

The Mediating Role of Tourism Brand Co-Creation Behaviour in Linking Tourist and Operator Resources to Tourist Satisfaction and Loyalty

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ABSTRACT

Tourism increasingly depends on value that tourists and service providers build together, because such joint interaction raises tourist satisfaction and loyalty. Drawing on Service-Dominant Logic, this research tests how tourist operant resources (self-efficacy and tourist expertise) and operator operant resources (co-creation operator and service quality) influence Tourism Brand Co-Creation Behavior (TBCB), tourist satisfaction, and tourist loyalty, and whether TBCB mediates the path to satisfaction. A causal-explanatory design was applied to 526 respondents, selected purposively, who had been to the Ubud area of Bali during the previous 12 months. The data were processed through Structural Equation Modeling (SEM) in AMOS 24. The findings show that each of the four antecedents significantly and positively affects both TBCB and tourist satisfaction; TBCB in turn raises satisfaction, and satisfaction raises loyalty. According to the Sobel test, TBCB significantly mediates the link between every antecedent and satisfaction. Since the direct effects also remain significant, the mediation is complementary (partial) and not full.

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1. Introduction

Ubud, regarded as the oldest cultural tourism destination in Bali, exemplifies a tourism-management challenge that many Indonesian destinations now share. Following the recovery of international arrivals in Bali to record levels in recent years, a recent governance study singles out Ubud as showing advanced signs of overtourism, namely congested roads, commodified cultural sites, and visitor experiences that are increasingly uneven (Pramono et al., 2026). Responses to these pressures usually come from the supply side, for instance by expanding infrastructure or capping visitor numbers, whereas far less attention goes to managing the quality of tourist–operator interaction as a way to keep tourists satisfied and loyal in more crowded destinations. This gap between fast growth and the quality of the experience is the management problem that this study takes up. Ubud relies heavily on intimate, culturally rooted encounters, such as stays in traditional family compounds, guided cultural and wellness activities, and artisan markets. In such a setting, the pooling of resources from tourists and operators is especially important for creating value, which makes Ubud a theoretically distinctive site for studying how operant resources are turned into brand co-creation behavior.

Looking beyond this local problem, the tourism sector has grown and diversified steadily over recent decades and is now counted among the biggest and fastest-expanding industries worldwide (Sofronov, 2018). Indonesia holds substantial tourism potential in its cultural heritage and natural surroundings, so keeping the sector healthy and prosperous calls for a carefully designed, sustainable development strategy (Lasso & Dahles, 2018). One way to develop destinations is for tourists and destination managers to create value together. Perceived value is commonly treated as one of the most influential concepts for explaining consumer behavior and for predicting loyalty and behavioral intentions (Uzir et al., 2021). Tourists look for meaningful trips, and the value they perceive depends strongly on how good the service is (Esawe et al., 2024), a judgment that is often balanced against the price paid (Espino-Rodríguez & Rodríguez Díaz, 2017). Service-Dominant Logic describes value as arising when resources supplied by customers and by providers are combined (Eletxigerra et

al., 2018; Vargo & Lusch, 2016), and so it supplies a lens for understanding how value comes about. In this view, a destination's tourism products and services give tourists openings to take part in co-creation. This study therefore uses Service-Dominant Logic to explain how tourism services can lead to Tourism Brand Co-Creation Behavior.

In this study, Tourism Brand Co-Creation Behavior (TBCB) is derived from Customer Brand Co-Creation Behavior (CBCB), which refers to tourists' voluntary, active, and interactive involvement in a brand relationship with the aim of building or strengthening brand value (France et al., 2018; Sung & Lee, 2023). TBCB is understood as the actions tourists take within their relationship with the brand and covers four dimensions: development (offering ideas or new resources to the brand), feedback (giving assessments or input about brand experiences), advocacy (recommending or talking about the brand with other people), and helping (supporting other customers so that they have a better brand experience). These four behaviors differ in how intense they are and in what resources they demand, yet each adds to the customer–brand relationship and to the value that customers perceive.

It is worth separating this construct from related ones. Customer Value Co-Creation Behavior (CVCB), as defined by Yi and Gong (2013), covers the participation and citizenship behaviors that customers show toward the value of a purchased service in general, with no link to a particular brand relationship. Customer Brand Co-Creation Behavior (CBCB), put forward by France et al. (2018), narrows the focus to behaviors that construct and reinforce the customer's relationship with a brand. Throughout this paper, TBCB carries the CBCB idea over to tourism destinations, where the brand being co-created is the destination itself and not an ordinary product or corporate brand. The study therefore asks how tourist operant resources and operator operant resources together shape Tourism Brand Co-Creation Behavior, and how that behavior then affects tourist satisfaction and loyalty in a crowded, experience-driven cultural destination like Ubud.

Sung and Lee (2023) took the TBCB concept further in a hospitality setting. They argue that brand value arises from interaction, communication, and shared participation between customers and firms, which fits the S-D Logic view. From this angle, tourists are more than service recipients; they are also resources and integrators of resources that bring knowledge, skills, capabilities, and experience into the joint creation of value (Vargo & Lusch, 2016). TBCB is thus not merely psychological engagement. It is concrete action through which people shape brand experience, value, and meaning in their interactions with the brand and with fellow tourists (France et al., 2018; Sung & Lee, 2023).

In tourism, TBCB can produce richer experiences and greater value for both tourists and providers, and it may lift overall tourism performance (Eletxigerra et al., 2018). On this basis, the present study broadens the TBCB framework by taking over the antecedents set out by Alves et al. (2016), namely tourist operant resources and operator operant resources. Tourist operant resources refer to tourists' abilities and skills, represented here by self-efficacy and tourist expertise. Operator operant resources refer to the abilities and skills of service providers, represented by co-creation operator and operator service quality. Self-efficacy is a person's belief that they can carry out an action and reach a desired result (Bandura, 1982), while tourist expertise is the ability of tourists to make use of service features or facilities and gain the most from them. Co-creation operator describes how well a provider can establish communication, interaction, and rapport with tourists (Tariq et al., 2020), and operator service quality reflects the difference between what tourists expect and what they perceive they received (Parasuraman et al., 1988). Accordingly, TBCB is treated here as the result of combining tourist and provider resources to create experience and value together at a destination.

A large body of earlier work has stressed that customer co-creation behavior matters for generating value and building brand equity in general (Ahn et al., 2019; France et al., 2015, 2018, 2020; Frasset-Deltoro et al., 2019; Le et al., 2022; Omar et al., 2020; Shamim et al., 2016; Sung & Lee, 2023; Yen et al., 2020). Even so, at least two gaps remain. The first

is that the TBCB framework has received little attention, especially in developing countries like Indonesia. The second is that, although tourist and operator operant resources have been studied as antecedents of perceived tourism value (Alves et al., 2016; Evangelista et al., 2022; Tariq et al., 2020), no study has examined them together as antecedents of TBCB.

To fill these gaps, this study tests how tourist and operator operant resources influence tourist satisfaction and loyalty, with TBCB acting as a mediator. The study is expected to advance Service-Dominant Logic in tourism and to give a fuller picture of co-creation behavior in a sector that is seen as both vital and complex (Rihova et al., 2018).

Research Hypotheses and Theoretical Base

Tourism Brand Co-Creation Behavior

TBCB describes tourist behavior in which individual resources, namely knowledge, skills, and experience, are combined with those of service providers to create value jointly (France et al., 2018; Sung & Lee, 2023). Since this behavior is voluntary, active, and interactive, tourists act as more than passive receivers of service and take an active role in shaping their experience and the destination's brand. In line with the CBCB-to-TBCB adaptation described in the Introduction, TBCB is conceptualized through the four dimensions identified by France et al. (2018): development (offering ideas or new resources to the destination), feedback (evaluating and reporting on the trip experience), advocacy (recommending the destination or speaking well of it to others), and helping (supporting fellow tourists to have a better experience). The instrument used here (Table 3) covers the development, feedback, and advocacy dimensions with six items. The helping dimension was left out of the survey, which the Discussion acknowledges as a limitation of scope. This conceptualization brings together destination branding and value co-creation to explain how active tourist engagement adds to value creation and reinforces destination image.

Tourist Operant Resources

From the Service-Dominant Logic standpoint, consumers are no longer seen only as receivers of value; they are co-creators who bring knowledge, skills, and experience into an interaction (Vargo & Lusch, 2016). Tourist operant resources are the abilities and skills of tourists, represented by self-efficacy and tourist expertise (Alves et al., 2016). Tariq et al. (2020) add that both operand and operant resources are central to how tourism actors experience travel, which highlights the role of human experience in creating travel value. Tourists with more operant resources have also been found to join more actively in designing their own experiences and to be more willing to engage in co-creation, including voluntary actions after the visit (Zhang et al., 2022). Taken together, these findings suggest that tourists' operant resources are a key source from which TBCB emerges.

Operator Operant Resources

Besides what tourists bring, S-D Logic points to the operator as a resource integrator that provides operational knowledge and competence in dealings with consumers (Eletxigerra et al., 2018). Operator operant resources comprise the abilities and skills of service providers, captured by co-creation operator and operator service quality. When operators integrate resources well, tourists' contributions can be used more effectively, and this in turn draws tourists more deeply into the co-creation process (Evangelista et al., 2022). Vera-Martínez (2025) shows that experiential attributes provided by service providers help make value co-creation between consumers and providers possible. Operators with sufficient competence and resources tend to produce better co-creation results than operators who simply act as passive providers. This suggests that operator competence, knowledge, and skills also help give rise to TBCB.

Self-Efficacy

Self-efficacy is the confidence tourists have in their ability to take part effectively in co-creation. Xie et al. (2025) point to knowledge, motivation, and self-efficacy as central antecedents that push consumers toward co-creation, whereas low self-efficacy tends to hold back active participation (Lyu et al., 2025). Tourists who trust their ability to interact and contribute are more motivated to join co-creation activities with operators (Tao et al., 2022). The same confidence lets tourists find more enjoyment and meaning in their trips, which affects satisfaction directly, whether or not co-creation takes place (Tao et al., 2022). Prebensen and Xie (2017) likewise found that mastering, which represents tourist self-efficacy in the form of confidence in one's own knowledge and skills, has a significant influence on both the degree of co-creation and perceived value, and perceived value then significantly influences tourist satisfaction. From the S-D Logic perspective, self-efficacy is a personal operant resource that tourists bring into the service encounter: it makes possible the resource-integration actions that TBCB captures (H1) and, separately from that integration, shapes how tourists themselves evaluate the experience (H2).

H1: Self-efficacy significantly influences Tourism Brand Co-Creation Behavior.

H2: Self-efficacy significantly influences tourist satisfaction.

Tourist Expertise

Tourist expertise is the knowledge and experience tourists hold as one component of operant resources in value creation (Alves et al., 2016). Tourists who have enough expertise and experience can better state their preferences, offer input, and work with operators during co-creation (Hau, 2022). Expertise also helps tourists understand the available services and use them well, so the experience they get feels more relevant and personally meaningful (Alves et al., 2016). Elettigerra et al. (2021) show that tourist expertise, understood as tourists' knowledge and experience serving as operant resources, significantly encourages both mental and physical participation in co-creation, especially before the trip, and that expertise also contributes significantly to perceived value, which later leads to satisfaction;

Liu et al. (2023) support this finding. Expertise is therefore expected not only to promote participation in co-creation but also to add directly to satisfaction. In S-D Logic terms, expertise is the operant resource that enables tourists to bring their knowledge into the service process, and it is expected to drive both TBCB (H3) and satisfaction (H4).

H3: Tourist expertise significantly influences Tourism Brand Co-Creation Behavior.

H4: Tourist expertise significantly influences tourist satisfaction.

Co-Creation Operator

Co-creation operator refers to how far a tour operator is oriented toward, and actively supports, tourist involvement in the joint creation of value. As a resource integrator, an operator that opens up channels for interaction and collaboration motivates tourists to take a fuller part in co-creation (Eletxigerra et al., 2018). A co-creation orientation on the operator's side, for example being open to tourist input and involving tourists in designing the experience, has also been shown to support value co-creation between the two parties (Vera-Martínez, 2025). Apart from encouraging participation, the attentiveness and responsiveness an operator shows during co-creation influence how tourists evaluate their experience overall, and so add directly to satisfaction. Grisse mann and Stokburger-Sauer (2012) found that support from the company significantly raises the degree of customer co-creation, which in turn significantly raises customer satisfaction with the service firm. Within S-D Logic, co-creation operator is the operator's own operant resource for incorporating tourist contributions into the encounter, so it is expected to influence both TBCB (H5) and tourist satisfaction (H6).

H5: Co-creation operator significantly influences Tourism Brand Co-Creation Behavior.

H6: Co-creation operator significantly influences tourist satisfaction.

Service Quality

Service quality is how tourists judge the quality of the service that the operator delivers during an interaction. Good service gives tourists a feeling of safety and comfort that encourages them to engage more fully in co-creation, since they trust that the operator will handle their contributions properly (Abdou et al., 2022). Service quality has also been repeatedly named as a major determinant of tourist satisfaction in different tourism settings, including event destinations and accommodation services (Jia et al., 2025). Al Halbusi et al. (2020) found that the physical and social servicescape, which stands for service quality, significantly influences co-created value, and Sancha et al. (2024) likewise report that service quality significantly affects tourist satisfaction. When service quality is higher, tourists are not only more willing to participate actively in co-creation but also tend to rate their trip more positively. In line with S-D Logic, service quality shows how well the operator's operant resources are integrated into the encounter, and it is therefore expected to directly influence both TBCB (H7) and tourist satisfaction (H8).

H7: Service quality significantly influences Tourism Brand Co-Creation Behavior.

H8: Service quality significantly influences tourist satisfaction.

Tourism Brand Co-Creation Behavior and Tourist Satisfaction

When tourists engage actively in co-creation, the resulting service can be fitted more closely to individual needs and preferences, which improves how they evaluate their trip overall (Yen et al., 2020). Uslu and Tosun (2024) found that co-creation behavior brings out positive emotions in tourists and contributes directly to satisfaction because the provider acknowledges the tourists' contributions. Elgarhy and Abou-Shouk (2024) and Kim et al. (2020) reinforce this by showing that the co-creation process plays a significant role in forming tourist satisfaction. Since TBCB is shaped by self-efficacy, tourist expertise, co-creation operator, and service quality, it is expected to help determine how satisfied tourists are.

H9: Tourism Brand Co-Creation Behavior significantly influences tourist satisfaction.

Tourist Satisfaction and Tourist Loyalty

Several studies document a clear positive relationship between tourist satisfaction and tourist loyalty (Hui et al., 2007; Prayag et al., 2020). Research in the tourism industry also shows that satisfaction strongly predicts both the intention to revisit a destination and the likelihood of recommending it to others (Hultman et al., 2015). High consumer satisfaction, together with a positive destination image, tends to form the behavioral intentions of tourists and travelers (Liu et al., 2017). How satisfied tourists are influences whether they return to a destination and whether they pass on positive word-of-mouth. Drawing on this literature that links satisfaction and loyalty, the following hypothesis is put forward:

H10: Tourist satisfaction significantly influences tourist loyalty.

The Mediating Role of Tourism Brand Co-Creation Behavior

In line with S-D Logic, value does not come about automatically just because operant resources exist; it arises through the integration of resources during interactions (Vargo & Lusch, 2016). The effects of tourist and operator operant resources on satisfaction are therefore likely to be indirect and carried through the co-creation behavior that develops in the interaction between the two sides. Kim et al. (2020) show that the effect of tourist participation on perceived value and satisfaction is mediated by experience co-creation in a smart-tourism setting. Recent results from Vu and Nguyen (2026) point the same way: resources, participation, and technological experience affect tourist satisfaction only after they have first influenced co-creation value. TBCB is therefore treated not only as an outcome of the two groups of operant resources but also as a linking mechanism that explains how these resources end up producing tourist satisfaction.

As self-efficacy, tourist expertise, co-creation operator, and service quality are each also hypothesized to influence tourist satisfaction directly (H2, H4, H6, H8), TBCB is expected to be a complementary (partial) mediator in these relationships and not the only route from these resources to satisfaction.

H11a: Tourism Brand Co-Creation Behavior significantly mediates the influence of self-efficacy on tourist satisfaction.

H11b: Tourism Brand Co-Creation Behavior significantly mediates the influence of tourist expertise on tourist satisfaction.

H11c: Tourism Brand Co-Creation Behavior significantly mediates the influence of co-creation operator on tourist satisfaction.

H11d: Tourism Brand Co-Creation Behavior significantly mediates the influence of service quality on tourist satisfaction.

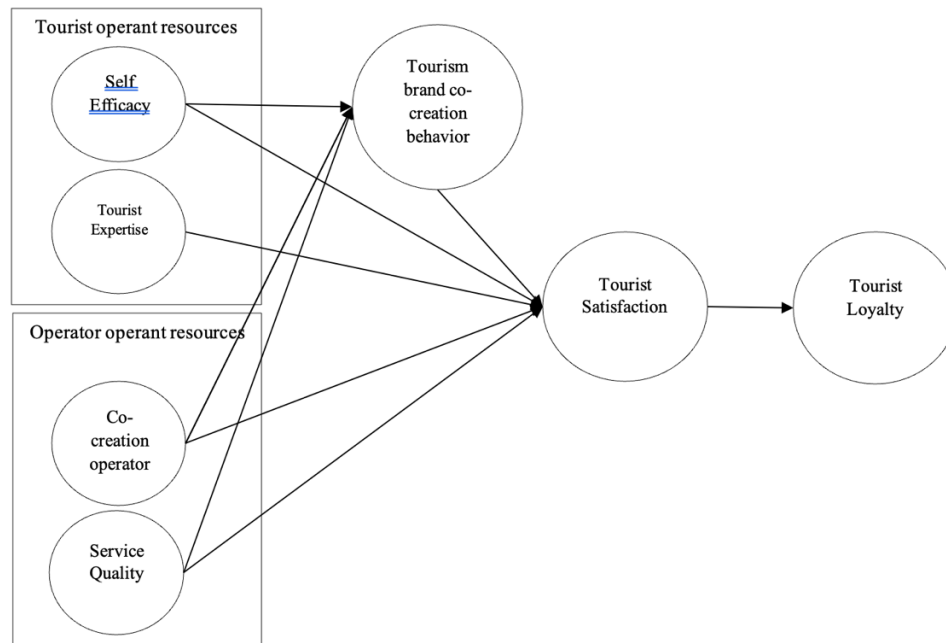


Figure 1. Conceptual Model

2. Methods

This study uses a causal-explanatory design, which serves to establish the position of the studied variables and the relationships among them (Rittichai et al., 2024). The population consists of all tourists who have visited the Ubud area in Bali. Ubud was chosen as the setting because it is an experience-oriented destination that stresses close interaction between tourists and tourism operators, which makes it suitable for studying tourism co-creation behavior, tourist and operator operant resources, and what they mean for tourist satisfaction and loyalty. Because the size of the population is unknown, sampling was necessary; the study uses purposive sampling, selecting respondents who had visited the Ubud area during the previous 12 months. Respondents were reached through two complementary channels. The first was an online distribution of the questionnaire link (<https://forms.gle/AoUpNwwYgrpUgXDh9>) to prospective respondents. The second was on-site administration of the same questionnaire in the Ubud area, where respondents were approached in person and asked to fill it out. Combining online and on-site collection was meant to ensure that the sample included both domestic and international visitors to Ubud. A screening question at the start of the questionnaire checked the 12-month criterion by asking respondents to confirm that they had visited the Ubud area in the past 12 months, and only those who answered yes continued to the main items. Data collection ran from 30 July to 10 August 2026. Of the 530 questionnaires returned, four were removed during data screening, leaving 526 usable responses. This sample is well above the common rule of thumb of at least ten respondents per measured indicator in structural equation modeling, which would call for at least 320 respondents given the 32 indicators used here.

Data were gathered with a Google Forms questionnaire, a method in which respondents answer a structured set of written questions or statements (Sürücü et al., 2023). A Likert scale was used to measure the variables; this widely applied instrument has respondents state how much they agree or disagree with statements about a particular object (Jebb et al., 2021). Each item normally has five response options, from "strongly disagree" to "strongly agree," scored 1 to 5. The data were analyzed with Structural Equation Modeling

(SEM) in IBM SPSS Analysis of Moment Structures (AMOS), using the Full Structural Equation Model technique (Harlow, 2023).

The research model has seven constructs, each measured with several items: self-efficacy, tourist expertise, co-creation operator, service quality, Tourism Brand Co-Creation Behavior, tourist satisfaction, and tourist loyalty. The items came from existing instruments: five items for self-efficacy adapted from Alves et al. (2016); six for tourist expertise from Alves et al. (2016); five for co-creation operator from Tariq et al. (2020); three for service quality from Prayag et al. (2020); six for Tourism Brand Co-Creation Behavior adapted from France et al. (2018); four for tourist satisfaction from Frasset-Deltoro et al. (2019); and three for tourist loyalty from Chaoyi et al. (2025).

3. Results

Respondent Characteristics

Table 1. Respondent Characteristics

Demographic Profile	N	%
Gender		
Male	210	39.9
Female	316	60.1
Total	526	100
Age		
18–30 years	198	37.6
31–40 years	160	30.4
41–50 years	111	21.1
>50 years	57	10.8
Total	526	100
Education		
Senior High School / Equivalent	194	36.9
Diploma	129	24.5
Bachelor's Degree	131	24.9
Master's / Doctoral Degree	72	13.7
Total	526	100
Number of visits to Ubud, Bali in the past year		

1 time	173	32.9
2–3 times	236	44.9
>3 times	117	22.2
Total	526	100

Source: Processed data (2026)

Table 1 shows that most of the 526 respondents were women (316, or 60.1%), against 210 men (39.9%). By age, the largest group was 18–30 years (198, or 37.6%), followed by 31–40 years (160, or 30.4%), 41–50 years (111, or 21.1%), and above 50 years (57, or 10.8%). In terms of education, the largest group had finished senior high school or equivalent (194, or 36.9%), then a bachelor's degree (131, or 24.9%), a diploma (129, or 24.5%), and a master's or doctoral degree (72, or 13.7%). For visits to Ubud in the past year, the most common answer was two to three visits (236, or 44.9%), followed by one visit (173, or 32.9%) and more than three visits (117, or 22.2%). In sum, the respondents are fairly varied in demographics and travel experience, which offers a wide range of viewpoints on the research object.

Confirmatory Factor Analysis (CFA)

Before the structural model was tested, the measurement model was assessed through Confirmatory Factor Analysis (CFA) in AMOS 24 to check that the indicators represent their latent constructs adequately. The CFA shows that every indicator has a loading factor above 0.60, meeting the construct validity criterion of Bagozzi and Yi (1988). The indicators of self-efficacy, tourist expertise, co-creation operator, service quality, Tourism Brand Co-Creation Behavior, tourist satisfaction, and tourist loyalty therefore each contribute adequately to their respective latent constructs. All seven constructs (SE, TE, CO, SQ, TBCB, SAT, and L) are highly reliable, with Cronbach's Alpha and Composite Reliability between 0.861 and 0.915 (above the 0.70 threshold), and have adequate convergent validity, with AVE values from 0.612 to 0.7 (above the 0.50 threshold). The instrument is thus both reliable and valid enough for SEM testing.

Table 2. Reliability and Validity Test Results

Konstruk	Cronbach's Alpha	Composite Reliability (CR)	AVE
SE (Self Efficacy)	0,887	0,888	0,613
TE (Tourist Expertise)	0,905	0,905	0,612
CO (Co-creation Operator)	0,892	0,892	0,624
SQ (Service Quality)	0,861	0,861	0,674
TBCB (Tourist-Based Co-creation Behavior)	0,915	0,915	0,642
SAT (Satisfaction)	0,900	0,894	0,678
L (Loyalty)	0,887	0,887	0,7

Source: Processed data (2026)

Table 3. Confirmatory Factor Analysis Results

Variable	Item	Loading Factor
Self-Efficacy (SE)	When I try hard enough, I can always solve difficult problems.	0.785
	It is easy for me to stick to my intentions and achieve my goals.	0.810
	I am confident that I can handle unexpected events efficiently.	0.746
	When faced with a problem, I can usually find several different solutions.	0.781
	I remain calm even in difficult situations because I trust my ability to cope.	0.790
Tourist Expertise (TE)	I understand all the different aspects of the tourism service delivery process in Ubud well.	0.756
	I have a good level of knowledge about tourism service operations in Ubud.	0.807
	I understand the benefits of tourism services in Ubud.	0.775
	I understand the limitations of tourism services in Ubud.	0.776
	I feel confident about how to use tourism services in Ubud.	0.814
	I know what is expected of me in using tourism services in Ubud.	0.766
	I prefer service providers in Ubud who are skilled and offer better service.	0.794

Co-Creation Operator (CO)	The tourism service provider in Ubud is interested in developing a long-term relationship with me.	0.828
	The service provider in Ubud draws on its prior experience to address my concerns.	0.762
	The service provider in Ubud offers me different pricing alternatives that match my expectations.	0.805
	Service pricing for tourism activities in Ubud is decided after taking my views into account.	0.758
Service Quality (SQ)	I believe that the quality of tourism services in Ubud is generally high.	0.808
	Overall, I consider tourism services in Ubud to be very good.	0.838
	The quality of tourism services in Ubud is generally very good.	0.817
Tourism Brand Co-Creation Behavior (TBCB)	I create and share content that can enhance Ubud's appeal as a tourist destination.	0.783
	I provide ideas or suggestions for developing Ubud as a tourist destination.	0.827
	I give feedback to Ubud destination managers about my experience there.	0.791
	I offer useful ideas or suggestions on how to improve the quality of Ubud as a destination.	0.815
	I recommend Ubud as a destination to others.	0.790
Tourist Satisfaction (SAT)	I say positive things about Ubud as a tourist destination to others.	0.800
	I feel I made the right decision in visiting Ubud.	0.826
	Overall, I am satisfied with my travel experience in Ubud.	0.853
	My experience in Ubud matched my expectations.	0.780
Tourist Loyalty (L)	Ubud provided a satisfying experience for me.	0.834
	I will say positive things about Ubud Destination to others.	0.836
	I would recommend Ubud Destination to friends and family as a vacation destination.	0.861
	I would consider Ubud Destination as an option for future travel.	0.855

Source: Processed data (2026)

The AMOS 24 results show that the overall model fit indices fall within acceptable ranges (Bollen, 1989): root mean square error of approximation (RMSEA) = 0.018 (≤ 0.08); goodness of fit index (GFI) = 0.941 (> 0.9); adjusted goodness of fit index (AGFI) = 0.930 (> 0.9); normed fit index (NFI) = 0.956 (> 0.9); incremental fit index (IFI) = 0.993 (> 0.9);

comparative fit index (CFI) = 0.993 (> 0.9); parsimony goodness-of-fit index (PGFI) = 0.798 (> 0.5); and parsimony-adjusted normed fit index (PNFI) = 0.864 (> 0.5).

Table 4. SEM Results

Path	Estimate	S.E.	C.R.	P	Result
TBCB $\leftarrow$ SE	.296	.032	9.156	.001	Supported
TBCB $\leftarrow$ TE	.291	.034	8.509	.001	Supported
TBCB $\leftarrow$ CO	.364	.036	10.189	.001	Supported
TBCB $\leftarrow$ SQ	.273	.035	7.901	.001	Supported
SAT $\leftarrow$ SE	.188	.046	4.068	.001	Supported
SAT $\leftarrow$ TE	.250	.048	5.228	.001	Supported
SAT $\leftarrow$ CO	.206	.053	3.900	.001	Supported
SAT $\leftarrow$ SQ	.142	.047	3.023	.002	Supported
SAT $\leftarrow$ TBCB	.364	.099	3.659	.001	Supported
L $\leftarrow$ SAT	.898	.046	19.488	.001	Supported

Source: Processed data (2026)

Table 4 shows that self-efficacy (SE), tourist expertise (TE), co-creation operator (CO), and service quality (SQ) each have a positive and significant influence on Tourism Brand Co-Creation Behavior (TBCB), with estimates of 0.296, 0.291, 0.364, and 0.273, C.R. values of 9.156, 8.509, 10.189, and 7.901, and $p < 0.001$. H1, H3, H5, and H7 are thus supported. Self-efficacy, tourist expertise, and co-creation operator also significantly and positively influence tourist satisfaction, with estimates of 0.188, 0.250, and 0.206 and C.R. values of 4.068, 5.228, and 3.900 ($p < 0.001$), which supports H2, H4, and H6. Service quality likewise significantly and positively influences tourist satisfaction (estimate = 0.142, C.R. = 3.023, $p = 0.002$, below 0.05), supporting H8. TBCB also has a significant positive effect on tourist satisfaction (estimate = 0.364, C.R. = 3.659, $p < 0.001$), supporting H9, and tourist satisfaction has a significant positive effect on tourist loyalty (estimate = 0.898, C.R. = 19.488, $p < 0.001$), supporting H10. Overall, tourist and operator operant resources not only drive TBCB but also directly affect tourist satisfaction, TBCB reinforces satisfaction further, and satisfaction ultimately builds tourist loyalty.

Table 5. Sobel Test for the Mediating Role of TBCB

Indirect Path	Test Statistic	S.E.	p-value	Result
SE → TBCB → SAT	3.417	0.032	0.000634	Significant
TE → TBCB → SAT	3.378	0.031	0.000730	Significant
CO → TBCB → SAT	3.455	0.038	0.000549	Significant
SQ → TBCB → SAT	3.326	0.030	0.000882	Significant

Source: Processed data (2026)

Table 5 shows that, according to the Sobel test, TBCB significantly mediates the effects of self-efficacy, tourist expertise, co-creation operator, and service quality on tourist satisfaction. The test statistics are 3.417 for SE → TBCB → SAT, 3.378 for TE → TBCB → SAT, 3.455 for CO → TBCB → SAT, and 3.326 for SQ → TBCB → SAT, all above the critical value of 1.96, and the p-values (0.000634, 0.000730, 0.000549, and 0.000882) are all below 0.05. All four mediation paths are therefore significant, supporting H11a (SE → TBCB → SAT), H11b (TE → TBCB → SAT), H11c (CO → TBCB → SAT), and H11d (SQ → TBCB → SAT). Yet because all four independent variables also have a significant direct effect on tourist satisfaction (see Table 4), the mediation through TBCB is partial and not full. TBCB thus works as an additional mechanism that strengthens the effect of tourist and operator operant resources on satisfaction and is not the only path through which satisfaction forms. Tourists with strong self-efficacy and expertise, backed by an effective co-creation operator and high service quality, can therefore feel satisfied both directly and through active participation in tourism brand co-creation.

4. Discussion

The tests of the model show that self-efficacy, tourist expertise, co-creation operator, and service quality each significantly and positively affect Tourism Brand Co-Creation

Behavior (TBCB), so every hypothesis about these four resources and TBCB is supported. In other words, TBCB grows stronger as tourists have more belief in their own abilities, more knowledge and experience of tourism services, operators who facilitate co-creation more effectively, and higher service quality. TBCB is thus formed by integrating the resources of tourists and operators, which casts tourists as active participants in building shared experience and value and not just as recipients of service.

These positive effects on TBCB support the Service-Dominant Logic view that value arises when actors combine their resources in a service interaction (Vargo & Lusch, 2016). Tourists with high self-efficacy are more confident in interacting, contributing, and engaging in co-creation. Tourist expertise gives them the knowledge and experience to understand the service, express preferences, give input, and interact with operators more effectively. On the operator's side, relationship-building and facilitation of tourist engagement through co-creation operator practices, together with high service quality, create conditions that favor active tourist participation. The results are in line with earlier research (Alves et al., 2016; Evangelista et al., 2022; Tariq et al., 2020; Vera-Martínez, 2025; Zhang et al., 2022), which also stresses that tourist and provider resources drive co-creation activity.

Self-efficacy, tourist expertise, and co-creation operator also each have a significant positive direct effect on tourist satisfaction, which supports the related hypotheses. Satisfaction is therefore formed not only by taking part in co-creation but also directly by tourists' own resources and by how well operators support the creation of the experience. Confident tourists handle different situations on a trip better and take away a more positive experience. Tourists with strong knowledge and experience of tourism services use them to best effect, so the experience fits their needs and expectations more closely. Operators who build rapport, grasp tourist needs, and leave room for tourist participation can deliver a more satisfying experience. These results agree with Elettigerra et al. (2021), Grisseman and Stokburger-Sauer (2012), and Prebensen and Xie (2017).

Service quality also has a significant positive effect on tourist satisfaction, which marks it as a major factor in how tourists evaluate their experience of the destination. Tourists who receive service that meets their expectations, find it reliable, and rate it well overall are more likely to feel satisfied. In this study, service quality not only prompts tourists to engage in co-creation but also contributes directly to their satisfaction. This agrees with Abdou et al. (2022), Al Halbusi et al. (2020), and Saneha et al. (2024), who likewise treat service quality as an important determinant of tourist satisfaction.

TBCB also has a significant positive effect on tourist satisfaction, which suggests that tourists' active engagement in co-creation can improve the travel experience and so produce greater satisfaction. Tourists who look for and share information, give feedback, offer ideas or suggestions, recommend the destination, and talk about good experiences are not just consuming a service; they add to the value that the experience creates. This engagement gives them an experience that is more personal, relevant, and in line with their needs. The finding is consistent with Yen et al. (2020), Uslu and Tosun (2024), Elgarhy and Abou-Shouk (2024), and Kim et al. (2020), who show that co-creation behavior is important in shaping customer or tourist experience and satisfaction.

Tourist satisfaction was also found to have a significant positive effect on tourist loyalty, meaning that satisfaction with the trip can build loyalty toward the destination. Satisfied tourists are inclined to intend to return, to keep the destination in mind for future trips, and to spread positive experiences and recommendations. Satisfaction can thus be seen as an important mechanism for building long-term ties between tourists and destinations, and the result supports the idea that a satisfying trip leads to positive behavioral responses such as revisit intention and recommendation.

According to the Sobel test, TBCB significantly mediates the effects of self-efficacy, tourist expertise, co-creation operator, and service quality on tourist satisfaction. Because all four variables also directly and significantly affect satisfaction, the mediation by TBCB is partial and not full. Tourist and operator resources can therefore influence satisfaction in two

ways: directly, and indirectly through engagement in co-creation behavior. TBCB is thus not the only route to satisfaction but a mechanism that amplifies the effect of tourist and operator resources on a satisfying trip.

These mediation results further support the Service-Dominant Logic view that resources held by tourists and operators become more valuable once they are integrated through interaction and joint value creation. Self-efficacy and tourist expertise supply the capability, knowledge, and experience that let tourists contribute to co-creation, while co-creation operator and service quality provide the conditions for that contribution to be effective. When resources flow through co-creation behavior, tourists have more chance to shape an experience that suits their needs and preferences. TBCB therefore acts as a link that reinforces the value-creation process between tourists and operators.

The contribution of this study has two separate parts. Theoretically, it repositions TBCB: instead of seeing it only as an outcome of tourist and operator operant resources, the partial-mediation results show that TBCB is also a linking mechanism through which these resources are turned into tourist satisfaction, in addition to their direct effects. This refines how the resource-integration premise of S-D Logic applies to brand co-creation behavior and adds to the TBCB literature regardless of where the data were gathered. Second, the study is a contextual replication: it tests the same nomological network of tourist and operator operant resources, TBCB, satisfaction, and loyalty in a cultural destination in a developing country, a setting where the TBCB framework had received little attention. The replication indicates that the hypothesized relationships hold in Ubud, but by itself it does not amount to a new theoretical mechanism; the mediation finding above does. In practical terms, the study shows that tourist satisfaction results from a combination of tourists' capabilities, knowledge, and experience, operators' capabilities, service quality, and active engagement in co-creation, which places tourists as active co-creators of value and not as mere beneficiaries of destination services.

In practice, the findings imply that destination managers and tour operators in Ubud should adopt strategies that go beyond improving service quality and also build an environment that supports tourist engagement in co-creation. Managers could set up easy feedback channels, make room for tourists to share ideas and suggestions, involve tourists in developing destination experiences or attractions, and strengthen staff ability to communicate with tourists and respond to their needs. Improving service quality should still be a priority, since it influences both TBCB and tourist satisfaction. Such strategies can create more valuable experiences for tourists and, in turn, strengthen their satisfaction and loyalty toward the destination.

This study has several limitations. First, the cross-sectional design records relationships at one moment and so cannot show long-term changes in tourist behavior, satisfaction, or loyalty. Second, the sample is limited to tourists who visited the Ubud area in Bali, so generalizing to other destinations requires caution. Third, the study concentrates on operant resources, TBCB, satisfaction, and loyalty, and other factors may also explain variation in satisfaction and loyalty. Fourth, the TBCB instrument covers only three of the four dimensions in the framework of France et al. (2018), namely development, feedback, and advocacy, and omits the helping dimension; future studies should add helping-related items to cover the whole theoretical domain of TBCB. Future research is therefore encouraged to use a longitudinal design to see how these relationships change over time, to examine destinations with different characteristics, and to include additional or moderating variables such as a destination's digital maturity, the intensity of tourist–operator interaction, the nature of the tourist experience, and visit frequency.

5. Conclusion

This study finds that self-efficacy, tourist expertise, co-creation operator, and service quality each significantly and positively affect Tourism Brand Co-Creation Behavior (TBCB) and tourist satisfaction. TBCB also significantly and positively affects tourist

satisfaction, and satisfaction significantly and positively affects tourist loyalty. TBCB further significantly mediates the effects of the four antecedents on satisfaction, and the mediation is partial because all four keep a significant direct effect on satisfaction. Satisfaction and loyalty in Ubud, Bali, are therefore shaped not only by service quality and the resources of tourists and operators but also by how well these actors combine their resources through active engagement in co-creation. Strengthening TBCB, improving service quality, and building the capacity of both tourists and operators should therefore be treated as key strategies for creating satisfying travel experiences and sustainably building tourist loyalty. Theoretically, the study offers one central insight: TBCB is not only an outcome of operant resources but also a complementary mechanism that carries part of their effect on satisfaction, which extends the resource-integration premise of S-D Logic to destination brand co-creation. In practice, operators in Ubud should build structured channels for tourist input, such as feedback points at the end of guided cultural, wellness, or homestay experiences, so that tourists' knowledge and confidence are turned into co-creation and not left unused.

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