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Strategic Landscape Planning Using THEMEQUAL for Sustainable Theme Park Project Success: Case BSD City Theme Park

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A B S T R A C T

The long-term success of theme parks is highly dependent on the integration of robust structural quality and exceptional service delivery. This study examines the influence of strategic landscape planning—using the THEMEQUAL framework—on project outcomes, focusing on BSD City Theme Park, Indonesia. Utilizing Structural Equation Modeling-Partial Least Squares (SEM-PLS) on responses from 400 theme park visitors, findings show that both structural quality ($\beta = 0.36$, $p < 0.001$) and service quality ($\beta = 0.41$, $p < 0.001$) have strong, significant effects on visitor satisfaction. Visitor satisfaction, in turn, is a significant predictor of project success ($\beta = 0.47$, $p < 0.001$), mediating the effects of both structural and service quality. Indirect (mediation) effects account for 62% of the total influence on project success. These results demonstrate that improved construction robustness and service standards significantly elevate satisfaction (mean index = 4.18/5), visitor loyalty, and positive word-of-mouth, underpinning sustainable project viability. Practical implications highlight that integrating strategic landscape planning and superior service quality is essential for achieving sustained competitive advantage in Indonesia's growing theme park sector.

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1. INTRODUCTION

The tourism industry plays a vital role in the economic development of Indonesia, with theme parks emerging as one of the key contributors to the national recreation and entertainment sector (Rusmini, 2022). The intense competition in the theme park industry necessitates a comprehensive understanding of the factors that influence visitor satisfaction and, ultimately, project success (Hadi et al., 2021).

Theme parks are unique construction products as they combine architectural, landscape, and structural engineering elements with complex entertainment and recreational aspects. Unlike conventional construction projects, theme parks are designed to create immersive experiences for visitors, where every element from physical design to operational services must function harmoniously to achieve this goal. This uniqueness demands special attention to

product quality, both in terms of structural robustness and safety as well as the aesthetics and functionality of the space. Additionally, service quality is crucial in the development of theme parks, as aspects such as staff behavior, facility comfort, and entertainment value directly influence visitor satisfaction. Therefore, a strong integration between construction product quality and the services offered is essential to ensure the long-term success and appeal of a theme park. The primary objective of this research is to explore the role of strategic landscape planning, guided by the THEMEQUAL framework, in achieving sustainable success in theme park projects. Specifically, this study aims to identify how landscape architecture, when integrated with service quality principles, can enhance visitor satisfaction and contribute to the long-term sustainability of theme parks. Additionally, this research aims to provide actionable recommendations and guidance for theme park developers, landscape architects, and stakeholders to optimize landscape planning strategies that not only meet aesthetic and functional goals but also ensure the sustainability and profitability of theme park projects.

The THEMEQUAL method is a service quality evaluation approach specifically developed to assess the visitor experience in theme parks. THEMEQUAL is adapted from the more widely used SERVQUAL model in the service industry, with adjustments made to meet the unique needs of the theme park environment. This method consists of six key dimensions used to comprehensively measure service quality. The Tangible dimension covers the physical and material aspects of the theme park, such as facilities, cleanliness, and aesthetic design that visitors can see and feel. Assurance refers to the theme park's ability to provide a sense of safety and trust to visitors through staff knowledge, professionalism, and the security offered by facilities. Reliability is the theme park's ability to consistently deliver promised services, ensuring that all rides, attractions, and facilities operate smoothly at all times. Responsiveness measures the speed and willingness of staff to respond to visitor requests, questions, and needs, ensuring they feel attended to and well-served. Empathy evaluates the extent to which theme park staff show personal attention and care for the needs and desires of visitors. Finally, Courtesy assesses the attitude, politeness, and friendliness of staff in interacting with visitors, which is crucial for creating a pleasant and welcoming atmosphere throughout the theme park. By measuring these six dimensions, THEMEQUAL provides a robust framework for enhancing service quality and visitor experiences, ultimately contributing to the success and appeal of the theme park.

Structural and Building Quality, which includes the physical and architectural aspects of theme parks, is a key determinant of the visitor experience (Zaini et al., 2020). Well-designed and maintained structures not only enhance aesthetic appeal but also ensure safety and comfort, which are crucial for attracting and retaining visitors (Panggabean and Sipahutar, 2019). Additionally, Theme Park Service Quality, which includes aspects such as staff behavior, entertainment value, and facilities, plays a crucial role in shaping visitors' perceptions and satisfaction levels (Hadi, Reinarto, and Rahadi, 2021).

Visitor Satisfaction, which is the main outcome of Structural and Building Quality and Theme Park Service Quality, is hypothesized to be a significant predictor of Theme Park Project Success (Anele, 2021). High levels of satisfaction can lead to positive word-of-mouth, repeat visits, and overall loyalty, thereby driving the long-term viability and profitability of theme park projects (Panggabean and Sipahutar, 2019).

To examine these relationships, this study employs Structural Equation Modeling-Partial Least Squares (SEM-PLS) analysis. This methodological approach allows for the simultaneous examination of multiple variables and their interdependencies, providing a robust framework for understanding the complex dynamics at play. By focusing on the Indonesian context, this research aims to offer valuable insights that can guide the strategic planning and management of theme parks in the region, ultimately contributing to their success and sustainability.
The findings of this study are expected to have

significant implications for theme park operators, developers, and policymakers, highlighting critical areas that need attention to enhance visitor satisfaction and ensure the success of theme park projects.

2. LITERATURE REVIEW

This study aims to examine the effect of Structural and Building Quality and Quality of Theme Park Services on Visitor Satisfaction, as well as the effect of Visitor Satisfaction on Theme Park Project Success in Indonesia. The research hypotheses that can be compiled from these objectives are as follows:

- H1 : Structural and Building Quality has a significant positive influence on Visitor Satisfaction.
- H2 : Theme Park Service Quality has a significant positive effect on Visitor Satisfaction
- H3 : Visitor Satisfaction has a significant positive influence on Theme Park Project Success
- H4 : Visitor Satisfaction mediates the effect of Structural and Building Quality on Theme Park Project Success
- H5 : Visitor Satisfaction mediates the effect of Theme Park Service Quality on Theme Park Project Success

Table 1. Mapping of References that Support the Hypothesis

Reference	H1	H2	H3	H4	H5
(Yarnold et al., 2023)	✔				
(Zahoor & Ali, 2023)	✔	✔			
(Kucinskiene, 2020)		✔	✔		
(Sun & Yao, 2023)			✔	✔	
(Bai et al., 2024)	✔	✔	✔		
(Gazal et al., 2023)		✔			
(Astari et al., 2020)	✔		✔		
(Luo & Li, 2024)	✔	✔			
(Hussain et al., 2022)	✔	✔			
(Tsang et al., 2015)		✔			
(Kuo & Wu, 2014)		✔			
(Fotiadis & Vassiliadis, 2016)		✔			
(C et al., 2017)	✔				
(Suratkon et al., 2016)	✔				
(Daboun et al., 2023)	✔				
(Kozhakhmetova et al., 2019)		✔			

To achieve these objectives, this research uses a quantitative approach with Structural Equation Modeling-Partial Least Squares (SEM-PLS) analysis. This study uses an explanatory research design that aims to explain the causal relationship between the variables studied. A quantitative approach is used to measure and analyze data collected from respondents.

The population of this study were all amusement park visitors in Indonesia. The research sample was taken using purposive sampling technique, namely sample selection based on certain criteria in accordance with the research objectives. Sample criteria include visitors who have visited amusement parks in Indonesia in the past year. The number of samples taken was 400 respondents, in accordance with the recommendations for SEM-PLS analysis which requires an adequate sample size to obtain valid and reliable results.

Data was collected using questionnaires distributed online and offline. The questionnaire was designed to measure the research variables, namely Structural and Building Quality, Theme Park Service Quality, Visitor Satisfaction, and Theme Park Project Success. The questionnaire uses a 5-point Likert scale, where 1 indicates "strongly disagree" and 5 indicates "strongly agree".

The data that has been collected is analyzed using the SEM-PLS technique with the help of SmartPLS software. SEM-PLS was chosen because it can handle models with many variables and complex relationships and does not require the assumption of data normality. The analysis steps include:
Measurement Model Testing: Tests the validity and reliability of the constructs used in the study, including convergent and discriminant validity.

Structural Model Testing: Tests the causal relationship between the variables in the research model, as well as tests the strength of the influence of each independent variable on the dependent variable.

Mediation Testing: Testing the mediating role of Visitor Satisfaction in the relationship between Structural and Building Quality and Theme Park Service Quality on Theme Park

Project Success.

The results of data analysis will be presented in the form of tables, graphs, and diagrams to facilitate interpretation. The research findings will be discussed in depth to answer the research questions and test the hypotheses that have been formulated.

This research is expected to contribute to theme park managers, developers, and policy makers in improving theme park quality and visitor satisfaction, as well as ensuring the success of theme park projects in Indonesia. With this systematic and comprehensive methodology, it is expected that the research can provide valid and reliable findings to explain the effect of Structural and Building Quality and Theme Park Service Quality on Visitor Satisfaction and Theme Park Project Success in Indonesia

3. RESEARCH METHOD

This research was conducted in several theme parks spread across various regions in Indonesia, selected based on their popularity and high visitor levels. These locations were chosen to provide a representative overview of the actual management conditions of theme parks in Indonesia. Each theme park involved in the study has different characteristics in terms of size, thematic concepts, and provided facilities. By involving theme parks from various regions, this research aims to identify effective landscape planning elements within Indonesia's diverse geographical and cultural contexts. Data were collected through surveys of visitors who had visited the theme parks in the past year, as well as interviews with project managers, landscape architects, and operational staff directly involved in park management.

This approach allows for a comprehensive evaluation of the impact of landscape planning on visitor satisfaction and project success in various theme park environments in Indonesia.

Data Collection

This study uses a mixed-method approach, integrating quantitative and qualitative data to assess the effectiveness of strategic landscape planning using the THEMEQUAL framework in achieving sustainable success in theme park projects.

The total average number of visitors to the three theme parks over the period from January to December 2023 was 256,697 visitors per month. The minimum sample size for this study, based on the Slovin formula, is 400 samples with a tolerance of 5%. The number of respondents in this study is 400 respondents who have visited the theme parks.

$$n = \frac{256.697}{1 + (256.697 \text{ x } (0{,}05)^2)} = 399{,}37777 \approx 400$$

The analysis was conducted using Structural Equation Modeling-Partial Least Squares (SEM-PLS) to examine the relationships between landscape quality, service quality, and visitor satisfaction, as well as their impact on the sustainability of the theme park project.

4. RESULT AND DISCUSSION

Reflective Outer Model Evaluation

To begin the examination of the Reflective Outer Model, the first step is to evaluate the consistency and validity of the constructs used in this study. This analysis aims to ensure that each variable measured by its indicators is able to properly represent the intended concept, as well as to identify whether each indicator makes a significant contribution to its construct.

Table 2. Outer loading, AVE & CR

Indicator	Outer Loading
Theme Park Project Success (AVE=0.806 & CR=0.893)	
Visitor Intention to Return	0.898
Visitor Intention to Recommend	0.898
Visitor Satisfaction (AVE=0.759 & CR=0.904)	
Satisfaction as Fulfilment	0.879
Satisfaction as Pleasure	0.865
Satisfaction as Ambivalence	0.870

Using this method, we can explore the relationship between the indicators in the model and the latent variables they represent, thus ensuring that the model developed can provide reliable and valid results to support research findings Based on Table 2, the AVE values for Theme Park Project Success and Visitor Satisfaction are more than 0.5, while the CR values of both are also more than 0.7, on the other hand all outer loading values are above 0.7, which means that it shows a good

indication in terms of indicator reliability, internal consistency reliability and convergent validity.

Meanwhile, discriminant validity can be checked using HTMT. The HTMT results between the Theme Park Project Success and Visitor Satisfaction variables have a value of 0.812. Based on these results the HTMT value is below 0.85 which is classified as a small HTMT value. This indicates that the constructs built have good discriminant validity.

Formative Outer Model Evaluation

To start checking the Formative Outer Model, the first step is to ensure that there are no symptoms of multicollinearity between indicators. This check can be done using VIF. A VIF value above 5 means that there are symptoms of multicollinearity.

In addition, there is also a check on the significance of the outer weight. To check this, it can be done by looking at the p-value of the outer weight. If the p-value of the outer weight is less than the α value (usually used 0.05), it means that the indicator has been appropriately used to measure the latent variable The results of the Formative Outer Model check can be seen in Table 3.

Table 3. VIF & P-value outer weight

Indicator	VIF	P-Value Outer Weight
Theme Park Project Success		
Perceived Robustness	2.689	< 0.001
Visual Condition	2.698	< 0.001
Visible Safety Measures	2.502	< 0.001
Emergency Preparedness	2.645	< 0.001
Ease of Movement	2.754	< 0.001
Comfort of Waiting Areas	2.672	< 0.001
Availability and Accessibility of Toilets	2.583	< 0.001
Aesthetic Appeal	2.484	< 0.001
Functional Layout	2.877	< 0.001
Visitor Satisfaction		
Uniqueness	2.911	< 0.001
Innovation	2.902	< 0.001
Creativity & Imagination	3.001	< 0.001
Theme Usage	2.677	< 0.001
Atmosphere	2.655	< 0.001
Environmental Integration	2.824	< 0.001
Landscaping	3.106	< 0.001
Cleanliness	2.687	< 0.001
Capacity and Queue Management	2.848	< 0.001
Customer Services	2.987	< 0.001
Safety and Security	2.672	< 0.001
Prayers Room	3.217	< 0.001
Segregated Services	3.169	< 0.001
Entertainment Options	2.746	< 0.001
Experience Options	3.396	< 0.001
The Feeling of Real-Life Escape	3.280	< 0.001
Technological Infrastructure	3.163	< 0.001
Continuity	2.799	< 0.001
Functionality	2.943	< 0.001
Performance Sustainability	3.082	< 0.001
Souvenir Variety	2.708	< 0.001
Souvenir Quality	2.824	< 0.001
Souvenir Price	2.510	< 0.001
Food & Beverages Variety	3.114	< 0.001
Food & Beverages Quality	2.854	< 0.001
Food & Beverages Price	3.196	< 0.001
Halal Food	2.920	< 0.001
Thorough Services	2.806	< 0.001
Professional Competence	2.702	< 0.001
Knowledgeable Staff	2.730	< 0.001
Attitude and Behaviour	2.681	< 0.001
Staff Appearance	3.208	< 0.001
Public Transport	3.139	< 0.001
Operating Hours	2.522	< 0.001
Easy Access Location	2.879	< 0.001
Parking Facility	2.809	< 0.001

Based on Table 3, all VIF values are below 5, which means there are no symptoms of multicollinearity. As for the p-value, all values are below 0.05, which means that all indicators have been well used in measuring their respective latent variables.

Inner Model Evaluation

After completing the Outer Model check, the next step is to enter the Inner Model check. This examination will focus on the relationship between latent variables in the model, which is represented by the relationship between the main constructs tested in the study. The purpose of the Inner Model check is to test the proposed hypotheses related to the relationship between latent variables, so that we can understand more about how these variables are interconnected in the context of this study.

This analysis will provide deep insight into the extent to which the developed model can explain the observed phenomena and test the proposed hypotheses.

Table 4. VIF & P-value outer weight exogenous variable VIF path

Exogenous Variable	VIF	Path Coefficient	P-Value
Visitor Satisfaction (R^2=41.4%)			
Structural and Building Quality	1.595	0.423	<0.001
Theme Park Service Quality	1.595	0.291	<0.001
Theme Park Project Success (R^2=42.2%)			
Visitor Satisfaction	1.000	0.649	<0.001

The first step in checking this inner model is to see whether there are symptoms of multicollinearity between exogenous variables. Based on Table 4, all VIF values in the VIF Matrix have a value of less than 5 so that it does not show any symptoms of multicollinearity.
After checking for multicollinearity symptoms, the next step is to test the effect of the path coefficient of each direct relationship. If the p-value is less than 0.05, the effect of the relationship is considered significant.

Based on Table 4 and Figure 1 Structural and Building Quality has a path coefficient of 0.423 and Theme Park Service Quality of 0.291 on Visitor Satisfaction. Both variables have a P value of <0.001, indicating that the effect of Structural and Building Quality and Theme Park Service Quality on Visitor Satisfaction is highly statistically significant. This indicates that improvements in structural and building quality and theme park service quality contribute significantly to visitor satisfaction levels. Visitor Satisfaction has a path coefficient of 0.649 on Theme Park Project Success. The P value of <0.001 confirms that the effect of Visitor Satisfaction on Theme
Park Project Success is highly statistically significant. This indicates that the level of visitor satisfaction significantly contributes positively to the theme park project's success.

Table 5. Indirect effect

Exogenous Variable	Mediation Variable	Path Coefficient	P-Value
Theme Park Project Success			
Structural and Building Quality	Visitor Satisfaction	0.275	<0.001
Theme Park Service Quality	Visitor Satisfaction	0.189	<0.001

Next is the examination of indirect effects. Based on the results in Table 5, there is a significant indirect effect of Structural and Building Quality and Theme Park Service Quality on Theme Park Project Success through Visitor Satisfaction. The results in Table 5 show that Structural and Building Quality has a significant positive influence on Theme Park Project Success through Visitor Satisfaction with a path coefficient of 0.275 ($p < 0.001$). Similarly, Theme Park Service Quality also makes a significant positive contribution to Theme Park Project Success through Visitor Satisfaction with a path coefficient of 0.189 ($p < 0.001$). These two variables indirectly influence theme park project success through improving visitor satisfaction levels, demonstrating the importance of paying attention to and improving these aspects to achieve overall theme park project success.

Based on Table 5, R2 Visitor Satisfaction is 41.4%, which indicates that the exogenous variables (Structural and Building Quality and Theme Park Service Quality) can explain about 41.4% of the variation in Visitor Satisfaction. Meanwhile, for Theme Park Project Success, R2 is 42.2%, which means that Visitor Satisfaction explains about 42.2% of the variation in Theme Park Project Success.

Discussion

Based on the results of the SEM-PLS analysis, it shows the importance of a deep understanding of structural and service quality in increasing visitor satisfaction in theme parks so that theme park projects can be considered successful. An amusement park project is said to be successful when more and more people visit there. The results of this analysis reveal that Structural and Building Quality and Theme Park Service Quality have a significant influence on Visitor Satisfaction. Structural quality, which includes building strength, emergency preparedness, and aesthetic appeal are critical aspects that must be considered. Improving safety features such as safety fences, warning signs, and easy access to fire extinguishers are also important to increase visitor satisfaction.

Theme Park service performance, including aspects such as waiting area comfort and restroom cleanliness, also plays an important role in influencing visitor experience. The results of the SEM-PLS analysis confirmed that improving Structural and Building Quality and Theme Park Service Quality significantly contributed positively to Visitor Satisfaction. In addition, visitor satisfaction has a direct and significant effect on the success of the theme park project, indicating that improving the visitor experience can drive the intention to return and recommend the theme park to others.

From a civil engineering perspective, these results highlight the importance of integration between robust structural planning and high-quality services in the design and management of theme parks. Focusing on improving critical aspects such as safety features, aesthetic appeal, and convenience of supporting facilities can have a significant positive impact on overall project success.

As such, the SEM-PLS analysis provides strategic guidance for civil engineers and theme park management to improve the quality of service and visitor experience to achieve sustainable project success as evidenced by the number of visitors to the venue.

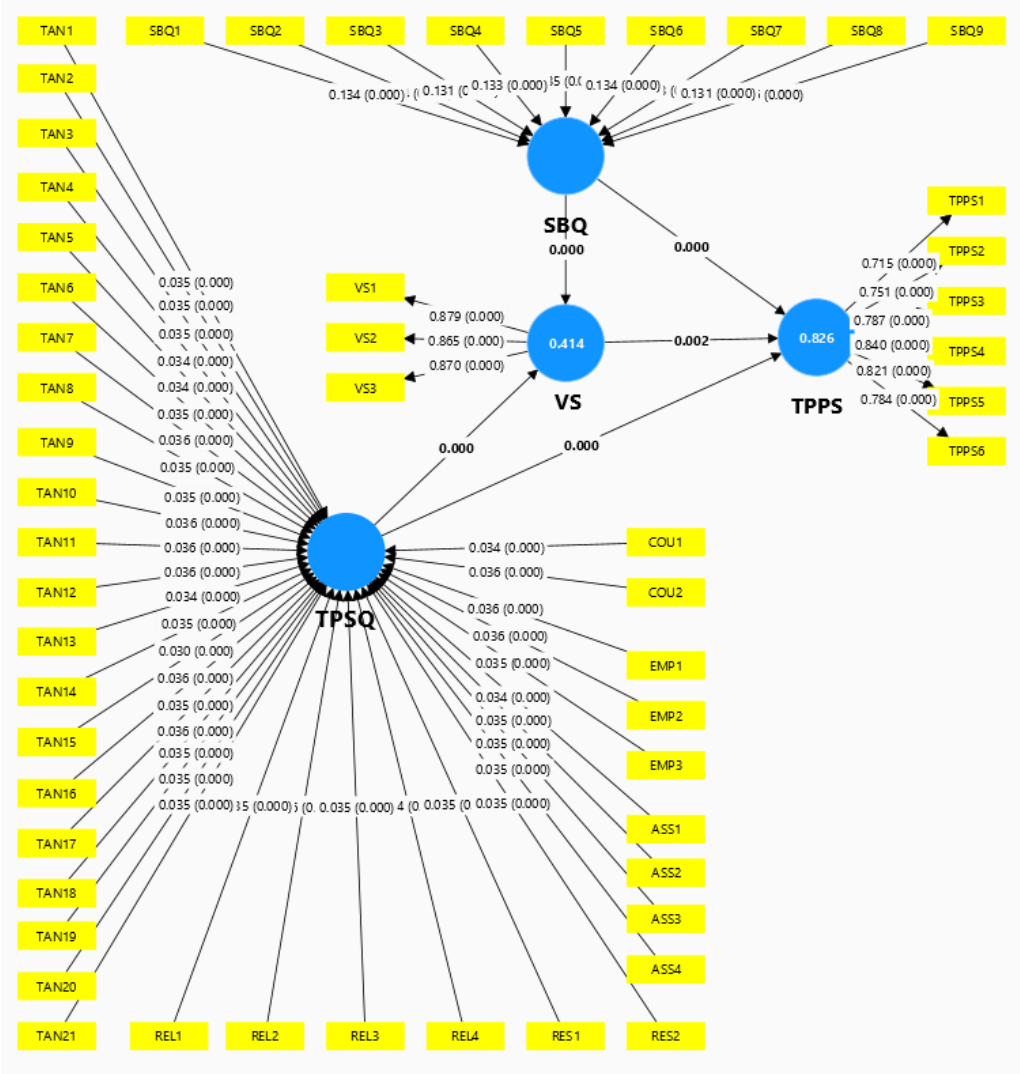


Figure 1. Structural model results SEM-PLS analysis

Landscape Planning

The Block Plan in the context of BSD City Theme Park planning is a crucial element that serves as a working map for determining the allocation and layout of the main zones within the amusement park. This Block Plan is designed to optimize land use, taking into account the needs for accessibility, facility distribution, and interconnectivity between zones. The structured spatial layout in this Block Plan ensures that every element, from attraction areas to supporting facilities such as parking and services, can be easily accessed by visitors, while also supporting smooth traffic flow throughout the park area. Therefore, this Block Plan not only organizes space usage efficiently but also contributes to optimal visitor comfort and experience.

In addition to these basic functions, the Block Plan also plays a vital role in ensuring visual and physical integration between the various

zones within BSD City Theme Park. By considering the visual connections between zones, the Block Plan facilitates the creation of a harmonious and cohesive flow, where visitors can enjoy unified vistas between one zone and another. The placement of elements such as thematic landmarks, pedestrian pathways, and water features is strategically designed to reinforce the overall theme of the park and provide an immersive experience.

Through this approach, the Block Plan becomes a strong foundation in strategic landscape planning, focusing not only on aesthetic and functional aspects but also on the long-term sustainability of the amusement park project.

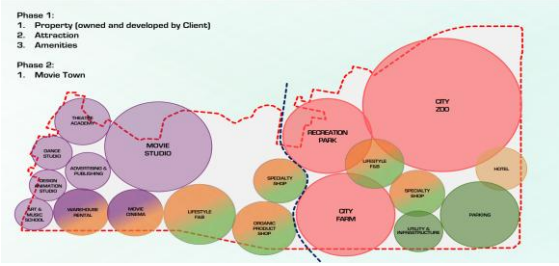
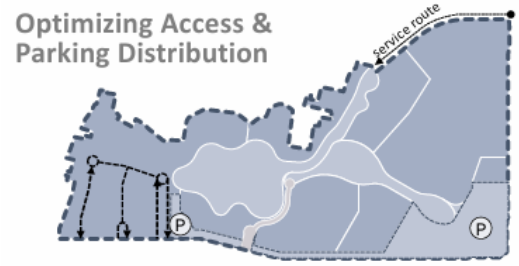


Figure 2. Block plan

Theme Park Planning Strategy



The first section of this diagram emphasizes the importance of optimizing access and parking distribution at BSD Theme Park. Concentrated parking areas are designed with proportionally distributed vehicular access and efficient service routes, ensuring that each zone within the theme park can be easily accessed by visitors.

This arrangement not only enhances visitor convenience in reaching various areas but also supports a smooth and safe traffic flow throughout the park. The focus on optimizing access and parking distribution aims to maximize the visitor experience from the moment they arrive, reducing confusion and improving the operational efficiency of the theme park.

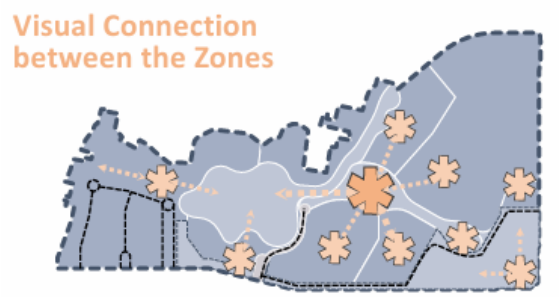
The second section of this diagram highlights the importance of creating a strong and inviting first impression through an "Impressive Entry Statement & Procession." The bold and welcoming impression of the district entrance is designed to capture visitors' attention as soon as they arrive at the theme park.

The hierarchical and clearly defined procession layout from the site entrance to the main public plaza creates a structured journey, guiding visitors through various stages of experience that are carefully planned. This approach ensures that every step taken by visitors within the theme park leaves a strong and lasting impression, reinforcing the identity of the area and enriching the overall visitor experience.

The third section of the diagram emphasizes the strategy of "Knitting Each Zone with Nodes of Interests," where each zone within the theme park is connected through a series of intriguing points of interest. These points are designed to entice visitors to explore each zone by walking along the designated pathways.

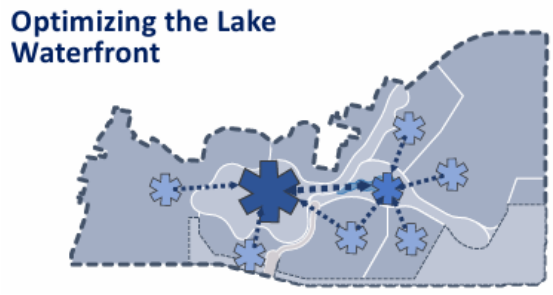
This approach not only enhances visitor engagement with each part of the theme park but also creates an engaging flow throughout the area, encouraging them to explore and

enjoy the various attractions offered. With points of interest scattered throughout the zones, the theme park successfully creates a more dynamic and interactive experience for its visitors.



The fourth section of this diagram discusses the importance of "Visual Connection between the Zones," which connects each zone within the theme park through visual corridors and vistas. Each zone interacts with the central area in terms of views and visual corridors, creating a cohesive and harmonious relationship between different parts of the theme park.

The variation of visual connections from different building levels adds depth and richness to the perspectives, allowing visitors to experience the interconnectivity of zones visually. This design not only strengthens visitor orientation within the theme park but also enhances the overall aesthetic value and impression gained during the visit.



The fifth section of the diagram focuses on "Optimizing the Lake Waterfront," where the lake is optimized as a valuable asset of the theme park location. The lake is designed not only as a prominent visual element but also as an interactive feature that attracts visitors. The creation of a pond in the central plaza as an artificial water feature adds an element of surprise and enjoyment for visitors, allowing for greater visual and physical interaction with the lake. By utilizing the lake as an integral part of the landscape design, the theme park is able to offer an experience that is both calming and entertaining, making the lake a hub of activity and recreation.

The final section of the diagram highlights the importance of "Sparkling & Diverse Commercial Edges," featuring special lighting at night along parcel frontages and commercial edges to create a festive atmosphere. This lighting is designed to enrich the nighttime experience for visitors, providing prominent and inviting visual appeal.

The diverse and sparkling commercial edges not only enhance the overall aesthetics of the theme park but also serve as connectors between various commercial areas, creating a lively and energetic environment. This approach ensures that the theme park remains attractive and full of activity both during the day and at night, offering a comprehensive experience for visitors.

Space planning within the BSD City Theme Park project is designed to create a harmonious integration between various structural and aesthetic elements. The Block Plan used in this planning ensures that each zone within the theme park has a clear function and is visually and functionally connected to other zones. Space allocation is carried out with consideration of efficient visitor flow, good accessibility, and visually appealing interactions between different areas. Each zone, whether it be the main attractions, supporting facilities, or green open spaces, is designed to provide an optimal experience for visitors by utilizing a structured layout and design elements that highlight the uniqueness of each area. The result is an environment that is not only functional but also capable of creating a comprehensive and satisfying

experience for visitors.

Furthermore, the space planning in this project also takes into account the aspects of sustainability and flexibility in the use of space. Each element within the Block Plan is designed to support long-term efficient operations, including the provision of proportionally distributed parking areas, durable pedestrian pathways, and adequate public facilities.

Additionally, this space planning allows for future adjustments or expansions, considering the potential growth and changing needs of visitors. Thus, the space planning of BSD City Theme Park not only focuses on current needs but also considers the project's long-term sustainability, ensuring that the theme park remains relevant and attractive to visitors over time.

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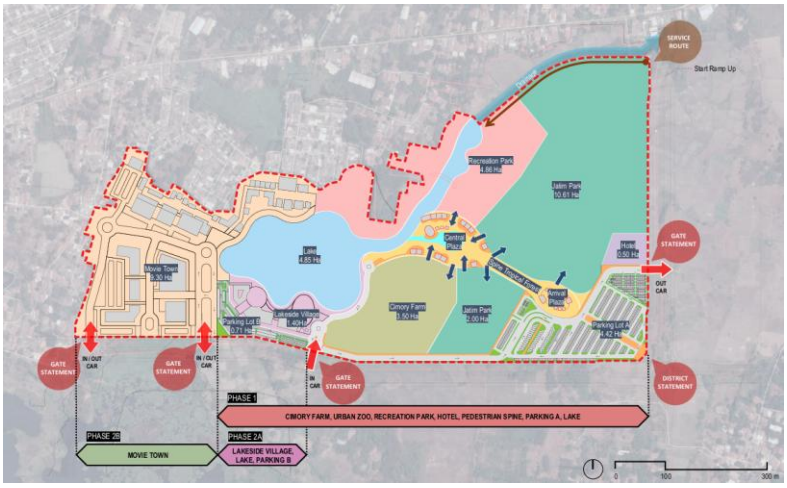

Figure 3. Master plan

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Table 6. Space Programming

Indicator Group	Space Type	Space Function/Description	Typical Design Form	Recommended Area (m²)
Structural & Building	Structural Landmarks	Architectural icons serving as park identity and visual anchors	Monumental structure	200–500
	Durable Pathways	Main pedestrian corridors with resilient materials and high accessibility	Linear, accessible	500–1000
	Reinforced Bridges	Connecting bridges across zones, structurally engineered for heavy loads	Framed, supported bridges	100–300
	Earthquake-Resistant Buildings	Main attractions/amenities designed for seismic safety	Closed, reinforced	500–1000
	Weather-Proof Shelters	Shelters protecting guests from extreme weather	Open or semi-enclosed	200–400
	Observation Towers/Platforms	Elevated platforms/towers for panoramic viewing	Tall structure with supports	100–500
Tangible	Entrance Plaza	Main arrival and ticketing point with wayfinding and guest services	Open plaza	500–1000
	Themed Gardens	Large planted area reflecting park's unique themes	Open, trail-integrated	1500–3000
	Main Walkways	Primary circulation connecting park zones	Linear accessible routes	500–1000
	Iconic Landmarks	Thematic structures or monuments for photo ops and navigation	Monumental structure	100–300
	Food Courts & Gift Shops	Themed dining and retail clusters, central for dwell time	Semi-open/closed clusters	300–700 (each)
Reliability	Maintenance Hub	Facility for operations/maintenance staff and equipment storage	Enclosed technical hub	400–600
	Security & Emergency Stations	Small, strategically located security and medical stations	Discrete, enclosed units	50–100 (each)
	Parking Lots	Main visitor vehicle access with shaded and accessible design	Open lot	3000–5000
	Ticketing Booths	Easily accessed, secure booth for ticket sales	Semi-open booth	100–200
Responsiveness	Customer Service Kiosks	Guest support and information points throughout site	Semi-open stall	50–100

	Restroom Facilities	Clean, well-ventilated toilets throughout park	Enclosed typical restrooms	100–300
	Queue/Waiting Areas	Manages crowd flow at major attractions, shaded and responsive design	Covered zones, seating	200–500
	Rental Points	Stroller and wheelchair rental hubs for guest convenience	Semi-open hub	100–200
Assurance	First Aid & Safety Stations	Accessible emergency and safety locations for guest assurance	Enclosed, direct access	50–100 (each)
	Safety Briefing Zones	Briefing points at major rides/active zones for safety orientation	Open seating zone	100–200
	Secure Entrances & Monitoring	Security checkpoints, surveillance rooms at strategic park access points	Controlled portal, closed	50–100
Empathy	Quiet & Relax Zones	Shaded, peaceful areas for guests needing rest, including for elderly/families	Open with greenery/seating	100–200
	Accessibility Paths	Barrier-free walkways/sites for guests with disabilities	Linear, marked paths	100–300
	Family/Prayer Rooms	Private rooms for nursing, prayer and family needs	Enclosed, private	30–100
Courtesy	Guest Services Desks	Main info/help desks with friendly staff presence at key zones	Semi-open desk	50–100
	VIP/Meet-and-Greet Lounges	Dedicated lounge or meeting spots for VIP/service priority guests	Enclosed, controlled access	100–200
Entertainment	Performance Stages & Themed Play Zones	Central stage for events, dedicated themed play areas for children	Open/semi-open, varied forms	200–1000
	Cinema/Exhibit Halls	Immersive cinema and interactive exhibition spaces	Enclosed, AV-equipped	300–600
	Parade/Show Routes	Accessible, connected paths for parades and entertainment traffic	Linear, open routes	500–1000
Access	Parking & Drop-off Areas	Secure, easy-access parking and managed entry/exit points	Open, tiered lots, drop-off	3000–5000/100–200
	Shuttle/Bus Stops	Internal transportation stops for smooth guest mobility	Open, shaded stops	50–100
Entertainment	Performance Stages	Central staging for concerts, shows, and entertainment events	Open/semi-open, AV-equipped	500–1000

	4D/5D Cinema Halls	Immersive cinema with special effects seating	Closed, vibration seating	300–600
	Themed Play Areas	Interactive thematic playgrounds for children with safe surfacing and shading	Open, play structures	200–500
	Interactive Exhibit Zones	Enclosed/external spaces for STEAM exhibits, edutainment, and guest interaction	Closed/semi-open, hands-on	200–400
	Live Music Venues	Outdoor/covered venues designed for musical performances	Open with stage seating	200–500
	Cultural Showcase Areas	Flexible stage/space for traditional and contemporary performances	Open/semi-open, audience space	200–400
	Virtual Reality Experience Zones	Special tech-immersive spaces for VR attractions	Closed, AV and hardware secure	100–300
	Parade and Show Routes	Broad, clear, linear routes planned for regular themed parades	Linear and accessible	500–1000
	Seasonal Event Spaces	Flexible open/covered pavilions for festivals or temporary attractions	Open/semi-open	500–1000
	Nighttime Spectacular Areas	Lakeside/field zones for fireworks, drone, or light shows	Open with panoramic views	500–1000
Access	Parking Area	Large visitor parking, zoned for general and VIP access, with clear signage	Open/split-level, shaded	3000–5000
	Covered Parking	Protected parking for VIP/special needs, close to entrance	Covered/semi-open	1000–2000
	Accessible Parking Spaces	Reserved parking near entrances for visitors with disabilities	Marked zones, flat surface	200–500
	Drop-off/Pick-up Zones	Well-marked drop-off zones for buses and cars, distinct circulation	Linear, protected	100–200
	Security Checkpoints	Entry screening locations for guest and vehicle safety checks	Covered checkpoint plaza	50–100
	Shuttle Bus Stops	Accessible stops for internal transportation, linking all main areas	Open, with seating and signage	50–100
	Parking Management Offices	Operational offices for traffic and access management	Closed, direct access	50–100
	Signage and Wayfinding	Digital/analog signs to improve guest orientation throughout parking and park	Placed throughout, large/text	30–50

5. CONCLUSION

This study shows that structural quality and service quality in theme park projects significantly influence visitor satisfaction and overall project success. Through analysis using SEM-PLS, the study identifies that improvements in theme park building and service quality not only directly enhance visitor satisfaction but also indirectly support project success by increasing visitor loyalty and positive word-of-mouth promotion. These findings provide important insights for developers, theme park operators, and policymakers to focus on structural and service quality to achieve long-term sustainability and profitability in Indonesia's highly competitive tourism industry.

However, this study also has limitations, such as the sample limitation, which only includes a few theme parks in Indonesia, and therefore may not fully represent the entire theme park industry in the country. Additionally, external factors such as changes in economic or social conditions were not considered in this study. Therefore, further research is recommended to expand the sample coverage and consider more external variables. Future studies could also explore in greater depth the relationship between service innovation and the long-term sustainability of theme park projects, as well as the impact of the latest technologies on visitor experiences and project success..

REFERENCES

Ali, F., Kim, W., Li, J., & Jeon, H.-M. (2016). Make it delightful: Customers' experience, satisfaction and loyalty in Malaysian theme parks. *Journal of Destination Marketing & Management*, 7, 1–11. https://doi.org/10.1016/J.JDMM.2016.05.003

Anele, K. (2021). Assessing the impact of COVID-19 on the Indonesian tourism industry. *Journal of Indonesian Tourism and Hospitality Research*, 4(2), 107–120. https://doi.org/10.17509/JITHOR.V4I2

Astari, F., Astari, F., Kahfi, R. S., Ardi, F., Oki, L., & Ulkhaq, M. (2020). Service quality assessment of theme park. In *Proceedings of the 2020 2nd International Conference on Management Science and Industrial Engineering* (pp. 1-6). https://doi.org/10.1145/3396743.3396766

Aziz, N. A., Ariffin, A. A. M., Omar, N., & Evin, C. (2012). Examining the impact of visitors' emotions and perceived quality towards satisfaction and revisit intention to theme parks. *Jurnal Pengurusan*, 35, 97–109. https://doi.org/10.17576/pengurusan-2012-35-09

Bai, S., He, H., Han, C., Yang, M., Yu, D., Bi, X., Gupta, B. B., Fan, W., & Panigrahi, P. K. (2024). Exploring thematic influences on theme park visitors' satisfaction: An empirical study on Disneyland China. *Journal of Consumer Behaviour*, *23*(1), 90–106. https://doi.org/10.1002/cb.2157

Basarangil, I. (2018). The relationships between the factors affecting perceived service quality, satisfaction and behavioral intentions among theme park visitors. *Tourism and Hospitality Research*, 18(4), 415–428. https://doi.org/10.1177/1467358416664566

Bigné, J., Andreu, L., & Gnoth, J. (2005). The theme park experience: An analysis of pleasure, arousal and satisfaction. *Tourism Management,* 26, 833–844. https://doi.org/10.1016/J.TOURMAN.2004.05.006

C, J. P. M. E., Student, M., Engineering, C., & College, T. (2017). Development of Building Quality Measurement Tool : Building Construction Quality Index (Bcqi). *International Research Journal of Engineering and Technology* (IRJET), 4(1), 1020–1026. https://irjet.net/archives/V4/i1/IRJET-V4I1179.pdf

Chan, C.-S., Liu, Y., & Li, C. (2019). Expectation-perception evaluation of theme park service quality in Zhengzhou Fantawild, China. *Journal of Park and Recreation Administration*. https://doi.org/10.18666/JPRA-2019-9157

Charles, S. H., Chang-Richards, A., & Yiu, T. W. (2022). New success factors for construction projects: a systematic review of post-2004 literature. *Construction Innovation*, 22(4), 891–914. https://doi.org/10.1108/CI-02-2021-0030

Cheng, Q., Guo, J., & Ling, S. (2016). Fuzzy importance-performance analysis of visitor satisfaction for theme park: The case of Fantawild Adventure in Taiwan, China. *Current Issues in Tourism*, 19(9), 895–912. https://doi.org/10.1080/13683500.2013.777399

Daboun, O., Abidin, N. I., Khoso, A. R., Chen, Z. S., Yusof, A. M., & Skibniewski, M. J. (2023). Effect of Relationship Management on Construction Project Success Delivery. *Journal of Civil Engineering and Management*, *29*(5), 372–397. https://doi.org/10.3846/jcem.2023.18827

Dong, P., & Siu, N. (2013). Servicescape elements, customer predispositions and service experience: The case of theme park visitors. *Tourism Management*, 36, 541–551. https://doi.org/10.1016/J.TOURMAN.2012.09.004

Fotiadis, A., & Vassiliadis, C. (2016). Service quality at theme parks. *Journal of Quality Assurance in Hospitality & Tourism*, 17(2), 178–190. https://doi.org/10.1080/1528008X.2015.1115247

Gazal, O., Musibau, A., & Rukayat, O. (2023). Evaluation of Impact of Project Quality Management on Project Success. *International Journal of Interdisciplinary Research in Social Sciences*, September, 2790–5276. https://www.kcaijirss.com/index.php/home

Geissler, G., & Rucks, C. (2011). The overall theme park experience: A visitor satisfaction tracking study. *Journal of Vacation Marketing*, 17(2), 127–138. https://doi.org/10.1177/1356766710392480

Hadi, C. E., Reinarto, R., & Rahadi, R. A. (2021). Conceptual analysis of sustainable tourism management in Indonesia. *Journal of Tourism, Hospitality and Environment Management*, 6(23), 33–42. https://doi.org/10.35631/jthem.623004

Hapsari, Y., Suhud, U., & Mukhtar, S. (2021). Influence of service quality, innovation, price, promotion on customer satisfaction and customer loyalty. *Accounting and Finance*, 3(93), 125–134. https://doi.org/10.33146/2307-9878-2021-3(93)-125-134

Hsieh, C.-M. (2018). A multilevel analysis of the service marketing triangle in theme parks. *Journal of Travel & Tourism Marketing,* 35, 130–147. https://doi.org/10.1080/10548408.2017.1350251

Hussain, S., Fikri Hasmori, M., Haslinda Abas, N., Tighnavard Balasbaneh, A., & Wajidullah Khan, M. (2022). Key Performance Indicators for Project Success in Saudi Arabian Construction Industry. *Ain Shams Engineering Journal*, *13*(6), 1–20. https://doi.org/10.21203/rs.3.rs-2329589/v1

Jiang, B.-R., & Xu, Q. (2022). The effect of employee-customer interaction on customer satisfaction in the theme park hotel. *2022 10th International Conference on Orange Technology (ICOT),* 1–4. https://doi.org/10.1109/ICOT56925.2022.10008187

Kozhakhmetova, A., Zhidebekkyzy, A., Turginbayeva, A., & Akhmetova, Z. (2019). Modelling of project success factors: A cross-cultural comparison. *Economics and Sociology*, *12*(2), 219–234. https://doi.org/10.14254/2071-789X.2019/12-2/13

Kucinskiene, J. (2020). Entertainment Landscape Planning. Jurga Ku č inskien ė. *Environmental Research, Engineering and Management (EREM)*, 2012. No. 1(59), P. 73 - 79 April. https://doi.org/10.5755/j01.erem.59.1.659

Kuo, H.-P., & Wu, K. (2014). The influence of service quality on customer satisfaction in theme parks design of Taiwan. *Advanced Materials Research*, 1008–1009, 1543–1547. https://doi.org/10.4028/WWW.SCIENTIFIC.NET/AMR.1008-1009.1543

Lee, S., Jeong, E., & Qu, K. (2020). Exploring theme park visitors' experience on satisfaction and revisit intention: A utilization of experience economy model. *Journal of Quality Assurance in Hospitality & Tourism*, 21(4), 474–497. https://doi.org/10.1080/1528008X.2019.1691702

Liang, C., & Li, C. (2023). Research on Theme Park Customer Satisfaction Based on ECSI Model
—Taking Shanghai Disneyland as an Example. *Journal of*

Service Science and Management, 16(01). https://doi.org/10.4236/jssm.2023.161002

Li, W., & Song, H. (2011). Tourist perception of service quality in the theme park. 2011 *International Conference on Management and Service Science*, 1–3. https://doi.org/10.1109/ICMSS.2011.5998864

Liyanage, D., & Wickramarathne, P. (2019). Visitors' satisfaction in theme parks; special reference in Saniro Dream Paradise Naiwala, Sri Lanka. *International Journal of Scientific and Research Publications (IJSRP)*, 9(2), 626–633. https://doi.org/10.29322/IJSRP.9.02.2019.P8680

Luo, J., & Li, X. (2024). Perceived service quality and visitors ' sustainable visit intentions in theme parks : empirical analysis on the THEMEQUAL scale. *Front. Sustain*. *Tour.* 3:1387048. https://doi.org10.3389/frsut.2024.1387048

Milman, A., Xu, L., Wang, Y., & Yu, Q. (2012). Examining the guest experience in themed amusement parks. *Journal of Vacation Marketing,* 18, 313–325. https://doi.org/10.1177/1356766712449374

Mohamed, A., & Akasha, A. (2022). Service Quality and Visitor Satisfaction at I-City Theme Park, Selangor. International *Journal of Multidisciplinary Research and Publications (IJMRAP)*, 5(5), 121–124.

MyeongHee, Y. (2012). The effect of service quality and availability on revisit intentions in theme park. *Journal of Korean Association for Physical Education of Girls and Women*, 22, 53–64. https://doi.org/10.35149/JAKPG.2012.22.1.005

Nietos, I. F., Zournatzi, E., Koustelios, A., & Costa, G. (2015). Relationship among service quality, customer satisfaction, and renewal intentions in recreation theme park in Greece. *International Journal of Strategic Management and Research Techniques*, 18, 41–55. https://doi.org/10.5199/ijsmart-1791-874x-18c

Panggabean, M. S., & Sipahutar, T. T. U. (2019). Analysis of the role of tourism in the economy in Indonesia. *International Journal of Advanced Science and Engineering,* 1(6), 214–220. https://doi.org/10.33122/ijase.v1i6.126

Rodger, K., Taplin, R., & Moore, S. (2015). Using a randomised experiment to test the causal effect of service quality on visitor satisfaction and loyalty in a remote national park. *Tourism Management*, 50, 172–183. https://doi.org/10.1016/J.TOURMAN.2015.01.024

Rusmini, A. (2022). The role of industry-based tourism in business development in Indonesia. *Journal of Research on Business and Tourism*, 2(2), 16–23. https://doi.org/10.37535/104002220226

Ryan, C., Shih Shuo, Y. (Sam), & Huan, T. (2010). Theme parks and a structural equation model of determinants of visitor satisfaction — Janfusan Fancyworld, Taiwan. *Journal of Vacation Marketing*, 16, 185–199. https://doi.org/10.1177/1356766710372245

Sun, X., & Yao, J. (2023). Research on the Influencing Mechanism of Service Quality on Brand Equity toward Real Estate Company. *International Journal of Membrane Science and Technology*, *10*(3), 531–541. https://doi.org/10.15379/ijmst.v10i3.1570

Suratkon, A., Chan, C. M., & Jusoh, S. (2016). Indicators for measuring satisfaction towards design quality of buildings. *International Journal of GEOMATE*, *11*(2), 2348–2355. https://doi.org/10.21660/2016.24.1284

Tsang, N. K. F., Lee, L. Y. S., Wong, A., & Chong, R. (2012). THEMEQUAL—Adapting the SERVQUAL scale to theme park services: A case of Hong Kong Disneyland. *Journal of Travel & Tourism Marketing,* 29(5), 416–429. https://doi.org/10.1080/10548408.2012.691391

Yarnold, J., Banihashemi, S., Lemckert, C., & Golizadeh, H. (2023). Building and construction quality: systematic literature review, thematic and gap analysis. *International Journal of Building Pathology and Adaptation,* 41(5), 942–964. https://doi.org/10.1108/IJBPA-05-2021-0072

Yin, T., Au, G., Bian, C., Budd, M., Chang, B., Cheu, L., Fischer, L., Giovanini, L., Gu, G.,

Hoffman, M., Kondaurova, O., Laclair, K., Landry, C., Marshall, J., Li, S., Linford, S., Miller, E., Nevin, J., Papamichael, M., … Yoshii, C. (2023.). GLOBAL ATTRACTIONS The definitive annual.

Zahoor, M. H., & Ali, M. (2023). Assessment of Critical Success Factors for Building Projects through the Literature †. *Engineering Proceedings*, *53*(1). https://doi.org/10.3390/IOCBD2023-15988

Zaini, Z., Maulamin, T., As'ad, M., Ismowati, M., Halim, P., Badruddin, S., & Istianto, B. (2020). Tourism supply chain management: Evidence from tourism and hospitality industry of Indonesia. *International Journal of Supply Chain Management*, 9, 121–128.

Zhu, C., Fong, L. H. N., Shang, Z., & Gan, M. (2022). Rethinking the Impact of Theme Park Image on Perceived Value and Behavioral Intention: The Case of Chimelong Ocean Kingdom, China. *Sustainability (Switzerland)*, 14(4). https://doi.org/10.3390/su14042349