiral pattern of innovation. As the global economic system evolves, service innovation has become a widely discussed topic in both academic and practical circles.

Service innovation entails not only the successful development of new services or products but also the continuous improvement and modification of various innovative activities and contents within a business organization. Betz (2003) argued that technological innovation is only a part of innovation, which can be divided into product innovation, process innovation, and service innovation based on its application. He particularly emphasized the importance of service innovation, which involves introducing new service technologies into the market.

Thus, service innovation encompasses not only technological innovation but also innovations at the organizational, application, and market levels. The goal of service innovation is to

bring greater value and satisfaction to consumers by changing the output of resources and enhancing service quality, thereby fostering economic and social development. Service innovation satisfies customers' desire for novelty and personalization by introducing new service concepts, improving service processes, and optimizing the customer experience. When customers experience services that are unique and exceed expectations, their satisfaction increases, which in turn strengthens their positive emotions and loyalty to the brand. Furthermore, service innovation helps establish brand differentiation, enabling companies to stand out in a competitive market and attract and retain customers. Therefore, businesses should continuously explore and implement innovative strategies to enhance customer experience and satisfaction, which in turn will lead to an increase in customer loyalty. Hence, the following hypothesis is formed:

**H 1:** *Service innovation positively affects customer loyalty.*

### ***Leisure satisfaction can enhance customer loyalty***

Consumer satisfaction is a crucial indicator of consumers' perceptions and feelings about a product or service, directly influencing a company's market performance and customer loyalty. Over the past decades, scholars have extensively studied consumer satisfaction and proposed various theories and models to explain this phenomenon.

Early research on consumer satisfaction primarily focused on methods and models for measuring satisfaction. Oliver (1980) provided a widely accepted definition of satisfaction as a consumer's psychological response to the performance of a product or service, based on the comparison between their expectations and actual experiences. This definition highlights that consumer satisfaction is a subjective feeling influenced by individual expectations.

As research progressed, scholars began to explore factors affecting consumer satisfaction. Parasuraman, Zeithaml, and Berry (1985) highlighted the crucial role of service quality in shaping consumer satisfaction by introducing the SERVQUAL model. This model identified five dimensions of service quality—reliability, responsiveness, assurance, tangibility, and empathy—as essential for enhancing consumer satisfaction.

In recent years, with the advancement of consumer behavior research, scholars have started to focus on the relationship between consumer satisfaction and other factors. For instance, satisfaction is considered a key factor influencing customer loyalty and word-of-mouth communication (Anderson and Sullivan, 1993; Szymanski and Henard, 2001). Moreover,

consumer satisfaction is closely linked to consumers' emotional and psychological states, such as happiness and life satisfaction (Mittal and Kamakura, 2001).

Leisure satisfaction measures the degree of satisfaction individuals feel after participating in leisure activities. It not only affects personal mental health and quality of life but also plays a significant role in promoting the sustainable development of leisure venues. Beard and Ragheb (1980) introduced the concept of leisure satisfaction, emphasizing the positive impact of leisure activities on individual mental health and life satisfaction. They argued that leisure satisfaction is an individual's evaluation of the outcomes of leisure activities, which influences their future leisure choices and participation levels. Iso-Ahola (1982) noted in his leisure experience theory that leisure satisfaction is influenced by the discrepancy between an individual's expectations and actual experiences of leisure activities. He believed that individuals feel satisfied when their leisure experiences exceed their expectations and dissatisfied otherwise.

Mannell and Iso-Ahola (1987) further explored the factors influencing leisure satisfaction, noting that an individual's leisure motivation, leisure skills, and leisure environment all affect leisure satisfaction. They suggested that leisure motivation is the internal drive that motivates an individual to engage in leisure activities, leisure skills are the abilities required to perform leisure activities, and the leisure environment provides the setting and conditions for leisure activities.

Subsequent research on leisure satisfaction has increasingly focused on individuals' subjective well-being and quality of life. Tinsley and Tinsley (1986) found that leisure satisfaction is positively correlated with individuals' subjective well-being and quality of life. They believed that by participating in leisure activities, individuals can achieve psychological satisfaction and relaxation, thereby enhancing their quality of life.

In summary, the formation mechanism of leisure satisfaction has significant implications for individuals' quality of life and the promotion of sustainable development in leisure venues. Understanding the formation mechanism of leisure satisfaction is crucial for businesses to develop effective marketing strategies and enhance customer loyalty.

When customers are satisfied with the leisure activities they participate in, this positive experience can translate into loyalty to the leisure farm or service provider. Customers with high satisfaction levels are more likely to engage in repeat consumption and recommend these leisure activities to others. This not only helps build a solid customer base but also

fosters the formation of word-of-mouth effects. Therefore, providing high-quality leisure experiences that meet or exceed customer expectations can be considered an effective strategy for enhancing customer loyalty. Thus, the following hypothesis is formed:

**H 2:** *Leisure satisfaction positively affects customer loyalty.*

## METHODOLOGY

### *Data Sources - Questionnaire Design*

In this research, we developed a questionnaire comprising four sections: service innovation, leisure satisfaction, customer loyalty, and personal background information. The items in the questionnaire were designed based on the study by Webster and Sundaram (1998), with detailed items listed in the appendix. A total of 22 questions were posed to individuals engaged in leisure activities. The questionnaire utilized a five-point Likert scale, allowing respondents to select from 'strongly agree' to 'strongly disagree' based on their preferences and to assign a score from 1 to 5 accordingly.

In this study, customer loyalty is defined as the satisfaction of consumers with a service provider based on their personal participation experience. This includes the choice to make repeated purchases, recommend the service provider or its products to others, and maintain a preference for the service or product over an extended period, unaffected by the marketing activities of competitors. Customer loyalty is measured through two dimensions: 'Consumption Intention,' focusing on consumers' repeat participation behavior, and 'Post-Purchase Intention,' related to consumers' intentions after engaging in leisure activities.

The questionnaire primarily targeted residents of the Taoyuan area in Taiwan and was conducted from August 5, 2023, to September 4, 2023. A total of 400 questionnaires were distributed, and 389 were returned, resulting in a 97.25% response rate. After excluding 23 invalid questionnaires, the total number of valid questionnaires was 366, yielding a valid response rate of 94.08%.

Table 1 Basic information of respondents

Classification	Type	No. of respondents	Percentage
Gender	Male	151	41.30%
	Female	215	58.70%
Age	Younger than 20 years	7	1.90%
	20-30 years	165	45.10%
	31-40 years	70	19.10%
	41-50 years	73	19.90%
	51-60 years	39	10.70%
	61 years or older	12	3.30%



Job Type	Housekeeper	23	6.30%
	Entry-level Employee	251	68.60%
	Grassroots Supervisor	52	14.20%
	Mid-level Executive	21	5.70%
	Senior Executive	15	4.10%
	General Manager (Deputy)	4	1.10%
Personal Annual Income	Less than 300,000	8	2.20%
	300,000-600,000	188	51.40%
	600,000-1,000,000	154	42.10%
	1,000,000-1,500,000	10	2.70%
	1,510,000-2,000,000	2	0.50%
	Above 2,010,000	4	1.10%
Annual Household Income	Less than 500,000	6	1.60%
	500,000-1,000,000	180	49.20%
	1,010,000-1,500,000	106	29.00%
	1,510,000-2,000,000	40	10.90%
	2,010,000-3,000,000	17	4.60%
Marital Status	Above 3,010,000	17	4.60%
	Married	254	69.40%
	Unmarried	112	30.60%
Place of Residence	The Taipei-Keelung Metropolitan Area	74	20.20%
	The Taoyuan-Hsinchu-Miaoli Area	262	71.60%
	The Taichung-Changhua-Nantou Area	2	0.50%
	The Yunlin-Chiayi-Tainan Area	2	0.50%
	The Yilan-Hualien-Taitung Area	19	5.20%
	Offshore Islands	7	1.90%
Educational Level	Elementary School	4	1.10%
	Junior High School	7	1.90%
	Senior High/Vocational School	45	12.30%
	Junior College	36	9.80%
	College	223	60.90%
	Graduate School or Above	51	13.90%

In this study, we employed descriptive statistical methods to analyze the 366 valid questionnaires collected, aiming to gain a comprehensive understanding of the sample data's composition. Participants' basic information covered eight aspects: gender, age, job position, marital status, educational level, personal annual income, total annual household income, and place of residence. This information facilitated a thorough understanding of the sample distribution and demographic characteristics.

The descriptive statistics results, presented in Table 1, reveal that females comprised a higher proportion of the sample at 58.7%, while males accounted for 41.3%. Regarding age, the 20-30 age group was the most represented, making up 45.1% of the valid samples, followed by the 41-50 age group at 19.9% and the 31-40 age group at 19.1%. In terms of job position, grassroots employees constituted the majority at 68.6%, followed by grassroots supervisors and housewives/househusbands at 14.2% and 6.3%, respectively. Nearly 70% of the



participants were married. Regarding educational level, 60.9% held a university degree or higher. In terms of residence, 71.6% lived in the Taoyuan, Hsinchu, and Miaoli regions. For personal annual income, the 300,000-600,000 range was the most common, accounting for 51.4%, followed by the 600,000-1,000,000 range at 42.1% and the 1,000,000-1,500,000 range at 2.7%. In terms of total annual household income, the 600,000-1,000,000 range was predominant, representing 49.2%, followed by the 1,010,000-1,500,000 range at 29.0% and the 1,510,000-2,000,000 range at 10.9%.

### ***Factor Analysis and Reliability Analysis***

In this study, data were collected through a questionnaire survey and analyzed using factor analysis to identify key factors. The Varimax method was employed for orthogonal rotation to simplify the factor structure, ensuring that each factor remained independent. Following the recommendation of Hair et al. (1995), factors with eigenvalues greater than 1 were retained. Subsequently, the maximum variance rotation technique was applied to adjust the factors, ensuring that the absolute value of the rotated factor loadings (i.e., the degree of influence of the factor on the variable) exceeded 0.5, and the difference in loadings of a factor on one variable compared to other variables exceeded 0.3. Only when these criteria were met were the relevant variables included in the specific factor. Finally, the factors were named based on their characteristics for categorization.

In this study, the validity of the questionnaire scale was verified through content validity and construct validity, and factor analysis was used to simplify the factor structure. This method aims to maximize the total variance explained by as few common factors as possible. The higher the factor loadings, the greater the importance of the item in the common factor, thereby indicating higher construct validity. We extracted common factors using the Principal Component Analysis (PCA) method, selecting factors with eigenvalues greater than 1 to represent the dimension, and performed orthogonal rotations to maximize variance.

Kaiser (1970) introduced the KMO coefficient to assess the suitability of sampling, where a KMO value above 0.9 is considered excellent, and above 0.6 is considered acceptable. A higher KMO value indicates a higher suitability for factor analysis. In this study, the KMO coefficients for all four dimensions exceeded 0.6, indicating that our factor analysis was appropriately conducted at a reasonable level.

Reliability and validity are sources of measurement error, and they cannot be separated from the measurement process. Reliability concerns the consistency of test scores or the stability of

measurement results. In this study, Cronbach's alpha coefficient was used to assess the internal consistency of the questionnaire. The higher the alpha coefficient value, the better the internal consistency of the measurement. This coefficient, proposed by Cronbach (1951), is used for reliability analysis of questionnaire data to examine the structure and stability of the questionnaire. A Cronbach's alpha value above 0.5 is considered acceptable.

After conducting reliability analysis and eliminating some poorly performing items, the four main constructs of this study showed high reliability. Specifically, the Cronbach's alpha for "Service Innovation" was 0.872, indicating very reliable measurement within the range of 0.7 to 0.9; the Cronbach's alpha for "Leisure Activity Satisfaction" was 0.856, also indicating high reliability within the same range; the Cronbach's alpha for "Environment Satisfaction" was 0.932, exceeding 0.9 and indicating excellent reliability; and the Cronbach's alpha for "Customer Loyalty" was 0.883, again indicating high reliability within the range of 0.7 to 0.9. Overall, after the scale reliability analysis, the Cronbach's alpha values for all constructs in Table 2 were above 0.8, and the KMO coefficients for all items reached above 0.6, indicating good internal consistency of the questionnaire.

Table 2 Reliability and factor loadings

Item	Question	Factor Loading	Cronbach's $\alpha$
Service Innovation	Innovation A1	0.729	0.872
	Innovation A2	0.820	
	Innovation A3	0.809	
	Innovation A4	0.832	
	Innovation A5	0.830	
Leisure Activity Satisfaction	Satisfaction B1	0.606	0.856
	Satisfaction B2	0.698	
	Satisfaction B3	0.752	
	Satisfaction B4	0.805	
	Satisfaction B5	0.734	
	Satisfaction B6	0.863	
Environment Satisfaction	Satisfaction B7	0.752	0.932
	Satisfaction B9	0.753	
	Satisfaction B10	0.862	
	Loyalty C1	0.837	
Loyalty	Loyalty C2	0.795	0.883
	Loyalty C3	0.657	
	Loyalty C4	0.854	
	Loyalty C5	0.817	
	Loyalty C6	0.674	

### ***Regression model***

To investigate the impact of the identified factors on customer loyalty, we follow YuSheng and Ibrahim (2019) to develop the following multiple regression model:

$$\begin{aligned} \text{Loyalty}_i = & \beta_0 + \beta_1 \text{Service Innovation}_i + \beta_2 \text{Leisure Activity Satisfaction}_i \\ & + \beta_3 \text{Environment Satisfaction}_i + \beta_4 \text{Age}_i + \beta_5 \text{Education}_i \\ & + \varepsilon_i \end{aligned}$$

where Loyalty represents customer loyalty, Service Innovation represents innovation in services, Leisure Activity Satisfaction represents satisfaction with leisure activities, Environment Satisfaction represents satisfaction with the environment.

For consumers visiting leisure farms for leisure travel and experiences, their satisfaction may vary depending on the experience of leisure activities and the experience of environmental facilities. Therefore, this article subdivides leisure travel satisfaction into two categories: leisure activity satisfaction and environmental satisfaction. This subdivision helps to more accurately understand and evaluate individual satisfaction when participating in leisure activities, providing more targeted suggestions for the management and service enhancement of leisure farms. All variables are data collected from the questionnaire, and then the values are rotated through the principal component method of factor analysis.

If  $\beta_1$  is positive, it indicates that service innovation has a positive effect on customer loyalty, suggesting that more innovative services lead to higher customer loyalty. Consumers are more likely to return for consumption and travel, supporting Hypothesis 1. If  $\beta_2$  is positive, it implies that higher satisfaction with leisure activities encourages consumers to share their experiences with friends and family and return for travel, supporting Hypothesis 2. Similarly, if  $\beta_3$  is positive, it indicates that higher environmental satisfaction increases customer loyalty. To control for factors affecting customer loyalty, age and education level are included as control variables in the study. For education, scores are assigned from 1 to 6 corresponding to educational levels from elementary school to graduate school or above.

Table 3 Percentage of approval regarding the recognition of service innovation by age

Group	Under 20 years	20-30 years	31-40 years	41-50 years	51-60 years	Over 61 years	Total
Q1: Leisure farms meet tourist demand or market trends better than competitors.	100.00%	96.15%	96.32%	87.15%	75.33%	72.86%	90.17%
Q2: Leisure farms have a special theme compared to other farms.	100.00%	97.76%	93.57%	86.57%	77.12%	74.23%	92.99%
Q3: Leisure farms innovate their service programs and methods.	100.00%	94.52%	97.14%	76.78%	73.44%	75.36%	90.72%
Q4: Leisure farm operators demonstrate innovative service capabilities.	100.00%	95.76%	92.57%	82.52%	77.25%	73.67%	88.25%
Q5: Leisure farms can increase services based on tourist needs.	100.00%	96.91%	94.71%	85.73%	78.56%	75.28%	87.90%
Q6: Leisure farms provide a diverse range of services to tourists.	100.00%	95.52%	88.57%	77.67%	75.23%	72.36%	88.44%
Average Approval Rate	100.00%	96.10%	93.81%	82.74%	76.16%	73.96%	

Table 4 Percentage of approval regarding to the recognition of service innovation by education

Group	Elementary school	Junior high school	Senior high/vocational school	Junior college	College	Graduate school or above	Total
Q1: Leisure farms meet tourist demand or market trends better than competitors.	75.00%	71.43%	84.44%	91.67%	96.86%	96.08%	88.17%
Q2: Leisure farms have a special theme compared to other farms.	75.00%	57.14%	82.22%	97.22%	97.76%	94.12%	87.23%
Q3: Leisure farms innovate their service programs and methods.	50.00%	71.43%	77.78%	94.44%	95.07%	98.04%	85.72%
Q4: Leisure farm operators demonstrate innovative service capabilities.	75.00%	85.71%	75.56%	91.67%	96.41%	96.08%	90.17%
Q5: Leisure farms can increase services based on tourist needs.	50.00%	71.43%	84.44%	94.44%	94.61%	94.12%	88.90%
Q6: Leisure farms provide a diverse range of services to tourists.	75.00%	85.71%	68.69%	91.67%	91.93%	92.16%	86.44%
Average Approval Rate	62.50%	73.81%	78.86%	93.52%	95.44%	95.10%	0.8777

Table 5 Impact of service innovation and leisure satisfaction on customer loyalty

Variable	Estimate	t	Estimate	t
Constant	0.695***	2.89	0.786***	2.73
Service Innovation	0.276***	4.25	0.292***	3.78
Leisure Activity Satisfaction	0.254**	3.59	0.283***	2.61
Environment Satisfaction	0.063	1.27	0.041	0.75
Age	0.365***	5.63		
Education			0.268***	4.32
Adj. Rsq	0.253		0.276	
N	366		366	

Note: This table examines the effect of innovation and satisfaction on customer loyalty. All variables except Age and Education are the values after the rotation axis of the principal component method of the factor analysis on the data collected from the questionnaire. Adj. Rsq is adjusted R-square, N is the sample size. \*, \*\* and \*\*\* denote statistical significance at 10%, 5% and 1% levels respectively.

The regression results also indicate that customers with higher education levels positively influence loyalty in choosing leisure parks. This phenomenon can be explained from several perspectives. First, more educated customers often have a broader range of knowledge and more open-mindedness, enabling them to appreciate and understand the diverse cultural and natural experiences offered by leisure parks (Poria, Butler, and Airey, 2004). This appreciation and understanding may enhance their satisfaction and loyalty to the leisure park. Second, more educated customers typically possess stronger critical thinking skills and higher expectation levels (Li, Li, and Hudson, 2013). When leisure parks meet these high standards and expectations, these customers may develop a stronger sense of trust and loyalty to the park. Lastly, more educated customers may value the role of leisure activities in promoting personal growth and development (Hsu, Cai, and Wong, 2007). Leisure parks that provide rich educational and learning opportunities may attract these customers and encourage them to become loyal repeat visitors.

In summary, the results in Table 5 support the argument that service innovation positively influences customer loyalty. Additionally, the results also show that satisfaction with leisure activities has a significant impact on customer loyalty. However, environmental satisfaction has a minimal effect on customer loyalty, possibly because most leisure farms have already improved their environmental comfort, and thus, merely enhancing environmental satisfaction does not significantly affect customer loyalty.

### Robustness Test

When examining the relationship between customer loyalty, it is important not to overlook the factor of gender difference. Research by Najib and Majid (2021) and Cheong, Narayanan, and Fernandez (2022) further indicates that gender difference significantly impacts educational attainment. This suggests that gender and educational level may influence the impact of service innovation on customer loyalty.

Studies by Korgaonkar et al. (1985) found that female consumers exhibited stronger repeat purchasing behavior compared to males, suggesting that women may be more proactive in terms of customer loyalty. Gentry et al. (1978) observed differences between male and female customers in their perceptions and preferences for products and leisure activities. These differences could affect their responses to service innovations and, consequently, their loyalty. Furthermore, Fournier (1998) noted that women have a closer connection to interpersonal and brand relationships than men, implying that enhancing interpersonal interactions and brand connections in service innovations might be more effective in boosting loyalty among female customers.

Table 6 Impact of service innovation and leisure satisfaction on customer loyalty - effect of gender

Panel A Male						
Variable	Estimate	t	Estimate	t		
Constant	0.533	**	2.51	0.486	**	2.35
Service Innovation	0.332	***	2.68	0.325	***	2.63
Leisure Activity Satisfaction	0.215	**	1.81	0.361	**	1.76
Environment Satisfaction	0.074		0.75	0.061		0.62
Age	0.421	***	3.45			
Education				0.315	***	2.26
Adj. Rsq	0.235			0.272		
N	151			151		
Panel B Female						
Variable	Estimate	t	Estimate	t		
Constant	0.636	***	3.32	0.642	***	3.13
Service Innovation	0.246	***	2.26	0.336	***	2.96
Leisure Activity Satisfaction	0.311	***	2.73	0.375	***	3.52
Environment Satisfaction	0.051		1.02	0.061		0.86
Age	0.322	***	3.45			
Education				0.293	***	3.71
Adj. Rsq	0.381			0.332		
N	215			215		

**Note:** This table examines the effect of innovation and satisfaction on customer loyalty. All variables except Age and Education are the values after the rotation axis of the principal component method of the factor analysis on the data collected from the questionnaire. Adj. Rsq is adjusted R-square, N is the sample size. \*, \*\* and \*\*\* denote statistical significance at 10%, 5% and 1% levels respectively.

Based on the above research, this study further explored whether gender influences the relationship between service innovation and consumer satisfaction on customer loyalty. The data were first divided into two groups based on gender, and the regression equation was re-estimated. The results are presented separately in Panel A (male) and Panel B (female) of Table 6. The results show a positive correlation between service innovation and customer loyalty at a 1% significance level. This finding is consistent with the results in Table 5, further supporting the argument that service innovation positively impacts customer loyalty, and this impact is significant across genders. Additionally, leisure activity satisfaction still positively affects customer loyalty, but environmental satisfaction has a negligible impact on customer loyalty, similar to the estimation results in Table 5. Therefore, leisure activity satisfaction has a more significant impact on increasing customer loyalty compared to environmental satisfaction. Gender differences do not significantly impact the effect of service innovation or consumer satisfaction on customer loyalty, and the results in Table 6 still support the main argument of this paper.

## **DISCUSSION**

Our results demonstrate that service innovation is a significant predictor of customer loyalty. This is consistent with the literature suggesting that innovative services can fulfill contemporary consumers' desires for novel and personalized experiences (Hjalager, 2010). Service innovation in leisure farms often entails developing unique themes, enhancing service delivery, and introducing novel activities that resonate with the evolving preferences of consumers. This finding underscores the necessity for leisure farms to maintain a proactive approach to innovation—not merely replicating existing offerings but continuously seeking ways to innovate in alignment with market trends and customer expectations. This strategic focus can be pivotal in differentiating a leisure farm from competitors in a crowded market. Furthermore, our analysis reveals an intriguing distinction between the types of leisure satisfaction and their impacts on loyalty. While leisure activity satisfaction significantly influences customer loyalty, suggesting that the quality of activities provided is pivotal, environmental satisfaction does not show a notable effect. This indicates that investments in leisure farms should prioritize enhancing the quality and variety of activities over merely upgrading physical infrastructures or environmental aesthetics. The implication for leisure farm operators is clear: focus on enriching customer experiences with engaging activities that have the potential to transform first-time visitors into loyal patrons. These insights carry direct



implications for both marketing and operational strategies in leisure farms. Marketing efforts should emphasize the innovative aspects of services, particularly those that cater to unique customer interests and preferences. Operationally, the focus should remain on delivering high-quality leisure experiences that consistently meet or exceed expectations. Given that our study found environmental satisfaction to be less impactful on loyalty, it suggests that leisure farms might benefit more from promoting their unique activities rather than their environmental features, guiding strategic decisions in resource allocation and service development.

## CONCLUSION

This study, through literature review and survey analysis, investigated the interrelationships among service innovation, leisure satisfaction, and customer loyalty, and analyzed the impact of satisfaction with leisure activities and environmental facilities on customer loyalty. The findings revealed that both service innovation and leisure satisfaction significantly positively affect customer loyalty. Service innovation enhances loyalty by offering unique leisure experiences and meeting customers' desires for novelty. High satisfaction with leisure activities directly boosts customers' positive evaluations and emotional connections to the leisure farm, thereby increasing the likelihood of repeat visits and recommendations to others. However, the study also found that the impact of satisfaction with environmental facilities on customer loyalty was not significant, indicating that even with excellent hardware facilities, customer loyalty is hard to significantly improve if leisure activities and services fail to meet customer expectations.

This study further divided leisure satisfaction into satisfaction with leisure activities and environmental facilities, reflecting the diversity and complexity of leisure experiences. Leisure Activity Satisfaction focuses on individuals' satisfaction with the experience and outcomes of specific activities, while Environmental Facility Satisfaction concentrates on the impact of the physical environment and facilities on individuals' leisure experiences. This categorization helps to more accurately assess the quality of leisure experiences and provides guidance for the management and improvement of leisure venues.

In summary, this study not only provides empirical analysis on the impact of service innovation and customer satisfaction on loyalty in leisure farms but also offers specific directions for service improvement for leisure farm operators. To enhance customer loyalty, leisure farms should focus on service innovation, providing unique and diverse leisure

experiences, while paying attention to customer satisfaction, especially regarding leisure activities. Furthermore, although the direct impact of environmental facilities on customer loyalty is not significant, leisure farms should still maintain good hardware facilities to provide a comfortable and safe leisure environment for customers. Through continuous innovation and enhancement of service quality, leisure farms can stand out in the competitive market and attract and retain loyal customers.

### ***Contribution***

This study contributes to the following: Firstly, it enhances the understanding of service innovation in the leisure industry, aiding operators in grasping the significance of service innovation in boosting customer satisfaction and loyalty, thereby fostering the sustained development and competitive edge of the leisure farm industry. Secondly, the study aids in comprehending the mechanism of satisfaction's impact on customer loyalty. It not only reveals the correlation between leisure satisfaction and customer loyalty but also delves into the specific effects of leisure activity satisfaction and environmental facility satisfaction on loyalty. This contribution underscores the pivotal role of improving the quality of leisure experiences in cultivating customer loyalty, providing targeted service improvement directions for leisure farms and related leisure operators to more effectively meet customer needs and enhance positive emotions and loyalty towards the brand.

### ***Limitations and Future Research***

This study, while providing valuable insights into the factors influencing customer loyalty in leisure farms, presents several limitations that pave the way for future research. Firstly, the geographic scope of this study is confined to the Taoyuan area, which may limit the generalizability of the findings. Different cultural or regional contexts might exhibit varied customer expectations and experiences, suggesting a need for similar studies across diverse geographical settings to verify and refine our understanding of how service innovation and leisure satisfaction impact customer loyalty globally.

Additionally, the study's cross-sectional design captures the impact of service innovation and leisure satisfaction at a single point in time. Customer preferences and market conditions evolve, thus longitudinal studies could provide a more dynamic view of how these factors influence customer loyalty over extended periods. Such research would allow for the observation of trends and changes in consumer behavior, offering deeper insights into the long-term effects of service innovations and satisfaction initiatives.

Future research could also benefit from incorporating a broader range of variables, such as the impact of digital technology on customer engagement and loyalty in leisure farms. With the rapid advancement of digital platforms and their integration into marketing and customer service strategies, understanding their role could provide critical insights into new ways to enhance customer loyalty in this sector.

## REFERENCES

- Aaker, D. A., & Equity, M. B. (1991). Capitalizing on the value of a brand name. *New York*, 28(1), 35-37.
- Al-Dmour, R., Alkhatib, O. H., Al-Dmour, H., & Basheer Amin, E. (2023). The influence of social marketing drives on brand loyalty via the customer satisfaction as a mediating factor in travel and tourism offices. *SAGE Open*, 13(2), 21582440231181433.
- Anderson, E. W., & Sullivan, M. W. (1993). The antecedents and consequences of customer satisfaction for firms. *Marketing Science*, 12(2), 125-143.
- Backman, S. J., & Crompton, J. L. (1991). The usefulness of selected variables for predicting activity loyalty. *Leisure Sciences*, 13(3), 205-220.
- Beard, J. G., & Ragheb, M. G. (1980). Measuring leisure satisfaction. *Journal of Leisure Research*, 12(1), 20-33.
- Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12-40.
- Betz, F. (2003). Managing technological innovation: Competitive advantage from change. *John Wiley & Sons*.
- Chen, C. F., & Chen, F. S. (2010). Experience quality, perceived value, satisfaction, and behavioral intentions for heritage tourists. *Tourism Management*, 31(1), 29-35.
- Cheng, Y. E., Cheah, Y. Y., Jimenez, D. V. R., Chen, Y., & Chen, Y. (2024). The linked factor of customer satisfaction and loyalty in F&B Industry: A study of operational performance factor. *International Journal of Tourism and Hospitality in Asia Pasific*, 7(1), 31-44.
- Cheong, J. Q., Narayanan, S., & Fernandez, J. L. (2022). Re-examining gender earning differentials in Malaysian manufacturing. *Asian Economic Papers*, 21(1), 64-91.
- Cheunkamon, E., Jomnonkwao, S., & Ratanavaraha, V. (2022). Impacts of tourist loyalty on service providers: Examining the role of the service quality of tourism supply chains, tourism logistics, commitment, satisfaction, and trust. *Journal of Quality Assurance in Hospitality & Tourism*, 23(6), 1397-1429.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297-334.
- Dick, A. S., & Basu, K. (1994). Customer loyalty: Toward an integrated conceptual framework. *Journal of the Academy of Marketing Science*, 22(2), 99-113.
- Drake, C., Gwynne, A., & Waite, N. (1998). Barclays Life Customer Satisfaction and Loyalty Tracking Survey: A demonstration of customer loyalty research in practice. *International Journal of Bank Marketing*, 16(7), 287-292.
- Drucker, P. F. (1986). *Innovation and entrepreneurship: Practice and principles*. New York: Simon and Schuster.
- Fournier, S. (1998). Consumers and their brands: Developing relationship theory in consumer research. *Journal of Consumer Research*, 24(4), 343-373.

- Gentry, J. W., Doering, M., & O'Brien, T. V. (1978). Masculinity and femininity factors in product perception and self-image. In *ACR North American Advances [Proceedings of the Association for Consumer Research North American Conference]*.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). *Multivariate data analysis with readings* (3rd ed.). Prentice-Hall Press.
- Hjalager, A. M. (2010). A review of innovation research in tourism. *Tourism management, 31*(1), 1-12.
- Hsu, C. H., Cai, L. A., & Wong, K. K. (2007). A model of senior tourism motivations—Anecdotes from Beijing and Shanghai. *Tourism management, 28*(5), 1262-1273.
- Iso-Ahola, S. E. (1982). Toward a social psychological theory of tourism motivation: A rejoinder. *Annals of Tourism Research, 9*(2), 256-262.
- Jang, S. S., & Ham, S. (2009). A double-hurdle analysis of travel expenditure: Baby boomer seniors versus older seniors. *Tourism management, 30*(3), 372-380.
- Janszen, F. (2000). *The age of innovation: Making business creativity a competence, not a coincidence* (Financial Times Management). Prentice Hall.
- Kaiser, H. F. (1970). A second generation "Little Jiffy." *Psychometrika, 35*(4), 401-415.
- Kandampully, J., Zhang, T. C., & Bilgihan, A. (2015). Customer loyalty: a review and future directions with a special focus on the hospitality industry. *International Journal of Contemporary Hospitality Management, 27*(3), 379-414.
- Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing, 57*(1), 1-22.
- Korgaonkar, P. K., Lund, D., & Price, B. (1985). A structural equations approach toward examination of store attitude and store patronage behavior. *Journal of Retailing, 61*(3), 82-100.
- Kozak, M. (2001). Repeaters' behavior at two distinct destinations. *Annals of Tourism Research, 28*(3), 784-807.
- Li, X., Li, X. R., & Hudson, S. (2013). The application of generational theory to tourism consumer behavior: An American perspective. *Tourism Management, 37*, 147-164.
- Mannell, R. C., & Iso-Ahola, S. E. (1987). Psychological nature of leisure and tourism experience. *Annals of Tourism Research, 14*(3), 314-331.
- Mittal, V., & Kamakura, W. A. (2001). Satisfaction, repurchase intent, and repurchase behavior: Investigating the moderating effect of customer characteristics. *Journal of Marketing Research, 38*(1), 131-142.
- Mumford, M. D., & Gustafson, S. B. (1988). Creativity syndrome: Integration, application, and innovation. *Psychological Bulletin, 103*(1), 27.
- Najib, N. I. M., & Majid, N. (2021). Analysis of gender income gap in Malaysia. *Journal of Quality Measurement and Analysis JQMA, 17*(1), 49-59.
- Nwachukwu, C., & Vu, H. M. (2022). Service innovation, marketing innovation and customer satisfaction: Moderating role of competitive intensity. *Sage Open, 12*(2), 21582440221082146.
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research, 17*(4), 460-469.
- Oliver, R. L. (1997). *Satisfaction: A behavior perspective on the consumer* (2nd ed.). McGraw-Hill.
- Oliver, R. L. (1999). Whence consumer loyalty?. *Journal of Marketing, 63*, 33-44.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *The Journal of Marketing, 49*(1), 41-50.
- Poretti, C., Weisskopf, J. P., & de Régie, P. D. V. (2024). Innovative business strategies, [www.ijbms.org](http://www.ijbms.org)

- corporate performance, and firm value in the travel and leisure industry. *International Journal of Hospitality Management*, 118, 103683.
- Poria, Y., Butler, R., & Airey, D. (2004). Links between tourists, heritage, and reasons for visiting heritage sites. *Journal of Travel Research*, 43(1), 19-28.
- Szymanski, D. M., & Henard, D. H. (2001). Customer satisfaction: A meta-analysis of the empirical evidence. *Journal of the Academy of Marketing Science*, 29(1), 16-35.
- Tian-Cole, S., & Crompton, J. (2003). A conceptualization of the relationships between service quality and visitor satisfaction, and their links to destination selection. *Leisure studies*, 22(1), 65-80.
- Tinsley, H. E., & Tinsley, D. J. (1986). A theory of the attributes, benefits, and causes of leisure experience. *Leisure Sciences*, 8(1), 1-45.
- Wakefield, K. L., & Blodgett, J. G. (1996). The effect of the servicescape on customers' behavioral intentions in leisure service settings. *Journal of services marketing*, 10(6), 45-61.
- Wang, X., Wang, L., Niu, T., & Song, M. (2022). An empirical study on the satisfaction of rural leisure tourism tourists based on IPA method. *Computational Intelligence and Neuroscience*, 2022.
- Webster, C., & Sundaram, D. S. (1998). Service consumption criticality in failure recovery. *Journal of Business Research*, 41(2), 153-159.
- YuSheng, K., & Ibrahim, M. (2019). Service innovation, service delivery and customer satisfaction and loyalty in the banking sector of Ghana. *International Journal of Bank Marketing*, 37(5), 1215-1233.
- Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *The Journal of Marketing*, 60(3), 31-46.
- Zhang, Y. (2015). The impact of brand image on consumer behavior: A literature review. *Open Journal of Business and Management*, 3(1), 58-62.

#### APPENDIX

The questions of the questionnaire.

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##### **Service Innovation**

- A1. I believe that leisure farms are better at meeting tourists' needs or following market trends than their competitors.
- A2. I believe that the themes displayed by leisure farms are unique compared to other farms.
- A3. I believe that leisure farms are capable of innovating their service offerings and methods.
- A4. I believe that leisure farm operators demonstrate the ability to innovate services.
- A5. I believe that leisure farms can add services based on tourists' needs.
- A6. I believe that leisure farms can provide a variety of services to tourists.
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##### **Leisure Activity Satisfaction**

- B1. I believe that participating in leisure activities can provide a sense of achievement.
- B2. I believe that participating in leisure activities can bring me closer to nature.
- B3. I believe that participating in leisure activities can offer spiritual fulfillment.
- B4. I believe that participating in leisure activities can help me obtain a peaceful moment.
- B5. I believe that participating in leisure activities can temporarily escape from a busy life.
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##### **Environment Satisfaction**

- B6. I am satisfied with the convenience of parking for leisure activities.
- B7. I am satisfied with the beautiful scenery of leisure activities.
- B8. I am satisfied with the spaciousness of the leisure activities area.
- B9. I am satisfied with the cleanliness of the leisure activities environment.

B10. I am satisfied with the reasonable charges for leisure activities.

**Customer Loyalty**

C1. I will promote the advantages of the leisure park.

C2. I will affirm the quality of consumption within the leisure park.

C3. After the experience, I think the leisure park is worth recommending to others.

C4. I will actively recommend the leisure park to friends and relatives.

C5. I will actively recommend the leisure park to colleagues.

C6. When choosing a leisure park, I will give priority to this place.