Improvement and Validation of a Model for Tourism Destination Brand Equity in Japan

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Abstract

As tourism is expected to be a driving force for the revitalization of local economies, tourism destinations are facing a severely competitive environment in attracting tourists. In this situation, increasing the brand equity of a destination is an effective strategy. To achieve this, it is important to compare the brand equity of a tourism destination with that of its own region. However, few brand equity models can be applied to different types of tourism destinations. Therefore, this study aimed to develop and validate an improved model for measuring tourism destination brand equity, which is intended to be applicable to different types of tourism destinations. We developed a destination brand equity model consisting of four factors: brand awareness, brand image, brand quality, and brand loyalty. The major improvement was in measuring the image of novelty so that brand image could be discriminated from brand quality. The results of the confirmatory factor analysis of data from a web-based questionnaire survey confirmed that the model fit the data well. We conducted a measurement invariance test using data on three types of destinations: beach destinations (Ishigaki Island), city destinations (Osaka), and hot spring destinations (Hakone). The results of the measurement invariance test for the three types of destinations confirmed that the model developed in this study showed partial metric invariance. In other words, the model developed in this study was found to have a factor structure applicable to multiple types of destinations.

Keywords: brand equity; destination marketing; novelty; measurement invariance; confirmatory factor analysis

(1) Introduction

Tourism is an activity related to a wide range of industries such as agriculture and fishery, as well as service industries such as transportation, accommodation, and food and beverage; therefore, consumption activities through tourism have a large economic impact. In 2019, tourism consumption in Japan was estimated to be 29.2 trillion yen, and the value-added effect generated by this was estimated to be 28.4 trillion yen, a figure equivalent to 5.3% of Japan's gross domestic product (GDP) of 561.3 trillion yen in 2019 (Japan Tourism Agency, 2021a).

Consumption activities through tourism also create new jobs. The estimates using the input-output table show that the data for 2019 indicated that tourism consumption would induce 4.56 million jobs on a nationwide scale (Japan Tourism Agency, 2021a). Against this background, tourism has been seen as a driving force for revitalizing local economies. In fact, many tourism destinations in Japan have been promoting initiatives to attract tourists. This indicates that the tourism business environment is highly competitive.

However, the tourism business was seriously damaged by the COVID-19 pandemic that occurred in 2020. According to the Japan Tourism Agency (2021b), Japan's tourism consumption in 2020 decreased by more than 60% compared to the previous year. Nevertheless, after the end of the pandemic, the tourism industry is expected to recover. Many experts at the United Nations World Tourism Organization (UNWTO) see international tourist numbers recovering to 2019 levels in 2024 or later (UNWTO, 2021). The tourism business in Japan is expected to recover to 2019 levels after 2023 under the most optimistic scenario (Phocuswright Research, 2021). In light of this, it can be seen that Japan's tourism destinations will continue to face a highly competitive environment in terms of attracting tourists.

In a competitive environment, increasing tourism destination brand equity is an effective strategy because strong brands with positive brand equity have the advantage of forming consumer preferences and the purchase intentions of consumers (Buil, de Chernatony and Martinez, 2008). Brands are also powerful differentiation tools (Boo, Busser and Baloglu, 2009). Based on Kotler and Keller (2006), whereby differentiation is a strategy for maintaining competitive advantage, it can be expected that increasing brand equity will increase the probability of triumphing in the competition to attract tourists.

It is important to measure the current performance of a tourism destination to increase destination brand equity. Measuring destination brand equity using consumers' subjective evaluations has become mainstream (Hyun and Kim, 2020). Research up to now has viewed brand equity as a concept divided into multiple components, such as "awareness," "image," or "quality" (Boo et al., 2009; Hyun and Kim, 2020; Konecnik and Gartner, 2007; Tasci, 2021). In other words, the brand equity of a certain tourism destination can be understood as an aggregate of consumers' evaluations of each component. Previous studies have attempted to identify the components of destination brand equity and elucidate the structural relationships among the components (Tasci, 2021). However, as discussed below, there are no established components of the destination brand equity.

Considering the nature of tourism destinations, they can be divided into several types based on their core tourism resources, such as nature and culture (Lin et al., 2007). A model for measuring destination brand equity that is applicable across different types of tourism destinations would allow the organization responsible for marketing tourism destinations (hereinafter referred to as DMO, which stands for Destination

Marketing Organization) to analyze the current performance of their brand equity in more detail through relative comparisons. However, very few studies have examined the measurement models of destination brand equity that can be applied to various types of tourism destinations. It is important from an academic perspective to examine this point, as it will confirm the scope of the application of the destination brand equity model.

Therefore, this study aims to develop and validate an improved model for measuring tourism destination brand equity applicable to different types of tourism destinations. The remainder of this paper is organized as follows. First, after reviewing previous studies, we present the tourism destination brand equity model used in this study. Next, we test the validity of the model for three types of tourism destinations using data from a web-based questionnaire survey. Finally, the discussion and conclusions of the study are presented.

(2) Literature review and improved model development

1. Destination brand equity model

To date, various definitions of brand equity have been proposed. The most representative definition is from Aaker (1991, p. 15): "a set of brand assets and liabilities linked to a brand, its name, and symbol, that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers." Keller (1993, p. 8) defines brand equity as "the differential effect of brand knowledge on consumer response to the marketing of the brand." Both definitions present brand equity as a value added to a brand through marketing activities. Specifically, Keller's (1993) definition emphasizes that a consumer's knowledge is the source of value. This study uses Aaker's (1991) definition of brand equity as a reference for the definition of destination brand equity because Aaker's (1991) definition is the most comprehensive and acceptable definitions of brand equity (Nyadzayo, Matanda and Ewing, 2016). In this study, destination brand equity refers to a set of brand assets and liabilities linked to a destination brand, its name, and symbol, that add to or subtract from the value provided by a destination to a firm and/or to that firm's customers.

Many concepts have been proposed as components of destination brand equity (Dedeoğlu et al., 2019; Tasci, 2021). Konecnik and Gartner (2007) proposed a model consisting of four components: brand awareness, brand image, brand quality, and brand loyalty. Boo et al. (2009) proposed another model comprising four components: brand awareness, brand experience, brand value, and brand loyalty. Dedeoğlu et al. (2019) proposed a model comprising six components: brand awareness, brand quality, brand value, brand trust, brand satisfaction, and brand loyalty.

However, there is no consensus regarding which components are appropriate. Within this context, this study proceeded in its investigation using the evaluation model of Konecnik and Gartner (2007), who were the first to use empirical research to measure destination brand equity. This is because Konecnik and Gartner's (2007) model is the most valid, as has been shown in subsequent

studies (Ruzzier, Antoncic and Ruzier, 2014; Veríssimo et al., 2017; Yuwo, Ford and Purwanegara, 2013), to be applicable to other destinations. Nevertheless, it should be noted that the applicability to multiple types of destinations has not been examined.

As indicated earlier, Konecnik and Gartner (2007) stated that destination brand equity is composed of four dimensions: brand awareness, brand image, brand quality, and brand loyalty. These dimensions were also employed in this study. However, this study attempts to make improvements to clarify the difference in meaning between brand image and brand quality, which as described below is unclear.

Additionally, these four dimensions are similar to the brand equity model proposed by Aaker (1991). Aaker's (1991) model consists of five dimensions: brand awareness, brand association, perceived quality, brand loyalty, and other proprietary brand assets. Of these, the concepts of perceived quality and brand quality are the same, except that the names are slightly different. Brand association refers to the meaning of a brand to consumers, which is associated with the brand in their memory (Aaker, 1991). In previous studies (e.g., Bose, Roy and Tiwari, 2016; Jeon and Yoo, 2021), brand image and brand association are often regarded as almost the same concept. In summary, the baseline model of this study can be positioned as the model of Aaker (1991), excluding "other proprietary brand assets."

The following section reviews previous studies relating to dimensions contained in the model.

2. Brand awareness

Aaker (1991) stated that brand awareness is the combination of storage of the brand in the memory of a consumer and their ability to recover the memory of that particular brand. This study adopts this definition. In addition, brand awareness can be seen as a concept reflecting that brand characteristics remain in the minds of consumers (Aaker, 1996).

In the field of tourism research, awareness is considered one factor in a consumer's choice of tourism destination (Woodside and Lysonski, 1989). For example, to attract tourists to a tourism destination, it is first necessary to make consumers aware of the destination (Milman and Pizam, 1995). When consumers select a tourism destination, it is said that they often compile candidate destinations from which to choose (Sirakaya and Woodside, 2005), and in order to become a candidate the name and basic characteristics of the destination must be stored in the consumer's memory.

3. Brand image

Brand image refers to the feelings and perceptions linking consumers and brands (Keller, 2003). This study adopts this definition. Cai (2002) states that brand image is a critical element in the construction of a tourism destination brand. In research that measures destination brand equity, image evaluation has become indispensable. The concept of image is a major research theme in tourism studies. Since the 1970s, an enormous number of studies have been conducted on destination images (Pike, 2002). For destination brand equity measurement, a

destination can be considered a type of brand, so destination image can be thought of as a concept similar to brand image.

In previous research (such as Boo et al., 2009; Konecnik and Gartner, 2007, etc.), brand image has been measured by consumers' subjective evaluations of various aspects of a destination. When attempting to measure evaluations of tourism resources and services provided at destinations, the risk exists that the distinction will be lost between brand image and brand quality, which will be reviewed in the next section. This is because brand quality is mainly measured as an evaluation of the experiences provided at the destination (Konecnik and Gartner, 2007). In fact, image and quality items are very similar in the model used by Konecnik and Gartner (2007).

To solve the above problem, this study does not evaluate concrete aspects such as tourism attractions and services; instead, it evaluates more abstract aspects. Specifically, it focuses on novelty, which indicates the extent to which the consumer has not yet experienced the destination. Novelty is one of the major motivations for travel, and it is also considered to be deeply associated with visiting specific destinations (Gitelson and Crompton, 1984; Goossens, 2000). Thus, the improvement of novelty has a positive impact on destination brands in terms of increased probability of visitation, and therefore, it was selected as a measurement component for brand image.

4. Brand quality

Brand quality refers to the quality of various aspects of a brand as perceived by the consumer (Boo et al., 2009; Keller, 2003). This study adopts this definition. Keller (2003) identified seven evaluation dimensions of brand quality: performance, features, conformation quality, reliability, durability, serviceability, and style and design. However, these classifications are put in place as brand evaluation concepts for general products and services. The concept of quality comes up even in the field of tourism research and is specifically interpreted as an evaluation of tourism resources located inside the destination and services experienced by tourists. For example, in a study by Chen and Tsai (2007) of resorts in Taiwan, the quality measurement items included restaurants, transportation, and beaches. To develop a model that can be applied to different types of tourism destinations, this study does not address the evaluation of natural and cultural tourism resources. Instead, we will measure the evaluation of service experiences, such as accommodation, food and beverage, and transportation, as elements common to all tourim destinations.

5. Brand loyalty

Brand loyalty refers to the frequency of repeat purchases of a brand or a consumer's attachment to the brand (Aaker, 1991; Pike and Bianchi, 2016). The former type of loyalty is called behavioral loyalty, while the latter type of loyalty is called attitudinal loyalty (Pike and Bianchi, 2016). In this study, brand loyalty is conceptualized as attitudinal loyalty.

Brand loyalty is considered a core element of brand equity (Aaker, 1991; Keller, 2003). Although up to the 2000s in the field of

tourism research, little attention was paid to loyalty to tourism destinations (Konecnik and Gartner, 2007; Oppermann, 2000), it is currently considered a major component of destination brand equity (Boo et al., 2009; Dedeoğlu et al., 2019; Hyun and Kim 2020; Konecnik and Gartner, 2007, etc.). However, among the types of loyalty indicated above, the mainstream approach in previous studies is to measure attitudinal loyalty. Specifically, the main measurement item was the intention to revisit the destination under evaluation.

(3) Methodology

1. Study areas

This study examines a destination brand equity model applicable to multiple types of tourism destinations. Therefore, in this study, three typical destination types were considered: beach, city, and hot spring. To make it easier to collect responses, specific destinations that see a certain number of tourists were selected. The numbers of tourists were based on figures from the "Overnight Travel Statistics Survey" (Japan Tourism Agency, 2021c).

As a result, Ishigaki Island (Ishigaki City, Okinawa Prefecture) was selected as the beach destination, Osaka (Osaka City, Osaka Prefecture) was selected as the city destination, and Hakone (Hakone Town, Kanagawa Prefecture) was selected as the hot spring destination. Ishigaki Island is a remote island located in Okinawa Prefecture that features beautiful beaches. In 2021, the annual number of overnight guests on Ishigaki Island was 362,973 (Japan Tourism Agency 2021c). Osaka is the largest city in the Kansai area and is a popular destination for foreign tourists. In 2021, the annual number of overnight guests in Osaka was 7,782,125 (Japan Tourism Agency 2021c). Hakone is blessed with natural resources, such as hot springs and mountains, and is one of the leading hot spring destinations in Japan. In 2021, the annual number of overnight guests in Hakone was 1,189,135 (Japan Tourism Agency 2021c).

2. Data collection and sample

The data for this study were collected using a consumer panel provided by an Internet survey company. The survey was conducted in December 2021. The survey respondents were people aged 20 years or older who had visited Ishigaki, Osaka, or Hakone at least once in the past, for purposes other than returning home or on a business trip, and for a length of at least one night. There were 550 respondents for each destination, for a total of 1650. In other words, 550 respondents answered about Ishigaki, 550 about Osaka, and 550 about Hakone.

3. Questionnaire development

In this study, all components of the brand equity measurement model were used as constructs. Each construct was a latent variable and was assumed to be measurable using multiple indicators (observed variables) with measurement errors.

Questions regarding brand awareness were created using Boo et al. (2009) and Konecnik and Gartner (2007) as references. A total of three items were scored on a 7-point Likert scale (7 = *Agree* to 1 = *Disagree*). Questions regarding brand image were

created with reference to Albaity and Melhem (2017), for which a total of three items were scored on a 7-point Likert scale (7 = *Agree* to 1 = *Disagree*). Questions regarding brand quality were created based on Chen and Tsai (2007) and Konecnik and Gartner (2007), for which a total of four items were scored on a 7-point Likert scale (7 = *Agree* to 1 = *Disagree*). Questions regarding brand loyalty were created with reference to Konecnik and Gartner (2007) and Pike and Bianchi (2016), for which a total of three items were scored on a 7-point Likert scale (7 = *Agree* to 1 = *Disagree*). See Table 6 for details of the above questions.

(4) Results and discussion

1. Profile of sample

Table 1 shows the attributes of the respondents. Regarding gender, there were more males than females for all destinations, while regarding age, the largest percentage of respondents were in their 60s or older for all destinations, and the smallest percentage was in their 20s. Regarding the number of visits, the largest percentage of respondents were once for Ishigaki and Hakone. However, the largest percentage of respondents were "10 or more" for Osaka.

2. Test of reliability and validity

The reliability and validity of each construct of the destination brand equity model were examined. In this study, all

Table 1 Respondent attributes

		Ishigaki Island (*N*= 550)		Osaka (*N*= 550)		Hakone (*N*= 550)	
		Number of Respondents	Composition Ratio	Number of Respondents	Composition Ratio	Number of Respondents	Composition Ratio
Gender	Male	374	68.00%	364	66.20%	418	76.00%
	Female	176	32.00%	186	33.80%	132	24.00%
Age	20 to 29	41	7.50%	23	4.20%	9	1.60%
	30 to 39	78	14.20%	69	12.50%	25	4.50%
	40 to 49	82	14.90%	118	21.50%	78	14.20%
	50 to 59	129	23.50%	182	33.10%	142	25.80%
	over 60s	220	40.00%	158	28.70%	296	53.80%
Number of visits	1	315	57.30%	127	23.10%	125	22.70%
	2	102	18.50%	92	16.70%	112	20.40%
	3	64	11.60%	82	14.90%	80	14.50%
	4	18	3.30%	24	4.40%	24	4.40%
	5	14	2.50%	32	5.80%	58	10.50%
	6~9	9	1.60%	41	7.50%	48	8.70%
	10 or more	28	5.10%	152	27.60%	103	18.70%

subsequent analyses were conducted using R version 4.1.2 and the packages "lavaan" and "semTools".

Reliability was tested using Cronbach's alpha and composite reliability (CR) values. Cronbach's alpha was calculated for the combined data of respondents from all destinations; all constructs exceeded the threshold of 0.7 (Hair et al., 2014) (see Table 2). CR was calculated by confirmatory factor analysis on the combined data of respondents from all destinations. The assumption for conducting confirmatory factor analysis was the multivariate normality of the data. Multivariate normality can be conveniently tested by checking the skewness and kurtosis of observed variables (Weston and Gore, 2006). The values of skewness and kurtosis of the observed variables were below the thresholds (absolute values of skewness > 3, absolute values of kurtosis > 10) for criteria of departure from normality (Weston and Gore, 2006). As a result of confirmatory factor analysis, the CR values for all constructs exceeded the desirable value of 0.6 (Bagozzi and Yi, 1988) (see Table 2). The above results confirmed the reliability of the constructs.

Next, two types of validity were tested: convergent and discriminant validity. The convergent validity of the constructs was tested by conducting a confirmatory factor analysis of the combined data of respondents from all destinations. Specifically, the factor loadings from each latent variable to the observed variables and the average variance extracted (AVE) were examined. The standardized factor loadings from each latent variable to the observed variables all exceeded the criterial value of 0.5 (Hair et al., 2014). In addition, the AVE of all latent variables exceeded the criterial value of 0.5 (Fornell and Larcker, 1981; Hair et al., 2014) (see Table 3). The above results confirmed the convergent validity of the constructs was. Furthermore, the criterion was satisfied that the value of AVE for each latent variable should be greater than the squared correlation coefficient between the constructs (Fornell and Larcker, 1981; Hair et al., 2014)

Table 2 Values of Cronbach's Alpha and CR

	Cronbach's alpha	CR
Brand awareness	0.834	0.844
Brand image	0.938	0.939
Brand quality	0.851	0.853
Brand loyalty	0.855	0.867

Table 3 Values of AVE and correlation coefficients

	Brand awareness	Brand image	Brand quality	Brand loyalty
Brand awareness	**0.645**			
Brand image	0.582	**0.838**		
Brand quality	0.581	0.733	**0.594**	
Brand loyalty	0.474	0.713	0.724	**0.688**

Note: Bold text indicates values of AVE.

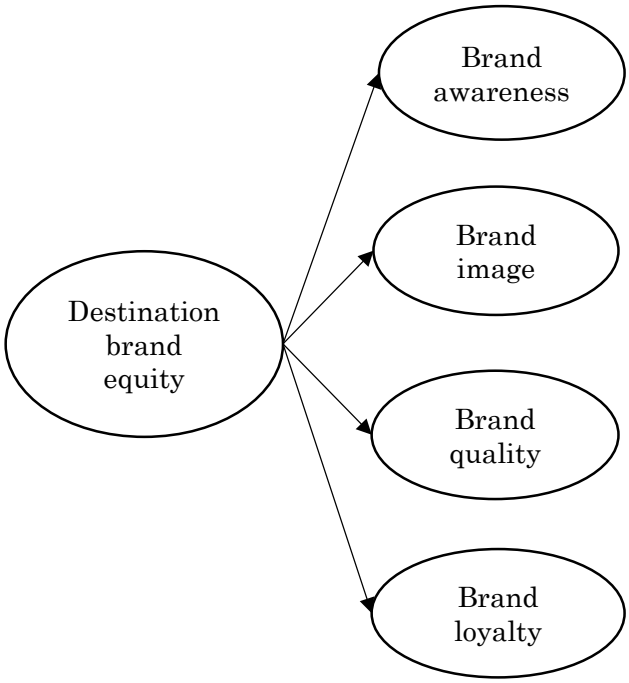

Figure 1 Higher-order factor model

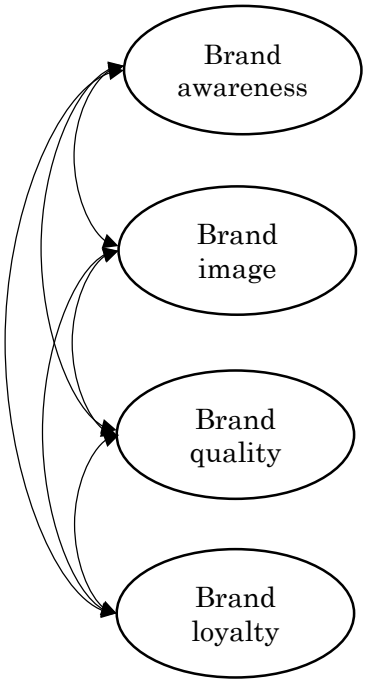

Figure 2 Four-factor model

Table 4 Comparison of the results of the two models

	χ^2	df	CFI	RMSEA	TLI	AIC
Higher-order factor model	698.577	59	0.957	0.081	0.945	55030.634
Four-factor model	726.612	61	0.959	0.081	0.945	55006.582

thus confirming discriminant validity (see Table 3).

3. Comparison of the higher-order factor model and four-factor model

The destination brand equity model proposed in this study can be theoretically expressed in two ways: the first is a model in which destination brand equity is set as a higher-order factor and brand awareness, brand image, brand quality, and brand loyalty are sub-factors (hereinafter referred to as the higher-order factor model). The second is a model in which the four sub-factors are interrelated (hereinafter referred to as the four-factor model). Figure 1 shows the higher-order factor model, and Figure 2 shows the four-factor model. In this study, confirmatory factor analysis of the combined data of respondents from all destinations was conducted on these two models to determine which model fit the data more adequately. The fit indices used to evaluate the model were χ^2 statistic, comparative fit index (CFI), root mean square error of approximation (RMSEA), and Tucker-lewis index (TLI), based on the recommendations of previous studies (Hair et al., 2014; Steenkamp and Baumgartner, 1998). We also used the Akaike information

criterion (AIC) for multiple model comparisons (Weston and Gore, 2006).

Table 4 shows the results of confirmatory factor analysis for the two models. The results of the likelihood ratio test suggest that the four-factor model fits the data better than the higher-order factor model ($\Delta\chi^2$ (2) = 28.036, $p < 0.001$). In both models, the value of CFI was above 0.9, which is considered a good goodness-of-fit threshold (Hair et al., 2014). Comparing the two models, the four-factor model had a higher CFI value than the higher-order factor model. A higher CFI value indicates a higher goodness of fit, suggesting that the four-factor model fits the data better.

In both models, the RMSEA value was above 0.05, which is considered a high goodness-of-fit threshold (Hair et al., 2014). However, it was below 0.1, which may indicate a serious problem (Kline, 2016). Comparing the two models, the values of RMSEA were the same. In addition, the values of TLI were above 0.9, which is considered a good goodness-of-fit threshold (Hair et al., 2014). The values of TLI were the same in both the models.

Finally, the AIC values showed that the four-factor model was lower than the higher-order factor model. A lower AIC value indicates a higher goodness of fit. Additionally, a difference in AIC values of 10 or more indicates that the difference is significant (Taylor et al., 2014). In this study, the difference in the AIC between the two models was greater than 10. These results suggest that the four-factor model better fits the data.

From the above results, it was confirmed that the four-factor model fit the data better than the higher-order factor model. Therefore, the four-factor model was adopted for subsequent analyses. Since the higher-order factor model can exist when correlations between sub-factors are high (Dombrowski and Watkins, 2013), the better fit of the four-factor model to the data suggests that not all components of destination brand equity are highly correlated.

4. Test of measurement invariance

We tested measurement invariance to examine whether the destination brand equity model could be applied across different types of tourism destinations. Specifically, we conducted a multigroup confirmatory factor analysis of the four-factor model.

To compare the values of factor means across different populations, the following three criteria need to be met (Steenkamp and Baumgartner, 1998; Wang et al., 2018). The first is configural variance, which refers to the number of factors and their loading pattern being equal across populations (Wang et al., 2018). The second is metric invariance, which refers to the number of factors and loading pattern, as well as the factor loadings from latent variables to observed variables across populations that are also equal (Wang et al., 2018). The third is scalar invariance, which refers to the fact that the intercept of the observed variable is also equal across populations, in addition to metric invariance (Wang et al., 2018). If full metric invariance or scalar invariance is not possible, partial invariance is acceptable (Steenkamp and Baumgartner, 1998; Wang et al., 2018). Specifically, it is necessary that

Table 5 Results of measurement invariance analysis

	χ^2	df	CFI	RMSEA	TLI	AIC
Configural invariance model	809.870	177	0.960	0.081	0.947	53856.382
Metric invariance model	856.755	195	0.958	0.079	0.950	53867.353
Partial metric invariance model	822.602	189	0.960	0.078	0.950	53845.137
Partial scalar invariance model	1096.051	201	0.943	0.090	0.934	54095.084

at least two items of each latent variable have metric invariance or scalar invariance (Steenkamp and Baumgartner, 1998).

Based on the above criteria, we first examined whether configural invariance can be established among the three types of tourism destinations. The confirmatory factor analysis found that the values of CFI and TLI were above 0.9 while that of RMSEA was below 0.1, indicating that the goodness of fit index was acceptable (see Table 5). Next, we compared the configural invariance model with the metric invariance model. In the metric invariance model, the RMSEA value was lower than the configural invariance model, and the TLI value was higher than the configural invariance model (see Table 5). However, the CFI value was lower than the configural invariance model, and the AIC value was higher than the configural invariance model (see Table 5). The results of the likelihood ratio test also suggested that the configural invariance model was a better fit ($\Delta\chi^2$ (18) = 46.885, p < 0.001). To summarize these results, three of the five indices suggested that the configural invariance model fits the data better. Therefore, we concluded that the configural invariance model fits the data better than the metric variance model.

In light of the above decision, based on the method adopted by Steenkamp and Baumgartner (1998), we examined the observed variables to release the equality constraint of factor loadings with reference to the modification indices. As a result, we set up a partial metric invariance model that released the equality constraints for one item of brand awareness, one item of brand quality, and one item of brand loyalty (see Table 6).

We then compared the configural invariance model with the partial metric invariance model. In the partial metric invariance model, the TLI value was higher than the configural invariance model, and the CFI value was the same as the configural invariance model (see Table 5). Additionally, the partial metric variance model had lower values of RMSEA and AIC than the configural invariance model (see Table 5). The results of the likelihood ratio test also suggested that the partial metric invariance model fit the data better ($\Delta\chi^2$ (12) = 12.732, p = 0.389). To summarize these results, four of the five indices suggested that the partial metric invariance model fits the data better. Therefore, we concluded that the partial metric invariance model fits the data better than the configural variance model.

In addition, we compared the partial metric invariance model with the partial scalar invariance model, which releases the

Table 6 Factor loadings in the partial metric invariance model

Item	Unstandardized factor loadings		
	Ishigaki Island (beach destination)	Osaka (city destination)	Hakone (hot spring destination)
Brand awareness (3 items)			
(Name of destination) is well known as a travel destination	**0.838**	**0.988**	**0.763**
(Name of destination) has a good reputation as a travel destination	0.959	0.959	0.959
Characteristics of (name of destination) not found in any other countries come to mind	0.837	0.837	0.837
Brand image (3 items)			
I can experience new things in (name of destination) no matter how many times I visit	1.112	1.112	1.112
I can make new discoveries in (name of destination) no matter how many times I visit	1.163	1.163	1.163
(Name of destination) still feels fresh no matter how many times I visit	1.119	1.119	1.119
Brand quality (4 items)			
The quality of accommodations in (name of destination) is generally high.	**1.020**	**0.896**	**0.870**
The quality of restaurants in (name of destination) is generally high.	0.986	0.986	0.986
The quality of tourist facilities in (name of destination) is generally high.	1.048	1.048	1.048
(Name of destination) is easy to transport within the region.	0.873	0.873	0.873
Brand loyalty (3 items)			
(Name of destination) will always be my first candidate when planning a leisure trip	**1.203**	**1.295**	**1.154**
I want to visit (name of destination), even if the travel costs are somewhat high	1.176	1.176	1.176
I want to visit (name of destination) in the near future	0.905	0.905	0.905

Note: Bold text indicates items whose equality constraints are released.

equality constraint on the intercept of observed variables in the same way as the partial metric invariance model. The partial scalar invariance model resulted in lower values of CFI and TLI, and higher values of RMSEA and AIC than the partial metric invariance model (see Table 5). The results of the likelihood ratio test also suggested that partial metric invariance fits the data better ($\Delta\chi^2$ (12) = 273.449, $p < 0.001$).

Based on the results so far, it was confirmed that the model developed in this study was established up to partial metric invariance. Table 6 shows the factor loadings of the observed variables from each latent variable in the partial metric invariance model. The factor structure of the model developed in this study can be applied to all three types of destinations. In other words, regardless of the type of destination, destination brand equity may consist of four factors: brand awareness, brand image, brand quality, and brand loyalty. On the other hand, it is suggested that the model developed in this study is not suitable for comparing factor means among types of destinations.

(5) Conclusion

This study improved the tourism destination brand equity model in such a way that it can be applied across different tourism destination types and validated the model. With reference to previous studies, we developed a destination brand equity model consisting of four factors: brand awareness, brand image, brand quality, and brand loyalty. The major improvement was in measuring the image of novelty so that brand image could be discriminated from brand quality. The results of the confirmatory factor analysis confirmed that the developed model fits the data well. In addition, measurement invariance was tested for three destination types (beach, hot spring, and city), and it was confirmed that the factor structure of the model was common among the destination types.

The academic implications of this study are as follows. First, the factor structure of the tourism destination brand equity model was shown to be common among different types of destinations. Although there have been studies examining the invariance of the brand equity model for multiple tourism destinations of the same type (Boo et al., 2009), few studies have examined the applicability of the model across multiple types. This study is a new step forward for research on the application of the tourism destination brand equity model. Second, evaluation from a new perspective of novelty was employed to measure brand image, and the suitability of the measurement scale was confirmed. In the case of tourism destinations, measuring novelty as a measure of brand image may be useful.

The following points suggest the potential practical applicability of this study. First, it is important for DMOs to focus on improving the evaluation of the four elements of awareness, image, quality, and loyalty in order to increase the brand equity of their own region. Second, the model developed in this study is not currently suitable for comparing the evaluation scores of different types of tourism destinations, so it should be used to understand the changes in the destination brand equity in one's own region over time. Although it was not possible to examine this in this study, it may be possible to make comparisons among several tourism destinations if they are of the same tourism destination type. Future research is needed to confirm this hypothesis.

Finally, we discuss the limitations and challenges of this study. First, as mentioned earlier, the model developed in this study was

not able to ensure scalar invariance. Further improvement of the model is needed in order to be able to compare brand equity ratings among different destination types. One way is to include new factors (e.g., brand trust and brand value) that were not employed in the model of this study. In addition, because of the research design, only three types of destinations were considered in this study. In the future, it will be necessary to examine the validity of the model developed in this study for other types of destinations, such as mountain destinations and historical destinations.

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