

The Study on Construct Dimension of City Image using Evaluation-type Affective Vocabulary

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Abstract

This study aimed to examine the construct validity regarding the concept of job competency of university students majoring in tourism. First, previous studies were reviewed, from which key 20 factors were derived to conduct a survey. The survey was conducted on university students majoring in tourism-related studies in Korea from September 20 to October 19, 2016. A total of 759 questionnaires were retrieved, and among them, 698 questionnaires were used for analysis.

Keywords: Evaluation Type, Affective, City Image, Construct, Validity

1. Introduction

Like this, a city image is the result of interaction which forms in between people and their peripheral environment, appearing as a response to space, and image formation is a consecutive action & response to a specific object, coming to be achieved through the cognitive process. As shown above, a city image is an overall result, which people come to have about a specific city, and also the result of an individual's subjective emotion. Accordingly, this study is attempting at patterning of a city image using evaluative affective language.

2. Image

Kotler (1991) said that image is the whole of a belief, idea and impression possessed by an individual about a specific object, which is a representation occurring to the mind by a sensory experience, and also a sensory impression felt through perception and association [1].

3. Affective vocabulary

A person's emotion consists of an affirmative feeling and negative feeling. First, an affirmative feeling includes joy, pleasure, euphoria, etc. while a negative feeling includes irate, grief, fear, etc. [2]. Emotion is used as a meaning like affect, feeling, emotion and mood, etc.. In addition, in psychology, emotion is an emotional activity. confronting with a human's intellectual activity, referring to a feeling about a stimulus, or a change of the stimulus. This study is intending to reflect only 11 words (to be romantic, to be complicated, to be practical,

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to be well arranged, to be static, to be harmonious, to be clean, to be convenient, to be modern, and to be colorful).

4. Operational definition of variables

Evaluative emotion vocabulary means a feeling of recalling a specific city complexly, stably, practically and in an exotic way, and for the evaluation using emotion vocabulary, this study referred to Shin, Soonja (1988), Jeong, Hyunwon & Na, Keon (2007), Kim, Jongmu (2012), Park, Youngsik & Yeo, Hokeun (2016), and [3], [4], and is going to measure 13 items in all in 5-point Likert scaling.

5. Research hypotheses setting

It's possible to approach the emotion about a city image multi-dimensionally[4]. Hereupon, this study is intending to implement descriptive statistical analysis and exploratory factor analysis, and also implement confirmatory factor analysis of the construct factors over the primary, and secondary turn, and then verify discrimination validity together with significance evaluation of construct validity. This study is going to set up the hypotheses as follows to look into whether the construct factors applied for verification through the secondary confirmatory factor analysis explain emotion nicely.

H1: Emotion about a city image will a multi-dimensional structure.

H2: Each construct factor will be able to explain the emotion about a city image.

6. Survey design

The compatibility as items (The emotion vocabulary items composed of adjectives) was confirmed by 3 professors. Then, this study reflected 11 items after removing the items whose average value was lower than the total average value through descriptive statistical analysis, and added two items 'to be Western; and 'To be exotic' , deducting 13 evaluative emotion vocabulary items in all. Next, this study conducted a survey of the citizens in Busan in self-administered method from Dec.1 until Dec. 15, 2016. This study distributed 400 questionnaires in all, and collected 375 copies, among which this study excluded 7 copies judged as unfaithful, and used 368 copies for final analysis. This study used SPSS and AMOS 23 for this analysis.

7. Demographic characteristic

As a result of implementing frequency analysis of demographic characteristics, the analysis showed that there were 50.5% and 49.5% by gender; there were 156 persons in their 20s (42.4%), 92 persons in their 30s (25.0%) 63 persons in their 40s (17.1%), 44 persons in their 50s (12.0%) and 13 persons in their 60s (3.5%) by age; there were 53 high school graduates (14.4%), 122 present college students (33.2%), 181 college graduates (49.2%), and 12 present graduate school students and upward (3.3%) by educational background; there were 129 students (35.1%), 5 public officials (1.4%), 11 profession workers (3.0%), 18 self-employed persons (4.9%), 87 sales & services workers (26.6%), and 11 others (3.0%) by occupation.

8. Validity and reliability analysis

This study implemented the analysis with varimax orthogonal rotation and taxis analysis after excluding 1 items which impeded factor construct among 13 evaluative emotion vocabulary of the city image of Busan. KMO was found to be .742, having adequacy as a

sample, Bartlett’s sphere city test and the approximate chi-sqaure(χ^2), degree of freedom and significance probability were confirmed 1239.510, 78, and .000, respectively. 4 factors of more than 1.0 in eigenvalue were deducted from the 12 items of the city image emotion vocabulary, and total variance was confirmed as 60.9%.

Table 1. Factor analysis and reliability analysis of emotion vocabulary on city image

Measurement Variable	Factor Loading	Eigenvalue	Commonality	Variance (%)	Alpha value in time of removal	Reliability
Complex	to be complicated	.766	.636	28.351	.705	.733
	to be modern	.735	.627			
	to be convenient.	.645	.630			
	to be colorful	.620	.514			
	to be citified	.564	.444			
Stable	to be well arranged	.813	.718	14.587	.621	.719
	to be clean	.797	.709			
	to be static	.726	.634			
	to b romantic	.752	.630			
Practical	to be practical	.617	.442	9.520	.557	.612
	to be harmonious.	.587	.509			
Exotic	to be Western.	.821	.734	8.445	-	.669
	to be exotic	.714	.689			

8.1. Verification of hypothesis 1

To verify hypothesis 1 ‘The emotion vocabulary of a city image will be composed dimensionally’, this study confirmed content validity through exploratory factor analysis, and then, as a result of looking into construct validity and discrimination validity through correlation analysis, both were verified as valid. The diagonal line value in the Correlation Analysis Table is the square root value of average variance extracted, and when this value is larger than the value of each correlation coefficient, discrimination validity is judged as available. As above, significance of discrimination is evaluated as available, so this study conducted the primary confirmatory factor analysis. On the whole, to evaluate goodness of model fit through confirmatory factor analysis, construct validity is used, and the value of, χ^2 , CMIN/DF, GFI, AGFI, and RMSEA, etc. comes to be considered. First, χ^2 value is the result of verifying how well measurement variables can explain the model, and in case χ^2 is well corresponded, probability value (p value) is near 1, and in case the probability value is near 0, judgment is made by considering a different goodness of fit index. Even if the probability value is near 0, in case the goodness of model fit falls, it is recommended that judgment should be made by referring to other goodness of fit index rather than making a conclusion

[5]. The goodness of Factor 1 model fit index is ‘ $\chi^2=494.743$, $DF=54$, $CMIN/DF=9.162$, $GFI=.809$, $AGFI=.725$, $RMSEA=.149$ ’, being judged as somewhat low in goodness of fit index. As a result of confirming the difference in chi-square between single dimension (Factor 1) measurement model and Factor 4 measurement model for emotion vocabulary of a city image, Factor 4 model was found to be more significant than Factor 1 model in χ^2 value, being evaluated as securing discrimination validity.

Table 2. Correlation analysis of emotion vocabulary on city image

City Image	Complex Emotion	Stable Emotion	Practical Emotion	Exotic Emotion
Complex Emotion	.724 ^a			
Stable Emotion	.105*	.755 ^b		
Practical Emotion	.303**	.350**	.744 ^c	
Exotic Emotion	.266**	.288**	.350**	.787 ^d
Mean	3.96	2.77	3.41	3.13
S.D	0.61	0.80	0.70	0.82

Comment) * $p<0.05$, ** $p<0.01$, diagonal line value(a,b,c,d) is the one of each factor’s AVE’s square root value, and in case this value is larger than the value of correlation coefficient, discrimination validity is regarded as available (Bargozzi & Yi, 1988; Ku, Cheolmo et al., 2015).

Table 3. Confirmatory factor analysis of factor 1(single dimension) model

Dimension	Observation variable(item)	Non-standardization coefficient	S.E	Standardization Coefficient	CR
	to be complicated.	Removal	-	-	-
	to be modern.	0.824	.036	.529	7.511
	to be convenient.	0.887	.044	.514	7.364
	to be colorful.	0.944	.059	.481	7.027
	to be citified.	0.616	.032	.435	6.518
City Image (Emotion Vocabulary)	to be well arranged.	1.000	.048	.551	-
	to be clean.	0.994	.064	.485	7.062
	to be static	0.756	.074	.358	5.577
	to be romantic.	0.984	.053	.522	7.443
	to be practical.	0.839	.054	.454	6.722
	to be harmonious	1.039	.053	.543	7.643
	to be Western.	0.785	.056	.421	6.349
	to be exotic.	0.981	.056	.506	7.281

$\chi^2=494.743$, $DF=54$, $CMIN/DF=9.162$, $GFI=.809$, $AGFI=.725$, $RMSEA=.149$

Next, the goodness of Factor 4(complex, stable, practical, exotic emotion)model fit index about emotion vocabulary of a city image was found to be favorable in general with ‘ $\chi^2=121.763$, $DF=44$, $CMIN/DF=2.767$, $GFI=.953$, $AGFI=.916$, $RMSEA=.069$.’ Accordingly, Hypothesis 1 was adopted ([Table 3]).

8.2. Verification of hypothesis 2

This study conducted the secondary (higher order) confirmatory factor analysis to verify Hypothesis 2 ‘Each construct will be able to explain the emotion about a city image.’ Next, this study conducted the secondary confirmatory factor analysis by forming the sub-dimension of four factors in the city image emotion vocabulary, and the goodness of fit index is $\chi^2=9.324$, $DF=45$, $CMIN/DF=2.207$, $GFI=.960$, $AGFI=.930$, $RMSEA=.057$, being confirmed as favorable. In other words, looking into the secondary confirmatory factor analysis result, the value of the coefficients indicating the relations between emotion and sub-constructs, and between each factor and observation variables were all found to be significant. Accordingly, it was found that ‘Each factor well explains’ complex, stable, practical, exotic’ emotion with significance. Accordingly, Hypothesis 2 was adopted. [Table 6]. indicate the confirmatory factor analysis of the evaluative emotion vocabulary about a city image. and in the two diagrams, the value of standardization coefficient, standard error, critical ratio (CR), composite construct reliability (CCR), average variance extracted (AVE) are suggested, and convergent validity comes to be evaluated by such values (Lee, Haksik & Lim, Jihoon, 2009). CCR can be calculated by factor loading and error variance value, and in case the value is more than .7, and the value of AVE, which is the average of squared value of standardization factor loading, is over .5, CCR and AVE are evaluated as things which secure convergent validity (Fornell & Lacker, 1981). CCR of the individual dimensions organizing the emotion about a city image is over .7, and also AVE is .524~.619, being evaluated as securing convergent validity.

9. Conclusion

Among the emotion vocabulary organized like this, this study organized a city image emotion vocabulary measurement item after going through the refining stage through experts’ opinion survey on suitability level as a city image measurement item. 13 items were deducted through the process, among which 1 item hindering the construct was excluded through the exploratory factor analysis process, and finally 12 items were applied to the factor analysis. The summary and implications consequent on this study results are as follows: First, as shown in the process of Hypothesis 1 verification, the emotion about a city image were composed of ‘complex, stable, practical, exotic’ factors. Second, Hypothesis 2 was confirmed to be equipped with convergent validity and discrimination validity as a result of verifying the validity of a construct of city image emotion through the secondary confirmatory factor analysis. This means the corroboration of the fact that 4 factors forming city image emotion are all significantly explained, and this shows that there is a need of having to consider these 4 factors to evaluate the emotion as to a city image. However, this study results imply that there is a need for city image measurement by reflecting various aspects of emotion vocabulary in the future researches.

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