# Value Co-Creation Strategy Model to Enhance the Environment and Bicycle Health on Tourism Area of Khung Bangkachao

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## Abstract

This research aims to determine strategies for creating shared values affecting the engagement of cyclists in Kung Bang Krachao, Phra Pradaeng District, Samut Prakan Province. The research method used includes a combination of quantitative and qualitative research. The sample group consists of 384 cyclists and 3 groups of key informants, including 1) 5 bicycle rental operators, 2) 5 people of area administrators, community leaders, and tour guides, and 3) 7 tourism entrepreneurs, totaling 17 people. The quantitative research results indicated that the mean satisfaction value on the cycling route was 4.25 (S.D. = 0.62), reflecting a high level of satisfaction. The analysis of model consistency using the Goodness of Fit Index (GFI) of 0.988 and the root mean square error of approximation (RMSEA) of 0.027 indicated that the model is clearly consistent with the empirical data. The building of shared value by bicycle rental business entrepreneurs, area administrators, community leaders, tour guides, and tourism service operators all influence the satisfaction and engagement of tourists cycling in Bang Krachao. The most influential factor is the administration of areas and facilities, especially safe cycling routes, which has a standardized factor loading ($\beta$) of 0.891 and a predictive coefficient ($R^2$) of 0.795 Community participation in tourism activities, such as organizing local markets and servicing tour guides, has a direct influence (DE) of 0.635 and a total influence (TE) of 0.906. The analysis of the relationship between service quality and overall satisfaction revealed that the correlation coefficient (r) was 0.812, reflecting the impact of good management, such as increasing the number of clean toilets and improving the rest areas. Tourists provided an average satisfaction score of 4.25 (S.D. = 0.62), which is in the high range. Organizing activities linked to community lifestyles, such as cultural tours, tree planting, and environmental conservation activities, has an indirect influence (IE) of 0.575 and a construct reliability of 0.875. The participation of knowledgeable and interesting storytelling tour guides helped create memorable experiences and promote word-of-mouth recommendations, which has a score of standardized factors loading of 0.889 ($R^2$ = 0.791).

**Keywords:** Value Co-creation, Bicycle Tourism, Enhance, the engagement, Khung Bangkachao

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## Introduction

Time Asia magazine's Best of Asia issue has named Bang Krachao, the Best Urban Oasis in Asia. According to a study by the Thailand Greenhouse Gas Management Organization (Public Organization) and the Faculty of Forestry, Kasetsart University, the green area in Bang Krachao absorbs an average of 6,000 tons of carbon dioxide per year and produces up to 6 million tons of oxygen per day. In addition, Bang Krachao has an area with ecological and cultural tourist attractions and many bicycle routes for tourists to choose from to help increase oxygen in their lungs. And there are many bicycle rental operators with a price range of only 50-60 baht per day. Bicyclists can ride to various places and experience the green nature at Srinakarin Khuean Khan Park. There are also many activities such as batik dyeing, herbal incense, visiting the Thai fighting fish museum, experiencing the way of life of the villagers along the canal, watching big boats in the Chao Phraya River, worshiping at an old temple with a church from the World War era, buying products from the Bang Nam Phueng Floating Market community, spending overnight with the home-stays, etc. (Bang Nam Phueng Sub-district Administrative Organization,2022)

Bicycle touring is a form of non-motorized travel that has gained popularity in all areas worldwide. The number of cyclists is increasing continuously. Many countries around the world are paying attention to the campaign for cycling. The factor in making the most people use bicycles is the government's measures which support and encourage people to ride the bikes. For example, in Europe, cycling is considered a form of exercise. Cycling for 1 hour can burn up to 800 calories (Maew Ngao, 2018). The cities with the most cycling in the world are: 1. Amsterdam, Netherlands 2. Copenhagen, Denmark 3. Valencia, Spain 4. Moab, United States, and 5. Riva del Garda, Italy. These five countries are dream destinations that cyclists wish to visit, join cycling races, and attend various exhibitions. Each country has diversity and different levels of cycling facilities (CaMel, 2023).

**Table 1:** Comparison Between Bang Krachao, Samut Prakan Province, and the World's Top 5 Cycling Cities
Source: Researcher, 2025

| Criteria | Bang Krachao (Thailand) | Amsterdam (Netherlands) | Copenhagen (Denmark) | Valencia (Spain) | Moab (USA) | Riva del Garda (Italy) |
|---|---|---|---|---|---|---|
| Type of Cycling | Eco-tourism, Leisure Cycling | Daily Urban Commuting | Daily Urban Commuting | Recreational and Sports Cycling | Mountain Biking, Nature Trails | Recreational and Scenic Cycling |
| Infrastructure | Green space cycling paths, some narrow and discontinuous | Extensive, integrated bike lanes | Comprehensive, city-wide bike network | Coastal cycling routes | Mountain trails and rugged paths | Lakefront and mountain routes |
| Safety | Moderate (some shared roads with vehicles) | Very High | Very High | High | Moderate (natural terrain) | High (dedicated cycling paths) |
| Cycling Promotion Policy | Tourism-focused community initiatives | Pro-cycling urban policies | Pro-cycling urban policies | Cycling tourism support | Mountain biking promotion | Tourism and sports cycling support |
| Environment & Scenery | Green, lush, mangrove forests | Urban, canals | Urban, riverfront | Coastal, historic town | Mountains, valleys | Lake and mountain views |
| Key Highlights | Green lung near Bangkok, community lifestyle | World-class cycling infrastructure | Model cycling-friendly city | Coastal scenery, vibrant routes | Challenging natural terrains | Stunning lake and alpine scenery |

In addition, cycling tourism is another form of tourism that uses sports as part of the strategy to promote the tourism industry. The main objective is to generate income using sports for the tourism industry from tourists traveling to watch international sporting events or to attend playing their favorite sports, using natural areas and areas designed for particular sports as a factor in promoting travel to play sports, such as golf, diving, rowing, and cycling (Ministry of Tourism and Sport, 2016). The European Cyclists' Federation (ECF) has defined a number of criteria for a proper EuroVelo or other high-quality cycling route. The ECS covers the main categories of infrastructure, services, and promotion. At the infrastructure level, criteria are set for the sub-categories of continuity, route composition, surface and width, gradient, attractiveness, signage, and public transport. The EuroVelo infrastructure is longitudinally divided into daily segments (30-90 km) and sub-segments (1 km), which are the basic units of data gathering and assessment. The following criteria for certification are set out in Table 2.

According to the field survey of the Bang Krachao area, it was found that the problem of the air ecosystem has changed, making the amount of green space lower. The trees have been cut down to backfill the land. Toxic fumes from cars and a lot of dust arise. There is the expansion of the city, turning the natural environment into more residential, resorts, home-stays, and industrial factories. From the literature review, many countries have started to emphasize the utilization of bicycles to promote health, reduce pollution, and promote sports and tourism activities. Like in Japan, the national government has designated routes that meet both software and hardware criteria to promote Japan and other countries to acknowledge them as high-safety world-class cycling routes. Amsterdam is a model city in the Netherlands for safe cycling and tourist routes. The components of the cycling route are the separation of the bicycle lane and the car lane using white lines with a separate lane for turning bicycles, or the so-called Bike Box with the rule defined that when reaching a turn, cars must always park behind the bicycle. In addition, bicycle parking spots are available throughout the city. And in Italy, the cities of Veneto, Lombardy, and Emilia Romagna are the birthplaces of cycling tourism. In 2020, the city of Milan launched a project called "Cambio", which means "transformation into a system", which combines environmental protection, safety, economic development, and general well-being. It focuses on the construction of a cycle route called "super-cycle" or a line of large ring roads. It was found that the cycling route at Khung Bang Krachao still lacks basic cycling infrastructure. The cycling route in the area must be shared with local people with no connection to the cycling route map, no bicycle parking spots, no tourist service centers, and the quality of the bicycles for rent does not include any safety equipment for tourists. At the same time, each bicycle rental business operator provides services in an independently operated manner. The safety of cycling routes is a top factor that will create confidence for tourists to return to visit again. In the Bang Krachao area, the roads are of 2 lane type with white lines for cycling routes that are shared with locals. There are cars, public vehicles, and motorcycles driving at speed and running on the cycling lanes. In addition, there are pets emerged chasing and biting cyclist tourists along the tourist routes. These factors may affect the satisfaction and commitment of tourists to return to Bang Krachao. In addition, Thailand often has news indicating the safety issues of tourists.

**Table 2:** Criteria class for EuroVelo certification Trendscope

| Criteria level | Need to be fulfilled on ... | Cover the needs of ... |
|---|---|---|
| **Essential** | 100% of the route | Regular cycle tourists, who use the bicycle as a main mode of daily transportation and/or frequently for leisure and tourism purposes. |
| **Important** | 70% of the route length | Occasional cycle tourists with little experience and average skill and fitness levels, who use the bicycle for daily transportation and/or have already made several leisure trips. |
| **Additional** | Optional – depends on the aspiration level | More 'demanding' and 'inexperienced' cycle tourists, including cyclists with children in trailers, tandem riders, hand bikers etc. |

Source: (Trendscope, (ECF) et al. 2018)

For example, a Chilean cyclist who owned the Guinness World Record for cycling on 5 continents in 5 years was hit and killed by a pickup truck. Or in the case of Mr. Wichian Pinkaesorn, a one-handed cyclist, a FESPIC Games athlete, and a triathlete who was crushed by a car in Thailand (Heath 2click, 2021). This resulted in Thailand being ranked 2nd in the lowest safety ranking in ASEAN and 111th in the world (National Tourism Development Plan No. 3 2023-2027, 2023). Therefore, cooperation from all sectors must make the Bang Krachao area a prototype area for sustainable tourism, both in terms of lifestyle and ecology, according to the Global Sustainable Tourism Criteria or GSTC, and be driven to become a special area for sustainable tourism. This must be promoted to be selected as one of the world's 100 sustainable tourist destinations or Green Destinations Top 100 with a management system consistent with the policies of the Ministry of Tourism and Sports and the government's policies under the BCG Model (Bio-Circular-Green Economic) for cyclists to have the most safety in life. To attract tourists using cycling activities to return to travel continuously, creating tourism opportunities and generating income for people in the community. From the entire problems, the researcher considers that this research will help reduce and fill the gap in building the shared value strategies to promote the engagement of cyclist tourists in Bang Krachao, Phra Pradaeng District, Samut Prakan Province, which will make the competitiveness to be used as a strategy to maintain the tourist customer base and engagement with tourists to be impressed and return to the area again, including opening opportunities for tourists to participate in the development, co-production, and co-creation of various valuable activities together.

## Methodology

### 1. Qualitative Research

The researcher used the methodology by studying data from primary sources by in-depth interviewing groups of key informants using a semi-structured interview form in 3 main groups, totaling 17 people, as follows: 1) Bicycle rental operators of 5 persons who play an important role in cycling activities and bicycle rental service management in the study area 2) Area administrators, community leaders, and tour guides of 5 persons, who are responsible for managing the area and promoting ecotourism activities, including building co-operation with local communities 3) Tourism business operators of 7 persons

### 2. Quantitative Research

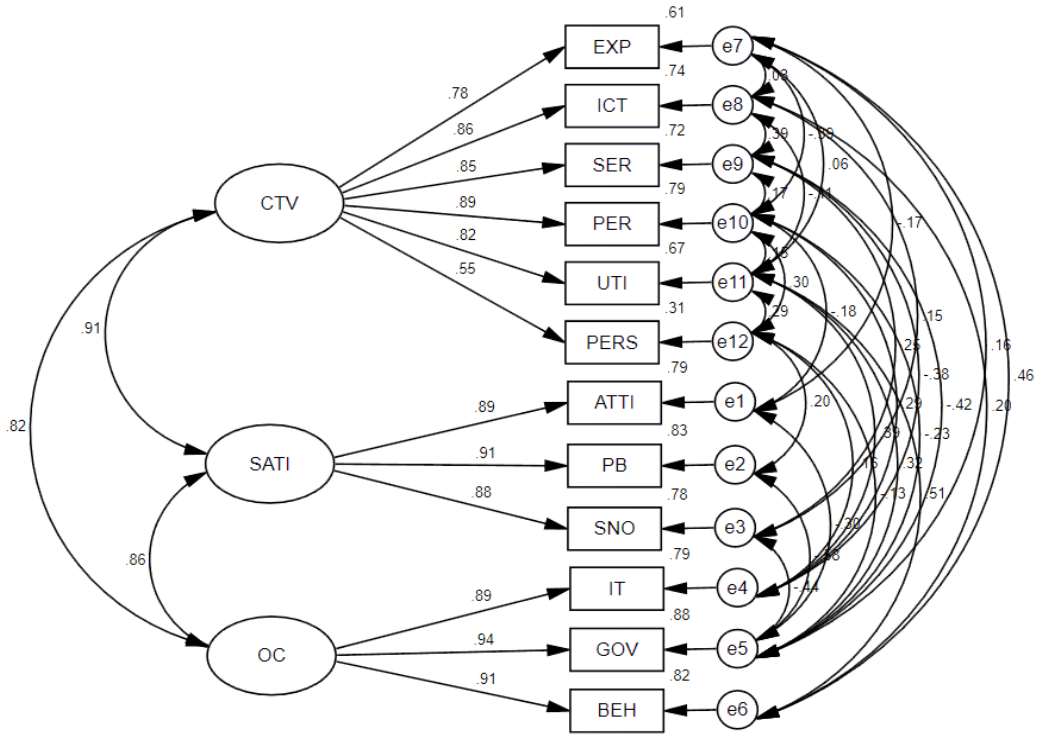
The researcher collected and analyzed the data using questionnaires, and Structural Equation Modeling (SEM), and Confirmatory Factor Analysis (CFA) to find the influences on the engagement of bicycle tourists. The Structural Equation Modeling (SEM) technique is an advanced data analysis method used to examine the relationships between latent variables and observed variables. It encompasses multivariate analysis and the testing of complex relationship models. In this research, the SEM analysis begins with descriptive analysis to understand the characteristics of the sample group, including percentage, mean, and standard deviation, to explore the behavior and fundamental attributes of the data. Subsequently, the researcher performs Confirmatory Factor Analysis (CFA) to evaluate the model's goodness-of-fit, employing fit indices such as CFI, TLI, RMSEA, and Chi-Square, alongside standardized factor loadings, which are required to exceed 0.40 to meet the acceptable threshold. Furthermore, SEM is utilized to investigate the relationships between variables by assessing both direct and indirect effects, thereby identifying key factors influencing tourist satisfaction and engagement. The SEM analysis in this study aims to develop and validate a theoretical model concerning the factors affecting value co-creation and tourist engagement. The results of the analysis serve as the foundation for designing practical and effective strategies tailored to the context of Bang Krachao. Additionally, the structural equation modeling approach demonstrates the reliability of the data and the capability of the model to explain causal relationships, which are crucial for developing sustainable strategies in the future. and synthesized to find the business-level strategies in determining the strategy using SOAR Analysis for creating shared value to enhance the participation of bicycle tourism. This is a good starting point for strategy development. Exec-

utives and stakeholders will receive a certain level of completeness as it's data showing the strengths, opportunities, motivations, and expected results if applied. And the results will be used to analyze competitors in the market using Porter's Five Forces Analysis as invented by Michael E. Porter (Porter,Michael E., 1980). a tool used in analyzing competitive situations. The results of this analysis will be utilized to develop appropriate business operation guidelines and to establish sustainable long-term competitive advantages.

## Results

The results of quantitative data analysis of data derived from the respondents according to the important variables covering gender, age, nationality, education, occupation, income, experience, and factors used in decision-making, will be analyzed and presented in the form of the number of respondents (frequency) and percentage to provide overall characteristics of the sample group.

The Confirmatory Factor Analysis (CFA) will be used to examine the appropriateness and validity of the structural equation model by considering the component weights and $r^2$ values to examine the covariance of the indicators. And SEM analysis also helps to examine the correlation between variables by assessing the direct and indirect influences between the variables according to the conceptual framework with 3 components as follows: 1. Value creation variable (CTV) consists of 1.1) Experience gained (EXP) 1.2) Technology and communication (ICT) 1.3) Service (SER) 1.4) Customer co-production capability (PER) 1.5) Utility gained (UTI) and 1.6) Specific service (PERS)2. Satisfaction variable (SATI) consists of 2.1) Attitude (ATTI) 2.2) Perceived behavioral control (PB) and 2.3) Word-of-mouth (SNO) and 3. Commitment variable (OC) consists of 3.1) Interest in technology (IT) 3.2) Government policy (GOV) and 3.3) Intention (BEH), as shown in the results of Confirmatory factor analysis in Figure 1



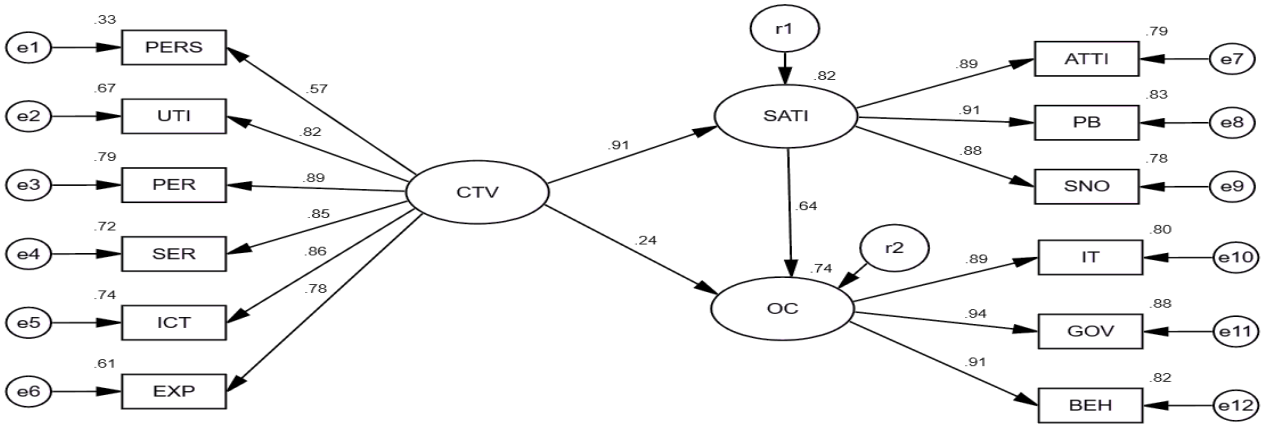

Chi-square = 27.949, Chi-square/df = 1.270, df = 22, p-value = 0.177,
GFI = 0.988, CFI = 0.999, RMR = 0.008, RMSEA= 0.027

**Figure 1 :** results of Confirmatory factor analysis

For the standardized factor loadings (λ), standard error (S.E.), statistical significance test (t) and predictive coefficients (r2) of the first-order confirmatory factor analysis, as shown in Table 3.

| Observed Variables | Standardized Factor Loadings (λ) | Standard Error (S.E.) | Statistical Significance test (t) | Predictive Coefficients ($r^2$) |
|---|---|---|---|---|
| ATTI | 0.888 | 0.038 | 24.912*** | 0.788 |
| PB | 0.912 | 0.036 | 26.662*** | 0.831 |
| SNO | 0.882 | - | - | 0.779 |
| IT | 0.891 | 0.036 | 28.904*** | 0.795 |
| GOV | 0.937 | - | - | 0.787 |
| BEH | 0.906 | 0.032 | 30.050*** | 0.821 |
| EXP | 0.784 | 0.046 | 17.404*** | 0.614 |
| ICT | 0.862 | 0.038 | 26.345*** | 0.744 |
| SER | 0.847 | - | - | 0.717 |
| PER | 0.888 | 0.044 | 23.797*** | 0.788 |
| UTI | 0.817 | 0.048 | 18.554*** | 0.668 |
| PERS | 0.554 | 0.058 | 23.797*** | 0.307 |

Note : *p < 0.05, ***p < 0.001




Chi-square = 22.553, Chi-square /df = 1.128, df = 20, p-value = 0.311

GFI = .990, AGFI = 0.963, CFI = 0.999, RMR = 0.007, RMSEA = 0.018

**Figure 2:** Results of consistency examination with empirical data after model adjustment.

Table 3 shows the values of standardized factor loadings (λ), standard error (S.E.), statistical significance test (t), and predictive coefficient (r2) of the first-order confirmatory factor analysis. It was found that the standardized factor loadings were between 0.554 - 0.937, standard error (S.E.) was between 0.032 - 0.058, statistical significance test (t) was between 17.404 - 30.050 and predictive coefficient (r2) was between 0.307 - 0.831. All observed variables were consistent with the empirical data with statistical significance at the .001 level ($p < 0.001$) as shown in Figure 2. The verification result of the model was found to fit with the empirical data after model adjustment.

**Table 4:** Statistical values from the analysis of structural equation with empirical data after model adjustment

| Latent variables | observed variables | factor loadings | S.E. | C.R. (t - value) | $R^2$ |
|---|---|---|---|---|---|
| CTA | EXP | 0.781 | 0.045 | 16.599*** | 0.609 |
| | ICT | 0.858 | 0.043 | 21.706*** | 0.736 |
| | SER | 0.850 | 0.040 | 23.904*** | 0.723 |
| | PER | 0.891 | - | - | 0.795 |
| | UTI | 0.816 | 0.038 | 22.017*** | 0.666 |
| | PERS | 0.573 | 0.050 | 12.928*** | 0.328 |
| SATI | ATTI | 0.889 | 0.038 | 24.972*** | 0.790 |
| | PB | 0.911 | 0.036 | 26.521*** | 0.829 |
| | SNO | 0.882 | - | - | 0.777 |
| OC | BEH | 0.906 | 0.034 | 27.698*** | 0.821 |
| | GOV | 0.938 | 0.034 | 28.957*** | 0.879 |
| | IT | 0.892 | - | - | 0.796 |

**Note:** *** Statistical significance at the .001 level (p-value <0.001).

The analysis results as shown in Table 4, revealed that the observed statistical values from the structural equation model analysis with the empirical data after adjusting the structural equation model of the relationship between 1) Value Creation (CTV) consisting of 1.1) Experience gained (EXP) 1.2) Technology and communication (ICT) 1.3) Service (SER) 1.4) Customer co-production capability (PER) 1.5) Utility gained (UTI) and 1.6) Specific service (PERS) 2. Satisfaction variable (SATI) consists of 2.1) Attitude (ATTI) 2.2) Perceived behavioral control (PB) and 2.3) Word-of-mouth (SNO) and 3. The commitment variable (OC) consists of 3.1) Interest in technology (IT) 3.2) Government policy (GOV) and 3.3) Intention (BEH), as follows;

In terms of value creation (CTV), the predictive coefficient or reliability of the variable (R2) is between 0.328 - 0.795, and the value of the observed factor loadings is between 0.573 - 0.891, all of which are positive and statistically significant at the level of 0.001 The highest value is of factor loadings and the highest predictive coefficient are of the customer co-production capability (PER).

The Satisfaction variable (SATI) has a predictive coefficient or variable reliability (R2) between 0.777 - 0.829 and the value of observed factor loadings of 0.882 - 0.911, all of which are positive and statistically significant at the level of 0.001. The highest value of factor loadings is of the attitude (ATTI) (0.889), and the highest predictive coefficient is of the customer co-production capability (PER) and perceived behavioral control (PB).

In terms of commitment (OC), the value of predictive coefficient or variable reliability (R2) is between 0.796 - 0.879, and the observed factor loadings of variables are between 0.892 - 0.938, all of which are positive and statistically significant at the level of 0.001, with the highest value of factor loadings and highest predictive coefficient belongs to the same aspect, which is government policy (GOV)

**Table 5:** Direct and Total influence values between the cause variable and the dependent variable.

| Dependent variable. | Satisfaction (SATI) | | | Engagement (OC) | | |
|---|---|---|---|---|---|---|
| cause variable | TE | DE | IE | TE | DE | IE |
| Value Creation (CTV) | 0.906* | 0.906* | 0.00 | 0.818* | 0.243* | 0.575* |
| Satisfaction (SATI) | 0.00 | 0.00 | 0.00 | 0.635* | 0.635* | 0.00 |
| **R - Square** | **.820** | | | **.741** | | |

Chi-square = 22.553, Chi-square /df = 1.128, df = 20, p-value = 0.311, GFI = .990,
AGFI = 0.963, CFI = 0.999, RMR = 0.007, RMSEA = 0.018, TLI = 0.998

**Note:** TE = Total influence, DE = Direct influence, IE = Indirect influence,
*Statistical significance at 0.05 level ($p < .05$)

The analysis results of the influence of standard components by evaluating direct effects ( DE), indirect effects (IE) and total effects (TE), the results are shown in Table 5 as follows;

From Table 5, Direct, Indirect and Total influence values between cause variable and dependent variable can be discussed in detail as follows:

1. Value creation (CTV) consists of; 1.1) Experience gained (EXP); 1.2) Technology and communication (ICT); 1.3) Service (SER); 1.4) Customer co-production capability (PER); 1.5) Utility gained (UTI) and; 1.6) Specific service (PERS), it was found to have a direct influence on satisfaction (SATI) with a total influence (TE = 0.906), a direct influence (DE = 0.906), and a direct influence on engagement (OC) with a total influence (TE = 0.818), a direct influence (DE = 0.243), and it was also found to have an indirect influence (IE = 0.575) on engagement (OC) with a statistical significance level of 0.05.

2. Satisfaction aspect (SATI) consists of 2.1) Attitude (ATTI), 2.2) Perceived Behavioral Control (PB), and 2.3) Word of mouth (SNO). It was found that it has a direct influence on Engagement (OC) with a total influence (TE = 0.635) and a direct influence (DE = 0.635) on Engagement (OC) at a statistically significant level of 0.05.

It was also found that value creation (CTV) can be jointly described for 82.0 percent of the variance in satisfaction (SATI), while value creation (CTV) and satisfaction (SATI) can be jointly described for 74.10 percent of the variance in engagement (OC). Therefore, for a good engagement (OC), the value creation (CTV), and satisfaction (SATI) must be focused.

**Results of qualitative data analysis**

The significance of this research is to create new knowledge in determining strategies that focus on value co-creation between tourists, communities, and stakeholders, with the aim of creating satisfaction, and engagement, and promoting Bang Krachao as a sustainable tourist attraction in the long term. This research also helps fill the gap of knowledge as there has been no in-depth study on value co-creation strategies for bicycle tourism in this area before. Therefore, it opens a new perspective essential for the tourism industry and future tourism development. The SOAR Analysis obtained from in-depth interviews in this research is shown in Table 6.

The data analysis results from the interviews by SOAR Analysis determine the strategy for creating shared value that affects the engagement of cyclists at Khung Bang Krachao, Phra Pradaeng District, Samut Prakan Province. Strengths include; 1. Tourist attractions; 2. Access to tourist attractions; 3. Accommodation; 4. Tourism activities; 5. Facilities; 6. Tourist attraction management. Opportunities include; 1. Natural environment; 2. Tourist behavior; 3. Investment by foreign businessmen; 4. Environmental conservation trends; 5. Technology. Aspirations include: 1. Making Khung Bang Krachao a prototype area for cycling; 2. Travel guides and video clips via social media; 3. Creating smart QR Code route signs or various apps; 4. Requirement of safety management of car accidents and stray dogs; 5. requirement of

more tourist service points and results include: 1. Profit dimension; 2. Human dimension; 3. Environmental and environmental conservation dimensions

**Table 6** SOAR analysis of the interviews.

| Theme | Quotation |
|---|---|
| **Strengths** | "The highlight of Bang Krachao is it has everything to support tourists, both natural and cultural sites, accommodation, and is close to Bangkok." said informant no. 6<br>"The highlight of Bang Krachao is that many Thai and foreign tourists like to travel here, both in small groups, groups, and families coming to ride bicycles to visit cultural sites for a 1-day trip or stay overnight, and participate in community activities such as making Khanom Thuai, making bicycles, and making batik, etc." said informant no.8<br>"It has many facilities such as bike parking lots, rest areas for taking pictures and experiencing nature, a restaurant/drink, or a home-stay accommodation. It is located near Bang Nam Phueng Floating Market, close to a ferry pier, having free bicycles available," said informant no.14 |
| **O = Opportunities** | "Supporting government agencies helps increase opportunities to transfer knowledge on management, route design, product design, and elevating Bang Krachao to be a prototype area for sustainable tourism in terms of lifestyle and ecology" said informant no.5<br>"It is a low-carbon community tourism destination that received the 14th Thai Tourism Industry Award or "Kinnaree Award" in 2023 from the Tourism Authority of Thailand, affirming the community's commitment to sustainable and environmentally friendly tourism activities." said informant no.7<br>"Online society influences the behavior of tourists who search for information on the Internet for tourist reviews or recommendations for travel from YouTubers via social media platform," said informant no. 13 |
| **A = Aspirations** | "I want Bang Krachao to be a model area for safe cycling." said informant no. 5<br>"Availability of travel guide and video clips of Bang Krachao in both Thai and English, including cycling routes to create connections through social media," said informant no.8<br>"I would like to see more tourist service points. Whether it's for a case of an accident, a tourist's inquiries or requests for help to provide assistance in time," said informant no.16 |
| **Results** | "Local people have continuously developed a sense of awareness towards low-carbon tourism in Bang Krachao and have created a good cycling experience, making tourists come back again," said informant no. 12<br>"People in the community gain income from tourism, such as selling agricultural products, making incense sticks, making Khanom Thuai, raising bees to produce honey, being a tour guide, or doing other careers when tourists come to the community," said informant no.13<br>"The lives of local people get better, they have better income, there is a greater economy in the community, their lives are better and happy. People in the community get more jobs to develop the area and for the community to be self-reliant" said informant no. 17 |

## Conclusion

For the quantitative and qualitative research results, the researcher synthesized and summarized into a model of strategies for Value Co-Creation to promote tourist engagement by bicycle in Bang Krachao as shown in Figure 3.

Figure 3 shows the synthesis of the strategic model to value co- creation to promote the engagement of bicycle tourists in Bang Krachao. It revealed that Attitude is a positive attitude that influences behavioral intention. If tourists have a positive attitude and want to travel by bicycle, they will be more likely to use bicycle tourism. Subject norm is a personal norm that depends on the influence of friends, family, and society. It can create a positive social perception towards bicycle tourism which will motivate more bicycle tourism behavior. This is consistent with McEwen (2005) that customer engagement is caused by the emotional level with perceived behavior control. That is individual behavior will be based on difficulty and obstacles. If obstacles can be reduced and facilities can be added, individual behavior will change. For bicycle tourism, if facilities are improved and possible obstacles are reduced, it will become more accessible. Interest in technology and social media is the influence of social media and influencers on the behavior of people today that helps create awareness of cycling tourism through social media and influencers. Online reviews by tourists can be useful to other tourists by providing information on tourism services and act as a good recommendation platform and Application for Tourist via Line Chatbot. This is in line with (Glaser (2009 & Kronsirinut Rothjanawan1 (2024) that in the present era, online media has a great influence on customers. Customer engagement in online media can have a deep impact on the customer's relationship with the product or service in the long term. Customers will feel engaged with a brand when they perceive its value and have a good experience. The government refers to the state, local administrative organizations, the Designated Areas for Sustainable Tourism Administration (Public Organization) for Bang Krachao (DASTA), and community leaders have a direct impact on cycling tourism behavior through the issuance of policies and regulations, including budget support for the care and development of safe cycling routes, by connecting routes that allow visitors to experience nature and increasing fresh air. As a result, encourages tourists to return and create a good experience for tourists. Designing various safety programs that affect behaviors will help create shared value for all parties in the Bang Krachao area, resulting in the engagement between Thai and foreign cyclists to return to the Bang Krachao area again. Therefore, the participation of tourists in the management of tourism services has a positive effect on tourism behavior, such as repeat purchase intentions and word-of-mouth recommendations.

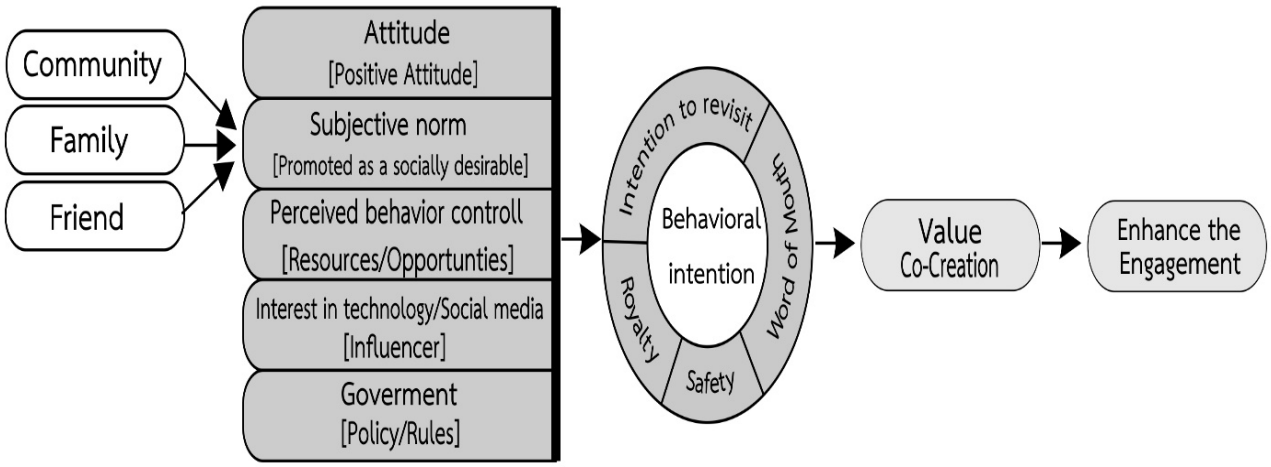



**Figure 3**: Model of strategies for Value Co-Creation to promote the engagement of tourists by bicycle in Bang Krachao Source: Researcher, 2025

**Table 7** Porter's 5 Forces analysis to determine strategies for value Co-Creation

| Factor | Intensity level | Analysis | Strategic for Value Co-Creation |
|---|---|---|---|
| 1. The threat of new entrepreneurs | moderate | - High barriers to market entry due to high investment<br>- Community partnerships are a key competitive factor<br>-The nature tourism market tends to grow continuously | - Maintain the identities of Bang Krachao, such as nature and community lifestyle<br>- Create a unique experience attractive and different from competitors<br>- Promote through online and offline media |
| 2.Competition among existing competitors | Moderate to high | - The nature tourism market is highly competitive in terms of service and experience.<br>- Some competitors have better facilities and management. | - Develop facilities and services that meet the needs of tourists, such as tourist service centers<br>- Create strong branding and focus on sustainability in development, such as organizing special community activities that connect with cycling, providing tour guides<br>- Promote the safety of the route, such as lighting, signage, and applications for guiding routes |
| 3. Bargaining power of consumers | High | - Tourists have many options to choose from for a tour place<br>- Value and experience are the main factors in deciding to travel | - Focus on providing quality service and memorable experiences<br>- Develop activities and promotions that meet the needs of tourists<br>- Develop service quality, such as tourist service points, bicycle parking areas, clean bathrooms<br>- Utilize online feedback systems to improve services |
| 4. The threat of substitute products | Moderate to high | - Alternative products such as other natural attractions and alternative tourist activities may attract tourists who need new experiences. | - Focus on the identities of Bang Krachao, such as conservation and community participation<br>- Promote activities that cannot be replaced in other places, such as night bike tours and tree planting. |
| 5. Bargaining power from manufacturers | Low to moderate | - The main resources are nature and the environment, which cannot be controlled by the producer.<br>- The bargaining power of the producer in terms of facilities and services still exists to some extent. | - Build good relationships with quality suppliers<br>- Select suppliers who are flexible and ready to adapt to the needs<br>- Create cooperation with all parties to promote and service for tourists to choose Bang Krachao as a cycling destination |

In addition, tourists participating in giving feedback are found to be more trustworthy, satisfied, loyal, and supportive in creating value for the area, the tourists themselves, and the tourism company (Brodie, R. J., &Hollebeek, L. D.(2011))

**The innovative of new Knowledge**

The strategic plan for Value Co-Creation to create engagement among cyclists in Bang Krachao is shown in Table 7, as obtained from the analysis using Porter's 5 Forces method for the intensity of competitive factors in the Bang Krachao tourism market.

## Recommendations

1. Promote sustainable tourism by integrating nature conservation activities into tourism experiences, such as learning about the ecosystem of Bang Krachao, promoting group travel that reduces the use of polluting vehicles

2. Manage resources with equilibrium, maintaining a peaceful environment and abundant nature, which are the highlights of the area, and controlling the number of tourists at each time to prevent environmental impacts.

3.Fostering Collaboration with Stakeholders, This involves encouraging community participation in area management and service provision. Examples include organizing local tour guides and promoting training programs for entrepreneurs to enhance the quality of services.

4.Promoting Community-Linked Activities, this entails organizing events aligned with the local way of life, such as tree planting, cultural festivals, and nature-based learning activities. Additionally, it includes establishing local markets that emphasize environmentally friendly products and unique, community-specific goods.

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