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Article

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MANAGEMENT | RESEARCH ARTICLE

Tourist satisfaction-loyalty Nexus in Tigray, Ethiopia: Implication for sustainable tourism development

Atsbha Gebreegziabher Asmelash^{1*} and Satinder Kumar²

Abstract: Long-term success of the tourism industry is unthinkable unless tourist satisfaction and loyalty are secured. However, there is very scant literature dealing with this issue in the developing and politically unstable counties including Ethiopia. To this end, this study attempts to examine tourist satisfaction-loyalty nexus and its implication for sustainable tourism development. Convenience sampling method was deployed to choose a total of 392 international and domestic tourists who participated in this study. Additional data were collected from Tripadvisor and document reviews. The results of this study elucidate that there is a highly significant relationship between tourist satisfaction and loyalty. However, the level of satisfaction and loyalty is generally low in the study area. This study concludes that tourism managers should work to ensure tourist satisfaction and loyalty, which eventually determines the sustainability of tourism development. Finally, future research direction and implications for sustainable tourism development are indicated in the study.

Keywords: Tourist satisfaction; loyalty; sustainable tourism

Subjects: Events; Hospitality; Tourism; Heritage Management & Conservation

1. Introduction

Attraction sites motivate tourists to move from one place to another (Sukiman et al., 2013). Satisfying tourist needs and wants is an important precondition to ensure sustainable tourism (Woyo & Slabbert, 2020). Understanding tourist satisfaction helps to undertake appropriate actions



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PUBLIC INTEREST STATEMENT

Tourist destinations must provide tourists with enjoyable and memorable experiences. Being important actors of sustainable tourism development, tourists significantly determine the success of tourism development. Attaining sustainable tourism development is unattainable without ensuring tourist satisfaction and retaining their loyalty. Maintaining tourist satisfaction and loyalty significantly reduces tourism marketing costs. Understanding tourist satisfaction and loyalty helps to properly plan for a responsible tourism. Developing countries, in order to remain competitive in the market, should work hard to maintain tourist satisfaction and loyalty.

enabling survive the competitive tourism market (Ghaderi et al., 2018). Ensuring tourist satisfaction is an essential business goal because satisfied tourists would buy more (Chi & Qu, 2008). Attraction sites should have good tourism product offers that result in tourist satisfaction. Otherwise, long-term business success and tourism sustainability are unthinkable (Sukiman et al., 2013). In other words, attraction sites should satisfy the needs and wants of tourists unless they could not be sustainable. Tourist satisfaction has a pervasive influence on destination choice and survival of tourism businesses (Chi & Qu, 2008; Valle et al., 2006). It is a subjective opinion of the benefits they obtain from visiting a given attraction site. It is tourists' generally accepted that tourist satisfaction usually differs due to tourist personal differences (Sukiman et al., 2013). It is imperative to note that tourist satisfaction is not an end by itself. Rather, the long-term success of the tourism industry to be achieved, tourist satisfaction should be accompanied by tourist loyalty. Tourist loyalty is a critical element in the tourism industry (Leo et al., 2020; Woyo & Slabbert, 2020). Attraction sites are increasingly becoming concerned with tourist retention and attracting new visitors to face stiff regional and global competition (Woyo & Slabbert, 2020). It requires mutual benefit between the tourism business and the tourist (J. Chen & Gursoy, 2001). Tourist loyalty plays a pivotal role in ensuring sustainable tourism development (Zhang et al., 2014). Tourism destinations capable of offering positive tourist experiences are likely to win pleasant tourist perception, revisit intention, willingness to recommend others, and share positive word-of-mouth (Lee, 2009; Zhang et al., 2014).

Although both tourist satisfaction and loyalty are recognized as key factors affecting the sustainability of the tourism industry (Radder & Han, 2013; Xu & Wang, 2016; Zhang et al., 2014), literature about the nexus between both constructs with particular focus on developing countries and politically unstable nations is rather limited. Particularly, developing countries like Ethiopia (Tigray) should cautiously investigate the relationship between the above-mentioned constructs to remain in the ever-competitive tourism market. Ensuring long-term tourism development in Tigray, where more than 29% of their population is living under poverty and many citizens are food insecure, cannot be realized without understanding tourist satisfaction, loyalty, and the nexus between both constructs. The attempts made so far to deal with this issue with a particular focus on nature-based tourism deserve appreciation. However, the case with heritage tourism, which is the most fastly growing tourism segment market, lacks the attention of scholars. Heritage tourism is the most lucrative niche market that accounts for 40% of overall tourism earnings internationally and is growing at about 15% (three-fold of the mainstream tourism) annually (Huibin et al., 2012). Fortunately, most of the tourists visiting the region since the last 15 years are heritage tourists who are known to be better educated, greater spenders, travel in a group, have a longer stay, and have higher incomes than do average tourists (Timothy & Boyd, 2006). To this end, the current study aimed at examining tourist satisfaction-loyalty nexus and its implication for sustainable tourism in the heritage sites of Tigray Regional State, Northern Ethiopia.

2. Literature review

2.1. Tourist satisfaction

Previous studies reveal that satisfaction refers to the perceived difference between preceding anticipation and perceived performance after consumption (Martín et al., 2018; Woyo & Slabbert, 2020). In the tourism context, satisfaction is mainly standing for the discrepancy between pre-travel expectations and post-travel experiences of tourists (Jiang et al., 2017). It is an effective appraisal of the quality of leisure experiences (Jiang et al., 2017). Tourists satisfy when their experiences compared to their expectations result in feelings of indulgence. However, the opposite is true when they result in feelings of displeasure (C. F. Chen & Chen, 2010; Yvette & Turner, 2003). Jamhawi et al. (2015) and Rajesh (2013) defined tourist satisfaction as the post-travel perception developed through a mental comparison of the product and service quality that a tourist expected to obtain from an exchange.

In past investigations, tourist satisfaction was operationalized both at the overall satisfaction and attribute satisfaction levels. Attribute satisfaction was defined as a tourist individual judgment resulting from the observation of attribute performance (Oliver & Westbrook, 1993). Backman et al. (2000) evaluated tourist satisfaction using some dimensions namely programmatic, responsiveness, tangible, empathy, assurance, and reliability. Akama and Kieti (2003) extended the above-mentioned dimensions by adding price, perceived value, and responsibility. In his nature-based study, Mehmetoglu (2007) argued that destination attributes play pivotal roles in shaping tourist satisfaction. Other studies used the dimensions of responsiveness, tangible, communication, consumable, and empathy to measure customer satisfaction in attractions (Naidoo et al., 2011).

Past studies (Kozak & Rimmington, 2000; Naidoo et al., 2011) recommended the identification and measurement of consumer satisfaction with each attribute of a destination. Attractiveness, lodging, dining, shopping, accessibility, perceived risk, price or value, accessibility, basic services, attractions, and accessibility are recommended in measuring tourist satisfaction with destination performance (Naidoo et al., 2011). However, most studies carried out on the assessment of tourist satisfaction with tourism focused on beaches (Bernini et al., 2015; Hassan & Shahnewaz, 2014), national parks, and nature-based attraction (Daud & Rahman, 2011; Naidoo et al., 2011; Okello & Yerian, 2009) and very rare studies were conducted on heritage sites (C. F. Chen & Chen, 2010; Gidey & Sharma, 2017). Thus, this study attempted to fill this gap by assessing tourist satisfaction on heritage sites in Tigray.

2.2. Tourist loyalty

The concept of loyalty is recognized as the central issue in the business world mainly the tourism industry (Jiang et al., 2017; Leo et al., 2020; Woyo & Slabbert, 2020). Woyo and Slabbert (2020) defined loyalty as a strong commitment to repeat purchase. Tourist sites are highly concerned with tourist retention than attracting more annual tourist arrivals for some reason: repeat tourists are price-insensitive and are willing to pay more. This helps destination managers to generate a stable source of income and it significantly reduces marketing costs (Woyo & Slabbert, 2020). Loyalty has been extensively discussed in the service literature (Suhartanto et al., 2020). However, there has been little research in the heritage tourism context and this is among the motivating reasons to conduct the current research.

Within the tourism context, visitor loyalty is frequently associated with intentions to revisit and word-of-mouth communications (Zhang et al., 2014). As Reichheld and Sasser (1990) pointed out, a 5% increase in customer retention yields 85% more profits in the service industry. In line with this, Zhang et al. (2014) suggested that loyal tourists tend to stay longer at a destination, spread positive word of mouth, and participate in consumptive activities more intensively. Repeat visitors are also cost-effective as they incur much lower marketing costs than first-time visitors do.

There is no commonly accepted measurement of loyalty in a tourism context (Woyo & Slabbert, 2020). Studies on loyalty focus on two approaches: behavioural and attitudinal (Suhartanto et al., 2020; Woyo & Slabbert, 2020). The former approach is assessed by the frequency of visit to a certain attraction site and it is considered as a key indicator of attraction performance. However, this approach fails to differentiate a loyal tourist from tourist visiting an attraction due to either low cost or convenience (Suhartanto et al., 2020). In the latter approach, attitudinal loyalty is the future re-visitation devotion and willingness to promote and endorse attraction. This is criticized for a lack of predictive power of the actual behavior (Suhartanto et al., 2020; Woyo & Slabbert, 2020). As noted in the work of Woyo and Slabbert (2020), the measurement of tourist loyalty using the hybrid (behavioural and attitudinal) approach is scant in the literature. With this in mind, this study contributes to the literature by measuring tourist loyalty using the combination of both approaches.

2.3. Tourist satisfaction-loyalty Nexus: its implication for sustainable tourism development

The literature evinces the importance of examining tourist satisfaction-loyalty nexus (Canny, 2013; Da Costa Mendes et al., 2010; Lee, 2009; Mat Som et al., 2011; Radder & Han, 2013; Rajesh, 2013; Valle et al., 2006; Zhang et al., 2014; Xu & Wang, 2016). However, “there is no universal agreement in literature regarding the relationship between loyalty and satisfaction” (Woyo & Slabbert, 2020, p. 4). As suggested by Da Costa Mendes et al. (2010), satisfied tourists tend to communicate their positive experiences to others (word of mouth) and tend to purchase the product repeatedly. Overall, previous studies reveal that customer loyalty is influenced by customer satisfaction (Canny, 2013; Da Costa Mendes et al., 2010; Radder & Han, 2013; Rajesh, 2013; Valle et al., 2006; Xu & Wang, 2016; Zhang et al., 2014). The tourism literature also shows that personal variables such as socio-demographic characteristics and travel motivations can determine travel decisions (C.-F. Chen & Tsai, 2007; Da Costa Mendes et al., 2010; Kozak & Rimmington, 2000; Mat Som et al., 2011; Yoon & Uysal, 2005). Previous studies reveal that tourist satisfaction is the prime antecedent of tourist loyalty (Kozak, 2001; Yoon & Uysal, 2005).

Tourist satisfaction results in increased numbers of satisfied tourists revisiting and recommending more destinations, which in turn promotes the sustainable tourism development (Lee, 2009). Valle et al. (2006) suggested that examining the relationship between tourist satisfaction and loyalty is key for a proper promotion and development of sustainable tourism. It is hardly possible to wait for sustainable heritage tourism development in the absence of tourist satisfaction and loyalty (UNEP/WTO, 2004), which are considered important pillars of successful tourism business (Bernini et al., 2015). Tourist satisfaction and loyalty are good signals of destination performance. Both indicators are accepted to be important gauges of long-term tourism operation (Jamhawi et al., 2015). A failure to maintain tourist satisfaction and loyalty leads to losing the chance to stay in the tourism market for a long time (Daud & Rahman, 2011). Customers are more vocal in airing their objections on social media and review sites that fatally smash up tourism business (Asmelash, 2019). This urges tourism managers to incur high marketing cost to reverse their spoiled image (Kozak & Rimmington, 2000) and this is obvious that developing countries such as Ethiopia (Tigray) cannot afford it. Tourist satisfaction loyalty-nexus and its implication for sustainable tourism development (Oppermann, 2000; Woyo & Slabbert, 2020) in developing and politically unstable countries is lacking. To this end, this study contributes to the literature dealing with tourist satisfaction loyalty-nexus and its implication for sustainable tourism development in heritage sites of Tigray Regional State. Particularly, this paper hypothesized:

H1: There is a direct positive relationship between tourist satisfaction and loyalty.

H2: The positive effect of tourist satisfaction on loyalty is not different for domestic and international tourists.

H3: Tourist nationality has a significant influence on tourist loyalty

H4: Tourist satisfaction and loyalty have important implications for sustainable tourism development

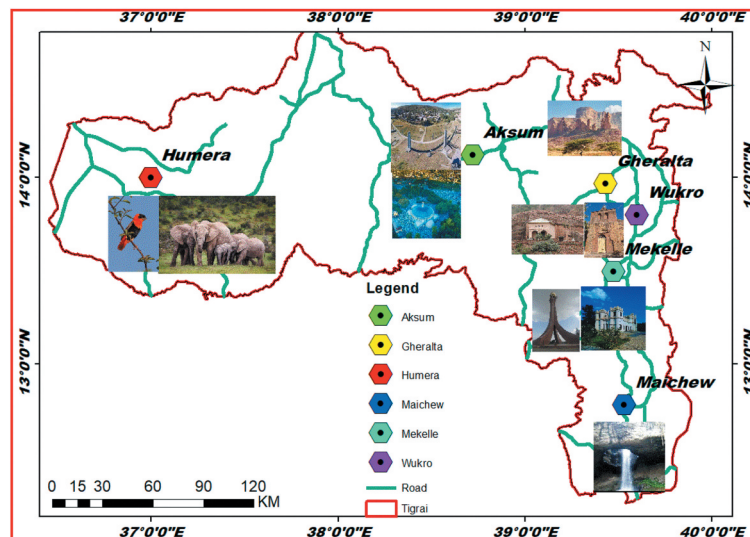
3. Methods and materials

3.1. Study area description

This study was conducted in Tigray Regional State, Northern Ethiopia. This region is the genesis of the ancient Ethiopian civilization. Its tourism brand is named “Tigray: The Cradle of Ethiopian Civilization.” Various religious, historical, and cultural grand events took place in this region for more than 3500 years that eventually awarded Tigray to numerous heritage resources of varied nature. Tigray, the study area, is an ideal place of cultural, heritage, religious, adventurer, and related tourists. The region has very hospitable people who treat newcomers with much respect

Figure 1. Study area map.

Source: Prepared by the corresponding author, 2019



and love (Asmelash, 2019). Currently, the attractions in the region are divided into six clusters: Mekelle, Wukro, Gheralta, Aksum, Maichew, and Humera Clusters (See Figure 1). Each cluster is endowed with natural, cultural, and historical tourism resources that appeal to tourists of all kinds (Asmelash & Kumar, 2019a). Centuries-old rock-hewn churches, monuments, stone inscriptions, palaces, rock arts, religious and public festivals, imperial tombs, caves, scenic topography, and suitable climate are worth mentioning.

However, tourism development in the region is highly fluctuating and generally unsatisfactory. International tourist arrival annual growth in Tigray varies between -170% (in 1999) and 170.34% (in 2001). The annual growth of domestic tourist arrival in the region also ranges from -82.41 (in 2018) to 376.84 (in 2014). The region is not in a position to seek economic, environmental, socio-cultural, and institutional benefits from the tourism industry. Although tourist arrivals and tourism receipts have been growing considerably since 2000 (Gidey & Sharma, 2017), there are numerous untapped tourism resources in Tigray.

3.2. Research design, sample size, and sampling technique

The descriptive and exploratory research designs were deployed in this study. The Mekelle, Wukro, Gheralta, and Aksum clusters were selected purposively based on the number of tourist flow, number of heritage sites, popularity, and relatively long history of heritage tourism development. The target population of this study was national and international tourists who were over 18 years old. Only tourists who spent at least two days and those who visited more than three heritage sites in Tigray were included in the survey. A convenience sampling method was used to draw the sample from tourists as used by Nicholas and Thapa (2010). Using 200 and above sample size is suggested as appropriate for most of the statistical tests including Structural Equation Modeling (Byrne, 2010; Iacobucci, 2010; Kline, 2011). Keeping this in mind, this study used a sample of 500 tourists. Data were collected both during the peak (September, October, November, and December 2018) and low seasons (January, February, March, April, and May 2019). Finally, 450 out of the 500 were returned, and 392 were found usable, giving a 78.4% response rate. In this study, 86 out of 172 text reviews from the Tripadvisor website across four clusters of tourist attraction in Tigray were selected for data analysis. Tourist reviews accessed from the Tripadvisor between 2015 and 2019 were considered in this study. The sample for the qualitative data was consisted of both national and international tourists. Special attention was paid to the content pertinent to tourist satisfaction with destination attributes, revisit intention, recommending others to visit Tigray, and sustainability.

3.3. Instrument development

Twelve (12) items were used in a questionnaire to assess tourist satisfaction and loyalty in the 4 clusters of Tigray Region, Ethiopia. These include Aksum, Wukro, Gheralta, and Mekelle Clusters. These items were adopted from some past studies (Asmelash & Kumar, 2019a; Canny, 2013; Da Costa Mendes et al., 2010; Lee, 2009; Rajesh, 2013; Shen & Cottrell, 2008; UNEP/WTO, 2004; Valle et al., 2006; Wiwattanakantanga & To-ima, 2014; Xu & Wang, 2016). The three-round Delphi technique was used to develop the instrument for the Tigray Context. Tourist satisfaction with tourism was measured using a multi-item scale. Participants were asked to indicate their level of satisfaction with eight items on a 5-point scale (1 = strongly dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied, and 5 = strongly satisfied).

Both attitudinal and behavioral approaches were used to measure tourist loyalty to the heritage sites in Tigray. The composite (attitudinal and behavioral) loyalty was operationalized as the average of four items in which respondents were requested to indicate their agreement ranging from strongly disagree (1) to strongly agree (5). The questionnaire for foreign tourists was prepared in the English language while the questionnaire for domestic tourists was developed in the Amharic language, Ethiopian national language. It was personally administered to each respondent at the heritage sites, lodging places, and at the exit place mainly airports.

3.4. Data analysis method

Initially, the data collected via the questionnaire were screened. Missing values, outliers, homoscedasticity, and unengaged responses were checked using SPSS version 23 before the actual data analysis took place. Then, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were used to assess the unidimensionality, multivariate normality, multicollinearity, construct reliability, convergent validity, discriminant validity, and construct validity of the dataset. Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were used to assess the model fit and the structural relationship between the dimensions of sustainable heritage tourism and tourist satisfaction using AMOS version 23. The qualitative data focusing on tourist satisfaction, loyalty, and sustainable tourism were identified, categorized, coded, and analyzed thematically.

4. Results and discussion

4.1. Respondent profile

Three hundred ninety two (392) domestic and international tourists participated in this study. The majority of the respondents were domestic tourists (67.1%), males (50.8%), singles (58.5%), aged between 21 and 35 years (49%), government employees (33.2%), first degree holders (41.6%), and have average monthly income between USD 351 and 500 (28.8%) for international tourist and between Eth Birr 1000 and 2000 (37.6%) for the domestic ones. Internet (44.6%) and positive word of mouth (40.3%) were the main sources of information of the respondents. The majority (53.3%) respondents visited Tigray for vacation purposes followed by religious (32.1%), business activities (12.5%), and research (2.0%) activities. Respondents' length of stay in Tigray varied between a few days and several weeks. In this study, 48.2% of the respondents stayed one week, 40.6% of them less than a week, and 11.2% of them for more than one week. Besides, the majority of them (55.9%) were repeat-visitors while 44.1% were first-time visitors.

4.2. Descriptive statistics

An attempt was also made to examine the overall tourist satisfaction and destination loyalty in the study areas (See Table 1). The findings of this study show better satisfaction with the hospitality of the local community ($M = 4.07$, $SD = 1.151$), attractiveness of the heritage sites ($M = 4.07$, $SD = 1.151$) and tourist treatment ($M = 4.07$, $SD = 1.151$) while they indicate the need to take action in order to improve the fairness of entrance fee to attraction sites ($M = 3.46$, $SD = 1.285$), provision of quality information about the heritage sites ($M = 3.34$, $SD = 1.277$), safety and security ($M = 3.49$, $SD = 1.249$), accessibility of heritage sites in terms of physical distance,

Table 1. Descriptive statistics (Tourist satisfaction & loyalty)

Items	Mean	SD
SAT1: Attractiveness of the destination	3.76	1.273
SAT2: Hospitability of the local residents	3.79	1.148
SAT3: Tourism staff treatment of tourists and local residents	3.51	1.197
SAT4: Reasonability of entrance fee to attraction sites	3.46	1.285
SAT5: Quality of information offered at attraction sites	3.34	1.277
SAT6: Safety and security of the destination	3.49	1.249
SAT7: Accessibility of the destination (in terms of physical distance, price, information)	3.29	1.242
SAT8: Accommodation (quality of food and drinks, customer handling, price fairness) in service sectors	3.21	1.338
DLO1: I have positive feeling to the destination	3.96	1.042
DLO2: I will share my positive feeling about the destination with other people	3.92	1.006
DLO3: I will recommend others to visit the destination	3.85	1.023
DLO4: I will revisit the destination in the very near future	3.62	1.044

price and information ($M = 3.29$, $SD = 1.242$) and provision of quality accommodation services ($M = 3.21$, $SD = 1.338$) (Asmelash & Kumar, 2019b).

Respondents revealed a strong agreement with their positive experience ($M = 3.96$, $SD = 1.042$), willingness to promote the destination through sharing their positive feelings with others ($M = 3.92$, $SD = 1.006$) and recommending them to visit the destination ($M = 3.85$, $SD = 1.023$). They also tend to revisit the region though not strong enough ($M = 3.62$, $SD = 1.044$) (Asmelash & Kumar, 2019b). When we see the overall satisfaction level of the respondents, 202 (51.5%) of the respondents showed no satisfaction while 190 (48.5%) were reported to have good satisfaction with the attraction sites in the study areas. All in all, 241 (61.5%) of the respondents indicated their strong loyalty while the rest 151 (38.5%) were found to be no/with low loyalty.

4.3. Data screening process

The data were carefully screened before running the actual data analysis. Microsoft Excel 2007 was used to assess missing values and outliers in the dataset. Results indicate that missing values and outliers were not a problem in this study. The normality of data distribution was assessed in SPSS using the P-P plot and the observed values fall approximately along the straight line, indicating that the observed values are the same as we would expect to get from a normally distributed dataset (Field, 2009). The kurtosis and skewness do not exceed between +2 and -2 as recommended by Garson (2012). In this study, the Determinant is 0.001, which is greater than the necessary value of 0.00001. Tolerance value less than the cutoff value, 0.20 and Variance Inflation Factor (VIF) greater than 5 indicate the problem of multicollinearity (Garson, 2012). The tolerance and VIF values of these data are the same: 1.000 and 1.000, which fall between the acceptable ranges. In addition to this, none of the indicators in the correlation matrix found to have

a correlation coefficient value higher than 0.8 (Field, 2009). Therefore, these data are free from the problem of multicollinearity.

A principal component analysis (PCA) was conducted on the 12 indicators with varimax rotation to determine the dimensionality of sustainability indicators. The results of this study showed two distinct dimensions explaining 63.162% of the total variance in the dataset. The overall Cronbach's alpha value of the indicators was 0.864, which is above the suggested benchmark of 0.6 (Nunnally & Bernstein, 1967). In this study, the KMO value is 0.885, indicating the adequacy of the sample. For these data, Bartlett's test is highly significant ($X^2(66) = 2534.167, p < 0.001$), and therefore, factor analysis is appropriate (See Table 2).

The retained two (2) latent constructs were tourist satisfaction and loyalty. The total variance explained by the two constructs was 63.162%. The former construct was represented by eight items, having an Eigenvalue of 4.862 and explained 40.517% of the total variance. The latter construct (loyalty represented by four items) explained 22.645% of the total variance with an Eigenvalue of 2.717.

4.4. Measurement model results

Both measurement and structural models are required to be assessed before hypothesis testing. In relation to the measurement model, internal consistency, convergent validity,

Table 2. Results of exploratory factor analysis

Items	Components	
	1	2
SAT1: Attractiveness of the destination	.617	
SAT2: Hospitability of the local residents	.732	
SAT3: Tourism staff treatment of tourists and local residents	.759	
SAT4: Reasonability of entrance fee to attraction sites	.722	
SAT5: Quality of information offered at attraction sites	.771	
SAT6: Safety and security of the destination	.764	
SAT7: Accessibility of the destination (in terms of physical distance, price, information)	.796	
SAT8: Accommodation (quality of food and drinks, customer handling, price fairness) in service sectors	.738	
DLO1: I have positive feeling to the destination		.897
DLO2: I will share my positive feeling about the destination with other people		.928
DLO3: I will recommend others to visit the destination		.905
DLO4: I will revisit the destination in the very near future		.764

Cronbach's Alpha = 0.864, Kaiser-Meyer-Olkin Measure of Sampling Adequacy = 0.885, Bartlett's Test of Sphericity (Approx. Chi-Square = 2534.167, Df = 66, Sig = 0.000)

discriminate validity, and measurement model fit was checked. Initially, the reliability of the two latent constructs (tourist satisfaction and loyalty) was checked. Cronbach Alpha 0.7 and higher is required for the reliability of an instrument to be achieved (Hair et al., 2010; Kline, 2011). Tourist satisfaction, the first latent construct, scored a Cronbach Alpha value of 0.883 while the second latent construct, loyalty, obtained a Cronbach Alpha value of 0.902. These results reveal that both unobserved variables have good reliability as recommended in Nunnally and Bernstein (1967) work.

Second, the convergent validity of both constructs was cautiously examined (See Table 3). Convergent validity speaks to the degree in which two scales capture a common construct (Carlson & Herdman, 2012; Hair et al., 2010). Average Variance Extracted (AVE) and Composite Reliability (CR) of each construct were calculated to assess the convergent validity of both constructs. The AVE and CR values of the construct tourist satisfaction were 0.51 and 0.89 respectively. At the same time, the construct loyalty had satisfactory AVE (0.711) and CR (0.80) values. The lower AVE value of tourist satisfaction could be associated with the use of composite variables to represent it (Hair et al., 2010; Styliadis et al., 2014).

Discriminant validity represents measurements that are not supposed to be different are actually unrelated (Hair et al., 2010). While checking the discriminant validity of the two constructs (tourist satisfaction and loyalty), the inter-construct squared correlations of these constructs were compared with the AVEs of each construct in the model (Henseler et al., 2014). In this study, as indicated in Table 4, the inter-constructs squared correlation between tourist satisfaction and destination loyalty (0.060) was lower than the AVE of tourist satisfaction (0.51) and AVE of destination loyalty (0.711), showing that both constructs had an adequate divergent validity (Henseler et al., 2014).

The measurement model fit was examined by deploying Confirmatory Factor Analysis (CFA) (See Figure 2). The results elucidate that all estimates were found statistically significant ($p = 0.000$). The goodness of fit indices suggested that the data fit the proposed measurement model (CMIN/DF = 2.632, $p = 0.000$, GFI = 0.941, CFI = 0.965, TLI = 0.975, NFI = 0.946, IFI = 0.966, RMSEA = 0.065). In principle, a significant Chi-Square value (>0.05) is considered as an indicator of a model good fit. However, in practice, Chi-Square value lesser than 0.05 does not necessarily show the model fit problem. Because, it is sensitive to sample size (Bentler & Bonett, 1980). Wheaton et al.'s relative/normed Chi-Square (CMIN/DF) lesser than 5 is the recommended alternative index (Wheaton et al., 1977). Therefore, the current measurement model meets the goodness fit requirements.

Table 3. Convergent validity test

Convergent Validity	TSAT	DLO
AVE >0.5	0.51	0.711
CR > 0.7	0.89	0.80
Decision	Established	Established

Note: AVE = Average Variance Extracted, CR = Composite Reliability, TSAT = Tourist Satisfaction, DLO = Destination Loyalty

Table 4. Discriminant validity test

Construct	Path	Construct	Estimate	R ²	AVE1 & AVE2	AVE > R ²
TSAT	<->	DLO	0.25	0.060	0.51, 0.711	Achieved

Note: TSAT = Tourist Satisfaction, DLO = Destination Loyalty, AVE = Average Variance Extracted, R²= Squared correlation Coefficient

Figure 2. CFA results.

Note: SA1 = destination attractiveness, SA2 = hospitality of the local people, SA3 = Tour guides treatment of tourist and local people, SA4 = Reasonability of entrance fees to attraction sites, SA5 = quality of information offered at attraction sites, SA6 = Safety and security, SA7 = accessibility of destination, SA8 = accommodation quality, LO1 = I have positive feeling the destination, LO2 = I will share my positive feelings about the destination with other people, LO3 = I will recommend others to visit the destination, LO4 = I will revisit the destination in the very near future, and e1-e12 = error terms of the constructs in the model.

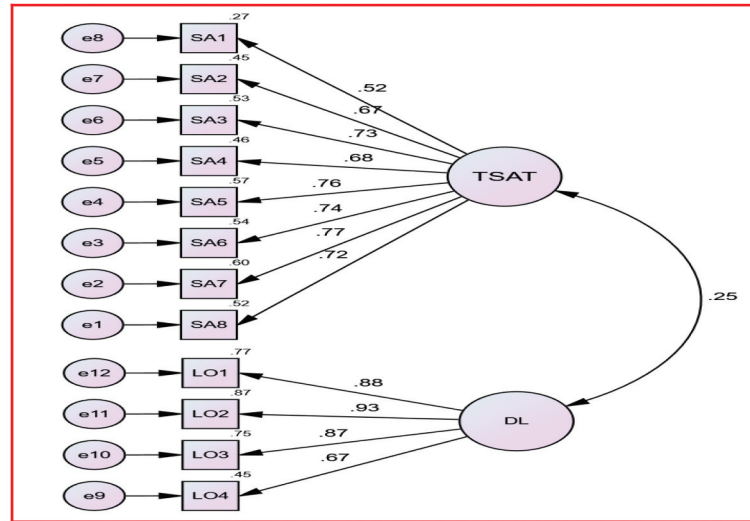


Table 5. Fitness indices

Name of Category	Name of Index	Level of Acceptance	Index value
Absolute fit	Chi-Square	P >.05	P = 0.000
	RMSEA	RMSEA between.03 and.08	RMSEA =.065
	GFI	GFI>.90	GFI =.941
Incremental fit	CFI	CFI >.90	CFI =.965
	TLI	TLI >.90	TLI =.957
	NFI	NFI >.90	NFI =.946
	IFI	IFI >.90	IFI = 0.966
Parsimonious fit	Chisq/df	Chisq/df <3.0	Chisq/df = 2.632

Note: RMSEA = Root Mean Square Estimation Approximation, GFI = Goodness Fit Index, CFI = Comparative Fit Index, TLI = Tucker Lewis Index, NFI = Normed Fit Index

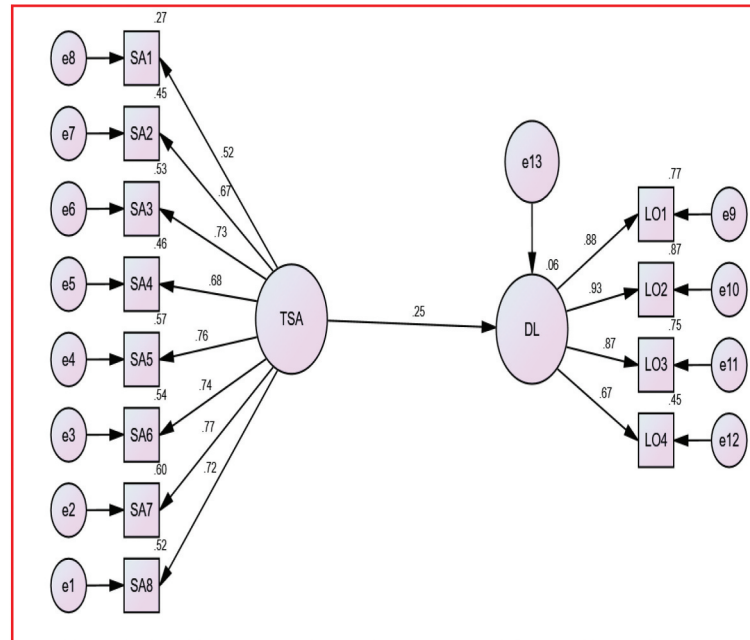
4.5. Structural model and hypothesis testing results

Before testing the hypotheses, the structural model fit was checked. Because a good fit of a measurement model does not necessarily mean a structural model good fit. In this study, Structural Equation Modeling (SEM) results indicated that the structural model found a good fit (CMIN/DF = 2.632, p = 0.000, GFI = 0.941, CFI = 0.965, TLI = 0.975, NFI = 0.946, IFI = 0.966, RMSEA = 0.065) (See Table 5).

Then, SEM was applied to examine the structural relationship between tourist satisfaction and loyalty. As indicated in Figure 3, this study obtained a direct and positive relationship between tourist satisfaction and loyalty ($\beta = 0.25$, p = 0.000). Thus, Hypothesis H1 was accepted. The influence of nationality on the relationship between the constructs of interest was examined using AMOS version 23. Two groups were defined: international (n = 129) and domestic (n = 263) tourists. The obtained results indicate that there is no statistically significant difference between the two groups (CMIN = 7.154, DF = 11, p = 0.786), thus H2 was accepted. This reveals that the direct effect of tourist satisfaction on their loyalty is similar for national and international

Figure 3. SEM results.

Note: SA1 = destination attractiveness, SA2 = hospitality of the local people, SA3 = Tour guides treatment of tourist and local people, SA4 = Reasonability of entrance fees to attraction sites, SA5 = quality of information offered at attraction sites, SA6 = Safety and security, SA7 = accessibility of destination, SA8 = accommodation quality, LO1 = I have positive feeling the destination, LO2 = I will share my positive feelings about the destination with other people, LO3 = I will recommend others to visit the destination, LO4 = I will revisit the destination in the very near future, and e1-e12 = error terms of the constructs in the model.



tourists. One-Way ANOVA was used to check the influence of nationality on tourist loyalty. Accordingly, nationality had statistically significant influence on tourist loyalty ($F(1, 390) = 5.528, p = 0.019$). Specifically, international tourists were more likely to revisit (Mean = 13.14, Standard Deviation = 2.888) Tigrai heritage sites than domestic tourists do (Mean = 12.38, Standard Deviation = 3.071). Thus, H3 was accepted.

The qualitative data collected from the Tripadvisor was analyzed here. Tourists are usually motivated to visit places where they believe to get unique life style, local culture, nature, and history. However, this cannot be realized without the presence of hospitable culture. Because hostile culture may defer tourists from visiting destinations of their choices. The people of Tigrai are known for their hospitable culture. There are some witnesses from tourists. One tourist from United Kingdom said *“Our guide was excellent and so hospitable, entertaining us at his home, where we met his family and lovely wife. We enjoyed the coffee ceremony and a local lunch. We were made to feel very welcome and were very well looked after.”* Another tourist from the same country shared similar observation. He stated his observation in Aksum that *“If you can arrange to visit as I did this year on Palm Sunday you will be in for a real spectacle and the people are lovely and welcoming”*. For now, tourists are happy with the hospitable people of Tigrai. However, this culture is not given for grant and any unpleasant change may result in hostile environment that denies tourist from visiting the region.

Tigrai is known for its attractive tourist sites that leave visitors speechless. The respondents in this study demonstrated their satisfaction with this case. Additional data were collected from tourist reviews. One domestic tourist said, *“For me from all parts of Ethiopia, the Gheralta [one cluster in Tigrai] area churches and mountains are attractive enough. The churches and their paintings are colorful. Abune Yematha church is found at the top of the rocky hard cliffs and astonishing by its paintings. The area is covered by chained mountains with a nice view.”* This has good implication for sustainable tourism development in the region. Being the owner of numerous and diversified attractive heritage sites, Tigrai should work hard to introduce creative tourism and product diversification which results in ensuring tourist satisfaction and retain loyalty. This eventually contributes for a sustainable tourism development to happen in Tigrai.

Feedback about the nature of customer treatment of tourists in Tigray took two forms: good and bad. Many tourists evinced that they were valued and treated properly which can be considered as the good side of the coin. However, there are various indicators that tourists visiting Tigray were mistreated: the bad side of the coin. This is associated with poor knowledge of customer handling, hustle, and greedy for unfair payment. The following feedback from one tourist shows this reality.

I was supposed to visit all 3 churches and only had time for one and I was initially asked to pay for my own guide even though it was supposed to be all included. The main reason I wouldn't recommend him is that within 5 minutes the driver had told me that [Mr X whose name is avoided in this quotation for privacy purpose] had only booked him the night before this trip and so he had completely lied to me to guilt me into going on the trip. I do not appreciate being lied to like this and even worse that he didn't bother guiding me, I only met him to pick up the money on the way.

Although respondents appreciated the way tour guides and other service providers treated them, serious measures are required to address the bad side of the coin: mistreatment of tourists in Tigray. Otherwise, this could be a serious challenge to realize sustainable tourism development in the region.

Tourists leave their homes for other destination with the expectation of having access to accommodation services in or near the visiting areas. However, the accommodation service in Tigray is believed not to be up to the standard. It is becoming a source of dissatisfaction among many visitors. The quality of food, beverage, and related provisions failed to meet the needs and wants of tourists. Destination managers should take timely and prompt action to ensure quality and affordable accommodation services without which sustainable tourism development is unthinkable to happen in Tigray.

Accessible tourism is among the most important pillars of sustainable tourism and determinants of competitiveness (Michopoulou et al., 2015). Unless attraction sites are accessible to all (including old, children, females, and disabled tourist), significant portion of visitors may not have access to go to "must visit" sites that result in dissatisfaction and loss of loyalty (Darcy, 2010). It is estimated that 35% of the people aged 65 and above have disability of varied types and such tourist category are considered to have more time to travel and greater purchasing power (Vila et al., 2018). Many heritage sites of Tigray are situated in very inaccessible hills, mountains, and remote areas. Significant number of tourists are not capable of visiting inaccessible attractions in the region, where this potential market segment is missed. A German tourist conveyed his observation about the inaccessibility of Abune Yemata Rock Hewn Church. He stated, the church is located in a "vertical rock face and only accessible by anyone who is reasonably fit". Another tourist from Canada said, "I would say, this church [Abune Yemata Guh] is very different, unique and beautiful but is not for everyone. One has to be physically fit, not scary for the height and some experiences".

An attempt should be made to interconnect physically dispersed heritage sites using at least seasonal roads and heritage sites should not be remained inaccessible to actual and potential tourists due to the absence of proper promotion and unfair prices (Darcy et al., 2010; Michopoulou et al., 2015). Policymakers and destination managers should devise strategies that ensure accessibility of the attractions in the region to the maximum level. Without doing so, it would be hardly possible to tap the untapped tourism resources for sustainable tourism development to come into being in the region.

The quality of information to be offered to tourists visiting attraction sites should be provided in a manner it can reveal the authenticity and uniqueness of the local culture and heritage resources. Because, unreal accounts of history about heritage sites, which is very common in many popular heritage tourist destinations around the globe (Timothy & Boyd, 2006) might affect tourist satisfaction. Tigray lacks well-organized tourist information centers. This affects tourist experience, satisfaction, and loyalty in region. Keeping the multifaceted benefits of such centers in mind,

tourism managers should work in collaboration with partners to established equipped tourist information centers in the region. Well-informed tourists are more likely to be responsible and informative too. A failure to have organized tourist information centers, coincided with incompetent local guides, causes tourist confusion due to distorted information.

Pricing in tourism significantly influences tourist satisfaction on tourism products (Sharma & Nayak, 2020) and it could be a cause for decreasing or stopping visitation (Zou, 2020). Although it is not issue to all tourists, who believed that entrance fees in Tigray is generally low, price-related issues are affecting tourist satisfaction in Tigray. Some indicators are showing this fact. Respondents indicated their dissatisfaction with the question regarding entrance fees. Supplementary information was collected from other sources mainly online tourist reviews. Tourist complaint for the expensiveness and inconsistency of the entrance fees in Tigray. A tourist from Namibia noted his disappointment on the issue under discussion as follows:

We visited the church [Abrha-we-Atsbha Rock Hewn Church] during a service and therefore decided to walk about immediately without having a further look. While we backed out to the courtyard a monk followed us and claimed we should pay 250 ETB each ... There was not a moment we were not willing to pay the fee-but just to confirm the new, sky rocked price. In the end, I paid the 750 ETB for a 3 minute "visit" of the church-and a lifelong poor remembrance of Ethiopian monks delivering violence instead of Christian love".

A German tourist who visited Abrha-we-Atsbha in 2018 shared the above problem. He explained the raise of the entrance fee from Eth birr 150 to Eth birr 400. Such increment is officially not recognized. He also noticed the failure to communicate the price change properly. He stated, "*This [fee increment] is announced only by a very tiny note at the entrance. The local monk vanished when we arrived, so we had to pay as we already touched the ground. We would never have accepted this, not because we don't have the money but because this is just greed.*" Another tourist expressed his resentment with unfair price request of local guide. He noted, "*A few days before I had met a group and could do the same tour for a quarter of the price*". As stated above, poor communication about the exact prices could be a reason for tourist discomfort. For example a tourist from the United Kingdom stated that in Gheralta "*With growing numbers of tourists we did find there was a requirement to pay entry price for kids as well as adults (which did not happen in the other churches we visited).*"

These concerns require due attention and timely actions. Tourists should not be provided with "token" admission fees which reflect only a part of the "full social costs" of their activities (Garrod & Fyall, 2000). It could be very tough to stay in the very competitive tourism market unless proper pricing strategy is introduced in Tigray. This, in turn, would help to fix the entrance fees at reasonable, affordable, consistent rates (Zou, 2020). A failure to do so would make sustainable tourism development in Tigray not to happen.

Safety and security are important elements of sustainable tourism development (Amir et al., 2015). Tourists develop negative impression when they feel unsafe or threatened at a given attraction site. This is damaging and results in sluggish tourism (R. J. C. Chen & Noriega, 2004). In Tigray, there is a relative peace and tourism-related crime is almost non-existent. However, the region lacks standard safety materials and equipments in these heritage sites situated in physically inaccessible mountainous areas. This has significant impact on the sustainability of tourism development in the region. As can be observed from the descriptive statistics of this study, tourists worried about the safety issues in the rural areas of Tigray while security is not considered as a problem in the region. The conversation between a local guide and tourist from Canada shows the safety issue in Gheralta.

The young guide looked at me and asked "are you strong?" I said "Yes!" "Can you climb mountain?" "Yes, I did the summit of Kilimanjaro last year." "OK, I think you can do it, let's

go!" I followed the two guides trekking to the mountain; it was nice and beautiful ... The climbing was scaring! I have been trekking in many countries and mountains but never done anything like this! No safety support, no ropes, just your hands and bare feet! The local guide was leading me step by step up and my guide following us. In the end, I could not believe myself, I made it!

The investigation of tourist satisfaction-loyalty nexus in Tigray has an important implication for sustainable tourism development in the region. This study observed that the nexus between tourist satisfaction and loyalty is direct and positive. Thus, H1 was accepted, indicating that satisfied tourist tends to develop a pleasant perception about the destination, share their positive experience to others, recommend others to visit the destination and tend to revisit the destination again, which are the major indicators of tourist loyalty (Kozak & Rimmington, 2000; Yoon & Uysal, 2005). These results indicate that tourist satisfaction affects their loyalty both directly and positively. Therefore, it is very important to secure tourist satisfaction to retain their loyalty which eventually affects sustainable tourism development. In Tigray, as previous studies indicated (Asmelash & Kumar, 2019b; Gidey & Sharma, 2017), tourist satisfaction is generally low (48.5%) that might significantly affect their loyalty to the region. To remain in the highly competitive tourism market, the region must improve the service quality, tourist experience, and fulfil tourist facilities in order to maintain a good level of tourist loyalty.

Although the multigroup analysis result showed that the relationship between tourist satisfaction and loyalty was not affected by tourist nationality (H2 was accepted), nationality has statistically significant influence on tourist loyalty, indicating that H3 was accepted. Specifically, foreign tourists were found to be more loyal than domestic tourists do. This has serious implication for the tourism development in Tigray. Unlike in developing countries where domestic tourism accounts for more than 75% tourism receipt (Organisation for Economic Co-operation and Development (OECD), 2020), the opposite is true in Tigray (Ethiopia). This effect was more visible amid COVID 19 when tourist flow was totally stopped in the region. Therefore, it is imperative that developing countries including Tigray-Ethiopia should work hard to promote domestic tourism for sustainable tourism to be more achievable.

Generally speaking, sustainable tourism development in the study areas is found in its toddler stage (Asmelash, 2019). Although the region has rich tourism potentials of varied nature, hospitable people, and attractive sites, tourist satisfaction and loyalty in Tigray are generally low. Although a quantitative study is required in future to carry out statistical test, the qualitative data analysis in the current study evinces that tourist satisfaction and loyalty in Tigray have important implication for sustainable tourism development in the region (H4 accepted). Both the qualitative and quantitative data reveal this fact. Pricing, service quality, provision of quality and genuine information, accessibility of tourist sites, and accommodation are among the major areas that need significant improvement otherwise maintaining tourist satisfaction and loyalty would be unthinkable and its impact on sustainable tourism development in the region would be adverse.

5. Conclusion

This study aims to examine tourist satisfaction-loyalty nexus and its implication for sustainable tourism development in developing and politically unstable country, Ethiopia (Tigray) (Asmelash, 2019). Sustainable tourism development cannot be achieved without ensuring tourist satisfaction and maintaining their loyalty (Canny, 2013). Although the respondents were satisfied with the hospitable local, attractiveness, and treatment of tourists, they showed their dissatisfaction with various issues: poor accommodation, accessible attractions, poor information provision, unfairness entrance fees, and safety issues in the rural-based heritage sites. All these cases deemed timely interventions to improve tourist satisfaction in the region. Respondents also showed their positive composite (attitudinal and behavioral) loyalty, with the attitudinal loyalty being more visible.

The tourist satisfaction-loyalty was found to be direct and positive in the current study. However, the level of tourist satisfaction in the study area is generally marginal which needs due attention. Again the respondents demonstrated relatively weak behavioral loyalty which should be another big issue in the region. Keeping the political instability in Ethiopia and the horn in mind, destination managers should work to meet tourist needs and wants which result in higher tourist satisfaction and tourist retention. In the absence of tourist satisfaction and loyalty, sustainable tourism development could not be more rhetoric other than tangible and achievable goal in the region. Unsatisfied tourists cannot remain loyal at all and sustainable tourism development cannot be achieved in the absence of tourist visit. Therefore, consistent monitoring of the tourist satisfaction-loyalty nexus and its implication for sustainable tourism are highly demanding. Future studies should focus on the root causes affecting tourist satisfaction and loyalty.

6. Opportunities for future research

This study has several limitations that provide opportunities for future research. First, the influences of destination image, service quality, and related variables should be taken into consideration in future studies dealing with tourist satisfaction and loyalty. Because the relationship between the last two constructs may be mediated or moderated by the above-mentioned variables. This would increase the total variance explained in the current paper (63.162%). Second, the research should be extended to some other natural and cultural attraction sites. Third, customer behavior is very dynamic so that it is necessary to conduct longitudinal research. This would help to effectively monitor and evaluate the quality of tourist experience, which is an important element of sustainable tourism development.

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