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Rizal Province as a bicycle tourism destination: Bikers' inputs for enhancement

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Abstract

Bicycle tourism can lead to sustainability, economic growth, and competitiveness of a destination. However, there is limited research on bicycle tourism in the Philippines where this niche adventure activity may be positioned for a specific tourist segment. Rizal Province, rich in natural and man-made attractions, varied topography and hospitable communities, can be tapped into the growing interest for cycling tourism. Two main criteria were used to evaluate the province. Its attractiveness was assessed based on tourist attractions, accessibility, amenities, and complementary services. While environmental factors such as the natural, built, and social environments, and the road network characteristics were reviewed to understand its influence on intentions to visit. Demographic data included age, gender, marital and employment status, and biking experience. The research used a structured questionnaire and data collection was conducted using online and onsite surveys. The biker-respondents agreed that Rizal can be positioned as a bicycle destination based on its tourist attractions, amenities, infrastructure, and environments. The overarching goal of the research is to contribute to the design, implementation, and management of a new tourism offering for the province in collaboration with relevant private, public and non-government agencies such as the creation of itineraries, the provision of bike stops, off-road shelters, segregated bike lanes, and emergency response teams to further enhance its competitiveness

Keywords: competitive destination, environment, leisure biking

Rizal Province as a bicycle tourism destination: Bikers' inputs for enhancement

1. Introduction

Cycling has long been considered as a recreational activity designed for mental and physical health. It is seen as an environmentally-friendly way to explore a destination, try new cuisine, visit man-made and natural attractions, commune with nature, and meet with the locals, as well as a way to bond with family and friends. Moreover, part of its appeal arises from a seemingly infinite combinations of activities for individual and group bikers. This includes testing one's stamina on steep slopes; relaxing on campgrounds; discovering new routes; trekking; and simply taking photographs of the beautiful landscape and sweeping views of clouds, mountains, rivers, and lakes. All these create wonderful memories and shared experiences. Furthermore, cycling is a sustainable leisure activity that does not pollute the environment, reduces reliance on motorized vehicles, and helps preserve the environment.

The World Tourism Organization (WTO) emphasizes sustainable tourism activities and the strong collaboration between the public sector, private enterprises and the local communities. Bicycle tourism, a niche tourism product, may achieve the goals of sustainable tourism, destination competitiveness, and economic growth. Anchored on these, this thesis focused on evaluating the attractiveness of Rizal Province as a bicycle tourism destination. It also reviewed the environmental factors that can influence the motivations of cycling tourists to visit the province. There is limited research on bicycle tourism in the Philippines where the niche soft adventure activity is a potential new product designed for a specific tourist segment. The province of Rizal, rich in natural and man-made attractions, varied topography and hospitable communities, can tap into the growing interest for cycling tourism as an engine for tourism and economic growth.

The researcher conducted research on the potentials of bike tourism in the Province of Rizal due to the following reasons: (1) Rizal is blessed with natural, cultural, and religious attractions; (2) there is a growing interest in leisure biking in the province given its proximity to Metro Manila; (3) personal familiarity with the province, including Talim Island, which is a 30-45 minute boat ride from Binangonan; and (4) the passion to help develop a sustainable tourism plan for the province which can further enhance its economy and community growth. Although the researcher is not from Rizal, she has personal ties to the province through her spouse and in-laws and she seeks to participate in its provincial development as a tourist destination. The process of creating, developing, and marketing, and managing tourist destinations requires an evaluation of key success factors that can indicate its potential. Therefore, to evaluate the potential of Rizal Province as a bike tourism destination, two main criteria were used. First, the attractiveness of Rizal Province was assessed based on its tourist attractions, accessibility, amenities, and complementary services. Second, environmental factors that can influence cycling tourists to visit Rizal were reviewed.

These factors refer to the natural environment, built environment, social environment, and its road network characteristics. Experts agreed that the combination of these factors provide evidence that a destination can position itself as a haven for bikers. Previous researches revealed that both top and emerging bike destinations continue to use these criteria for tourism planning. These included studies in key biking destinations such as Vienna, Netherlands, and Germany as well as newer destinations like Greece, Croatia, and Taiwan. Thus, this research used this criteria as a starting point in determining the potential of the province of Rizal. In order to generate primary data, bikers were selected as the target respondents. As the main market segment for this niche tourism activity, their answers provided the researcher with valuable insights that can be compared with other biking destinations. Furthermore, this first-hand data from the main tourist market, the researcher was able to propose action plans and strategies that may enhance and improve the capacity of the province to become a biking destination.

With the lockdowns that limited the number and mobility of motorized vehicles, biking has become a feasible option for some. On the other hand, these restrictions fueled the need for a quick, short getaway where there are wide, open spaces. The province of Rizal is accessible for bikers from many points in Luzon. It is considered as a quick getaway that offers spectacular natural attractions, varied terrain, and historical, religious, and cultural sites. Its allure is evidenced by numerous narratives, photos, and videos posted in social media. Experienced cyclists shared their accomplishments of traversing difficult slopes, while new bikers talked about the easier trails. But generally, the posts, comments, and live discussions focused on their passion for biking for health and fitness and the joys of discovering the wonders of Rizal as seen in Antipolo City and 13 municipalities. Thus, the researcher saw the potential of the province as a tourism destination for bike tourists.

The research discussed the demographic profile of the biker-respondents, the destination attractiveness of Rizal province, and the environmental factors that can influence the visit intention of cycling tourists to the province. The demographics included the age, gender, marital status, employment status, number of years of biking experience, and the number of bike trips taken in a year. Tourist attractions, accessibility, amenities, and complimentary services were the criteria used to evaluate the attractiveness of Rizal Province as a bicycle tourism destination. Finally, the environmental criteria included the natural environment, built environment, social environment and road network characteristics. The variables of the research were adapted from Lee & Huang (2014) that discussed the attractiveness of Taiwan as a bicycle tourism destination and Bakogiannis et al. (2020) which analyzed the motivations and barriers of cycling tourism.

Objectives of the study - This study evaluated Rizal Province as a bicycle tourism destination. More specifically, (1) it presented the demographic profile of the respondents in terms of sex, employment status, marital status, age, bicycling experience, and the number of biking trips taken each year; (2) assessed the attractiveness of the Rizal Province as a bicycle tourism destination in terms of: tourist attractions, accessibility, amenities and complementary services; (3) determined the environmental factors influencing the cycling tourists to visit Rizal province in terms of natural environment, built environment, social environment and road network characteristics; (4) tested the significant difference when grouped according to the profile variables; and (5) proposed an action plan to improve Rizal Province as a bicycle tourism destination.

2. Method

The research used a quantitative design to generate results. Hair et al. (2006) stated that a quantitative research is characterized by a structured questionnaire with pre-determined response options to validate facts, estimates, and relationships (pp. 171-172). Target respondents were leisure cyclists with the total number of 385. Statistics from the Department of Tourism (2022) revealed the following data on foreign and domestic tourist arrivals in Rizal: 2,673,580 (2019); 1,735,808 (2018); and 784,407 (2017). However, there were no specific data on bike tourists who visited the province. The Raosoft was used to get the minimum number of required respondents based on the 2019 total tourist arrivals. The parameters were set to a five percent (5%) margin of error, 95% confidence level, with a response distribution of 50%.

The final questionnaire was composed of three parts. Part One asked about the demographic profile of the cyclist-respondents in terms of gender, marital status, age, employment status, their bicycling experience, terms of the number of years, and the number of biking trips they take each year. Part Two consisted of four criteria designed to evaluate the attractiveness of the Rizal Province as a bicycle tourism destination. These were tourist attractions, accessibility, amenities, and complementary services. This was adapted from the research by Lee & Huang (2012) that discussed the attractiveness of Taiwan as a bicycle tourism destination. Part Three was designed to determine the environmental factors influence the cycling tourists to visit Rizal province in terms of natural environment, built environment, social environment and road network characteristics. This was adapted from the research by Bakogiannis et al. (2020) on the motivations and deterrents of cycling tourism. The factors listed under Parts II and III were evaluated using the Likert scale. The attractiveness of Rizal Province as a bicycle tourism destination will be rated as follows: 5 - Strongly Agree; 4 – Agree; 3 - Moderately Agree; 2 –

Disagree; and 1-Strongly Disagree. For the environmental factors, the rating will be 5 - Excellent; 4 - Very good; 3 - Good; 2 – Fair; and 1-Poor. Below is the reliability test result from the conducted pilot testing.

The reliability results indicated that all inconsistency ratios (IRs) are 0.06 or lower, which satisfied the threshold of 10% inconsistency and confirm the consistency and reliability of expert judgements.

ATTRACTIVENESS OF THE RIZAL PROVINCE AS A BICYCLE TOURISM DESTINATION

Item	No. of Items	Cronbach Alpha	Remarks
Attraction	5	0.884	Good
Accessibility	8	0.902	Excellent
Amenities	9	0.902	Excellent
complementary services	9	0.941	Excellent
ENVIRONMENTAL FACTORS INFLUENCE THE CYCLING TOURISTS			
Natural Environment	6	0.863	Good
Built Environment	6	0.928	Excellent
Social Environment	5	0.902	Excellent
Road Network Characteristics	8	0.912	Excellent

The instrument was adapted from research by Lee & Huang (2012) on “The Attractiveness of Taiwan as a Bicycle Tourism Destination: A Supply Side Approach” and “Exploring Motivators and Deterrents of Cycling Tourism using Qualitative Social Research Methods and Participative Analytical Hierarchy Process (AHP)” by Bakogiannis et al. (2020). The questionnaire adapted the dimensions and attributes used to determine the attractiveness of a bicycle tourism destination from the research conducted by Lee and Huang (2014). These factors are as follows: (1) tourist attractions; (2) accessibility; (3) amenities; and (4) complementary services. All items were identical to the original instrument.

In addition, the instrument adapted the parameters in determining the environmental factors that can influence cycling tourists to visit a destination. These are as follows: (1) natural environment; (2) built environment; (3) social environment; and (4) road network characteristics. This was developed by Bakogiannis et al. (2020). All factors were identical to the original instrument except for the addition of three parameters under the social environment, namely, friendly and respectful locals, safe social environment, and well-versed locals or easy to communicate with.” Furthermore, the research, published by MDPI, is an open access article distributed under the terms and condition of the Creative Commons Attribution (CC BY) license. This license allows the work to be shared (“copy and redistribute the material in any medium or format”) and adapted (”remix, transform, and build upon the material for any purpose, even commercially” (Creative Commons, n. d.).

Upon receipt of the reliability test results, the link to the final research instrument was shared through 75 bike groups posted in Facebook. The survey was made available from February 11 to March 6, 2022. Aside from the Facebook groups, the link was also shared via Messenger. A snowball sampling technique was used to reach respondents. According to Cooper and Schindler (2008), the snowball is a nonprobability sampling procedure similar to a referral system wherein respondents pass on the questionnaire to other individuals who share similar experiences and characteristics, who, in turn, identify others (pp. 399, 712). In addition, the questionnaire was printed for onsite surveys conducted on February 28, March 5, and March 6. The researcher was assisted by family and friends who went to Antipolo City, Taytay, and Cainta to get respondents. These locations were selected to generate the maximum number of respondents. It was interesting to note that there were some

"protocol" when it came to Facebook posts and onsite surveys. The acronym PTPA, which translates to "permission to post admin" was observed to request approval for posting the survey. A good number of groups required "approved membership" before any posts could appear on their social media accounts. There were a few that rejected the request to post the questionnaire. The researcher personally invited Aleli Aseremo, a biker-member of a private group of women bikers named "Pinay Bike Commuter Community" to ensure that the questionnaire would get posted, while biker Andrei Seij Blanco assisted in getting the survey posted on male-dominated bike groups. Throughout the data collection, the survey was repeatedly posted on the groups to generate more responses.

Frequency and percentage distribution were used to describe the demographic profile of the respondents. Weighted mean and rank were used to assess the attractiveness of bicycle tourism destination and determine the environmental factors that influence the intention to visit. Based on the test of normality, the Shapiro-Wilk Test showed that p-values of all the variables are less than 0.05 which means that the data set is not normally distributed. Therefore, non-parametric test such as Kruska Wallis test for more than two groups was used to test the significant differences. All analyses were performed using SPSS version 26.

The questionnaire informed the respondents that their knowledge and expert opinions are valuable inputs to the research. In addition, the brief message mentioned that the results will be treated as confidential and will be used for academic purposes only. The conduct of the research was based on the ethical principles for the collection of data from participants. These principles are voluntary participation and the right to withdraw from the research; informed consent; protection of anonymity and confidentiality; avoidance of using deceptive practice; and minimize the risk of harm to participants (Lund Research Limited, 2020). First, the Google Forms were disseminated to 75 bike groups on Facebook who voluntarily responded to the call for respondents. The researcher requested for the approval of the Facebook group administrator, who in turn, permitted the survey link to this be posted on their accounts. Second, the respondents were informed that the questionnaire refers to an academic study on the attractiveness of Rizal as a biking destination. This was clearly stated on the Google Form survey. In addition, the personal surveys conducted in Antipolo, Taytay, and Cainta were likewise informed of the research objectives. When the bikers were in groups, the researcher followed the protocol of seeking the permission of the "leader" who, in turn, requested his/her friends to assist us. Third, the Google Form and printed survey sheet required them to fill in their names and their email addresses since this was a required input for the forms. However, biker respondents who answered the printed sheet were advised that they have the option not to reveal their identities. In addition, they were reminded that the questionnaire is for academic purposes and their personal information will remain confidential. Fourth, there was no deception involved as the research questionnaire was validated by three experts and pilot-tested prior to its conduct. Inquiries regarding the research questions were properly addressed and clarifications given to ensure understanding. Fifth, to eliminate the harm to the participants, the researcher visited the frequent stops of the bikers where they are relaxing and have time to answer the survey. The forms were also placed on clipboards with an attached pens to make it easier to fill in the forms. No biker was approached on the road or taking their meals.

3. Results and discussion

Table 1, Demographic Profile, presented the demographic information of the respondents, in terms of sex most number is male with 267, followed by female with 116 then those not prefer to say is 5. Majority of the respondents were male (68.8%) as compared with female (29.9%). There may be several reasons for this. First, bike groups are dominated by men. The researcher posted requests for survey respondents to 75 bike organizations listed on social media. Of these, only Pinay Bike Commuters Community, Tropang Women Bikers, and Women's Biker's Club Philippines are exclusive to women bikers. Second, the terrain and limited clean restroom facilities can discourage female bikers. Third, the schedules of our survey in Rizal may not have coincided with their bike trips. There were five (5) respondents who chose not to reveal their sex. The research instrument was purposely designed to be inclusive to empower respondents belonging to the lesbian, gay, bisexual, transgender, queer, intersex and asexual (LGBTQIA+) community. In addition, to avoid the confusing

terminologies over biological sex, sexual preference, and preferred identity, the phrase "prefer not to say" was used. Naresh (2021, April 16) recommends that "research and academia move towards a more gender-inclusive stance (para. 12). For employment status, employed respondents got the highest frequency of 213, next is the unemployed with 120 and the least is self-employed. A good number of the "unemployed" respondents who answered the printed questionnaire were students enrolled in either K-12 or in tertiary education. This may be the reason why they chose the "unemployed" option. According to them, "they bike with their friends, have breakfast and/or lunch together, and head back home early afternoon. When queried about how they got their bikes, the common answers were "gift from parents," "saved money from allowances," and "used money from gaming and/or selling items online." For the option on marital status, the option "prefer not to say" was also geared towards privacy and diversity where relationships may not necessarily be based on marriage between a man and a woman.

Table 1

Demographic Profile (N=388)

Profile Variables	Frequency	Percentage
Sex		
Male	267	68.8
Female	116	29.9
Prefer not to say	5	1.3
Employment Status		
Employed	213	54.9
Self-employed	55	14.2
Unemployed	120	30.9
Marital Status		
Single	225	58
Married	137	35.3
Prefer not to say	26	6.7
Age		
18 - 25 years old	123	31.7
26 - 41 years old	144	37.1
42 - 57 years old	108	27.8
58 - 67 years old	12	3.1
68 years old and above	1	0.3
Bicycling experience		
Less than 1 year	76	19.6
1-5 years	177	45.6
6-10 years	63	16.2
11 years and above	72	18.6
Number of biking trips taken each year		
At least once a year	71	18.3
2 to 5 times a year	79	20.4
6 to 9 times a year	25	6.4
More than 10 times a year	213	54.9

Table 2.1

Attractiveness of Bicycle Tourism Destination in terms of Tourist Attractions

Indicators	WM	VI	Rank
The destination…			
1. has beautiful scenery	4.63	Strongly Agree	1
2. has natural ecology	4.53	Strongly Agree	2
3. has comfortable climate	4.42	Agree	3.5
4. conducts events, festivals and activities	4.09	Agree	5
5. has cultural and historical sites	4.42	Agree	3.5
Composite Mean	4.42	Agree	

Table 2.1 shows the attractiveness of bicycle tourism destination in terms of tourist attractions with the composite mean of 4.42 with verbal interpretation of agree. The respondents strongly agreed that the Rizal has beautiful sceneries (4.63) and has natural ecology (4.53). Meanwhile, others agreed that the province has a comfortable climate and with cultural and historical sites (4.42). The respondents affirmed that Rizal abounds

with a beautiful landscape; it is also located near the Laguna de Bay and its topography offers sweeping views of clouds, hills, and the majestic Sierra Madre mountain range. Aside from its abundant natural resources, religious and cultural attractions, Rizal Province is endowed with Type 1 climate, with two pronounced seasons, dry season from November to April and wet season for the rest of the year. This type of climate is highly favorable for leisure cycling. Aschauer et al. (2019) enumerated the main motivations for leisure bikers, namely, natural attractions, cultural activities, regional cuisine, and related onsite activities such as trekking, and canoeing (p. 16).

The respondents also affirmed that the comfortable climate and the cultural and historical sites were ranked the lowest (3.5) among the indicators. The climate in Rizal is characterized by Type 1 which is a combination of the dry and wet season. However, the lack of bike stops and shelters may add to the fatigue and exhaustion experienced by bikers. On the other hand, the province is always positioned as a haven for natural attractions that can detract tourists from seeing its man-made structures. Sabri et al. (2019) stated that abrupt changes in weather can deter cycling tourists to visit a destination (p. 52). Aside from the dangers posed by rains, snow, and storms, Bakogiannis et al. (2020) observed that "bikers avoid winds that oppose their direction as they have to spend copious amounts of energy to overcome them" (p. 7). In order to keep themselves safe, bikers would either avoid the destination or change their routes (Sabri et al., 2019; Useche et al., 2019). According to Bakogiannis et al. (2020), bike tourists appreciate signposting and detailed information about both man-made and natural attractions as well as routes to local communities and current and forthcoming events. Sabri et al. (2019) likewise recommended the provision of maps with itineraries and activities that bikers can take advantage of given their mobility to traverse various areas, attend and participate in events that would further promote the destination.

Table 2.2

Attractiveness of Bicycle Tourism Destination in terms of Accessibility

Indicators	WM	VI	Rank
The destination…			
1. has connection -oriented transport services (e.g. rail, bus)	3.95	Agree	5.5
2. has connection with major roadways	4.24	Agree	2
3. has connection of bicycle routes	4.05	Agree	3
4. has bicycle parking lot	3.74	Agree	7
5. has road surface and pavement	4.01	Agree	4
6. has variety of terrain	4.31	Agree	1
7. has traffic flow and density	3.95	Agree	5.5
8. has segregated bicycle facilities (e.g. bicycle lanes, bicycle tracks, road shoulder, bicycle paths)	3.67	Agree	8
Composite Mean	3.99	Agree	

Table 2.2 presents attractiveness of bicycle tourism destination in terms of accessibility with the composite mean 3.99 with verbal interpretation of agree. As assessed by the respondents, the destination has a variety of terrain (4.31), has connection with major roadways (4.24) and bicycle routes (4.05). All these indicators as verbal interpretation of agree. The topography of Rizal Province is characterized by valleys, mountains, rugged ridges, rolling hills and flat areas. The routes also range from paved roads, steep slopes, and slight curves. To use the Filipino biker lingo, there are areas for "ahon" (uphill) "banayad" (not much effort required), "lusung" (downhill), bunny hop" (maneuvering over small rocks and potholes), and "siko" (sharp turn) that offer a variety of terrain from the "borly" (novice) to the "mamaw" (experienced cyclist). These types of terrain are likewise useful for training for bike races, endurance sports, long-distance trips, and mountain biking (Carmichael, 20212; Hampshire, 2021, August 26). These are also in line with literature from Bakogiannis, et al. (2020) that reported that some bikers "consider constant movement as a physical challenge and are pleased when manage to ascend upward slopes while others prefer flat surfaces similar to city roads" (p. 6).

In addition, the interconnected roadways further encourage biking in Rizal. It is easily accessible from the National Capital Region and from nearby provinces such as Bulacan from the north, Quezon from the east, and Laguna from the south. The importance of connectivity and presence of bike routes are discussed in studies by Yanga et al. (2019) who conducted a 10 year review of the direct relationship between the built environment and

cycling behaviors. On the other hand, Hardinghaus & Papantoniou (2020) studied route preferences of Greek and German bikers that revealed that "dedicated bike infrastructure such as protected bike lanes, bike routes, speed limits and other road factors" are important (p. 9).

The respondents ranked segregated bicycle facilities the lowest (3.67). Segregated bicycle facilities include bicycle lanes, bicycle tracks, road shoulder and bicycle paths. A quick observation of the road system revealed that motorists, pedestrians, and bikers occupy the same space. This does not provide adequate protection for bikers who "share" the road with other vehicles. Moreover, the steep and narrow roads limit the space for bikers. Studies revealed that the absence or limited provisions for segregated bicycle facilities is a deterrent for bike tourists. Sabri et al. (2019) discussed the fear and apprehension of bikers when travelling along with trucks, cars, and other motorized vehicles. Aggressive drivers and those indifferent to road sharing policies compounded by the absence of bike infrastructure result in distress for bikers (Downward & Lumsdon, 2001).

Aside from the low rating for segregated bicycle facilities, the following indicators were also given low scores by the respondents: bicycle parking lot (3.74), traffic flow and density and connection-oriented transport services (5.5) As observed by the researcher, there are no available parking slots for bikers along the roads and highways. However, the increasing interest in cycling attracted the interest of malls to provide facilities for bikers. Robinson's Malls were recognized for its bike-friendly facilities during the 2021 Mobility Awards that focuses on bike-friendly commercial establishments that emphasizing infrastructure, integration, implementation, innovation, and inclusivity. Robinson's Malls, including the branch in Antipolo City, received a silver commendation for its bike racks, storage areas, water refill stations, changing rooms, and showers (Inquirer, 2021, December 16). In a related report, the SM Malls in Marikina, Masinag, San Mateo, and Antipolo launched its bike-friendly campaign providing free bike parking, biker rewards and other incentives from selected the SM tenants. (Daily Tribune, 2020, October 11).

In terms of the traffic movement in Rizal, bikers share the roads and highways with motorized vehicles, freight trucks, and pedestrians on all days of the week. In addition, the nearest train station is the Light Rail Transit (LRT) 2 that traverses Recto Station in Manila to Antipolo City. However, train station is located in Marcos Highway which is not adjacent to bike trails in the province of Rizal. There are public utility vehicles such as buses, jeepneys, and shuttle services, but there are no provisions to secure the bikes. According to Lee and Huang (2014), segregated bike facilities help ensure the safety of bikers by reducing the risks of accidents and injury. In addition, these provisions help promote the locality as a secure and comfortable bike destination.

Table 2.3

Attractiveness of Bicycle Tourism Destination in terms of Amenities

Indicators	WM	VI	Rank
The destination…			
1. offers overnight accommodation (camping, B&B)	4.30	Agree	3
2. provides rest areas (tables & chairs, gazebos)	4.13	Agree	5
3. has grocery and convenience stores	4.35	Agree	2
4. has restaurants (e.g. cafes, food shops)	4.45	Agree	1
5. has farmers markets / supermarkets	4.28	Agree	4
Composite Mean	4.30	Agree	

Table 2.3 shows attractiveness of bicycle tourism destination in terms of amenities with the composite mean 4.30 with verbal interpretation of agree. As assessed by the respondents, the destination has restaurants such as cafes and food shops (4.45), grocery and convenience stores (4.35), and offers overnight accommodations (4.30). All these indicators as verbal interpretation of agree. There are several cafes, food stalls, kiosks, fast food outlets, restaurants in Rizal that offer variety of meals. Some of these are Bahay Kawayan, Cloud 9, Art Sector Gallery and Chimney Café, Tahanan Bistro, Burrow Café, Crescent Moon and Pottery Studio, Bulawan Floating Restaurant, and Tipulo (Camella, 2021). There were supermarkets also along main highways and micro enterprises selling snacks, drinks, and food souvenirs that Rizal is known for, specifically sticky rice cakes (suman) and cashew nuts. However, on the way to municipalities farther from the main roads, there are fewer

convenience stores. In addition, Rizal has lodging facilities, hotels, and resorts offering varying amenities that provide a distinctly relaxing, rural ambiance. These include Timberlands Highlands Resort, RedDoorz, Momarco Forest Cove, Perlies Inn Srudio House, Loreland Farm Resort, La View Mountain Resort, Antipolo Budget Hostel, Villa Elisha, Cuidad Christia Resort, Kambal Kubo Resthouse, and Thunderbird Resorts (Booking.com, 2022; 2022 Agoda Company Pte. Ltd., 2022).

These findings match related literature that stated that the availability of these services are necessary for bikers to relax, get refreshed, and find supplies (Lamont, 2009). These are especially critical for bikers on long-distance and continuous trips (Han et al., 2017). According to Auschauer et al. (2020), providing sufficient accommodation to suit different needs and preferences is critical in the development of a biking tourist destination. Facilities in quiet, peaceful remote areas can also become a competitive advantage for the locale (p. 75). In addition, provisions for meals, especially if these are the regional cuisine and are served in an area with beautiful scenery, can heighten the experience of the bikers.

The respondents ranked the availability of farmers' markets/supermarkets (4.28) and the provision of rest areas (4.13) as the lowest indicators. Aside from the wet markets, groceries, and kiosks, there are no farmers' markets along the routes, except for the stalls selling food souvenirs. The creation of weekend markets, farm tours, or fishing tours can further add immersion and interactivity to the bikers' experiences. These, in turn, provide the communities with economic opportunities as well as participate in tourism in their locales. Farmers' markets defined "markets as key sites of public space for many localities, and potentially offer opportunities not only for local economic development and employment, but also for social interaction and connection, social inclusion, the mingling of different cultures and the building of a sense of local community" (Watson & Studdert, 2006 as cited in Hergesheimer & Huddart, 2010). Bikers are interested in gastronomy, regional cuisine, and culinary delights as they are enthusiastic about local communities and their traditions (Asuchauer et al., 2021; Nickerson et al., 2013). In relation to rest areas, observations made during the surveys conducted onsite revealed that bikers sat on pavements, roads, and parking lots to take breaks. Moreover, these spaces were few and located at far distances. It was also observed that bikers were not permitted to linger at the National Shrine of Our Lady of Peace and Good Voyage in Antipolo City where they took solace from the warm weather. Rest areas are an important factor for cycling enthusiasts and its absence reduces potential income opportunities for the communities and may lead to the failure of a bike tourism destination (Ritchie, 1998; Meng, et al. 2018). Shelters and rest areas need not go beyond a safe haven for tired and exhausted bikers but are best located in areas with spectacular views on off-road trails (Auschauer, 2020).

Table 2.4

Attractiveness of Bicycle Tourism Destination in terms of Complementary Services

Indicators	WM	VI	Rank
The destination…			
1. has visitors centers	3.65	Agree	6
2. has wayfinder and directional signs	3.91	Agree	3
3. has signs for attractions	4.01	Agree	1
4. has distance signboard	3.92	Agree	2
5. provide weather report message board	3.44	Agree	8
6. has accessible and visible first-aid stations	3.28	Agree	9
7. has stationary police stations	3.75	Agree	4
8. has accessible bicycle hire / repair shops	3.64	Agree	7
9. has lighting systems	3.66	Agree	5
Composite Mean	3.70	Agree	

Table 2.4 shows attractiveness of bicycle tourism destination in terms of complementary services with the composite mean 3.70 with verbal interpretation of agree. The respondents ranked the following indicators as the highest in terms of the attractiveness with respect to complementary services: has signs of attractions (4.01), has distance signboard (3.92), ad has wayfinder and directional signs (3.91). The signages, directional signs, billboards, and advertisements facilitated the trips of the bikers. As observed by the researcher, bike tourists

traversing Marcos Highway were familiar with the intersections that go either to Cainta, Taytay, and onwards to Angono, BInangonan, up to Tanay, Teresa, and Pililla or up straight up to Antipolo, Rodriguez, and San Mateo. Moreover, the SM and Robinsons malls likewise served as landmarks given their strategic locations and popularity. Information about cycling routes and roads are important in the increasing awareness of a bike destination (Sabri et al., 2019). Researches show that signages are a vital component of factors attracting bike tourists and these can further be expanded to include translations in the native languages used by its targeted markets (Bakogiannis et al. 2020; Aschauer, et al., 2021).

On the other hand, the following indicators were assessed as the lowest: accessible bicycle hire/repair shops (3.64), provision of weather report message board (3.44), and has accessible and visible first-aid stations (3.28). The respondents ranked accessible and visible first-aid stations the lowest (3.28). Stories abound on how major injuries could be avoided if the biker received first-aid treatment and those that needed emergency care due to heat stroke, over fatigue, and muscle cramps, among others. Observations conducted during the onsite survey distribution also revealed that there was not a single available quick response team anywhere either for medical emergencies, altercations or police-related incidents. Some of the bikers interviewed complained about the snatching of their mobile phones and their fear about losing their bicycle and other valuables.

Auschauer et al. (2021) emphasize shelters for weather disturbances and pick-up points, resting places, first aid services, and service areas for bicycle repairs (p. 29). Some of the recommendations include the following: "basic accommodations for bike breaks equipped with charging stations for mobile phones and other gadgets, information screens, drinking fountains, and electric charging stations for e-bikes. Service areas can include tools for minor bike repair and a bike mechanic" (Aschauer et al., 2021, pp. 30-31). On the other hand, Bravo et al. (2016) suggested the use of drones to provide emergency assistance even in remote locations. These drones are designed to carry first aid kit (bandages, alcohol, cotton, gauze, water, and other emergency and survival products) and has real-time audio and video communications capabilities which will be manned in a ground control station. Földes and Csiszár (2018) recommended real-time information for bikers regarding the weather and routes. Safety and security are of paramount importance for any tourism destination. Bakogiannis et al. (2020) emphasized that safety and security are pertinent to the development and management of cycling tourism that results in a beneficial multiplier effect for the bikers, the residents, communities, on its overall sustainability (p. 12).

Table 3.1

Factors influencing the Cycling Tourists to Visit Rizal Province in terms of Natural Environment

Indicators	WM	VI	Rank
1. variety of scenic views	4.56	Excellent	1
2. existence of lakes, rivers and beaches	4.31	Very Good	3
3. prevailing winds	4.37	Very Good	2
4. existence of fountains	3.82	Very Good	6
5. untouched natural landscapes	4.09	Very Good	5
6. biodiversity	4.16	Very Good	4
Composite Mean	4.22	Very Good	

Table 3.1 shows the factors influencing the cycling tourists to visit Rizal province in terms of natural environment with a composite mean of 4.22 with verbal interpretation of very good. The respondents rated the variety of scenic views (4.56), prevailing winds (4.37), and the existence of lakes, rivers, and beaches (4.31) as the top factors in the bikers' intention to visit Rizal. Sweeping landscapes of the Sierra Madre with views of clouds and locations overlooking Laguna de Bay and Metro Manila from Antipolo City, Tanay, and Teresa are among the key natural attractions of Rizal. The open spaces allow winds to naturally cool temperatures averaging 22 degrees from November to March and up to 34 degrees during the summer months. Previous researches reveal that natural attractions are a pre-requisite in adventure activities. According to Nickerson et al. (2013), bikers agree that natural attractions "add memorable experiences for the trip (p. 15) to which Han et al. (2017) concurred stating that "tourism attractions form most bicycle tourists' experiences" (p.93). On the other hand, Auschauer et al. (2019) stated that "nature-related activities" are main motivators for bikers; while

Bakogiannis et al. (2020) likewise emphasized that bikers put an important value on scenic views and that natural elements along the route remarked as facilitators of the quality of the routes" (p. 5). Scenic views of clouds, mountain ranges, sweeping landscapes and waterscapes, not only offer a soothing environment for bike tourists, but are considered accomplishments especially if the trip required effort and skill.

On the other hand, the respondents ranked the following indicators with the lowest scores: biodiversity (4.16), untouched natural landscapes (4.09), and the existence of fountains the lowest (3.82). It is unusual that a province like Rizal will not have a diverse ecosystem given its rich natural resources and attractions. Although upon observation along the bike routes during the onsite surveys conducted, there were no flocks of birds and the bikers made no mention of any endemic flora or fauna. In addition, the topography of Rizal was not described as "untouched" despite its beauty. Furthermore, there was only one fountain in Rizal and this is located in the Antipolo Church. It offers a respite from the heat, but bikers were frequently asked to leave. The church personnel insisted on keeping the fountain area free from bikers who get in the way of other tourists taking photos.

It is interesting to note that Rizal is a haven for biodiversity recognized internationally. Unlay (2021, July 2) showcases the Masungi Georeserve, a project recognized by the National Geographic, as a restored forest in the Philippines is a traveler's dream… and a haven for endangered species with hundreds of species of flora and fauna that can be spotted on winding trails through the exposed limestone karst formations" (para 1). Eco-Explorations, an advocacy group passionate about biodiversity, sustainability, and nature-based education, enumerates ecological tours in Rizal. Aside from the Masungi Discovery Trail, the organization offers treks to Kaliwa Watershed, visits to Tinipak River, storytelling with the Dumagats, and bamboo cooking demo, among others (Eco-Explorations, 2022). These engaging activities can form part of a new itinerary for bike tourists where soft adventure meets biodiversity to further emphasize sustainability, cultural traditions, values formation, and community participation (Aschauer et al., 2020). According to Depew and Smith (2020, October 29), these initiatives help "define the character of the destination as it develops it promotes new attractions and activities, encourages communities to embrace tourism, and strengthen collaborative sustainability efforts" (pp. 1-4).

Table 3.2

Factors influencing the Cycling Tourists to Visit Rizal Province in terms of Built Environment

Indicators	WM	VI	Rank
1. commerce, entertainment and supply points	4.08	Very Good	3
2. traditional settlements	4.00	Very Good	4.5
3. historical routes, monuments and sites	4.14	Very Good	1
4. archaeological sites and museums	4.00	Very Good	4.5
5. urban green spaces	4.13	Very Good	2
6. industrial spaces	3.99	Very Good	6
Composite Mean	4.06	Very Good	

Table 3.2 shows factors influencing the cycling tourists to visit Rizal province in terms of built environment with a composite mean of 4.06 with verbal interpretation of agree. The respondents ranked the following as the top three factors that influence the intent of cycling tourists with reference to the built environment: historical routes, monuments and sites (4.14), urban green spaces (4.13), and commerce, entertainment and supply points (4.08). All these indicators as verbal interpretation of very good. Rizal is home to the galleries and shrines showcasing the works of Botong Francisco, Vicente Manansala, Rafael Pacheco, Nemiranda, among other notable painters. These are easily accessible and are located in different municipalities. Moreover, en route to these cultural sites are wide open spaces that offer a respite for bikers. Moreover, Rizal is a bustling province that has business establishments, manufacturing plants, and tourism enterprises. Ringer (2020) reiterated that bike tourists are enthusiastic about "local communities as well as cultural and historical sites, museums, farms, festivals ad artists' homes" (p. 12). In addition, the Cities and Municipalities Competitive Index (2021) state that Angono, Binangonan, Cainta, Pilillia, Rodriguez, San Mateo, Tanay, and Taytay are classified as first class municipalities evidenced by the availability of stores, malls, restaurants, and resorts that cater to all types of

tourists. These included Robinson's Antipolo, SM City Taytay, SM Center Angono, Sta Lucia East Grand Mall, and SM City Masinag. There are food, beverage and accommodation facilities such as Cloud 9, Tahanan Bistro, Bulawan Floating Restaurant, and Timberland Highland Resort that boast of views of Laguna de Bay and the Sierra Madre Mountain Range. The presence of different types of establishments in combination with green spaces add to the attractiveness of Rizal as a bike destination.

On the other hand, the respondents ranked the following indicators as the lowest: traditional settlements (4.00), archaeological sites (4.00), and industrial spaces (3.99). The traditional settlements of the Dumagat-Remontados of Tanay consider the Sierra Madre their home. It is not easily accessed from current bike trails and may require the assistance of the locals and ecotourism groups to reach them. Aside from its remote location, the indigenous group is not aggressively promoted as a key immersive destination for bike tourists. This can be surmised that the location of the archaeological sites such as the Petroglyphs are not on the bikers' itineraries due to its limited publicity. Rizal is also home to several factories, warehouses, and manufacturing plants. These include Cathay Pacific Steel Corporation, AMCOR Specialty Cartons Rizal Corp., Monde M.Y. San Corporation, Panasonic Manufacturing Philippines Corporation, Megapaint Corporation, Sigma Packaging Corporation, Supermix Redi Concrete, Inc., K & Y Apparel Corporation, and GBLC Steel Forms and Trading, Inc., among many others (Dun & Bradstreet, Inc. 2022). The products range from clothes, chemicals, paper, paint to steel. However, these structures are not considered as interesting places to visit. In addition, these facilities may not be open to the public unless these are for educational tours. Furthermore, there may be toxic fumes and pollution that can cause harm to bike tourists while in these premises.

Table 3.3

Factors influence the Cycling Tourists to Visit Rizal Province in terms of Social Environment

Indicators	WM	VI	Rank
1. with cultural events that take place during all seasons of the year	3.95	Very Good	4
2. with organized traditional and agrotourism activities preferred by cycling tourists	3.89	Very Good	5
3. friendly and respectful locals	4.29	Very Good	2
4. safe social environment	4.11	Very Good	3
5. well versed locals or easy to communicate with	4.31	Very Good	1
Composite Mean	4.11	Very Good	

Table 3.3 shows the factors influencing the cycling tourists to visit Rizal Province in terms of the social environment with a composite mean of 4.11 with verbal interpretation of very good. The respondents affirmed that Rizal province has well-versed locals and/or are easy to communicate with (4.31), friendly and respectful locals (4.29), and has a safe social environment (4.11). The province is part of the Southern Tagalog Region referred to as Calabarzon (Region IV-A) where Pilipino and English are the main languages used. Although there may be variations in the way both are spoken, local and international bike tourists can easily communicate with the residents. Moreover, Enriquez (1978, as cited in Torres, 1990) stated that the "importance of history, language and ethnography as bases for acquiring insights on behavior" (p. 487). Experts in Asian social structures agree that the Filipino is generally friendly, hospitable, and courteous. In addition, Filipinos, irrespective of their geographic residence and ethnicity, share similar core values such as the strong sense of family and kinship, shared identity or *pakikipagkapwa-tao*, and sensitivity and attention to subtle clues or "*pakikiramdam* (Pua & Marcelino, 2000; Torres, 1990; Saito et al., 2010). Thus, these same characteristics are evident in Filipino residents of Rizal Province where there is "a relative flexibility of social relations in Philippine society and outsiders may be eventually treated as a member of the family" (Torres, 1990). Graciousness extended to non-residents, such as tourists, and the strong sense of community, help create a safe social environment as affirmed by the respondents of the survey.

On the other hand, these two indicators received lower scores. The respondents rated cultural events take place during all seasons of the year (3.95) and organized traditional and agro-tourism activities preferred by cycling tourists (3.89). The province has several festivals but are mostly religious in nature, except for the Rodeo, Binalayan, Hani, and Pamitinan events. The provincial, city and municipality websites provide limited information on these activities unlike major events such as the Panagbenga, Ati-Atihan, and the Pahiyas which are aggressively

marketed. Niche tourism activities focusing on culture, heritage and ecology (Aschauer et at., 2019), events and festivals (Lee & Huang, 2014), as well as gastronomic specialties (Aschauer et at., 2021) help attract bike tourists to visit and re-visit destinations. These attractions facilitate adapting to other interests of bikers aside from the leisurely ride across towns, states, and/or provinces. Bikers can be classified into four groups based on their interests which they combine with cycling (Aschauer et at., 2021) These interests are nature activities, cultural activities, regional cuisine, and sports activities (p. 9). With such combinations, Rizal can develop a more holistic tourism program that is both destination-focused and activity-based.

In terms of agro tourism, the province has Flor's Garden and Domingo Perma Farms but are not listed as attractions in websites. The local tourism offices in Rizal may review opportunities for bike-to-farm tours in cooperation with farmer groups and cooperatives for activities designed for bike tourists. These can form part of a seasonal or annual program of activities designed for bike tourists. Agricultural and farms tours are also considered important influencers for bikers. Moreover, bike-to-farm tours can be benchmarked against tours organized by some major bike destinations. These include the Crop Cycle Tours (Illinois Organic Growers Association, 2015), Tour de Farm by the River Valley Regional Commission (Kissel, 2015), Sussex Vineyard Cycling (Wu, 2021), and the Farm to Table Bicycle Tours by Experience International (Turley, 2020). For example the Tour de Farms is a collaboration between organic farmers and Sumter cycling in designing a farm-to-farm sampling and bike tours along more the New River countryside (Kissel, 2015).

Table 3.4

Factors influencing the Cycling Tourists to Visit Rizal Province in terms of Road Network Characteristics

Indicators	WM	VI	Rank
1. the destination has slope > 6%	4.18	Very Good	1
2. smoothness surface of the road	3.98	Very Good	2
3. existence of cycling paths / lanes	3.77	Very Good	7
4. traffic density and speed	3.83	Very Good	4.5
5. road width	3.73	Very Good	8
6. traffic information signing	3.83	Very Good	4.5
7. modal share	3.80	Very Good	6
8. public transport stations (which allow the transport of bikes)	3.97	Very Good	3
Composite Mean	3.89	Very Good	

Table 3.4 shows the factors influencing the cycling tourists to visit Rizal Province in terms of road network characteristics with a composite mean of 3.89 with verbal interpretation of very good. The respondents affirmed that the province of Rizal has a slope > 6% (4.18), that its roads are smooth (3.98), and that there are public transport stations (3.97). The slopes can either be a motivator or a deterrent depending on the biker's skill, his sense of adventure, and his type of bicycle. A slope of this range allows bikers of all skillsets to navigate the terrain in Rizal especially that the surface of the roads are smooth and even. Due to its proximity to Metro Manila, there are public utility buses, jeeps, and shuttle services along the roads. The importance of road networks cannot be understated irrespective of where the research was conducted or whatever the nationality of the bikers (Aschauer et al., 2019; Sabri et al., 2019; Lee & Huang, 2014; Poljicak et al., 2021). Bakugiannis et al. (2020) defines slope as the "energy consumption of a cyclist," the smoothness of the road refers to the quality of the surface" that affect the experience of bikers (p. 8). According to De Neef (2013), the percentages refer to the gradients in terms of the steepness of the roads. This means that a gradient of 0% refers to a flat road; 1-3% is slightly uphill; 4-6% is still manageable but can cause fatigue; 7-9% can be difficult even for seasoned bikers; 10%-15% can lead to pain; and 16% and above is considered very challenging and can lead to extreme pain. In related literature, the slope is either a motivator or a deterrent for bikers (Bakogiannis et al., 2020). Therefore, based on the responses, the terrain in Rizal is considered to be manageable but may require frequent stops. The researcher also observed that cyclists would choose to walk alongside their bikes when the road becomes too steep.

On the other hand, previous studies reveal the following: "bikers prefer gravel roads with decent road conditions" (Bakogiannis et al., 2020, p 7); "high quality concrete pavement that helps ensure the safety and

security of bike enthusiasts" (Lee & Huang, 2014, p. 288); and that there should be "access points to and from public transport systems" (Aschauer et al., 2019, p. 26). The official website of the Rizal Provincial Government (2022) details the road network system as follows: 231.251 kilometers of national roads, 28.08 kilometers of concrete payment, 208.171 kilometers with asphalt overlay. Based on these data, the characteristics of the road network system in Rizal are favorable for bike tourism.

On the other hand, respondents ranked the following with the lowest scores: modal share (3.80), existence of cycling paths (3.77), and road width (3.73). Modal share refers to the percentage of travelers using a particular mode of transport such as rail, bus, cycling, and walking within the overall transport usage of an urban area (Eltis, 2019). In Rizal, as is common in other regions in the Philippines, bikers share the road with motorists, truckers, and pedestrians. The routes to the province of Rizal are through the Marikina-Infanta Highway (commonly known as Marcos Highway) traversing the boundaries of Pasig City, Marikina City, Antipolo City and the municipality of Cainta, The main intersections in Rodriquez Avenue (Pasig City), Imelda Avenue (Marikina-Cainta border) and Masinag (Antipolo) are the preferred roadways to Rizal. However, the eight-lane highway easily becomes congested with traffic even during weekdays. It is also the route taken by freight trucks and other motorized vehicles to and from Rizal. In addition, the Calabarzon Traffic Management Plan 2017-2022 (CTMP 2017-2022) revealed these findings in relation to infrastructure in the region: traffic volume in exceeds road capacities; obstructions such as electric poles, illegal vendors and parked vehicles are traffic hazards; lack of unified system in traffic management resulting in poor road management; and the lack of awareness of traffic rules and regulations (National Economic and Development Authority. 2016, p. 9).

In terms of the existence of cycling paths, the researcher observed that some motorized vehicle drivers and pedestrians are unfamiliar with guidelines that pertain to bike lanes and the right of way. On the other hand, there were also bikers who disrespect general traffic rules. This behavior endangers, not only the bikers, but pedestrians and other motorists as well. Researches stated that the existence of cycling paths and the correct configuration for shared highways require strict implementation of infrastructure guidelines. Robartes and Chen (2018) concluded that it is imperative for local government units to adhere to infrastructure guidelines with respect to road width and bike lanes as well traffic regulations, specifically on high traffic areas. Therefore, infrastructure is critical in order to plan, develop, and manage a sustainable bike tourism destination that can maximize benefits for the communities, the local government, and the bike tourists (Auschauer et al., 2021; Lee & Huang, 2014; Nickerson et al., 2013).

The researcher observed that the road widths from Metro Manila to Rizal may not have been designed for sustainable transport. There are areas where roads are too narrow to accommodate pedestrians, motorists, and bikers. According to the CTMP 2017-2022, "there are road sections that need widening, loading bays, unloading bays, emergency bays, signages, overpass, flyover, bypass/diversion roads, street lights and other geometric improvements to facilitate flow of traffic and safety of pedestrians along the road" (National Economic and Development Authority. 2016, p. 9). Among the strategies in the CTMP 2017-2022 are as follows: "expansion of road capacity; construction of alternate routes; training on transport planning and feasibility preparation for local government units; deployment of a unified system of traffic management; and information campaigns on traffic rules and road safety" (p. 11).

Table 4 shows the differences of attractiveness of bicycle tourism destination when grouped according to profile. Based from the results, there was statistically significant difference on accessibility (p=0.009) and complementary services (p=0.028) when the respondents were classified as to sex. This indicates that the responses vary significantly showing that male have higher assessment than other sex group. Likewise, there was statistically significant difference on complementary services when grouped according to employment status (p=0.007) and age (p=0.003). This meant that the cyclist had different assessments on complementary services. It was revealed that the respondents with unemployed status and belong to age group of 18-25 years old have higher assessment than other group. However, when the respondents were grouped by marital status, bicycling experience and number of biking trips per year, the results showed no statistically significant difference on the

attractiveness of bicycle tourism destination since all the computed p-values were more than 0.05. This showed that the responses were not that different.

Table 4

Difference of responses on attractiveness of bicycle tourism destination when grouped according to profile

Profile Variables	λ^2 c	p-value	I		λ^2 c	p-value	I
Sex				Age			
Tourist Attractions	1.600	0.449	NS	Tourist Attractions	3.263	0.515	NS
Accessibility	9.381	0.009	S	Accessibility	2.360	0.670	NS
Amenities	1.469	0.480	NS	Amenities	4.755	0.313	NS
Complementary Services	7.178	0.028	S	Complementary Services	15.682	0.003	S
Employment Status				Bicycling Experience			
Tourist Attractions	1.002	0.606	NS	Tourist Attractions	1.022	0.796	NS
Accessibility	0.233	0.890	NS	Accessibility	2.029	0.566	NS
Amenities	0.405	0.817	NS	Amenities	5.054	0.168	NS
Complementary Services	9.788	0.007	S	Complementary Services	2.012	0.570	NS
Marital Status				Number of biking trips taken each year			
Tourist Attractions	2.053	0.358	NS	Tourist Attractions	2.956	0.398	NS
Accessibility	0.144	0.930	NS	Accessibility	1.563	0.668	NS
Amenities	1.924	0.382	NS	Amenities	1.578	0.664	NS
Complementary Services	3.841	0.147	NS	Complementary Services	5.145	0.162	NS

Legend: Significant at p-value<0.05

The respondents affirmed that accessibility and complementary services are significant. Accessibility (9.381) was considered significant when respondents were grouped by age; while complementary services were considered significant when the respondents were grouped according to sex (7.178), employment status (9.788), and age (15.682). Accessibility remains one of the key determinant of the attractiveness of a destination, along with attractions, amenities, and complementary services (Cooper et al., 1993). Given its proximity to Metro Manila and nearby provinces, Rizal is easily accessible to bikers. This fits into the classifications of bikers by Aschauser et al. (2019) based on motivations, type of bicycle used, and other interests (p. 12). For example, the province is a good option for day-trippers as well as overnight tourists. It is also an interesting choice for those using road bikes, mountain bikes, trekking bikes, racers, and E-bikes as it provides a wide range of terrain and nearby attractions. There are also several tourist attractions within the locality. However, accessibility also refers to the level of difficulties with respect to terrain, traffic, and routes (Lamont, 2009; Han et al., 2017; Men et al., 2018) and this may be the reason for the differences in ratings. Women bikers may experience more challenges during the trip given the range of terrain that they will encounter, not only because of their gender, but due to types of bikes they are using as well as their level of biking skills. The profile of respondents showed that there are varying travel characteristics and motivations as discussed in similar studies (Cole & Lamont, 2019; Sabri, et al., 2019; Aschauer et al., 2019).

On the other hand, complementary services were considered significant by respondents when based on their gender, employment status and age. This may be due to several reasons that included the varying needs of bikers for safety and security along the routes as well as their perceived requisite assistance from the local government offices. Thus, it is critical that the local tourism offices in the region and pertinent stakeholders initiate pilot projects to provide these services. Authors agreed that safety and security assistance, updated weather information, as well as emergency care are crucial for the success of bike tourism as it strengthens the attractiveness of the destination (Lee & Huang, 2014; Mayo & Jarvis, 1981; Laws 1995; Aschauer et al,, 2019).

Table 5 presents the difference of responses on environmental factors when grouped according to profile. As seen from the table, there was statistically significant difference on road network characteristics (p=0.035) when the respondents were classified as to sex. This indicated that the responses vary significantly showing that male have higher evaluation than other sex group. Given the variety of terrain in Rizal Province, the males were possibly more comfortable with the terrain, the road systems, traffic density and signages, modal share and the availability of public transport based on their skill, years of biking experience and number of trips taken. The male bikers may be more familiar with the technical terminologies of the road characteristics as compared with

the other genders.

Table 5

Difference of Responses on Environmental Factors When Grouped According to Profile

Profile Variables	λ^2 c	p-value	I		λ^2 c	p-value	I
Sex				Age			
Natural Environment	4.140	0.126	NS	Natural Environment	6.604	0.158	NS
Built Environment	0.601	0.740	NS	Built Environment	8.774	0.067	NS
Social Environment	4.057	0.132	NS	Social Environment	9.75	0.045	S
Road Network Characteristics	6.729	0.035	S	Road Network Characteristics	11.125	0.025	S
Employment Status				Bicycling Experience			
Natural Environment	1.369	0.504	NS	Natural Environment	3.434	0.329	NS
Built Environment	7.084	0.029	S	Built Environment	4.962	0.175	NS
Social Environment	9.923	0.007	S	Social Environment	5.105	0.164	NS
Road Network Characteristics	8.854	0.012	S	Road Network Characteristics	4.515	0.211	NS
Marital Status				Number of biking trips taken each year			
Natural Environment	4.452	0.108	NS	Natural Environment	4.541	0.209	NS
Built Environment	3.411	0.182	NS	Built Environment	3.827	0.281	NS
Social Environment	1.105	0.575	NS	Social Environment	3.528	0.317	NS
Road Network Characteristics	4.126	0.127	NS	Road Network Characteristics	3.331	0.343	NS

Legend: Significant at p-value<0.05

Likewise, there was statistically significant difference on built environment (p=0.029), social environment (p=0.007), and road network characteristics (p=0.012) when grouped according to employment status. This means that the responses differed significantly when the unemployed respondents have higher evaluation than other group. A good number of the respondents who answered the survey onsite were unemployed because they were students. When interviewed, they have limited understanding of the road network characteristics and requested for assistance. Their answers may be based on their interpretation of the explanation as well as their background schema on biking environments. Other bikers may not be keen on the routes since their primary objectives focused on camaraderie. While others may be interested in getting to their planned destinations irrespective of the challenges.

In addition, there was statistically significant difference on social environment (p=0.045), and road network characteristics (p=0.025) when the respondents were grouped by age. This means that the responses differed significantly where the age group of 18 – 25 years old have higher evaluation than other age group. The youngest age group in the survey may have overlooked the factors related to the road network since their main goal was to have fun with friends. In addition, they may have a less stringent criteria for scoring the social environment indicators. However, when the respondents were grouped by marital status, bicycling experience and number of biking trips per year showed no statistically significant difference on environmental factors since all the computed p-values were more than 0.05. This shows that the responses were not that different. The results provided evidence that biking as a leisure activity can be enjoyed by any person irrespective of their marital status and biking experience. Moreover, respondents affirmed that Rizal ranks high in terms of the environmental factors which can be used to position the province as a bike destination. These results also show that bike tourists can be further segmented based on their motivations, destination, type of bicycle used, needs, and preferred onsite activities (Aschauer et al., 2019; Lamont, 2009; Nickerson, et al., 2013; and Salonkangas, 2020).

4. Conclusion and recommendations

The majority of the respondents were male, employed, single, and were between the ages of 26-41 years old. They had one to five years of biking experience and took bike trips more than 10 times a year. The respondents unanimously agreed on the attractiveness of Rizal province based on its tourist attractions and amenities. The respondents confirmed that the natural environment, built environment, social environment, and the road network characteristics were the main environmental factors that influenced them to visit Rizal. With reference to the tests of significant differences based on the attractiveness of bicycle tourism destinations when grouped according to profile, there was a statistically significant difference the following: accessibility and

complementary services when the respondents were grouped according to sex; and complementary services when grouped according to age and employment status. However, when respondents were grouped by marital status, bicycling experience, and the number of bike trips taken per year, the results showed no statistically significant differences. With reference to the tests of significant differences based on the environmental factors that can influence bikers to visit Rizal, there was statistically significant difference on road network characteristics when respondents were grouped according to sex; on the built environment, social environment, and road network characteristics when respondents were grouped according to employment status; and on social environment and road network characteristics when respondents were grouped by age. However, when respondents were grouped by marital status, bicycling experience, and number of bike trips per year, the results showed no statistically significant difference.

They key organizations including the Department of Tourism, regional and provincial tourism offices, the local tourism offices in each of the municipalities, private enterprises, potential investors, schools and universities, community volunteers/representatives and the bikers may collaborate and map out strategies to take advantage of the competitive edge of Rizal as bike destination. Each organization can identify their possible contributions to the creation and development of a tourism plan. The National Bike Organization may lead activities related to bike training and safety, road courtesy, and awareness of bicycle paths, lanes, and routes. Also, biker groups based in Rizal may provide narratives of their experiences on the road and present photos and videos of their trips. These bikers may also discuss their "culture" to discuss their passion for biking. The Department of Tourism (DOT) may conduct workshops on tourism product development, marketing, branding, as well as a simplified technique for monitoring and evaluation. Also, the DOT may provide guidance on how to develop a business model for Rizal that is aligned with key objectives and parameters of the nature-based tourism offering. The provincial government may establish policies and procedures for the safety and security of the bikers and the residents in coordination with the Department of Public Works and Highways. A call for volunteer-residents especially in remote areas may be done to provide assistance to bikers. Government personnel who are bikers may be offered opportunities to actively participate in the programs. In addition, simple processes can be created to allow for pop-up kiosks to provide hospitality services, such as food, drinks, bike repair with mechanics, and bike parking. These activities empower the communities and other interested entrepreneurs to open up micro and small-scale enterprises. Future research may focus on gender issues, applicability of specific bike infrastructure, branding strategies, as well as the development of evaluation tools to improve this niche tourism product and its services. It is hoped that this will contribute to the design, creation, and implementation of a new tourism offering for the province of Rizal. Further, it is also hoped that the initiatives can provide a safe, secure, fun, and relaxing experience for bikers.

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