UNIVERSITY OF MINDANAO TAGUM BRANCH

**BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY**

**Department of Arts and Science Education**

Visayan Village, Tagum City, Philippines

**Course Requirements**

**In**

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**Professional Track for IT 6 (IT20/L)**

**TITLE: Analysis of Daily Bike Rental in Energy Park, Tagum City: A study on Usage Trends and Community Engagement**

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**ABSTRACT:**

This study investigates the daily bike rental patterns in Energy Park, Tagum City, with a focus on understanding the usage trends and community engagement associated with the bike-sharing program. Energy Park is a popular recreational area where many residents and visitors enjoy cycling, making it an ideal location to examine the dynamics of bike rentals. By analyzing detailed rental data, this research aims to identify peak usage times and demographic patterns of users.

Furthermore, the study explores the overall impact of the bike rental service on park attendance and activity levels. Through comprehensive data analysis, we seek to uncover how the availability and use of rental bikes influence the number of visitors to the park and their engagement in various activities. These insights are intended to help optimize the bike rental program, enhancing its effectiveness and ensuring it meets the needs of the community.

**INTRODUCTION:**

Energy Park in Tagum City has established itself as a vibrant and essential hub for community activities and outdoor recreation. Known for its scenic beauty and well-maintained facilities, the park attracts a diverse group of visitors, ranging from residents to tourists. People frequent the park for various reasons, including relaxation, exercise, social gatherings, and recreational activities. Recognizing the park’s popularity and the community's growing interest in sustainability, the city introduced a bike rental program.

The Bike rental program at Energy Park was launched with the dual purpose of promoting eco-friendly transportation and enhancing the overall visitor experience. By providing an accessible and enjoyable means of exploring the park, the initiative aims to reduce the reliance on motor vehicles within the park, thereby lowering carbon emissions and contributing to a cleaner environment. Additionally, the program is designed to encourage physical activity among visitors, aligning with public health goals and promoting an active lifestyle.

Since its inception, the Bike rental program has experienced varying levels of engagement from the public. Certain periods have seen a high uptake of the bikes, particularly during weekends, holidays, and special events, while other times have witnessed lower usage rates. Factors such as weather conditions, marketing efforts, and the availability of bike influence these fluctuations. Understanding these patterns of engagement is crucial for the continuous improvement and sustainability of the program.

This study aims to provide a comprehensive analysis of the daily bike rental collected from Energy Park. By delving into the specific of user behavior, including the frequency and timing of rentals, demographic information of the renters, and external factors affecting usage, the research seeks to uncover underlying trends and preferences. The goal is to gain actionable insights that can help optimize the bike rental service, ensuring it meets the needs and expectations of the community.

A detailed examination of the data will reveal peak usage times, preferred rental duration, and the demographic most likely to use service. Additionally, the study will explore how external factor such as weather conditions, seasonal changes, and park events impact bike rental rates. By correlating these data points, the research will identify strategies to enhance the service, such as adjusting the number of available bikes during high-demand periods, improving marketing outreach, and incorporating user feedback for ongoing enhancements.

Ultimately, this research endeavors to not only improve the efficiency and appeal of the bike rental program but also to contribute to the broader objectives of sustainable urban development and community well-being. By fostering a deeper understanding of user behavior and preferences, the study aims to support the park's mission of providing a healthy, enjoyable, and environmentally friendly recreational space for all.

**METHODOLOGY:**

The research utilizes quantitative data analysis methods, examining rental records over a specified period. Data points include the number of rentals per day, duration of rentals, and weather conditions. Statistical tools are used to identify trends and correlations.

1. **DATA ANALYSIS**
2. **DISCUSSION**
3. **CONCLUSION**