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Examination of the Interaction of Tourism Seasonality, Hospitality Enterprise Size, and Patronage Rate in Visitor Flow Dynamics in Kisumu Region, Kenya

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Executive Summary: Tourism seasonality has significantly impacted hospitality enterprises' financial stability and operational efficiency. However, its interaction with enterprise size and patronage rate remains underexplored, particularly in urban destinations such as Kisumu Region, Kenya. This study examines how tourism seasonality, hospitality enterprise size, and patronage rate influence visitor flow dynamics. A mixed-methods research design was adopted; the study integrated quantitative analysis of visitor numbers with qualitative insights from key industry stakeholders. Results indicate that Seasonality significantly affects visitor numbers, with larger enterprises exhibiting more pronounced seasonal fluctuations than smaller ones. However, patronage rates do not significantly moderate these trends, suggesting that customer behavior remains relatively consistent across seasons. The results highlight the need for tailored business strategies based on enterprise size and policy interventions to promote Kisumu as a year-round destination. The study contributes to the broader discourse on sustainable tourism management by providing empirical insights that inform business resilience and policy Planning in seasonally affected urban tourism destinations.

KEYWORDS: *Tourism seasonality, hospitality enterprise size, patronage rate, visitor flow dynamics, Sustainable tourism, Kenya*

1.0 INTRODUCTION

1.1 Background of the Study

Tourism is a driver of economic growth and development in many countries worldwide. It significantly contributes to GDP, employment, and foreign exchange

earnings. However, the tourism sector is characterized by fluctuations in visitor numbers due to Seasonality, affecting hospitality enterprises' financial stability and operational efficiency (Butler, 2001; Baum & Lundtorp, 2001). Seasonality refers to the temporal variations in tourist demand influenced by climatic conditions,

holidays, and cultural events, impacting both the supply and demand sides of the hospitality industry (Koenig & Bischoff, 2005). These fluctuations challenge business sustainability, workforce management, and revenue stability (Jang, 2004).

In Kenya, tourism is a significant pillar of the economy, contributing approximately 10% of GDP and employing millions of people directly and indirectly (Kenya National Bureau of Statistics [KNBS], 2021). Kisumu Region is located in the western part of Kenya along the Lake Victoria. It is a significant tourist destination with attractions such as Ndere Island National Park, Dunga Beach, Impala Sanctuary, Kit Mikayi Hills, Ruma National Park and cultural heritage sites and the Museum. Despite this potential, Kisumu's tourism sector faces challenges related to Seasonality, where visitor numbers fluctuate significantly throughout the year, affecting the revenue streams of hospitality enterprises.

Hospitality enterprises in Kisumu vary in size, ranging from small family-owned guest houses to Five (5) Star-Rate hotels. The ability of these hospitality enterprises to withstand seasonal fluctuations is influenced by their size, financial stability, and market positioning (Pizam & Mansfeld, 2006). Larger enterprises may have more significant financial reserves and diversified revenue streams, allowing them to navigate low seasons more effectively than smaller

enterprises (De Sausmarez, 2013). Conversely, smaller enterprises may rely heavily on peak seasons to remain profitable, making them more vulnerable to seasonality effects.

Another critical factor influencing visitor flow dynamics is the patronage rate, which reflects customer loyalty and repeat visits. High patronage rates can mitigate the effects of Seasonality by ensuring a steady flow of customers throughout the year (Oh, 1999). However, in Kisumu Region, the extent to which patronage rates influence visitor trends remains underexplored. Understanding the interplay between tourism seasonality, enterprise size, and patronage rate is vital for designing sustainable strategies that enhance the resilience of the hospitality sector in Kisumu Region.

Existing studies on tourism seasonality have primarily focused on coastal and wildlife tourism in Kenya (Sindiga, 1996; Akama & Kieti, 2007), leaving gaps in knowledge regarding urban tourism destinations such as Kisumu. Moreover, while global studies have examined the impact of Seasonality on business performance, limited research has explored how hospitality enterprises of different sizes in Kisumu Region cope with these fluctuations and whether customer loyalty (patronage rate) plays a mitigating role.

This research paper seeks to fill this knowledge gap by analyzing how tourism

seasonality, enterprise size, and patronage rate influence visitor flow dynamics in Kisumu Region. Employing a quantitative approach, the study aims to provide insights that inform business strategies, policy interventions, and investment decisions in the hospitality industry. Understanding these dynamics is crucial for improving the sustainability and competitiveness of Kisumu's tourism sector, thereby contributing to local economic development.

1.2 Statement of the Problem

Tourism seasonality remains one of the most persistent challenges in the hospitality industry, leading to revenue volatility, employment instability, and underutilization of facilities (Baum & Lundtorp, 2001). In Kisumu Region, the tourism sector is characterized by fluctuations in visitor numbers, which significantly impact the financial performance and operational sustainability of hospitality enterprises. Despite the increasing recognition of the effects of Seasonality as a challenge facing the region (Rotich, Nthiga, Bor & Kogola, 2012), limited research has been conducted to understand how hospitality enterprises in Kisumu, particularly those of varying sizes, cope with these challenges.

Furthermore, the role of patronage rates in mitigating seasonality effects has not been adequately explored. A high patronage rate can enhance business resilience by ensuring

repeat customers and steady revenue flows even during off-peak seasons. However, it remains unclear whether hospitality enterprises in Kisumu leverage customer loyalty as a strategic tool to address seasonality-related fluctuations.

Without a clear understanding of how Seasonality, enterprise size, and patronage rates influence visitor flows, hospitality businesses may struggle to adopt effective sustainability strategies. This study, therefore, seeks to bridge this knowledge gap by empirically examining the relationship between these factors and providing evidence-based recommendations for enhancing the resilience of Kisumu Region's tourism sector.

1.3 Objectives of the Study

The study's general objective was to examine the interaction of tourism seasonality, hospitality enterprise size, and patronage rate in influencing visitor flow dynamics in Kisumu Region, Kenya. Specifically, the objectives were:

- a) To analyze the impact of tourism seasonality on visitor numbers in Kisumu Region.
- b) To examine the influence of hospitality enterprise size on the ability to manage seasonal fluctuations.

- c) To assess the effect of patronage rates on mitigating seasonality-related visitor flow variations.
- d) To explore the interaction between Seasonality, enterprise size, and patronage rate in shaping visitor flow dynamics.

1.4 Hypotheses of the Study

The study tested the following hypotheses:

- a) H_{01} : Tourism seasonality does not significantly impact visitor numbers in Kisumu Region.
- b) H_{02} : Hospitality enterprise size has no significant effect on managing seasonal fluctuations.
- c) H_{03} : Patronage rates do not significantly influence visitor flow variations during different seasons.
- d) H_{04} : There is no significant interaction between tourism seasonality, enterprise size, and patronage rate in shaping visitor flow dynamics.

1.5 Theoretical Framework

Several theories explain tourism seasonality, enterprise size dynamics, and visitor patronage patterns. This study is anchored on the following theories:

1.5.1 Tourism Area Life Cycle (TALC) Model

The Tourism Area Life Cycle (TALC) model, proposed by Butler (1980), describes the

evolution of tourist destinations through stages of exploration, involvement, development, consolidation, stagnation, and possible rejuvenation or decline. Seasonality plays a critical role in this cycle, influencing visitor numbers and the sustainability of hospitality enterprises. In Kisumu Region, tourism is still in the development phase, with periodic fluctuations affecting business performance.

1.5.2 Demand-Supply Theory in Tourism

The demand-supply theory explains tourism seasonality due to fluctuations in tourist preferences, climate conditions, and economic factors (Lundtorp, 2001). Demand for hospitality services varies based on peak and off-peak seasons, while the supply side struggles with capacity utilization, pricing strategies, and labor management.

1.5.3 Customer Loyalty and Patronage Theory

The customer loyalty and patronage theory (Reichheld & Sasser, 1990) highlights the role of repeat customers in business sustainability. High patronage rates help businesses withstand Seasonality by ensuring a consistent revenue stream. In the hospitality industry, loyalty programs and customer relationship management enhance repeat visits, mitigating revenue volatility.

2. LITERATURE REVIEW

2.1 Introduction

The hospitality and tourism industry plays a crucial role in economic development, employment generation, and cultural exchange. However, Seasonality remains a persistent challenge affecting revenue stability, operational efficiency, and long-term sustainability. This chapter reviews the existing literature on the key themes of the study, including tourism seasonality, hospitality enterprise size, and patronage rates. It also examines their interrelationship and how they shape visitor flow dynamics. The review draws from global, regional, and local studies to establish the theoretical and empirical foundations of the research.

2.2 Tourism Seasonality and Visitor Flow Dynamics

Tourism seasonality is one of the most studied phenomena in tourism research. Butler (2001) defines it as periodic fluctuations in tourist numbers caused by climatic variations, holiday cycles, and socio-cultural factors. In many destinations, Seasonality leads to underutilization of resources during off-peak periods and over-congestion during peak seasons (Baum & Hagen, 1999).

Studies in various tourism destinations indicate that Seasonality affects employment patterns, profitability, and business sustainability (Koenig & Bischoff, 2005). In Kenya, Sindiga (1996) notes that Seasonality impacts domestic tourism, with higher visitor numbers recorded during

school holidays and festive seasons. However, Kisumu Region has unique seasonality patterns influenced by cultural events, business tourism, and ecological attractions.

The impact of Seasonality on revenue generation varies across different tourism destinations. Jang (2004) argues that the degree of Seasonality influences marketing strategies, pricing models, and operational adjustments. In Kisumu, it remains unclear how hospitality businesses cope with these fluctuations and whether targeted marketing interventions can mitigate adverse effects.

2.3 Hospitality Enterprise Size and Business Resilience

Enterprise size plays a significant role in determining how businesses navigate tourism seasonality. Pizam and Mansfeld (2006) assert that larger hospitality businesses often have more financial stability, allowing them to implement long-term strategies to counter seasonality challenges. They can diversify their offerings, expand market segments, and invest in promotional campaigns to attract visitors year-round.

On the other hand, small and medium-sized enterprises (SMEs) are more vulnerable to seasonality shocks due to limited financial reserves and operational constraints (De Sausmarez, 2013). A study by Getz and Carlsen (2005) highlights that small

hospitality enterprises often depend on peak-season revenues to survive, making them highly susceptible to off-peak downturns.

Empirical studies show that enterprise size influences the hospitality sector's pricing strategies, labor retention, and innovation capacity. For example, a study by Kariuki and Odari (2022) in Kenya found that large hotels in Nairobi adjust their pricing models to attract business travelers during off-peak periods, while smaller enterprises struggle with occupancy fluctuations. However, there is limited research on how Kisumu's hospitality enterprises of different sizes manage Seasonality.

2.4 Patronage Rates and Customer Retention in Tourism

Customer patronage is a key factor in sustaining hospitality enterprises. Patronage refers to the frequency and loyalty of customers visiting a business. Oh (1999) argues that high patronage rates stabilize revenue flows by reducing dependency on seasonal tourists. Repeat customers contribute to brand reputation and word-of-mouth marketing, enhancing business resilience.

Research indicates that loyalty programs, personalized services, and customer relationship management effectively increase patronage rates (Reichheld & Sasser, 1990). Businesses invest in digital marketing, membership programs, and

exclusive discounts in developed tourism markets to encourage repeat visits.

In Kenya, limited studies have examined how patronage rates influence hospitality enterprises outside major tourism hubs such as Nairobi and Mombasa. Kariuki and Odari (2022) suggest that cultural and business tourism in Kisumu could offer opportunities for sustaining customer loyalty, but empirical evidence is scarce. Understanding the role of patronage rates in mitigating seasonality impacts is essential for developing targeted business strategies.

2.5 Interaction of Seasonality, Enterprise Size, and Patronage Rates

The interrelationship between tourism seasonality, enterprise size, and patronage rates has received limited attention in research. A study by Lundtorp (2001) emphasizes that businesses with high patronage rates are better equipped to handle seasonality challenges as they have a steady base of loyal customers. Larger enterprises tend to have better capacity to implement patronage-enhancing strategies, while smaller enterprises struggle due to financial limitations.

Koenig and Bischoff (2005) argue that enterprise size moderates the impact of Seasonality, with large firms adopting diversified revenue strategies, while SMEs are more exposed to risks. In Kisumu, it remains unclear how these factors interact to influence visitor flow dynamics. This

study seeks to fill this gap by analyzing empirical data on seasonality patterns, enterprise resilience, and patronage strategies.

2.6 Summary of Literature Review and gaps to be filled

The literature review highlights that tourism seasonality significantly affects hospitality enterprises, leading to financial instability and operational challenges. Enterprise size influences the ability to navigate seasonal fluctuations, with larger businesses having more resources to manage off-peak periods. Patronage rates are crucial in sustaining businesses, as high customer retention reduces revenue dependency on peak seasons.

Despite extensive studies on Seasonality in global tourism destinations, research on how these factors interact in Kisumu Region is limited. The study will contribute to existing knowledge by providing empirical evidence on how Seasonality, enterprise size, and patronage rates influence visitor flow dynamics in Kisumu's hospitality sector.

3. MATERIALS AND METHODOLOGY

3.1 Introduction

This section outlines the research design, target population, sampling techniques,

data collection methods, and data analysis procedures used to examine the interaction of tourism seasonality, hospitality enterprise size, and patronage rate in visitor flow dynamics in Kisumu Region, Kenya. The methodology ensured that the study provided valid, reliable, and generalizable results.

3.2 Research Design

This study adopts a mixed-methods research design, integrating quantitative and qualitative approaches. The quantitative aspect involves statistical analysis of visitor flow patterns, enterprise characteristics, and patronage rates, while the qualitative aspect provides deeper insights into managerial strategies and customer perceptions. Using mixed methods enhances the robustness of the findings by capturing both numerical trends and contextual explanations (Creswell & Clark, 2017).

3.3 Study Area

The study was conducted in Kisumu Region, located in western Kenya. Due to its strategic position along Lake Victoria, Kisumu Region is a key tourism and hospitality hub. The Region hosts diverse tourist attractions, Lake Victoria (the largest fresh water lake in Africa with related attractions and activities), Impala wildlife sanctuary (a 1km² wildlife sanctuary with Impala, Hippos, birds, baboons and leopards), Ndere Islands National Park, Kit

Mikayi granitic tors (large upright stone with myths and legends among the local Luo community and believed to bestow good fortune to visitors), Ahero rice fields, Kajulu Hills, Rusinga island (base for exploring L. Victoria with plenty of birdlife) and Ruma National Park (120 km² of savanna and hills, last refuge for the roan Antelope and home to Rothschild giraffe and Oribi antelope) among other natural attractions. Cultural and historical attractions: Lwanda Magere (a site where the strong legendary Luo community warrior was killed during wars with a neighbouring community and is used for rituals and prayers), Kisumu Museum (established in 1980 and consists of among others a UNESCO sponsored traditional Luo community homestead), Jomo Kenyatta Sports Ground, Kotetni Cultural Centre (Rotich, Nthiga, Bor, & Kogola, B. 2012), and cultural festivals, and conference tourism activities. The hospitality sector comprises

hotels, lodges, guesthouses, and restaurants that experience fluctuations in visitor numbers due to seasonal demand patterns.

3.4 Target Population

The target population for the study included the Hospitality enterprises (Hotels, motels, lodges, and guest houses; Restaurants and Clubs of different sizes operating in Kisumu Region); Tourists and visitors (Domestic and international tourists who visit Kisumu's hospitality establishments); Tourism and hospitality managers (Managers and business owners overseeing hospitality enterprises); Government and industry stakeholders (Representatives from Kisumu Region Tourism Department and Kenya Tourism Board)

Table 3.1: Population and sample sizes of Hospitality Enterprises in Kisumu Region by category

<i>Categories of Tourism/hospitality enterprises/business in Kisumu Region</i>	Population size	Sample size
Hotels, Motels and Lodges	128	76
Guest Houses	70	41
Restaurants and Clubs	68	40
Total Population Size	266	157

Source: Tourism Regulatory Authority, Kisumu Region.

3.5 Sampling Procedure and Sample Size

A multi-stage sampling technique was used to select participants.

3.5.1 Sampling of Hospitality Enterprises

A stratified sampling approach was adopted in order to categorize hospitality businesses into three groups, as shown in Table 3.1 above. Using the sample size formula for proportions:

$$n = \frac{Z^2 \cdot p \cdot (1 - p) \cdot N}{E^2 (N - 1) + Z^2 \cdot p \cdot (1 - p)}$$

Where:

Z is the z-score for a 95% confidence level (1.96);

P is the assumed population proportion (typically 0.5 for maximum variability)

E is the margin of Error (0.05)

N is population size (266)

This formula gives us a sample of 157, which is statistically sufficient.

Applying the proportionate stratified sampling given by;

$$n_h = \frac{N_h}{N} \times n$$

Where:

n_h = sample size for the stratum h

N_h = Population size of the stratum h

N = Total population size

n = Total sample size

From this, it gives us Hotels, Motels and lodges=76; Guest houses=41 and Restaurants and clubs =40 as shown in table 3.1 above

3.5.2 Sampling of Tourists and Visitors

Convenience sampling surveyed 200 tourists visiting selected hospitality establishments in different seasons in the Region of Kisumu.

3.5.3 Sampling of Tourism and Hospitality Managers

A purposive sampling approach selected 30 managers from sampled hospitality enterprises.

3.5.4 Sampling of Government and Industry Stakeholders

Five key informants from the Kisumu Region Tourism Department and Kenya Tourism Board were interviewed.

3.6 Data Collection Methods

3.6.1 Primary Data Collection

Primary data was collected through Structured questionnaires (Administered to tourists and hospitality managers to gather information on Seasonality, patronage trends, and enterprise performance) and key informant interviews (Conducted with policymakers and industry stakeholders to understand regulatory and strategic responses to Seasonality)

3.6.2 Secondary Data Collection

Secondary data was obtained from Hotel occupancy records (To analyze visitor flow trends), Kisumu Region tourism reports (To assess historical seasonality patterns), and Kenya National Bureau of Statistics (KNBS) publications (For macroeconomic indicators affecting tourism).

3.7 Data Analysis and Presentation

3.7.1 Quantitative Analysis

To analyze the interaction between tourism seasonality, hospitality enterprise size, and patronage rates, the study employed two-way and three-way Analysis of Variance (ANOVA):

- i) Two-Way ANOVA: Examined the effect of Seasonality (peak, shoulder, and off-peak seasons) and hospitality enterprise size (small, medium, and large) on patronage rates. These tested for interaction effects to determine whether Seasonality's impact varies across different enterprise sizes.
- ii) Three-Way ANOVA: Assessed the simultaneous effects of seasonality, enterprise size, and visitor type (domestic vs. international tourists) on patronage rates. This helped to identify any interaction effects between these three independent variables.

The analysis evaluated statistical significance (p-values), effect sizes (Partial Eta Squared), and observed power to assess

the robustness of the findings (interactions).

Qualitative data from interviews was analyzed using thematic analysis, identifying patterns in managerial strategies and stakeholder perspectives.

3.7.2 Presentation of Findings

For clarity and comparability, findings were presented using tables, graphs, and thematic narratives.

3.8 Ethical Considerations

Before data collection, informed consent was obtained from all participants. Responses were anonymized to maintain confidentiality. Ethical clearance was sought from the relevant research ethics committee and regulatory authorities.

4. RESULTS AND DISCUSSIONS

4.1 Introduction

This section presents the results of a repeated-measures ANOVA to examine the effects of seasonality and its interactions with enterprise size and patronage rate factors on the number of visitors served per month. The analysis aimed to determine whether these factors significantly influence visitor numbers and how they interact with one another.

Multivariate analysis of variance was adopted in the analysis, based on a Mixed Design Model with Seasonality as Within Subject Factor (Repeated Measures), level

of weekly patronage and size of tourism enterprise were both treated as Between Subject Factor Weekly Patronage and Size

of Tourism Enterprise factors were both measured at three levels as indicated in Table 4.1 below.

Table 4.1: Between-Subjects Factors and their Levels

Factors	Levels	Value Label	n
Tourism Enterprise Size	1.00	30 or fewer Patrons	46
	2.00	31 through 96 Patrons	65
	3.00	97 and More Patrons	46
Patronage Rate	1.00	10 and fewer Customers per week	54
	2.00	11 through 30 Customers per week	54
	3.00	31 and more Customers per week	49

Table 4.1 presents the between-subject factors and their levels, categorizing hospitality/tourism enterprises by size and patronage rate. According to Tourism/hospitality enterprise sizes, the study divided them into three levels based on the number of patrons' Small enterprises (≤ 30 patrons) - 46 cases; Medium enterprises (31-96 patrons) - 65 cases and Large enterprises (≥ 97 patrons) - 46 cases. The analysis shows that Medium-sized enterprises form the largest group (65); Small and large enterprises are almost evenly distributed (with 46 each). According to weekly customer numbers Low patronage (≤ 10 customers/week) - 54 cases; Moderate patronage (11-30 customers/week) -54 cases and High patronage (≥ 31 customers/week) - 49 cases. The analysis indicates that the distribution is relatively even across all three categories. This classification can be useful for assessing customer engagement and business sustainability.

From this analysis, it can be shown that the study's data set is well-structured for comparative analysis between enterprise size and patronage. The near-equal distribution across categories suggests a balanced dataset, which is beneficial for statistical tests like ANOVA.

4.2 Mauchly’s Test of Sphericity

Mauchly's Test is a preliminary tool in repeated measures ANOVA, its meant to determine whether the assumption of sphericity is met. Sphericity means that the variances of the differences between all combinations of conditions (levels of the within-subjects factor) are equal. The wisdom behind this test is to ensure the validity of ANOVA test; if the assumption is violated, the standard F-tests in ANOVA will be overestimated thus increasing the risk of a Type I Error (false positive). Secondly, it identifies the need for correction and calls for choosing the right statistical approach in

Table 4.2 : Mauchly's Test of Sphericity

Measure: Number of Visitors Served per Month							
Within Subjects Effect	Mauchly's W	Approx. Chi-Square	Df	Sig.	Epsilon		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Seasonality	.000	3965.258	65	.000	.118	.131	.091

Note: Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

the analysis. Lastly, the test helps detect the dependencies in repeated data measures. The results in table 4.2 above indicate that Mauchly's W = 0.000, this low value indicates a severe violation of sphericity. The Chi-Square (3965.258), df = 65, Sig. = 0.000, the significance value ($p < 0.05$) suggests that the test is statistically significant, meaning the assumption of sphericity is violated. The Epsilon values (Correction Factors for Violating Sphericity), Greenhouse-Geisser: 0.118; Huynh-Feldt: 0.131, and the Lower-bound: 0.091, are all below 1, confirming a substantial departure from sphericity. These results imply a need to apply a correction method to adjust the degrees of freedom in the repeated measures ANOVA.

4.3 Analysis of variance (ANOVA)

This section presents the results of a repeated-measures ANOVA analysis after correction for the dependent variable, "*Number of Visitors Served per Month.*" Seasonality is the main within-subjects factor and is also analyzed in interaction

with other factors (Enterprise Size and Patronage Rate Factor).

4.3.1 Main Effect of Seasonality

Figure 4.1 represents the Estimated Marginal Means of Tourist Arrivals across different levels of Seasonality from Jan- Dec (1 to 12) for tourism enterprises categorized by size: 30 and fewer patrons (green line), 31 to 96 patrons (blue line), 97 and more patrons (yellow line). From the figure, we can see that the most prominent enterprises (97+ patrons) exhibit significant seasonal fluctuations, with peaks around January (1) to March (3) and August (8) to October (10). Smaller enterprises show a relatively stable trend with minor fluctuations.

Larger enterprises experience higher tourist arrivals but also face greater seasonal volatility. Smaller enterprises have more stable but lower tourist arrivals, suggesting they might not rely as much on peak seasons. During the months between April and September, all enterprise sizes experience a period of relatively stable

arrivals, though large enterprises still maintain slightly higher numbers.

These results imply that tourism in larger enterprises is highly seasonal, peaking in

specific months (possibly due to holidays, events, or weather conditions). Smaller businesses may have a more stable customer base, possibly relying on domestic or regular clientele.

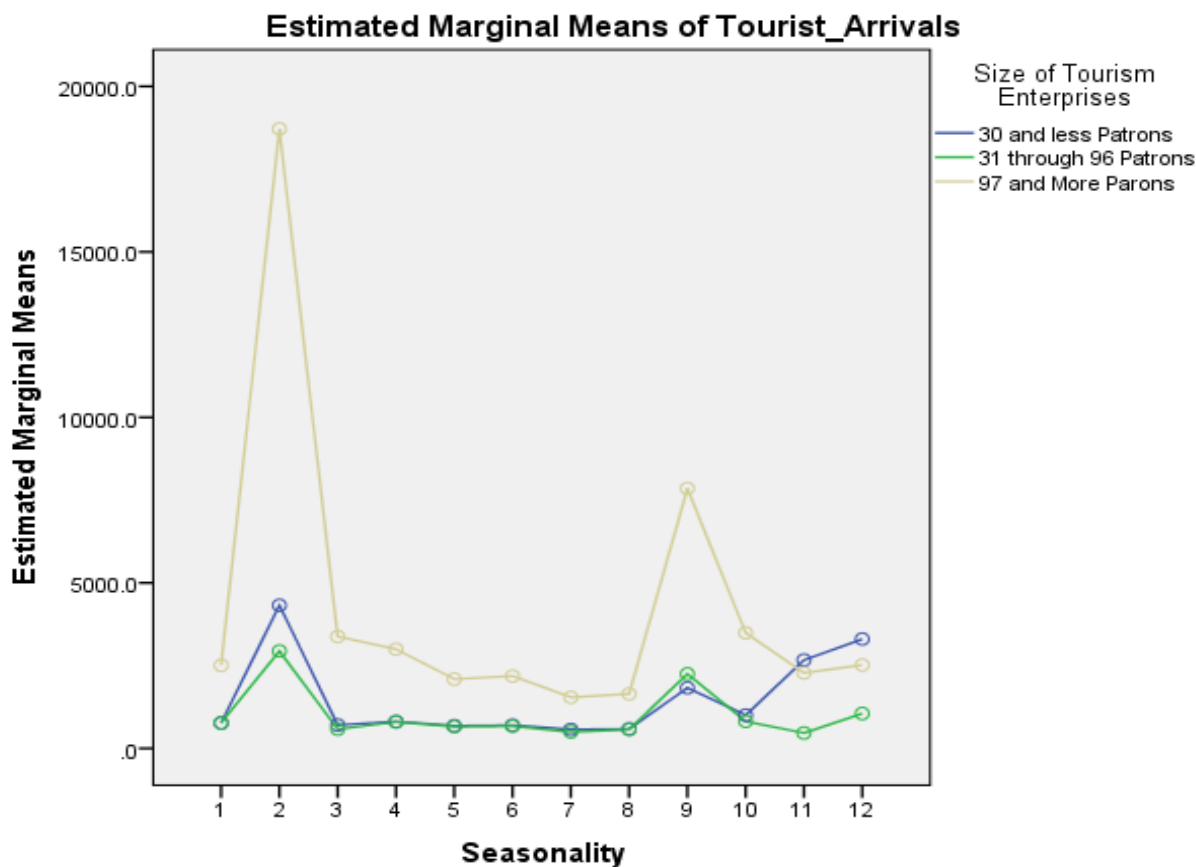


Figure 4.1: Interaction Effect of Seasonality

The results in Figure 4.1 show that the seasonality factor significantly affects the number of visitors served per month. The Sphericity Assumed row shows $F(11, 957) = 6.581$, $p = .000$, indicating a strong effect. The Partial Eta Squared (η^2) value 0.070 suggests a small to moderate effect size. Observed power = 1.000 suggests high confidence in detecting an effect.

The effect of Seasonality is statistically significant ($p < .05$), indicating that visitor numbers vary significantly across different months. The results imply that businesses and policymakers should account for seasonal fluctuations when making operational and financial decisions, such as staffing, marketing, and resource allocation.

4.3.2 Interaction between Seasonality and Enterprise Size

The results indicate that interaction between Seasonality and Enterprise Size is significant with $F(22, 957) = 2.826$, $p = .000$. The Partial Eta Squared is 0.061, indicating a small to moderate effect; Observed power ranges from 0.542 to 0.622, meaning the likelihood of detecting an effect is moderate. The study can infer that Seasonality affects visitor numbers differently depending on enterprise size. This implies that larger enterprises may experience different seasonal trends than smaller ones. This calls for tailored strategies that depend on enterprises of varying sizes to optimize resource utilization during peak and off-peak periods.

4.3.3 Interaction between Seasonality and Patronage Rate Factor

The results indicate this interaction is not statistically significant ($F = 1.045$, $p = .405$). The Partial Eta Squared (η^2) statistic is 0.023, indicating a weak effect, and the Observed power (0.259–0.820) suggests a lower ability to detect an effect. These results imply that the patronage rate does not strongly moderate the effect of Seasonality. This implies that seasonal variations in visitor numbers occur independently of patronage rate. This suggests that customers behave similarly across different patronage categories throughout the year, meaning businesses do not need to develop patronage-specific seasonal strategies.

The current study's findings align with the results of Baum and Lundtorp (2001), who argued that in some urban destinations, tourism seasonality has a minimal impact due to a steady flow of business travelers. As a lakeside city with a blend of leisure and business tourism, Kisumu experiences seasonality effects but not to the extreme levels observed in purely leisure-driven destinations. However, the findings are inconsistent with Butler's (1980) Tourism Area Life Cycle Model, which suggests that destinations experience fluctuating visitor numbers due to cyclical demand.

4.3.4 Three-way Interaction: Seasonality x Enterprise Size x Patronage Rate factor

From the three-way ANOVA (Table 4.3, shown at the end of the document), the Interaction of Seasonality, Enterprise Size, and Patronage Rate Factor is not significant with ($F = 0.743$, $p = .891 > .05$), the Partial Eta Squared (η^2) statistic is 0.033, showing a weak effect. The Observed power is low (ranging from 0.227 to 0.853), meaning the study might not be well-powered to detect this interaction. These findings indicate that the combined effect of Seasonality, enterprise size, and patronage rate does not meaningfully influence visitor numbers. This implies no need to design strategies that simultaneously account for Seasonality, enterprise size, and patronage rate. Instead, businesses should focus on Seasonality and enterprise size as primary considerations.

This does not align with the works of Naudé and Saayman (2005), who found that domestic tourism helps stabilize occupancy

rates in emerging economies. In contrast, international tourists are more influenced by global travel patterns. However, the findings align with Li et al. (2018), who suggested that international tourists tend to visit year-round in rapidly growing tourism markets due to improved air connectivity and promotional campaigns. The divergence in findings may be attributed to Kisumu's limited direct international flight connections, which affect foreign visitor accessibility.

From the qualitative data collected from the key informant interviews and focus group discussions, the following were recorded as the main themes in terms of Seasonality:

Hotel Manager (Large Enterprise)

"During peak seasons, our occupancy rate reaches almost 90%, and we even have to turn away walk-in guests. However, we struggle to fill even half of our rooms during the low season. This inconsistency affects our revenue and staff Planning."

Guesthouse Owner (Small Enterprise)

"Small businesses like ours are hit the hardest by lowseasons. Unlike big hotels that can rely on conference bookings, we depend entirely on leisure tourists, who drastically reduce in the off-peak months."

Tourism Official (Kisumu Region Government)

"Seasonality remains a major challenge for tourism in Kisumu. While we see increased visitors during major events like the Lake Victoria Cultural Festival, the numbers drop significantly outside these periods."

On the strategies for Coping with Seasonality, the following were noted;

Hotel General Manager (Large Enterprise):

"We mitigate low seasons by hosting corporate events, government seminars, and discounted vacation packages. Our loyalty program also helps maintain repeat customers throughout the year."

Restaurant Owner:

"During off-peak seasons, we adjust our menu pricing and introduce local dishes to attract domestic customers. We also promote home deliveries to maintain cash flow."

Tourism Association Representative:

"One strategy we advocate for is diversifying Kisumu's tourism offerings beyond seasonal events. More investment in eco-tourism and cultural tourism could attract visitors year-round."

Concerning the Impact of Enterprise Size on Visitor Retention and Business

Performance, the following were noted by the key informants;

Operations Manager (Medium-Sized Hotel)

"Our business is more stable than smaller enterprises because we have a mix of domestic business travelers and leisure tourists. But we still see fluctuations, especially when business conferences are fewer."

Small Lodge Owner

"Unlike big hotels that offer discounts and promotions during low seasons, we lack the financial capacity to do so. As a result, we often have to close some sections of our facility to cut costs."

On visitors Preferences and Trends, we noted the following themes

Domestic Tourist (Frequent Visitor):

"I usually travel to Kisumu for business, and I prefer larger hotels because they offer conference facilities and reliable services. However, I sometimes choose smaller lakeside lodges for leisure, especially when traveling with family."

International Tourist:

"Kisumu has great tourism potential, but the infrastructure still needs improvement. I found securing accommodation in smaller lodges challenging because they don't

always update their availability online."

On policy and Government Support to the tourism and hospitality sector, the following were noted from discussions

Region Tourism Officer indicated as follows:

"The Region is working on improving marketing strategies to reduce the impact of Seasonality. We encourage private investors to develop more attractions to sustain visitor flow throughout the year."

Hospitality Association Official:

"Government support is crucial in promoting Kisumu as a year-round destination. Small hospitality enterprises should have more incentives to sustain operations during off-peak seasons."

5. CONCLUSION, RECOMMENDATIONS, AND AREAS FOR FUTURE RESEARCH

5.1 Conclusion

The study makes the following conclusions: Seasonality significantly affects visitor numbers, with a small to moderate impact. Enterprise size interacts significantly with Seasonality, meaning different business sizes experience seasonal variations differently. Patronage rate does not significantly moderate seasonal trends, indicating uniform customer behavior across patronage levels. The three-way

interaction is insignificant, meaning businesses do not need to consider all three factors together.

5.2 Recommendations

The study recommends that Kisumu enterprises need more potent marketing strategies, improved infrastructure, and policy interventions to mitigate seasonal variations in the hospitality industry. We also recommend adaptive business strategies and supportive government policies to enhance the industry's resilience.

5.3 Policy and Managerial Implications

From a policy and managerial perspective, the results indicate that hospitality enterprises in Kisumu should adopt dynamic pricing strategies, diversified product offerings, and targeted marketing campaigns to mitigate seasonality effects. These recommendations are consistent with Pegg et al. (2012), who argue that flexible pricing and package deals enhance occupancy stability in seasonally affected destinations.

Furthermore, policymakers should implement destination branding strategies that promote Kisumu as a year-round travel destination, aligning with Hall and Williams (2008), who emphasize the role of strategic tourism Planning in managing seasonality challenges.

5.3 Future Research

Investigating external factors such as economic conditions, tourism patterns, or marketing efforts could help explain variations in visitor numbers. A more

granular approach could yield better business predictive models, such as a monthly or weekly breakdown.

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Table 4.3: ANOVA Tests of Within-Subjects Effects

Measure: Number of Visitors Served per Month									
Source		Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared	Consent Parameter	Observed Power
Seasonality	Sphericity Assumed	3878038662.497	11	352548969.318	6.581	.000	.070	72.389	1.000
	Greenhouse-Geisser	3878038662.497	1.303	2975455308.788	6.581	.007	.070	8.577	.796
	Huynh-Feldt	3878038662.497	1.437	2699256502.809	6.581	.005	.070	9.455	.824
	Lower-bound	3878038662.497	1.000	3878038662.497	6.581	.012	.070	6.581	.718
Seasonality * Enterprise Size	Sphericity Assumed	3330802387.507	22	151400108.523	2.826	.000	.061	62.174	1.000
	Greenhouse-Geisser	3330802387.507	2.607	1277792011.497	2.826	.049	.061	7.367	.622
	Huynh-Feldt	3330802387.507	2.873	1159180037.449	2.826	.044	.061	8.121	.654
	Lower-bound	3330802387.507	2.000	1665401193.753	2.826	.065	.061	5.652	.542
Seasonality * Patronage Rate Factor	Sphericity Assumed	1231259398.779	22	55966336.308	1.045	.405	.023	22.983	.820
	Greenhouse-Geisser	1231259398.779	2.607	472346672.304	1.045	.369	.023	2.723	.259
	Huynh-Feldt	1231259398.779	2.873	428500748.450	1.045	.373	.023	3.002	.272
	Lower-bound	1231259398.779	2.000	615629699.390	1.045	.356	.023	2.089	.227
Seasonality * Enterprise Size * Patronage Rate Factor	Sphericity Assumed	1751602708.798	44	39809152.473	.743	.891	.033	32.696	.853
	Greenhouse-Geisser	1751602708.798	5.213	335982698.495	.743	.598	.033	3.874	.265
	Huynh-Feldt	1751602708.798	5.747	304794859.821	.743	.610	.033	4.270	.280
	Lower-bound	1751602708.798	4.000	437900677.199	.743	.565	.033	2.972	.230
Error (Seasonality)	Sphericity Assumed	51268489789.337	957	53572089.644					
	Greenhouse-Geisser	51268489789.337	113.391	452139624.298					
	Huynh-Feldt	51268489789.337	124.993	410169434.392					
	Lower-bound	51268489789.337	7						