


WILLINGNESS TO PAY ANALYSIS, IDEAL PRICE AND DETERMINANTS OF VISITOR ENTRANCE TICKET PRICES IN TANGKAHAN NATURE TOURISM AREA, GUNUNG LEUSER NATIONAL PARK

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ARTICLE INFO	ABSTRACT
<p>Article history:</p> <p>Received 20 February 2023</p> <p>Accepted 18 May 2023</p>	<p>Purpose: The article aims to analyze the peculiarities of communication strategies of Internet marketing, key tools for their implementation, and development prospects in today's dynamic digital environment.</p>
<p>Keywords:</p> <p>Tangkahan Nature Tourism; Determination of Ticket Prices; Willingness to Pay; Elasticity of Demand; Gunung Leuser National Park.</p>	<p>Theoretical framework: The communication strategy of Internet marketing of a trading enterprise plays an integral role in improving the corporate strategy, ensuring stable operations in the current economic environment, and forming the competitiveness of the enterprise. The peculiarities of using Internet marketing tools for trade enterprises are the application of a wide range of tools to improve the positioning of the enterprise's brand and increase its penetration into the market of goods.</p>
	<p>Design/methodology/approach: The method of induction and deduction was used to identify the key prospects for the development of communication strategies for Internet marketing of trade enterprises.</p>
	<p>Findings: An important research direction is the analysis of the process of formation and organization of the Internet marketing communication strategy based on the practice of using management decisions. The results of the study reveal the achievements of trade enterprises in implementing an advertising campaign, improving the quality of the communication strategy, and the key structural elements necessary for its effective implementation.</p>
	<p>Research, Practical & Social implications: Due attention is paid to the process of developing a communication strategy through various means of Internet marketing and their use in the digital environment. The article examines the communication strategy and its features in sales policy, advertising campaigns, and brand management as key areas of its manifestation. The use of a communication strategy and its implementation in modern prospects is of strategic importance for a commercial enterprise to ensure its long-term viability.</p>
	<p>Originality/value: The obtained results of the study may be useful for trade enterprises in organizing and planning their communication strategy for Internet marketing.</p>
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ANÁLISE DA DISPOSIÇÃO A PAGAR, PREÇO IDEAL E DETERMINANTES DOS PREÇOS DOS INGRESSOS PARA VISITANTES NA ÁREA DE TURISMO NATURAL DE TANGKAHAN, PARQUE NACIONAL DE GUNUNG LEUSER

RESUMO

Objetivo: O artigo tem como objetivo analisar as peculiaridades das estratégias de comunicação do marketing na Internet, as principais ferramentas para sua implementação e as perspectivas de desenvolvimento no ambiente digital dinâmico de hoje.

Estrutura teórica: A estratégia de comunicação do marketing na Internet de uma empresa comercial desempenha um papel fundamental no aprimoramento da estratégia corporativa, garantindo operações estáveis no ambiente econômico atual e formando a competitividade da empresa. As peculiaridades do uso de ferramentas de marketing na Internet para empresas comerciais são a aplicação de uma ampla gama de ferramentas para melhorar o posicionamento da marca da empresa e aumentar sua penetração no mercado de bens.

Projeto/metodologia/abordagem: O método de indução e dedução foi usado para identificar as principais perspectivas para o desenvolvimento de estratégias de comunicação para o marketing na Internet de empresas comerciais.

Conclusões: Uma importante direção de pesquisa é a análise do processo de formação e organização da estratégia de comunicação de marketing na Internet com base na prática do uso de decisões gerenciais. Os resultados do estudo revelam as realizações das empresas comerciais na implementação de uma campanha publicitária, melhorando a qualidade da estratégia de comunicação e os principais elementos estruturais necessários para sua implementação eficaz.

Implicações sociais, práticas e de pesquisa: É dada a devida atenção ao processo de desenvolvimento de uma estratégia de comunicação por meio de vários meios de marketing na Internet e seu uso no ambiente digital. O artigo examina a estratégia de comunicação e suas características na política de vendas, campanhas publicitárias e gerenciamento de marcas como áreas-chave de sua manifestação. O uso de uma estratégia de comunicação e sua implementação em perspectivas modernas são de importância estratégica para que uma empresa comercial garanta sua viabilidade a longo prazo.

Originalidade/valor: Os resultados obtidos no estudo podem ser úteis para empresas comerciais na organização e no planejamento de sua estratégia de comunicação para o marketing na Internet.

Palavras-chave: Turismo Natural Tangkahan, Determinação de Preços de Ingressos, Disposição a Pagar, Elasticidade da Demanda, Parque Nacional Gunung Leuser.

ANÁLISIS DE LA DISPOSICIÓN A PAGAR, EL PRECIO ÓPTIMO Y LOS DETERMINANTES DEL PRECIO DE LAS ENTRADAS DE LOS VISITANTES EN LA ZONA DE TURISMO NATURAL DE TANGKAHAN, PARQUE NACIONAL DE GUNUNG LEUSER

RESUMEN

Objetivo: El artículo pretende analizar las peculiaridades de las estrategias de comunicación de marketing en Internet, las principales herramientas para su aplicación y las perspectivas de desarrollo en el dinámico entorno digital actual.

Marco teórico: La estrategia de comunicación de marketing en Internet de una empresa comercial desempeña un papel clave a la hora de potenciar la estrategia corporativa, garantizar la estabilidad de las operaciones en el entorno económico actual y formar la competitividad de la empresa. Las peculiaridades del uso de las herramientas de marketing en Internet para las empresas comerciales son la aplicación de una amplia gama de herramientas para mejorar el posicionamiento de la marca de la empresa y aumentar su penetración en el mercado de bienes.

Diseño/metodología/enfoque: Se utilizó el método de inducción y deducción para identificar las principales perspectivas para el desarrollo de estrategias de comunicación de marketing en Internet para empresas comerciales.

Conclusiones: Una importante dirección de investigación es el análisis del proceso de formación y organización de la estrategia de comunicación del marketing en Internet a partir de la práctica del uso de las decisiones directivas. Los resultados del estudio revelan los logros de las empresas comerciales en la implementación de una campaña publicitaria, la mejora de la calidad de la estrategia de comunicación y los principales elementos estructurales necesarios para su implementación efectiva.

Implicaciones sociales, prácticas y de investigación: Se presta la debida atención al proceso de desarrollo de una estrategia de comunicación a través de diversos medios de marketing en Internet y su utilización en el entorno digital. El documento examina la estrategia de comunicación y sus características en la política de ventas, las campañas publicitarias y la gestión de la marca como ámbitos clave de su manifestación. El uso de una estrategia de comunicación y su aplicación en las perspectivas modernas son de importancia estratégica para que una empresa comercial garantice su viabilidad a largo plazo.

Originalidad/valor: Los resultados obtenidos en el estudio pueden ser útiles para las empresas comerciales a la hora de organizar y planificar su estrategia de comunicación para el marketing en Internet.

Palabras clave: Tangkahan Nature Tourism, Ticket Pricing, Willingness to Pay, Demand Elasticity, Gunung Leuser National Park.

INTRODUCTION

One area that has begun to be developed with various natural tourism objects in Sumatra, especially in North Sumatra Province is the Gunung Leuser National Park (TNGL) which has high potential in the ecotourism sector. One of the objects is the Tangkahan Ecotourism Area which is located in Langkat Regency, North Sumatra. This 17,000 hectare area is one of the habitats for wild elephants (Hartoyo et al., 2020). Tangkahan, which is a buffer zone for TNGL, has also been developed by the community as a natural tourism area. In this tourist attraction, elephants are one of the tourist attractions (Ni'am, et.al, 2021), in addition to the potential for natural beauty and the diversity of other animal species, both birds and mammals (Irni et al., 2016). The communities of the two villages agreed to develop tourism located near their village and hereinafter referred to as the Tangkahan Ecotourism Area. Tangkahan is also known as one of the community-based ecotourism models (Maskun, et.al. 2021). With a historical background, many people are involved in illegal loggers. The community voluntarily changes their direction to become more sustainable and prospective natural tourism activists by making Tangkahan one of the attractive ecotourism destinations in North Sumatra (Patana, 2010). According to Anggraini and Budhi (2021), the initiation of community involvement in several conservation forest areas was carried out before social forestry was established, such as community participation in Tangkahan development which can make a major contribution to the conservation of the Gunung Leuser National Park area. As a forum for managing ecotourism activities, the local village community formed the Tangkahan Tourism Institute (LPT). This area is partly located in GLNP, specifically the working area of Tangkahan resort and Cinta Raja resort, sub-section of GLNP area IV Besitang. The richness of culture and the potential attractiveness of the landscape make local and foreign tourists interested in visiting it (Simanjuntak, 2009).

An increase in the number of visitors in a natural tourist attraction area will clearly have a significant impact on increasing regional income (Perbawasari et al., 2019, Hahury et al., 2023). Based on LPT data (2016), the number of visitors to Tangkahan is 58,895 people/year. An increase in the number of visitors will have economic, social and environmental impacts that affect travel satisfaction, which will be found to affect the likelihood of a tourist returning

(Jarvis et al, 2016). With Tangkahan's great potential and increasing tourist visits, it will have an impact on government and community income on the willingness of tourists to pay to enter Tangkahan.

To increase people's desire to visit ecotourism, evaluation and improvements are needed (Damanik, 2019). One aspect that is important to continue to be evaluated is the ticket price for visitors. On the one hand, LPT as a manager requires sufficient income to finance its activities while at the same time prospering the management and local residents. However, if the ticket price is too high, it will potentially reduce the interest in visiting these attractions. Therefore, it is important to research the entrance ticket prices that have been set in an effort to find the best ticket prices as a tourism object with a conservation perspective in Tangkahan. The purpose of this research is to analyze the willingness of tourists to pay the entrance ticket price, analyze the factors that influence the willingness to pay and the ideal ticket price according to tourists in the Tangkahan Ecotourism Area, GLNP, Indonesia.

LITERATURE REVIEW

Determinants of Product Market Pricing Strategy

In determining the market price, there are many choices of strategies that you can use, including: (Ye et al., 2023)

Loss Leader Pricing

Loss leader pricing is a pricing strategy by setting prices for certain goods that are cheaper than the average price. Even though it offers small profits or even risks experiencing losses, this strategy is powerful for attracting customers to buy the products you offer.

Competition Based Pricing

Competition based pricing is a competitor based pricing strategy. In this strategy, the price set by competitors is the benchmark for setting the price of the product being sold. Here you can set the same price as the competitor's price, below or even above the price set by the competitor.

Dynamic Pricing

Dynamic Pricing is pricing based on time. This type of product pricing strategy has the characteristic of being flexible where prices follow market and customer demands. If the demand increases, the price will increase and vice versa.

High Low Pricing

The next type of product pricing strategy is high low pricing. This is a pricing strategy where at the initial release, goods will be sold at high prices but over time the prices will be lowered. This strategy is usually used for seasonal products such as clothing, furniture and decorations.

Basing Point Pricing

Basing point pricing is a pricing strategy carried out by the company by adding shipping costs based on the customer's location. The farther the location of the customer, the greater the shipping costs.

Captive Pricing

Captive pricing is a pricing strategy that is carried out by determining different prices for the core product and product accessories. Usually companies will sell the core product at a low price but sell separate accessories at a different price.

Skimming Pricing

Skimming pricing is a pricing strategy in which the company sets the highest possible price for a new product, then if it is no longer popular, the price will be lowered over time.

Penetration Pricing

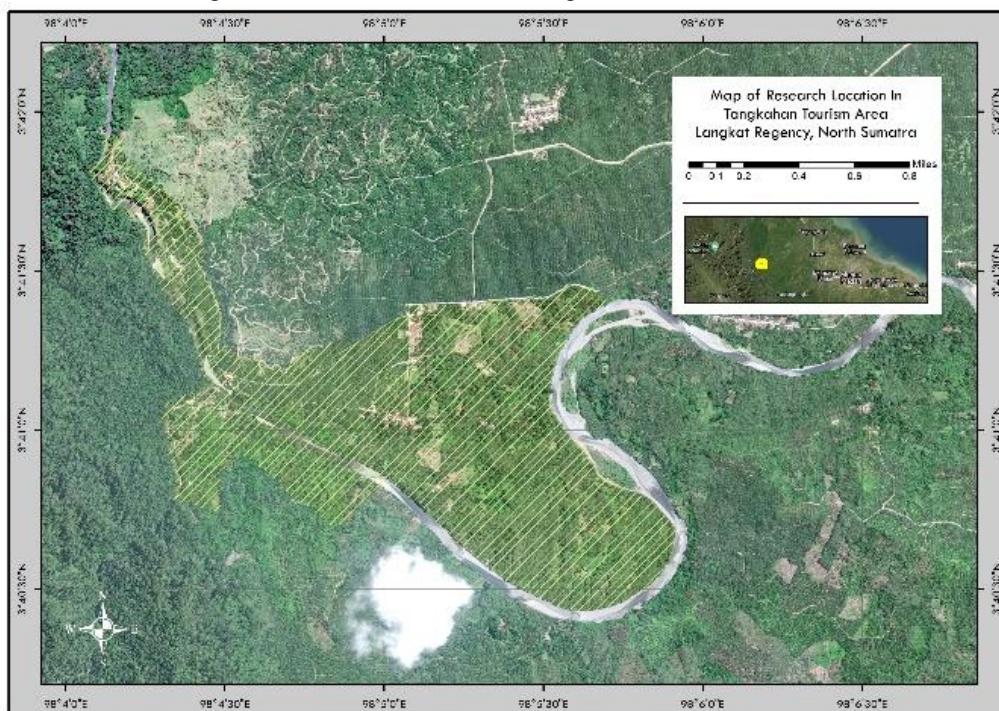
This is a pricing strategy in which the company offers a very low initial price to attract the attention of customers. Later, if you get a lot of enthusiasts, the selling price of the product will be increased.

Determining the right price is one strategy if you want to be successful in business. Therefore, to determine the best price, make sure you understand the various types of product pricing strategies, then choose the one that best suits your product.

METHODS

This research was conducted in the Tangkahan Ecotourism Area, Gunung Leuser National Park, Langkat Regency, North Sumatra. Administratively, Tangkahan is included in the Batang Serangan District, precisely in the villages of Namo Sialang and Sei Serdang. This research was carried out in December 2019 – April 2020. The development of this area refers to the Minister of Forestry Regulation No: P.19/Menhut–II/2004 concerning Collaborative Management of Nature Reserve Areas and Nature Conservation Areas. Geographically, the Tangkahan ecotourism area is located at 3°05'30" North Latitude and 98°04'26.8" East Longitude. Tangkahan is an area on the border of Gunung Leuser National Park (TNGL) in North Sumatra. This location is at an altitude of 130-200 meters above sea level.

Figure 1. Research Location in Tangkahan Ecotourism Area



The population in this research is all visitors to Tangkahan. The sampling method used in this study is the purposive sampling method. The research sample is taken as a source of data by the method of encounter and as far as possible can be representative of the entire population (Rahman et al., 2022). This technique is carried out by setting the sample classification according to the diversity of visitors in Tangkahan. Technically, the sample was 17-60 years old, physically healthy, spiritually and able to communicate well. The determination of the number of samples of this study is using the Slovin formula. The Slovin method was also used by previous researchers such as Rahmafitria and Nurazizah (2015), Salvadri and Hadya (2020)

and Sulistio et al (2021). Slovin's formula for determining a sample based on Sugiyono (2017) is as follows :

$$n = \frac{N}{1 + N \left[\frac{e}{k} \right]^2}$$

Keterangan:

n = Jumlah sampel
N = Jumlah populasi
e = Batas toleransi kesalahan (0,1)

The number of visitors in the Tangkahan Area Natural Attractions based on LPT data (2016) is 58,895 people / year, so that by using the percentage of the 10% fault tolerance limit (Tejada and Punjalan, 2012) the number of research samples was obtained as follows:

$$n = \frac{58.895}{1 + 58.895 (0,1)^2}$$

$$n = \frac{58.895}{589.9}$$

$$n = 99,83$$

The number of research samples required was 99.83 rounded up to 100 respondents. The method of data collection carried out in this study was by field studies through questionnaires (questionnaires) and interviews with respondents who visited Ekowisata Tangkahan. The data and information obtained in this study will be analyzed qualitatively and quantitatively.

Calculating the Average WTP Value

Willingness To Pay or willingness to pay is an individual's willingness to pay for an environmental condition or an assessment of natural resources and natural services in order to improve environmental quality. Likewise explained by Cetin et al (2017). Ramdas and Mohamed (2014) Hultman et al (2015) and Bhandari and Heshmati (2010). This method is also used by Cheung and Jim (2012), Rivas and Rivero (2019), Moons et al (2020) and Hassin et al (2020). The average value to be issued by respondents who are willing to pay can be calculated using the formula below:

$$EWTP = \frac{\sum_{i=0}^n W_i}{n}$$

Information:

EWTP = Average WTP value of visitors

W_i = WTP willing to be paid

i = Respondent who is willing to pay

n = respondent total

After estimating the middle value of WTP, it is further suspected that the total WTP value of the respondent using the formula:

$$fTWTP = \sum_{(i=0)}^n \left[\frac{WTP_i}{N} \right] (n_i/N)p$$

Information:

$\sum TWTP$ = Total WTP

WTP_i = individual WTP of the i-th sample

n_i = Number of i-th samples willing to pay WTP

N = Number of samples

P = Total population

i = I-th Respondents who are willing to pay ($i = 1, 2, \dots, n$)

Analysis of Factors Underlying WTP

Factors influencing the magnitude of WTP values can be analyzed using multiple linear regression analysis (Montgomery et al., 2021).. In this analysis, 9 independent variables have been determined based on theoretical studies conducted previously. The equation of the multiple linear regression model in this study is as follows .

$$WTP = \beta_0 + \beta_1 JK_i + \beta_2 U_i + \beta_3 PNDK_i + \beta_4 PKJ_i + \beta_5 PDPT_i + \beta_6 STS + \beta_7 JT_i + \beta_8 JB_i + \beta_9 AT_i + \epsilon_i$$

Information :

WTP = Respondent's WTP Value (IDR.)

β_0 = Intersep

β_1, \dots, β_9 = Regression coefficient

JK = Gender

U = Age

$PNDK$ = Education

PKJ = Jobs

PDT = Revenue

STS = Status

JT = Number of Dependents

JB = Number of Visits

AT = Transportation Access

i = 1st Respondent ($i = 1, 2, \dots, n$)

ϵ = Error or error

Elasticity Analysis and Ideal Pricing

Elasticity analysis is carried out to determine whether or not it is necessary to increase the price of entrance tickets to natural tourist areas due to changes in tourist demand (Isnan, 2015). The concept of elasticity can be used to find out the relationship between price changes to total receipts. If the selling price rises, there are two possible impacts for managers. First, it is detrimental if price increases lower demand, so total receipts will fall. Secondly, it is advantageous if the price increase does not lead to a significant decrease in demand so that total receipts increase. It is largely determined by the price elasticity figure. The measurement of

demand elasticity is expressed as follows (Green and Alston, 1991., Hutagalung and Inggrita, 2013):

$$Ed = \frac{(Q1-Q2)/((Q2+Q1)/2)}{(P2-P1)/((P1+P2)/2)}$$

Information:

Ed = demand elasticity

Q1 = Number of visitors at the time of ticket price of P1

Q2 = Number of visitors at the time of ticket price of P2

P1 = Starting price

P2 = Price after ticket price increase

Indicators:

1. $e = 0$, A demand that is perfectly inelastic, or a demand with zero elasticity, is a state where the quantity requested is completely unresponsive to price changes.
2. $e < 1$, If a one percent change in price results in less than one percent change in the quantity demanded, then the item has an inelastic price elasticity (the demand is inelastic).
3. $e = 1$, Demand that is unitary in nature, which occurs when a one percent change in price results in a one percent change in the quantity requested.
4. $e > 1$, If a one percent price change gives rise to more than one percent change in the quantity requested, then the item has an elastic price elasticity (the demand is elastic).
5. $e = \infty$, Demand is perfectly elastic, a small change in price will cause a very large change in the quantity requested.

RESULTS AND DISCUSSION

Willingness To Pay (WTP) to Visitor Ticket Prices

Willingness To Pay (WTP) is defined as the willingness to pay for an environmental condition or research on natural resources or services in order to improve quality (Acevedoa et.al. 2018). In this study, Willingness To Pay was carried out to determine the willingness to pay visitors for entrance tickets to Tangkahan Nature Tourism if additional facilities were added and processing was carried out on Tangkahan Nature Tourism. This method is carried out through interviews with visitors to Tangkahan Nature Tourism.

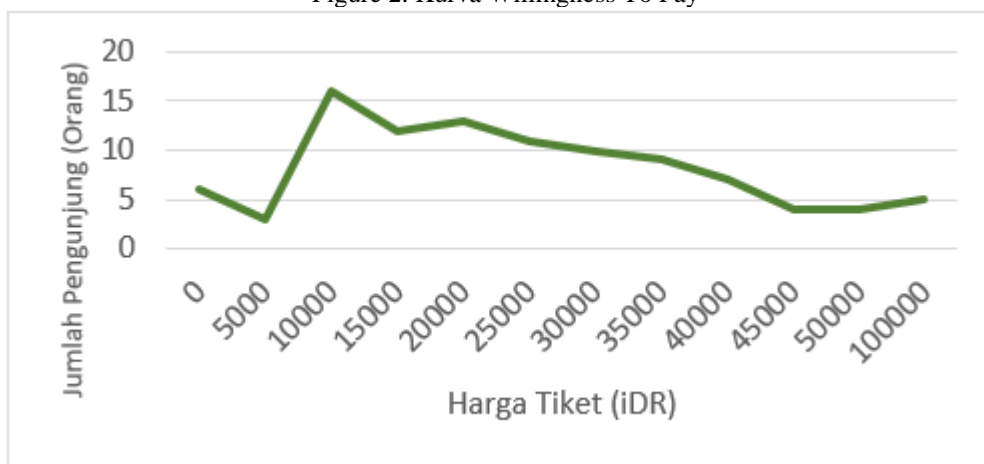
In conducting interviews with 100 respondents, not all respondents were willing to pay more than the current ticket price. This is in line with the research results of Sekar et. Al. (2013) which states the concept of WTP expresses the value of visitor preferences based on visitor behavior or preferences, as well as their importance, whether willing to pay a certain amount of money for compensation costs, avoid damage or loss of the ecotourism environment, contribute to the conservation and improvement of environmental quality, and protection of tourist environmental services. Especially in consumer behavior that can change differently in emergencies (Wang et al., 2020). This value is determined by whether or not tourists are willing to consider trade-offs and are able to pay the price of environmental commodities in the form of natural resource specs, including beauty, existence, and conservation and maintenance

efforts. Although it is certain that ecotourism behavior affects life satisfaction even after a tourist trip (Hwang and Jieun, 2018).

Respondent's willingness to pay (WTP) value

After conducting interviews with 100 visitors, the value of willingness to pay visitors to the entrance ticket price of Tangkahan Nature Tourism. The current ticket price for Tangkahan Nature Tourism is IDR.5,000,-/person. From the results of the interview, visitors are already satisfied. With the ticket price they pay they can enjoy the beautiful natural scenery and clear water but with inadequate facilities. The tourists regret that Tangkahan Nature Tourism with the number of visitors as many as 31,200 / year is still lacking in terms of facilities and road access to Tangkahan Nature Tourism.

Figure 2. Kurva Willingness To Pay



Tangkahan Nature Tourism Area has been known for a long time by tourists for its natural beauty and clear water. Therefore most of the tourists are willing to pay more for Tangkahan Nature Tourism. One of the factors that strengthens its tourism potential is the presence of Gajah Sumatra (*Elephas maximus sumatranus*) in this tourist attraction. Generally, visitors are willing to pay more if they get more benefits and comfort in enjoying ecotourism. Mejia and Sylvia (2015) state that visitors will be willing to pay 2.5 times more for travel with a high level of protection against invasive species than travel with a level of protection with a standard below it.

Figure 2 shows that visitors will only be willing to pay the maximum entrance ticket price at IDR.100.000,- and at least at IDR.6.000,-. According to the results of research by Octaria et al (2017) which examined the willingness to pay visitors to educational tour

packages, WTP is used because it can analyze individual preferences regarding non-use products, and is able to identify goods and services to be evaluated or hypothetical markets used as a reference . The scenario that will be offered to visitors is in the form of environmental education-based tour packages which are expected to cause visitor participation to better preserve the environment in efforts to control waste and environmental conservation.

Calculation of average and total WTP

The calculation of the average willingness to pay is to find out the average value of all visitors' willingness to get a new value for the entrance ticket price of Tangkahan Nature Tourism. While the total willingness to pay serves to find out how much the total value of the willingness to pay visitors per year (Coursey et.al, 1987).

Table 1. Calculation of average and total WTP

No	WTP Value (IDR/Ticket/Person)	Visitors(people)	WTP Value (IDR)
1	0	6	-
2	6.000,-	3	18,000
3	10.000,-	16	160,000
4	15.000,-	12	180,000
5	20.000,-	13	260,000
6	25.000,-	11	275,000
7	30.000,-	10	300,000
8	35.000,-	9	315,000
9	40.000,-	7	280,000
10	45.000,-	4	180,000
11	50.000,-	4	200,000
12	100.000,-	5	500,000
Total		100	2,668,000,-
Average			26,680,-

In Table 1, it can be seen that the average WTP obtained is IDR..26,680,-/person. This average is obtained from the results of the willingness to pay visitors found in the table above.

To calculate each average value of the visitor's WTP can be used the following formula:

$$EWTP = \frac{\sum_{i=0}^n W_i}{n}$$

$$EWTP = \frac{3(6.000,-)}{100}$$

$$EWTP = 180$$

The calculation above is a calculation of the WTP value at a price of IDR.. 6,000,-, as well as calculating the next WTP value to get the average willingness to pay. After knowing the average willingness to pay in each group, then we can calculate the total willingness to pay for 100 visitors from the average result obtained . The calculation of total willingness to pay can be seen as follows:

$$TWTP = \sum_{i=0}^n \frac{WTP_i}{N} \cdot n_i$$

$$TWTP = 832.416.000$$

Based on the calculation above, the value of IDR..26,680 is the result of the average WTP that has been obtained in Table 1. Therefore, the total willingness to pay is IDR..832.416.000,-/year for 100 visitors. The total willingness to pay serves to find out the average value of the willingness to pay visitors per year. The above value is certainly very meaningful if it can be a real acceptance for managers. However, managers must be careful, because Simanjuntak (2009) stated that the natural tourism tariff policy must be carried out with very careful consideration because controlling tariffs (ticket prices) is one of the important instruments in the management of natural tourism, which not only affects the benefits of the manager but also the environmental sustainability of ecotourism areas and also the equalization of recreational opportunities. This consideration was also conveyed by Spanou et.al (2012) and Nova and Shamsudin (2009).

Total receipt value of WTP

This acceptance value serves to find out how much the manager gets from the results of the entrance ticket based on the willingness to pay visitors. The acceptance value of the WTP results can be seen in Tabel 2.

Table 2. Total receipt value based on visitor WTP

Basis for Determination	Entrance ticket price (IDR/person)	Number of Visitors Year 2019	Acceptance
	a	b	c = (a x b)
Current admission price	5.000	31.200	156.000.000
Entrance ticket price based on WTP average	26.680	31.200	832.416.000

In Table 2, it can be seen that the basic price of the entrance ticket is IDR..5.000,-/person, with the total receipts obtained by the management is IDR.156.000.000,-/year. By obtaining an average WTP of IDR.26,680,-/person, the manager can get the receipts that will be generated from the WTP of IDR.832,416,000,-/year. This shows that the manager will get more acceptance when the ticket price is increased to IDR. 26,680,-/person. This value shows the preference of tourists/visitors towards Tangkahan Nature Tourism better and the concern of tourists/visitors to a better ecotourism environment.

The calculation of receipts is carried out to find out the comparison of the current ticket price with the ticket price after it has been increased through the willingness to pay from

visitors. In this case, if what the natural tourism manager wants is an increase in the number of receipts, then the price of entrance tickets can potentially be increased from IDR.5,000 to IDR.. as high as IDR.. 26,680,-. Alpízar (2006) gets a model that shows that prices for visitors can be raised depending on marginal cost estimates. The increase in the price of entrance tickets can benefit managers and visitors, namely optimal acceptance for managers and a wider space for visitors to enjoy Tangkahan Ecotourism.

Ideal Admission Price Analysis

After knowing the average WTP, then we need to know the elasticity of demand. An analysis of the elasticity of demand is carried out to determine whether or not it is necessary to increase the price of entrance tickets to the Tangkahan natural tourist area due to changes in tourist demand. Analysis of demand elasticity at WTP averaged IDR.26,680,- and demand elasticity at WTP amounted to IDR.10,000,-. The figure of IDR.26.680,- is the result of the average WTP,, while IDR.10.000,- is the WTP value with the most frequency of visitors. Here is the calculation of demand elasticity where known $P_2= 26,680$, $Q_2=10$.

$$\begin{aligned} Ed &= ((Q_1 - Q_2) / ((Q_2 + Q_1) \sqrt{2})) / ((P_2 - P_1) / ((P_1 + P_2) \sqrt{2})) \\ &= ((100 - 10) / ((100 + 10) \sqrt{2})) / ((26.680 - 5.000) / ((5.000 + 26.680) \sqrt{2})) \\ &= (90 / 55) / (21.680 / 15.840) \\ &= 1.636 / 1.368 \\ &= 1,195 \end{aligned}$$

The result of demand elasticity is 1.195. The value of this elasticity is still 1, so that at the price of IDR. 26,268 there is an elastic condition ($ED > 1$), so that raising the price to this level risks reducing the number of visitors significantly. In the end, it is at risk of a decrease in total revenue for managers. For this reason, a calculation is then carried out to get a price that has a minimum of below 1. Then the elasticity of demand is calculated with $P_2 = 10,000$ and $Q_2 = 16$.

$$\begin{aligned} Ed &= ((Q_1 - Q_2) / ((Q_2 + Q_1) \sqrt{2})) / ((P_2 - P_1) / ((P_1 + P_2) \sqrt{2})) \\ &= ((100 - 16) / ((100 + 16) \sqrt{2})) / ((10.000 - 5.000) / ((5.000 + 10.000) \sqrt{2})) \\ &= (84 / 58) / (15.000 / 7.500) \\ &= 1,448 / 2 \\ &= 0.7241 \end{aligned}$$

Table 3. Calculation of Ideal Ticket Price Based on Elasticity of Demand

	Ticket price (IDR./Person)	Visitors	Ed
Current ticket prices	5.000,-	100	-
Ticket prices based on WTP	10.000,-	16	0,7241

Ideal ticket price	19.764,-	-	1,0000
WT P-based ticket prices	26.680,-	10	1,1956

From the calculation results above, there is an Elasticity of Demand (ED) of 0.7241. The ED value at the ticket price of IDR.10,000, - is still in an inelastic condition ($ED < 1$), so the ticket price can still be increased to increase the total number of receipts without the risk of losing visitors significantly. To be able to see a comparison between the two calculations of demand elasticity above, an interpolated calculation is performed to obtain a price that results in an $ED = 1$ value to determine the upper limit of the ideal ticket price. The upper limit of the best price is obtained when a one percent change in price results in a one percent change in the quantity requested. From the interpolation results, the upper limit of the ideal ticket price is IDR.19,764,- (Table 3). The figure shows that if the price is set below the price limit, it will increase the total number of receipts with a relatively small risk of decreasing visitors. However, if the price set exceeds the upper limit, the price increase will have an impact on the decrease in diners, due to $ED > 1$ (elastic). The same approach was also taken by Isnan (2015) to determine the best entrance ticket prices in Batimurung and Horowitz and McConnell Natural Attractions, 2003).

Analysis of Factors Affecting the Value of Willingness To Pay (WTP)

Analysis of factors influencing the value of willingness to pay to visitors was carried out to examine the relationship of visitor characteristics to the availability of paying visitors. The conception of WTP needs to be studied because this approach is one of the effective ways to determine the best ticket prices in the management of natural tourism areas. Therefore, the factors influencing it should be known as the policy foundation for the development of services in management. According to Samdin (2009), willingness to pay (WTP) analysis as a method to calculate elicitation is a way to determine the right pricing policy for ecotourism development.

Testing of the Statistical Test F yielded a calculated F value of 2.535 and greater than the F-table (1.98) with a rated sig of 0.012 (< 0.05) at a significant level of 95% ($\alpha = 5\%$). The results of multiple linear regression analysis for all variables tested can be seen in Table 4. Simultaneously, factors such as type of family, age, education, occupation, income, marital status, number of dependents in the household, number of dependents, visiting frequency and access to transportation affect the willingness to pay visitors.

Table 4. Regression analysis output results

Model	Unstandardized		Standardized	T	Sig
	B	Std. Error	Coefficienta		
(constant)	-3,719	3,791		-0,981	0,329
Gender	-0,030	0,633	-0,005	-0,048	0,962
Age	1,050	0,401	0,455	2,621	0,010
Education	1,535	0,436	0,339	3,521	0,001
Work	0,045	0,160	0,028	0,281	0,780
Income	0,316	0,208	0,147	1,518	0,133
Status	1,273	0,986	0,208	1,291	0,200
Number of dependents	-0,659	0,565	-0,221	-1,167	0,246
Number of visits	0,010	0,616	0,002	0,016	0,987
Transportation access	-0,036	0,597	-0,006	-0,059	0,953

In Table 4 it can be seen that the results of multiple linear regression show that partially the variables that have a significant effect on the level of = 5% are age and education. This shows that the age and education of visitors have a very significant effect on the value of Willingness To Pay (WTP) of visitors. The coefficient value of the age variable is positive (unidirectional) which means that at a higher age group, the willingness to pay ticket prices at Tangkahan Nature Tourism will also be greater. In this case, age is related to increasing awareness and need for nature tourism as a means of recreation and entertainment. In addition, age is also related to economic ability so that it is in line with their willingness to pay for an entrance ticket with a higher value. The same thing was also reported by Terry et al (2020) and Hasiani et al. (2013) where age is a significant variable in relation to PAP in Kereng Bangkirai, Palangkaraya and Taman Alun Kapuas Pontianak. Meanwhile, Hisan (2014) reported different findings, where age had no effect on WTP in Banda Aceh City Tourism Objects. Annisa and Harini (2017) conclude that age and income are variables that affect PAP in the Pindul Cave Tourism Area, Gung Kidul. Prasetyo and Saptutyingsih (2013) also found that the variables of age, education, income, number of family dependents had an effect on WTP. The regression model produced in this study is:

$$WTP = -3,79 - 0,03JK + 1,05U + 1,535PNDK + 0,045PKJ + 0,316PDPT + 1,272STS - 0,659JT + 0,01JB - 0,036AT + \epsilon_i.$$

Education has a significant effect on willingness to pay (WTP) with the coefficient value being positive (unidirectional), which means that in the group of visitors with higher education, the willingness to pay ticket prices at Tangkahan Nature Tourism objects is also greater. Higher education allows visitors to better understand the urgency of ecotourism and nature conservation, so they are willing to pay higher costs to maintain and enjoy it. Understanding of

the benefits and good environmental sustainability will affect the willingness of visitors to be willing to pay higher. This is due to the ability to feel or get something useful from the tourism object as a result of the visitor education factor. Research Hassin et. Al. (2020) show that visitor income and education significantly affect the level of willingness to pay for ecotourism resource conservation. Rosminiaty et al (2018) also conclude that income, alternative costs, and travel costs affect TWP in Banda Aceh City.

CONCLUSIONS

The WTP value given by visitors to pay the ticket price from the smallest is IDR.. 6,000,- until the largest is IDR.. 100,000,-. The average value of WTP visitors to the entrance ticket price at Objek Ekowisata Tangkahan is IDR..26.680,- persons/visits. Based on the results of the visitor demand elasticity (ED) analysis, the best ticket price is at a maximum hanga of IDR.. 19,764,-/person/visit. This price is still within the range of willingness to pay visitors and is still in a condition of elasticity smaller than or equal to 1, so it does not risk reducing the manager's total receipts. Simultaneously, factors such as type of family, age, education, occupation, income, marital status, number of dependents in the household, number of dependents, visiting frequency and access to transportation affect the willingness to pay visitors. As for partially, the factors that affect the value of willingness to pay for visitors are age and education with the direction of both positive.

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