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Competitive Advantage in Thai Accommodation Businesses: The Integrative Role of Customer Relationship Management, Service Innovation, and Service Quality

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Abstract

In the increasingly competitive tourism and hospitality industry, accommodation businesses need effective strategies to sustain competitive advantage. This study examines the roles of customer relationship management (CRM), service innovation, and service quality in enhancing competitive advantage among Thai accommodation businesses.

A quantitative research design was employed using a survey of 380 top executives from three- to five-star hotels in Thailand. The data were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM) to examine the direct and indirect relationships among CRM, service innovation, service quality, and competitive advantage.

The findings revealed that CRM and service innovation played important roles in strengthening competitive advantage. However, service quality was not found to exert a significant direct influence on competitive advantage, and only a limited mediating effect was observed. These results suggest that CRM and service innovation remain the primary strategic drivers of competitiveness in accommodation businesses.

By putting CRM, service innovation, and service quality under the umbrella of one model, this study contributes to our understanding of competitive advantage in accommodation businesses. The findings for practitioners are very clear that CRM-based business strategies and service innovation can enhance competitive advantage in the long term.

Keywords: Customer relationship management, Service innovation, Service quality, Competitive advantage, Accommodation business

Introduction

The present global economy is increasingly being defined as a service-based economy, attributable to the rising significance and proportion of the service sector within the economic systems of both developed and developing countries. Thailand is also following the same trend, particularly in the hotel business. In 2025, it is projected that the hotel industry overall will continue to grow, driven by the recovery of the global economy, resulting in an increase in international tourists visiting Thailand. Complementing this trend, the Thai government is expected to sustain stimulus measures aimed at attracting a higher volume of global travelers to the country (Sirivadhanawaravachara, 2024). As a result, the hotel business is attracting attention from both existing operators who are expanding their hotel chains and new entrants joining the market on a continual basis, resulting in intensifying competition among hotel businesses (Suder, 2025). Therefore, hotel operators must develop effective marketing strategies and management tools that emphasize service- oriented marketing.

Given the highly competitive market conditions, it has become essential for businesses to develop strategies that enable them to survive and truly understand and fulfil the needs of tourists (Nguyen Dang Hat et al., 2025). The foundation of competitive advantage thus arises from establishing strong relationships with customers, allowing customers to

clearly communicate their actual needs to the business. Businesses can then effectively gather these needs and use them as operational objectives to ensure that they can genuinely respond to customer demands, as well as create customer satisfaction, which is a crucial factor for business success. This approach is known as Customer Relationship Management (CRM), a marketing strategy focused on " retaining existing customer base" and fostering customer loyalty toward the business' s products and services (Al-Kharabsheh et al., 2024).

Over the past 20 years, service innovation has advanced significantly, particularly due to technological progress. This service innovation has shaped the way customers search for information, make purchases, use services, and evaluate their experiences post-purchase (So et al., 2023). This is considered another important strategy for creating differentiation in the hotel industry. Service innovation typically involves conceiving, creating, developing, and improving new service formats and processes to meet the ever-changing customer demands, based on the need for higher quality services. Companies that focus on creating and implementing innovation in their services will influence the company's performance (Thongkerd, 2022). Service businesses do not offer tangible products; the quality of service cannot be perceived through the senses. Service quality is one factor that creates business differentiation and enables a business to surpass its competitors. In the current world, constant and rapid changes are occurring, and similarly, the level of competition in the service industry is continuously increasing.

Based on the above-mentioned background information, the researchers have studied the causal relationships among customer relationship management, service innovation, and service quality that influence the competitive advantage of accommodation businesses in Thailand. The findings of this research can serve as a guideline for executives and hotel operators to develop their approaches to customer relationship management, service innovation, and service quality, all of which have positive effects on the competitive advantage of accommodation businesses in Thailand. These can inform the formulation of business strategies and the continuous development of the accommodation sector, enabling businesses to compete effectively in a rapidly changing marketplace. The objectives of this research were 1) to analyze the structural relationships among customer relationship management, service innovation, service quality, and competitive advantage; and 2) to study the direct effects of customer relationship management, service innovation, and service quality on the competitive advantage of accommodation businesses in Thailand.

Literature review and hypothesis development

Customer relationship management

Customer Relationship Management (CRM) is a strategic approach that integrates people, processes, and technology to establish, maintain, and enhance long-term customer relationships (Payne & Frow, 2005). CRM aims to increase customer satisfaction, loyalty, and repeat purchases through personalized marketing activities and customer-focused services (Kotler, 2000). In the hospitality industry, effective CRM enables organizations to better understand customer needs, strengthen customer retention, and create sustainable competitive advantage. Additionally, marketing programs, such as producing goods and services tailored to individual interests or providing information about marketing activities, can be utilized to build customer relationships and help create a competitive advantage. This is because CRM involves processes related to creating and improving the relationship between a company and its customers, including collecting customer data, analyzing behavior, managing interactions, providing personalized responses, and focusing on customer retention to enhance loyalty and refine the company-customer relationship (Suryaningsih, 2022). This is achieved through operational, analytical, and collaborative CRM components, which ultimately help improve customer retention and satisfaction (Subongkod & Hongsakul, 2024). This is at the heart of today's highly competitive accommodation business. Organizations must continuously generate satisfaction to build loyalty, retain existing customers, and simultaneously attract new ones.

According to the Resource-Based View (RBV), sustainable competitive advantage originates from valuable, rare, inimitable, and non-substitutable organizational resources (Barney, 1991). In the hospitality industry, Customer Relationship Management (CRM) can be considered a strategic capability that helps organizations develop valuable

customer knowledge and long- term customer relationships.

Studies show that Customer Relationship Management (CRM) directly influences the competitive advantage of accommodation businesses. By analyzing customer data, creating personalized experiences, enhancing marketing efforts, and improving service quality, CRM ultimately leads to higher customer satisfaction and loyalty (Balamurugan et al., 2025). Integrating technology with CRM processes increases the capability to analyze customer data and design suitable activities for target segments, resulting in long-term relationship retention and sustainable competitive advantage (Alqershi et al., 2020). Furthermore, effective CRM enables organizations to better understand customer expectations and improve service delivery, thereby enhancing service quality. Therefore, CRM is expected to positively influence both competitive advantage and service quality. This led to the formulation of Hypotheses 1 and 3.

H1: Customer Relationship Management has a direct influence on the competitive advantage of accommodation businesses in Thailand.

H3: Customer Relationship Management has a direct influence on the service quality of accommodation businesses in Thailand.

Service innovation

Service innovation plays a vital role in enhancing the competitiveness of accommodation businesses. It involves initiating or improving services to meet diverse customer needs (Singh et al., 2024). Designing service innovation is a key organizational capability for long-term customer retention, efficiency improvement, reputation enhancement, and achieving sustainable competitive advantage (Hanaysha et al., 2022). Accommodation businesses, as part of the service industry, offer both tangible and intangible products. In this study, service innovation encompasses innovations in service concepts, service delivery systems, operational processes, and technology-enabled customer experiences, consistent with the multidimensional perspective proposed by Den Hertog (2000). Therefore, service design should be based on customer perspectives and experiences to create innovations that effectively meet customer demands. Additionally, accommodation businesses can leverage digital technology to increase operational efficiency and enhance service delivery (Opazo-Basáez et al., 2022).

The concept of service innovation can be categorized into several forms: 1) Product Innovations focus on developing or improving products and facilities within the hotel. 2) Process Innovations focus on enhancing operational efficiency and reducing costs (Vila et al., 2012). 3) Marketing Innovation involves adopting new or differentiated marketing methods and strategies compared to traditional approaches. Organizations that invest in marketing innovation are therefore likely to lead in competition against rivals (Jaroensuk, 2022). 4. Management Innovations involve improving management processes and new practices to increase organizational efficiency, emphasizing employee empowerment, and using inspirational strategies to foster engagement. For hotels, the focus should be on developing personnel quality through training and promoting a commitment to quality to drive innovation and cope with change (Al-Sabi et al., 2023).

Service innovation is a critical factor for achieving success in the service industry. This is accomplished through developing new products and management methods, as well as improving all aspects to enhance customer satisfaction and boost organizational reputation, ultimately leading to a competitive advantage (Alkhatib & Valeri, 2022). Furthermore, service innovation influences the quality of service provided by accommodation businesses. Customer behavior often responds positively to improvements in organizational image, the introduction of new products or services, adjustments based on feedback, and complaint management. Specifically, managing customer expectations and responding to feedback to strengthen the organizational image are vital for the sustainability of service businesses (Truong et al., 2020). Moreover, investing in new technology can also enhance the customer experience. From the customer's perspective, high- quality service innovation differentiates a business from others, positively affecting customer perception of the organization's reputation and image. This ultimately drives acceptance and loyalty (Dayat et al., 2023), leading to positive word-of-mouth and sharing of service experiences with friends and family (Lee et al., 2022). Therefore, organizations should support aligning their operational planning for service innovation and service quality. This

leads to improved operational efficiency, increased satisfaction, loyalty, and both direct and indirect behavioral intentions. This led to the formulation of Hypotheses 2 and 4:

H2: Service innovation has a direct influence on the competitive advantage of accommodation businesses in Thailand.

H4: Service innovation has a direct influence on the service quality of accommodation businesses in Thailand.

Service quality

Service quality is considered the cornerstone of customer satisfaction and loyalty. Customers evaluate service quality based on both the service process and the outcomes they receive, comparing them against their initial expectations (Zeithaml & Parasuraman, 2004). The SERVQUAL model, comprising five dimensions, 1) Tangibles, 2) Reliability,

3) Responsiveness, 4) Empathy, and 5) Assurance is widely recognized as a comprehensive tool for reflecting service quality and is extensively used to assess service quality in the accommodation business. Additionally, customers evaluate service quality based on their actual experience, comparing it to services from other organizations. They are impressed when they receive responses that exceed their expectations, especially through quality interactions between employees and customers (Bitner & Hubbert, 1994). This aligns with the findings of Anas (2024), who indicated that attentiveness to customer needs is the most influential factor in satisfaction and helps build long-term brand loyalty. Similarly, Fatima et al. (2021) found that hotels consistently providing reliable service and building trust gain repeat business from customers and receive better reviews.

Additionally, it's been found that cultural factors significantly influence tourist experiences, indicating that attributes like friendliness, understanding of cultural contexts, and the attentiveness of accommodation staff can positively or negatively impact tourists' overall perception of service quality. Meanwhile, Anwar and Abdullah (2021) emphasized that using the SERVQUAL model as a tool for assessment and strategic planning enables hotel managers to identify weaknesses and effectively develop services that align with customer needs. Service quality helps build trust and satisfaction, leading to customer loyalty and repeat business, as well as enhancing the organizational image. High service quality fosters positive experiences, resulting in customer retention and increased competitive advantage (Putri & Kristiningsih, 2024). However, Wu et al. (2021) pointed out that while quality service helps satisfy customers, it also creates a perception of unique brand value, leading to customer loyalty and a tendency for repeat business. Nevertheless, customer loyalty only occurs when service quality consistently meets expectations and creates experiences that exceed them.

Studies show that accommodation businesses continuously enhancing service quality not only promote customer satisfaction and loyalty but also build strengths that contribute to competitive advantage in terms of brand image, customer retention, and sustainable business value. This led to the formulation of Hypothesis 5:

H5: Service quality has a direct influence on the competitive advantage of accommodation businesses in Thailand.

Competitive advantage

Competitive advantage refers to an organization's capability to achieve superior performance relative to its competitors in terms of efficiency, profitability, market position, and brand reputation. According to Barney and Clark (2007), competitive advantage is derived from valuable, rare, inimitable, and non- substitutable organizational resources and capabilities. This perspective is consistent with Porter and Millar (1985), who argued that sustainable competitive advantage arises from strategic positioning that enables organizations to differentiate their products or services or achieve superior cost efficiency. In the accommodation industry, competitive advantage reflects a firm's capability to attract and retain customers, deliver superior service experiences, and sustain long-term business performance.

Cost advantage is a crucial component of competitive advantage. It helps organizations optimize costs and enhance operational efficiency, enabling them to offer competitive pricing while maintaining quality, which is essential for success in the accommodation business (Jerab & Mabrouk, 2023). Price advantage is another key element that attracts customers, especially

in highly price-sensitive markets (Eyasu & Arefayne, 2020). Quality advantage of products and services refers to the ability to deliver high-quality, innovative products or services that continuously meet changing customer needs (Mahdi & Nassar, 2021). Meanwhile, Responsiveness advantage means providing swift, timely service and effectively resolving customer issues (Riyadi & Munizu, 2022). Financial capability is a component that supports investment in technology and the development of new services, providing organizations with operational flexibility and expanding business growth opportunities (Yi et al., 2022). Finally, human resource advantage is a vital factor enabling organizations to compete sustainably, especially in highly competitive industries. Organizations that can attract, develop, and retain high-potential employees gain an advantage in delivering services that exceed customer expectations. This stems from employees possessing knowledge, skills, motivation, and values aligned with the organizational vision, leading to tangible overall success (Aprinawati et al., 2024).

Conceptual framework

Research Conceptual Framework - the researcher conducted an analysis and synthesis of relevant theories, concepts, and previous research, and subsequently identified four causal factors as presented in Figure 1.

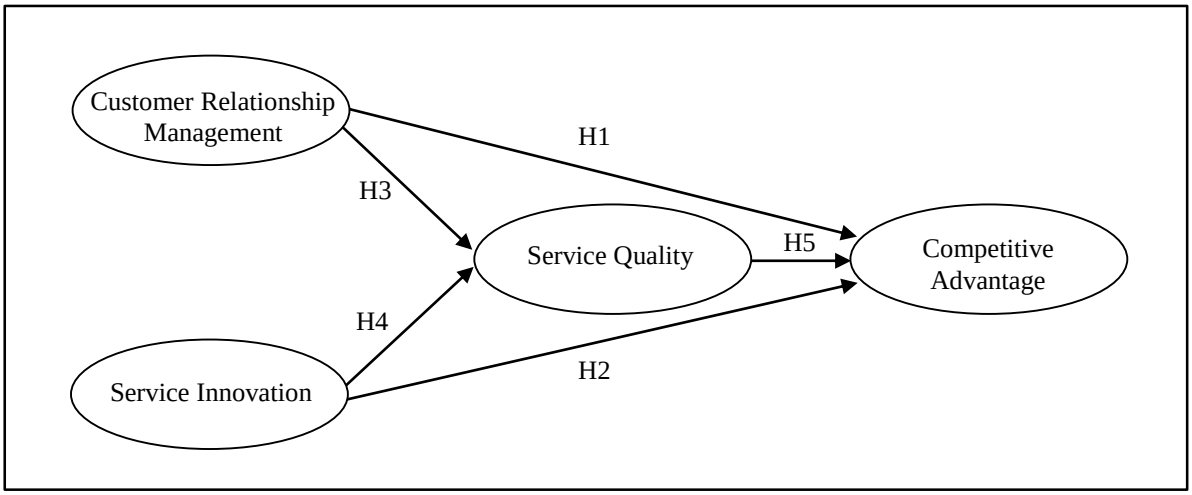


Figure 1 Conceptual framework and research hypotheses

Method

Respondents

Population and sample

To determine an appropriate sample size, the study referenced the guideline suggested by Wiratchai (1999), which recommends that the number of sample units should exceed the number of manifest variables by approximately 10-20 times. Given that this research includes 19 manifest variables, the sample size was set at 190-380 respondents. The sample was selected using purposive sampling, comprising executives at the managerial level or above from 271 certified 3-5 star hotels and resorts in Thailand. A total of 380 completed questionnaires were obtained for analysis, as some establishments provided responses from more than one executive. Therefore, the unit of analysis was the managerial respondent.

Instruments

The data collection instrument used in this research was an online questionnaire developed through a comprehensive review of relevant literature and previous studies. The questionnaire was structured into six main sections as follows:

1) demographic information of the respondents; 2) information on the characteristics and service provisions of the hotel/resort businesses; 3) opinions regarding factors of customer relationship management; 4) opinions regarding service innovation; 5) opinions regarding service quality; and 6) opinions regarding competitive advantage.

The aforementioned instrument underwent content validity assessment by experts in the fields of marketing and service business. The reliability of the questionnaire was evaluated using Cronbach's Alpha coefficient. The analysis yielded a value of 0.821, which is considered reliable (Hair et al., 2017) , indicating that the questionnaire possessed sufficient internal consistency for quantitative research. The process for developing the questionnaire used in this research is presented in Table 1.

Table 1 Measurement items

	Measurement items	References
CRM	**Customer relationship management**	Mariam (2023);
CRM1	The hotel has communication channels through online platforms with customers.	Khalaf et al. (2025)
CRM2	The hotel analyzes customer behavior to improve services.	
CRM3	The hotel offers loyalty programs or special promotions for member customers.	
CRM4	The hotel values customer feedback and uses it to improve services.	
CRM5	The hotel has approaches to encourage repeat business from existing customers.	
SVI	**Service innovation**	Harif et al. (2022);
SVI1	The hotel has continuous plans for developing or improving products and services.	Kim and Han (2022)
SVI2	The hotel has a concept of utilizing technology to improve operational processes.	
SVI3	The hotel uses technology in its marketing strategies.	
SVI4	The hotel offers special services or promotions during seasons or special occasions to attract customers.	
SVQ	**Service quality**	Perdomo et al. (2024);
SVQ1	The hotel has clear policies for controlling the quality of guest rooms, facilities, and various services.	Wang (2025)
SVQ2	The hotel demonstrates flexibility in service delivery based on market changes and customer demands.	
SVQ3	The hotel manages customer complaints and issues quickly and efficiently.	
SVQ4	The hotel controls service quality and strictly maintains the confidentiality and security of customer data.	
SVQ5	The hotel provides continuous employee training to enhance service quality.	
CA	**Competitive advantage**	Fang and Partovi
CA1	The hotel manages business costs effectively, such as wages, maintenance expenses, and food and beverage costs.	(2022); El-Said et al. (2024)
CA2	The hotel continuously improves services or adds facilities to surpass competitors.	
CA3	The hotel has measures to handle emergencies and respond quickly to situations.	
CA4	The hotel uses technology or innovation to enhance efficiency and competitiveness.	
CA5	The hotel manages and improves its financial structure to create long-term advantages.	

Data analysis

The data obtained from the questionnaires were analyzed using the Partial Least Squares Structural Equation Modeling (PLS-SEM) technique via SmartPLS software. This technique is suitable for complex models with numerous latent variables and does not require provisions of normal distribution (Sarstedt et al., 2021).

The analysis comprised two main steps: 1) Evaluation of the measurement model, which assessed the validity and reliability of the latent variables using factor loadings, Composite Reliability (CR) values, and Average Variance Extracted (AVE) values. Moreover, Discriminant Validity was also examined, which is important for confirming that each latent variable can be clearly distinguished from others, utilizing the Fornell-Larcker Criterion. And 2) Evaluation of the structural model, which was used to test the relationships between the latent variables according to the research hypotheses. This step considered the direct and indirect Path Coefficients, along with p-values obtained through a Bootstrapping method with at least 5,000 iterations to

test the significance of each path. The R^2 value was used to indicate the proportion of variance in the dependent variable that could be explained by the independent variables in the model, and Multicollinearity was checked using the Variance Inflation Factor (VIF).

Results

General information analysis

The demographic analysis of the 380 respondents revealed that the majority were female, accounting for 82.30% of the total. The highest proportion of respondents fell within the 30-39 age group, representing 33.50%. Regarding educational background, most held a bachelor's degree, making up 78.50%. In terms of job positions, employees in director or manager roles constituted the largest proportion at 75.50%. For the type of accommodation business operated by the respondents, the majority were hotels, at 81.50%. Lastly, concerning star ratings, 4-star and 5-star hotels had the highest proportions, at 40.30% and 33.50% respectively.

Structural model analysis

From the evaluation of the structural model's Internal Consistency Reliability, all latent variables, including Customer Relationship Management (CRM), Service Innovation (SVI), Service Quality (SVQ), and Competitive Advantage (CA) had Composite Reliability (CR) and Cronbach's Alpha values exceeding the standard threshold of 0.70, as proposed by Hair et al. (2017). This indicates the internal consistency of the indicators within each construct and reflects a sufficient level of reliability to appropriately explain the latent variable concepts.

For Convergent Validity, the analysis revealed that the Average Variance Extracted (AVE) value for all latent variables was greater than 0.50, which is an acceptable criterion (Hair et al., 2017). This validates that the indicators sufficiently explained the variance of latent variables and clearly reflected the intended constructs.

In terms of Indicator Reliability, when considering the Outer Loading values, it was observed that all indicators had values greater than 0.70, indicating a strong relationship between the indicators and latent variables. Details are presented in Table 2.

Discriminant validity analysis using Fornell-Larcker criterion

Discriminant validity was analyzed using the Fornell-Larcker Criterion, which requires that the square root of the Average Variance Extracted (AVE) for each variable must be greater than its correlation coefficients with other variables. The analysis revealed that the square root of AVE for all variables was higher than their respective correlation coefficients. This indicates good distinctiveness and discriminant validity among the variables (Fornell & Larcker, 1981). Additionally, Multicollinearity among the independent variables was checked using the Variance Inflation Factor (VIF). The VIF values were below the established threshold (< 5), indicating no significant multicollinearity issues among the variables (Hair et al., 2017). Both of these steps confirmed the reliability and suitability of the variables for subsequent causal analysis, as presented in Table 3.

Hypothesis testing

This study employed the partial least squares structural equation modeling (PLS-SEM) approach. All five relevant hypotheses were tested. The test of Hypothesis H1 revealed that Customer Relationship Management (CRM) had a direct positive effect on competitive advantage, with a direct coefficient of 0.430 and statistical significance ($p < 0.001$). This reflects that organizations effectively managing customer relationships can utilize the gathered data, insights, and interactions as a foundation for designing strategies that better meet customer needs. This includes aspects such as customer retention, increased loyalty, and tailoring services to expectations. All factors are important, leading to an advantage over competitors. For Hypothesis H2, it was found that Service Innovation (SVI) had a direct positive effect on Competitive Advantage (CA) ($\beta = 0.240$, $p < 0.001$). These insights underscore that organizations capable of adopting new technologies or innovative concepts into their service processes, such as designing new service products, adapting service methods, or enhancing user experience, can create superior differentiation and effectively strengthen their competitive potential in the accommodation business market. The test of Hypothesis

H3 indicated that Customer Relationship Management (CRM) had a significant positive effect on Service Quality (SVQ) ($\beta = 0.277$, $p < 0.001$).

In other words, a strong Customer Relationship Management (CRM) system not only helps manage customer relationships but also enables the improvement of service processes to better meet customer needs, ultimately leading to an increased perception of quality from the customer's perspective. For Hypothesis H4, it was clearly found that Service Innovation (SVI) had a positive effect on Service Quality (SVQ). Such a finding reveals that promoting innovation within an organization can significantly enhance the perceived service quality for customers, such as providing services that are fast, modern, user-friendly, and aligned with customer expectations in the digital age. However, Hypothesis H5, which proposed that Service Quality (SVQ) directly influenced Competitive Advantage (CA), did not find a statistically significant relationship. ($\beta = 0.041$, $p = 0.489$). This finding reflects that the perceived service quality (SVQ) alone might not be sufficient to create a competitive advantage in a highly competitive market. Therefore, organizations may need to integrate service quality with other strategies, such as customer relationship management or innovation development, to create clearer and more sustainable differentiation.

In summary, the overall interpretation of the hypothesis testing results showed that Customer Relationship Management (CRM) and Service Innovation (SVI) played crucial roles as direct mechanisms influencing Competitive Advantage (CA). While Service Quality (SVQ) was influenced by both CRM and SVI, it did not directly transform into competitive advantage (CA) within the context of Thailand's accommodation businesses. These findings supported the strategic recommendation that organizations should focus on both customer relationship management and innovation development concurrently to sustainably enhance their competitive potential as shown in Table 4 and Figure 2.

Table 2 Latent variable reliability and validity statistics

Manifest variables	Latent variables	Factor loading	Cronbach's alpha	Cr	Ave
Customer Relationship Management (CRM)	CRM1	0.718	0.845	0.847	0.619
	CRM2	0.805			
	CRM3	0.809			
	CRM4	0.820			
	CRM5	0.776			
Service Innovation (SVI)	SVI1	0.820	0.770	0.811	0.542
	SVI2	0.778			
	SVI3	0.782			
	SVI4	0.821			
Service Quality (SVQ)	SVQ1	0.738	0.830	0.836	0.605
	SVQ2	0.777			
	SVQ3	0.822			
	SVQ4	0.802			
	SVQ5	0.747			
Competitive Advantage (CA)	CA1	0.842	0.782	0.897	0.706
	CA2	0.857			
	CA3	0.851			
	CA4	0.831			
	CA5	0.821			

Table 3 Discriminant validity analysis

Construct	Fornell-Larcker				VIF
	CRM	SVI	SVQ	CA	
CRM	**0.840**				1.799
SVI	0.604	**0.787**			1.663
SVQ	0.537	0.625	**0.736**		1.772
CA	0.458	0.592	0.676	**0.778**	2.296

Note: CRM = Customer relationship management, SVI = Service innovation, SVQ = Service quality, CA = Competitive advantage.

Table 4 Hypothesis testing

Hypotheses		β	t-test	p-value	Result
H1	CRM → CA	0.430***	7.846	0.000	Supported
H2	SVI → CA	0.240***	3.777	0.000	Supported
H3	CRM → SVQ	0.277***	5.714	0.000	Supported
H4	SVI → SVQ	0.503***	10.415	0.000	Supported
H5	SVQ → CA	0.041 (ns)	0.669	0.489	Not Supported

Note: *** with statistical significance level of 0.01, (ns) = not significant, CRM = Customer Relationship Management, SVI = Service Innovation, SVQ = Service Quality, CA = Competitive Advantage

To provide an overview of the effects among variables in the structural equation model, this study analyzed the influence of independent variables on dependent variables in terms of Direct Effect, Indirect Effect, and Total Effect. This analysis reflects the explanatory power and the transmission of effects among variables within the model. Additionally, the coefficient of determination (R^2) for each dependent variable was reported. The results of the analysis are summarized in Table 5 and illustrated in Figure 2.

Table 5 Direct, indirect, and total effect coefficients from the PLS-SEM model

Independent variable	Dependent variable	DE	IE	TE
CRM	CA	0.430***	0.011 (via SVQ)	0.441
SVI	CA	0.240***	0.021 (via SVQ)	0.261
CRM	SVQ	0.277***	-	0.277
SVI	SVQ	0.503***	-	0.503
SVQ	CA	0.041 (ns)	-	-

Note: *** with statistical significance level of 0.01, (ns) = not significant, CRM = Customer Relationship Management, SVI = Service Innovation, SVQ = Service Quality, CA = Competitive Advantage, DE = Direct Effect, IE = Indirect Effect, TE = Total Effect.

Based on the table 5 above, the effects within the PLS-SEM model can be analyzed as follows:

For direct effects, Customer Relationship Management (CRM) had a direct, statistically significant impact on Competitive Advantage (CA) ($\beta = 0.430$, $p < 0.001$). Similarly, Service Innovation (SVI) also directly affected CA ($\beta = 0.240$, $p < 0.001$). Beyond these direct impacts, both CRM and SVI significantly influenced Service Quality (SVQ). These findings concur with the theoretical premise that both Customer

Relationship Management and Service Innovation play pivotal roles in enhancing service quality and competitiveness.

For indirect effects, while the direct path from Service Quality (SVQ) to Competitive Advantage (CA) was not statistically significant ($\beta = 0.041$, $p = 0.489$), when calculating indirect paths, CRM → SVQ → CA = 0.011 and SI → SVQ → CA = 0.021.

The indirect effects were very low and not statistically significant. These outcomes suggest that the paths from Customer Relationship Management or Service Innovation, mediated through Service Quality, to Competitive Advantage did not have a clear influence.

For total effects, when combining both direct and indirect effects, Customer Relationship Management had a total effect on Competitive Advantage of 0.441, and Service Innovation had a total effect on Competitive Advantage of 0.261. This confirms that both variables are important antecedents in creating an organization's competitive advantage, without necessarily requiring mediation through the Service Quality variable.

Moreover, the suitability of the model was also assessed based on the R^2 values of the dependent variables in the model. Hair et al. (2017) defined R^2 values as: R2 ≥ 0.25 = low, R2≥ 0.50 = moderate, R2≥ 075 = high. The results of the analysis are detailed below:

- R^2 of Service Quality = 0.504: This indicates that the independent variables, Customer Relationship Management and Service Innovation, could explain 50.4% of the variance in Service Quality. This is considered a moderate level, demonstrating the model's reliable ability to explain changes in perceived service quality.

- R^2 of Competitive Advantage = 0.408: This means that the variables Customer Relationship Management, Service Innovation, and Service Quality collectively could explain 40.8% of the variance in Competitive Advantage. This is considered a sufficient level in the context of social science research. Especially, this can be considered that competitive advantage is a variable influenced by diverse factors that might not have been included in the model.

These two R^2 values combined suggest that the model has a moderate ability to explain the behavior of the dependent variables. This particularly emphasizes that the factors of Customer Relationship Management and Service Innovation play a strategic role in promoting service quality and organizational competitive advantage.

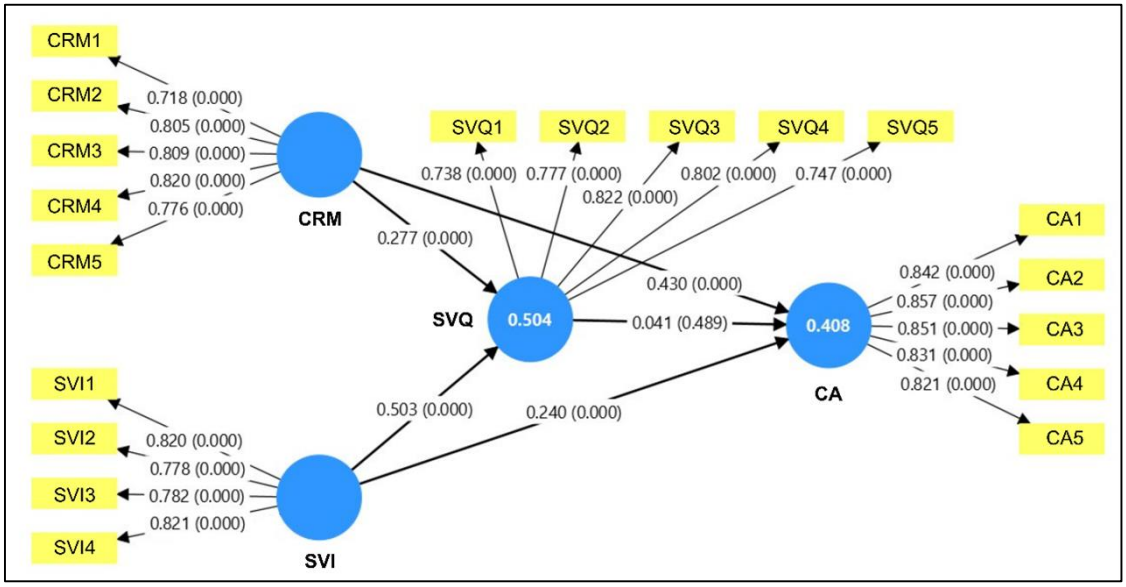


Figure 2 Model diagram for PLS-SEM path analysis

The model assessment indicates that the model explains a moderate proportion of variance in the dependent variables, with R^2 (SVQ) = 0.504 and R^2 (CA) = 0.408, consistent with recommended PLS-SEM

reporting practices in social science and service/ business research (Hair et al., 2019) . Considering effect sizes (Cohen's f2), the paths to SVQ show clear practical relevance: SVI→SVQ yields f2 = 0.328, interpreted as medium-to-high under Cohen's thresholds (0.02 = small, 0.15 = medium, 0.35 = large), and exceeds CRM→SVQ (f2 = 0.099), which is small to near-medium (Cohen, 1988; Hair et al., 2019). This suggests that service innovation (SVI) is a stronger lever for enhancing perceived service quality than customer relationship management (CRM). For CA, CRM→CA shows f2 = 0.189 (medium) and is the primary driver of competitive advantage, followed by SVI→CA with f2 = 0.050 (small), whereas SVQ→CA has f2 = 0.002 (negligible), consistent with its non-significant path coefficient— indicating that improvements in service quality alone do not directly translate into competitive advantage without integration with CRM strategies and/or service innovation (Hair et al., 2019; Cohen, 1988).

Regarding predictive relevance (Q^2) as cross-validated redundancy (Stone, 1974; Geisser, 1975), the extracted results from the blindfolded procedure indicated that Q^2 (SVQ) = 0.273 and Q^2 (CA) = 0.247 should be positive at least, revealing moderate predictive relevance for the two endogenous constructs.

The results are in keeping with the calculated R^2 values and the f^2 effect size patterns, both reports showing that Service Innovation (SVI) is a driver between Service Quality (SVQ), as well as Customer Relationship Management driving Competitive Advantage (CA), given the reality of services-tourism sector. The complete results are shown in Table 6.

Table 6 Effect Sizes (f^2) and Predictive Relevance (Q^2)

Dependent variable	Predictor	f^2	f^2 level	Q^2	Q^2 level
SVQ	CRM	0.099	Small–medium	-	-
SVQ	SVI	0.328	Medium–high	-	-
Overall, of SVQ	-	-	-	0.273	Moderate
CA	CRM	0.189	Medium	-	-
CA	SVI	0.050	Small	-	-
CA	SVQ	0.002	Negligible	-	-
Overall, of CA	-	-	-	0.247	Moderate

Note: CRM = Customer Relationship Management, SVI = Service Innovation, SVQ = Service Quality, CA = Competitive Advantage, f^2 thresholds: 0.02 = small, 0.15 = medium, 0.35 = large (Cohen, 1988; Hair et al., 2019).

Conclusion

The analysis identified customer relationship management and service innovation as the two strongest drivers of competitive advantage among Thai accommodation businesses. Both of these factors directly influenced an organization's long-term competitiveness. In terms of customer relationship management, organizations that systematically manage customer data, maintain positive interactions, and deeply understand customer needs can leverage this information to refine marketing strategies and service offerings that are more responsive. Examples include offering suitable promotions, providing personalized customer care, and building long-term loyalty. All these aspects enable organizations to gain an advantage in a highly competitive market. In parallel, service innovation plays a significant role in driving an organization's competitiveness. Organizations capable of initiating or improving new service models, adopting technology, or designing unique customer experiences that differentiate them from competitors can better respond to evolving consumer behavior. This also creates a modern image and enhances the appeal of their services, which are critical strengths for competing in the ever-changing tourism market. Notably, the data reveal that customer relationship management and service innovation both contributed to higher levels of perceived service quality. This implies that organizations with effective customer relationship management and those that integrate innovation into their services can clearly elevate the quality of the customer experience. This includes aspects such as

speed, convenience, user-friendliness, and access to services that cater to modern lifestyles.

However, this research found that even though perceived service quality increased as a result of customer relationship management and service innovation, service quality alone was not sufficient to create a true competitive advantage. Organizations need to systematically integrate service quality with other strategies, particularly in creating shared value with customers and developing strengths that are difficult for competitors to imitate.

Although this study was conducted in the context of Thai accommodation businesses, the proposed relationships among customer relationship management, service innovation, service quality, and competitive advantage are grounded in established management theories and may be applicable to other hospitality settings. Future research should validate the proposed model in different countries, cultural contexts, and service industries to enhance the generalizability of the findings.

Discussions

Hypothesis 1 (H1): Customer Relationship Management has a direct impact on the competitive advantage of accommodation businesses in Thailand. This hypothesis was proved empirically. Customer Relationship Management (CRM) is used to understand customer expectations and translate that information into actionable strategies and service practices in accommodation businesses. Then businesses will be able to boost customer satisfaction, loyalty, and repeat customers, hence creating competitive advantage. This is consistent with Kotler's (2000) view that CRM is more than a sales tool; it is a strategic strategy to retain existing customers, respond to customer preferences, and build long-term loyalty to sustain business. Recent study of Balamurugan et al. (2024) showed that technology and CRM integration allows companies to monitor customer data in real time, target marketing, and market well in advance to better understand customer behavior. Alqershi et al. (2020) also showed similar findings, highlighting the role of data management, behavioral analysis, and customer interaction within operational CRM, analytical CRM, and collaborative CRM as key to competitive advantage. In the resource-based sense, complete implementation of CRM may be viewed as a strategic organizational capability. Barney and Clark (2007) argued that sustainable competitive advantage is derived from resources that are valuable, rare, hard to copy, and non-substitutable. Customer information accrued through CRM systems has many of these characteristics as it is organization-specific and can be applied to different customer segments with a high level of accuracy. Such knowledge enables firms to understand customer preferences and behavior patterns, and the competitive advantage can be created, and this helps firms to compete at a level that is difficult for competitors to replicate. A similar concept is shared by Porter and Millar (1985), who argued that information is strategic and can help to position them for success on competitive advantage. Organizations can use CRM to generate customer insights and differentiate services and drive better competitive strategies through customer data and the information itself. CRM also contributes to operational efficiency by better utilizing marketing resources. For example, targeted promotional activities can remove marketing expenses and increase campaign effectiveness. The present finding also corresponds to the cost advantage perspective of Jerab and Mabrouk (2023), where they argue that in efficient cost management, companies can maintain aggressive pricing and quality of service. In a very competitive accommodation market, CRM can further reduce customer acquisition costs by increasing retention rates and the number of repeat customers. Eyasu and Arefayne (2020) also found that retaining existing customers is more cost-effective than acquiring new ones. There is more than just customer information management, and CRM is the third pillar of customer service in all research findings. CRM is a strategic asset that also serves as a customer retention, business efficiency, market responsiveness, and long-term competitiveness.

Hypothesis 2 (H2): Service innovation is an important factor in the competitive advantage of accommodation businesses in Thailand. The statistical evidence is very positive for this (and other) hypotheses. If accommodation companies are able to introduce innovative service models (e.g., digital service systems, contactless technology, new customer experience services), they can differentiate themselves from their competition and become competitive in the market. In

the hospitality industry, a constant development and implementation of new services is one of the key factors to success in the long run. Hanaysha et al. (2022) mentioned that service innovation plays an essential role in maintaining growth in rapidly changing service markets. Organizations that introduce new services are more likely to continue to retain customers, attract new market segments, and build up their reputation. These findings are further supported by Opazo-Basáez et al. (2022), who argued that today's service innovation is not just about technology adoption. Their work highlighted the need to create customer-oriented experiences by means of on-the-fly communication, personalized services, and data-driven decisions. These capabilities enable organizations to provide more value and develop better customer relationships in the long run. Alkhatib and Valeri (2022) also argued that unique and differentiated service innovations are critical for sustainable competitive advantage, especially in the hospitality industry where differentiation is important. The results can also be understood in terms of competitive advantage theory. Mahdi and Nassar (2021) suggested that quality advantage results when companies consistently provide new and high-quality services that respond to changing customer expectations. This is exactly what we found in our study and how service innovation contributed to the competitiveness of accommodation businesses. The other important element is responsiveness. Riyadi and Munizu (2022) said that customers are looking for speed, convenience, and effective problem solving. Service innovations like automated reservation systems, mobile applications, and instant communication tools enable organizations to respond to customer needs and service requests much better. Such innovations enhance operational agility and customer experience in the process. Taken together, these insights show that service innovation is the key to competitive advantage in multiple ways. It is not only technology that leads to improvement of service quality, responsiveness, operational efficiency, and customer value creation. These accommodation businesses that will be able to integrate innovation into the overall organizational model and drive long-term growth and strength in the marketplace are the ones that will be the most successful.

Hypothesis 3 (H3): Customer relationship management has a direct influence on the service quality of accommodation businesses in Thailand. The research findings significantly confirmed this hypothesis. Organizations with effective Customer Relationship Management (CRM) can leverage insights into customer behavior and needs to better design and develop services. This leads customers to perceive consistent, friendly, and expectation-meeting service standards. A similar explanation was proposed by Suryaningsih (2022), which explains that CRM plays a role in collecting and analyzing customer data to develop targeted strategies and efficiently design personalized services. Similarly, Al-Gasawneh et al. (2021) found that components of customer relationship management, such as communication, interaction, and customer data management, directly contributed to enhancing service quality. This was particularly true in creating personalized experiences and making customers feel valued. These research findings also align with Zeithaml and Parasuraman (2004)'s concept that service quality arises from a comparison between customer expectations and actual experiences. Customer Relationship Management (CRM) helps manage these expectations and deliver consistent service through positive employee-customer interactions. Bitner and Hubbert (1994) emphasized the importance of employee-customer interactions in perceived service quality, where CRM enables employees to access customer information in a timely manner and provide more attentive service. This is consistent with the findings of Anas (2024), who found that attentiveness to customer needs is a critical factor for satisfaction and loyalty. An effective customer relationship management system helps closely monitor and respond to customer needs. Besides, Fatima et al. (2021) stated that hotels providing reliable service and building trust tend to gain repeat business. Customer relationship management is a key tool for continuously enhancing trust and service quality. confirmed that developing service quality according to the SERVQUAL framework is a crucial strategy for building satisfaction and loyalty. Customer relationship management supports both data management and effective interaction, enabling accommodation businesses to continuously improve services to match customer needs and expectations. This

leads to higher perceived quality and success in a highly competitive market.

Hypothesis 4 (H4): Service innovation has a direct influence on the service quality of accommodation businesses in Thailand. The research findings significantly supported this hypothesis. Organizations that incorporate innovations, such as digital technology, contactless services, or personalized service adjustments, into their service processes can clearly enhance quality in terms of efficiency, convenience, and customer satisfaction. Dayat et al. (2023) stated that service innovations developed from a customer-centric perspective for instance, using technology for convenience or designing services to align with modern consumer behavior create positive experiences, leading to perceived brand quality and a positive view of the organization. Meanwhile, Lee et al. (2022) pointed out that when customers receive modern, user-friendly services that exceed their expectations, they are highly likely to share positive experiences, both through word-of-mouth and online channels, which leads to long-term loyalty. In addition, Anwar and Abdullah (2021) emphasized that innovation can support all five dimensions of the SERVQUAL framework: Tangibles, Reliability, Responsiveness, Empathy, and Assurance, for example, by using technology to reduce errors or applications that facilitate fast check-ins. Therefore, service innovation not only influences organizational efficiency but is also a primary mechanism that directly elevates service quality in the eyes of customers, encompassing satisfaction, impression, and trust. These all promote loyalty, which is a crucial indicator of perceived service quality in today's customer landscape.

Hypothesis 5 (H5): Service quality has a direct influence on the competitive advantage of accommodation businesses in Thailand. However, the research findings did not reveal a statistically significant direct relationship between service quality and competitive advantage. In-depth analysis indicated that in a highly competitive environment, where customers have numerous choices, satisfaction derived solely from service might not suffice to build strong loyalty or a clear advantage without the support of other strategic factors, such as innovation or customer relationship management. This aligns with Wu et al. (2021)'s findings, which showed that while high-quality service might create short-term customer satisfaction, it cannot build true loyalty without continuously delivering experiences that exceed expectations, especially in markets where customers are prone to compare and switch service providers easily. Meanwhile, Putri & Kristiningsih (2024) emphasized that service quality should be developed strategically, integrating it with other elements such as innovation, customer relationship management, and brand image to create a sustainable advantage. Similarly,

Yi et al. (2022) pointed out that an organization's financial capability plays a crucial role in promoting investment in technology and service innovation, which increases operational flexibility and enhances the ability to adapt quickly to consumer behavior and market trends. Concurrently, Aprinawati et al. (2024) stressed that human resource advantage is another significant factor in creating sustainable advantage, especially in service businesses. High-quality employees possessing knowledge, skills, motivation, and values aligned with the organization can deliver service experiences that exceed customer expectations. Thus, employees are not only service providers but brand representatives who can create differentiation in customer perception when compared to competitors. For these reasons, organizations seeking to establish a sustainable competitive advantage should integrate service quality with strategic investments in technology and human capital to create meaningful and difficult-to-imitate differentiation. The Resource-Based View (Barney, 1991) provides a useful explanation for this finding, suggesting that sustainable competitive advantage stems from valuable, rare, inimitable, and non-substitutable organizational resources and capabilities. Therefore, while service quality remains a fundamental basis for customer satisfaction, competitive advantage in the accommodation industry is more likely to be achieved through distinctive organizational capabilities such as customer relationship management and service innovation.

Declaration of Generative AI in Scientific Writing

Grammarly AI was used to improve the clarity, grammar, verb tense, and formatting of this manuscript. All AI-assisted revisions were carefully reviewed and approved by the authors to ensure the accuracy and originality of the content. No AI tools were used for data collection, data analysis, or statistical analysis.

CRediT author statement

Sutinee Threeranoot: Conceptualization, Methodology, Formal analysis, Writing – Review & Editing. **Supreeya Muangrod:** Investigation, Data curation, Visualization, Writing – Original Draft, Writing – Review & Editing. **Bharis Hongsakul:** Supervision, Project administration.

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