Evaluating The Visitor Experience at DNCC Wonderland: An Empirical Investigation Of Key Attributes

Md. Wahidul Habib[1*], Aditi Sonia Mansur Mahmud[2]

[1] Assistant Professor, Department of Business Administration, ASA University Bangladesh.
[2] Senior Lecturer, Department of Marketing and International Business, North South University, Bashundhara, Dhaka-1229, Bangladesh.

Keywords:	**Abstract.**
Amusement Park, Leisure, Factor Analysis, Multivariate Analysis, Tourism.	DNCC Wonderland is one of the leading amusement park situated in Shyamoli, Dhaka. It was established in 1985 under the name of Shishu Mela. This research evaluates the development of this amusement park. The goal of this research is to identify key variables that can be used to evaluate DNCC Wonderland from the visitors' perspective. Four hundred and twenty-six respondents were selected by convenience sampling procedure for the study. A multivariate analysis technique like "Exploratory Factor Analysis" and "Confirmatory Factor Analysis" was used to identify the factors. The results of the study show that time pass, security, and safety have emerged important factors for selecting DNCC Wonderland.

Kata Kunci:	**Abstrak.**
Taman Hiburan, Waktu Luang, Analisis Faktor, Analisis Multivariat, Pariwisata.	DNCC Wonderland adalah salah satu taman hiburan terkemuka yang terletak di Shyamoli, Dhaka. Didirikan pada tahun 1985 dengan nama Shishu Mela. Penelitian ini mengevaluasi perkembangan taman hiburan ini. Tujuan dari penelitian ini adalah untuk mengidentifikasi variabel-variabel kunci yang dapat digunakan untuk mengevaluasi DNCC Wonderland dari perspektif pengunjung. Empat ratus dua puluh enam responden dipilih dengan prosedur convenience sampling untuk penelitian ini. Teknik analisis multivariat seperti "Analisis Faktor Eksplorasi" dan "Analisis Faktor Konfirmatori" digunakan untuk mengidentifikasi faktor-faktor tersebut. Hasil penelitian menunjukkan bahwa waktu perjalanan, keamanan, dan keselamatan muncul sebagai faktor penting yang menjadi pertimbangan wisatawan dalam memilih DNCC Wonderland sebagai tujuan wisata.

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* Corresponding author.
E-mail addresses: wahidul123@hotmail.com (Md. Wahidul Habib) & aditimahmud@hotmail.com (Aditi Sonia Mansur Mahmud)

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1.   Introduction

DNCC Wonderland is one of the leading amusement park situated in Shyamoli, Dhaka. It is dealing with contracts or lease bases for all kinds of rides (Shishumela, 2018). DNCC Wonderland is better known as Sishu Mela. It was established in 1985 under the name of Shishu Mela. The Public Works Department handed over the public park to the Dhaka City Corporation (DCC) in 1985 (Mahmud, 2017). It was shut as the lease was not paying any fee to the corporation as per the agreement. It was reopened after the DNCC renewed the lease of the park with its operator Via Media Services (The Independent, 2017). The park mainly offers 4 types of services- Wonder Wheel, Mini Train, Water Ride, and 3D or 3-D (three-dimensional) film or S3D (stereoscopic 3D) film. The entry fee of the park is Tk.50 and the entry fee is not required for the children under 2 years. It is opened at 10.00 am and close at 9.00 pm. The main target visitors of DNCC Wonderland are the children and their parents.

The study has been conducted keeping the following objectives in mind. (i) It aims to document attributes and park characteristics perceived to be important by visitors when visiting DNCC Wonderland. (ii) This study aims to rank the level of importance of key attributes and park characteristics. This study is organized as follows, the first part, introduction, the second part is literature review, the third section is methodology, the next section is present results, and finally conclusions and recommendations of the study.

2.   Literature review

So far we know, a large number of research studies, articles relating to various aspects of amusement parks have been published at home and abroad. However, critical reviews of some of the important research studies/articles have been made in this study. Milman (1988) identified potential markets and predict the likelihood that tourists would visit the park. The study suggested that the process of identifying a new theme park market should consider internal variables pertinent to the particular park rather than external variables relating to travel behavior or demographics. Keng(1994) examined the demographic and psychological profile of the respondents. He also considered several attractions of a theme park-like motion picture making, horse/camel riding, Chinese cultural show, kung fu demonstration, and so on.

Slatten *et al.* (2011) investigated the customer experiences in winter amusement parks in Norway. The study shows that ambiance factor-like sound, light, and smells influence customers' positive emotions. Trischler and Zehrer (2012) applied the service design tools of personas, observation, guided interviews, and visualization on a theme park at the Gold Coast, Australia. The study recommends new methods of evaluating service experiences. Milman *et al.* (2012) identified important attributes of amusement parks in China. The study shows that staff knowledge of the amusement park, the safety of roller coasters, the security of the park, and ticket price are the most important attributes for selecting an amusement park. Brown *et al.* (2013) discussed a novel method of routing visitors to less crowded areas by offering them well-timed incentives and information on mobile devices.

The results of the study indicated that a system can mitigate suboptimal crowd distribution in real-time in a typical theme park environment. Dong and Siu (2013) examined the relationship between service environment, customer predisposition, and service experience evaluation of two different theme parks in Hong Kong. Basarangil (2016) identified that perceived service quality, satisfaction, and behavioral intentions are the important factor that influences theme park visitors. Zhang *et al.* (2017) identified that visitor movement is influenced by attraction attributes and spatial layout attributes. Chisty *et al.* (2006) investigated that support services and technical facilities are the important factors for selecting an amusement park. Habib (2010) identified that space and food,

cleanliness and security, amusement, and riders are important factors for selecting an amusement park. Ahmed *et al.* (2015) showed that space and food, refreshment and amusement, cleanliness and security, quality and comparison, behavior and safety, price, and less artificial are the important factors for selecting an amusement park. Thus it appears from the preceding discussions that visitors' attitudes towards DNCC Wonderland have not been addressed in Bangladesh. It would, therefore, not be unjustifiable to state that the present study is the first of its kind in Bangladesh and can be used for guidelines for similar studies in years ahead.

3.   Methodology

The respondents were randomly approached in various locations of DNCC Wonderland on different days and times. They were encouraged to carefully read the questionnaire and then answer the questions that followed. Among 500 questionnaires distributed, 426 questionnaires were fully completed and used for further analysis. The response rate was 85%. The respondents were selected on the basis of the convenience sampling procedure. The study was conducted during the period from September 2018 to December 2018. In the present paper, we analyze our data by employing descriptive statistics, exploratory factor analysis, and confirmatory factor analysis. For the study, the entire analysis is done by a personal computer (PC). A well known statistical package SPSS (Statistical Package for Social Sciences) 20 Version and Warp PLS 6 Version was used in order to analyze the data.

Exploratory Factor Analysis (EFA). Factor analysis is a statistical method used to describe variability among observed variables in terms of a potentially lower number of unobserved variables called factors. In order to examine the common factors of the measurement, exploratory factor analysis (EFA) was conducted on the original 10 items. Cutoff points of 0.5 for an item's factor loading and 1.0 for eigenvalue were used (Niu *et al.*, 2012).

Confirmatory Factor Analysis (CFA). In statistics, confirmatory factor analysis (CFA) is a special form of factor analysis. It is used to test whether measures of a construct are consistent with a researchers' understanding of the nature of that construct (or factor). EFA was first examined. The next step was a test to extract dimensions for the measurement model using CFA (Niu *et al.*, 2012).

4.   Results

4.1.   *Descriptive statistics*

Respondents' socio-demographic characteristics are given in table 1. In all, 57 percent of respondents were male; 43 percent were female, 33 percent of respondents involved with the business, 28 percent of respondents were private service holder and 19 percent were students. The mean age of the respondents was 30 years old and their average monthly income BDT 21,274.

Table 1. Demographic characteristics of the respondents (n=426)

Variables	Number of Respondents (n)	Percent (%)
Gender		
Male	244	57.3
Female	182	42.7
Occupation		
Private Service Holder	117	27.5
Student	81	19.0
House wife	79	18.5
Government Service Holder	8	1.9
Business	141	33.1
	Mean	
Age		30.22
Monthly Income (Tk)		21274.37

Table 2. Kaiser-Meyer-Olkin(KMO) and Bartlettts Test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.582
Bartlett's Test of Sphericity	Approx. Chi-Square	2599.148
	df	45
	Sig.	0.000

4.2. KMO and Bartlett's Test

Table 2 shows that the Kaiser-Meyer-Olkin(KMO) value is 0.582 and Bartlett's test of sphericity achieved a significant level ($p<0.001$).

Table 3. Scale reliability and communalities

Items	Cronbach's α	Communalities
To introduce children with new rides (att1)	0.844	0.742
To get rid from busy life(att2)	0.745	0.645
To pass leisure time(att3)	0.722	0.634
Ticket Price is cheaper than other parks(p1)	0.715	0.778
To pass time without harassment(att4)	0.755	0.796
To give children a break from their daily routine(att5)	0.761	0.527
Safety of roller coaster(s1)	0.782	0.777
Security of the park(s2)	0.754	0.826
Park cleanliness(c1)	0.732	0.698
Variety of entertainment options(e1)	0.729	0.610

4.3. Scale Reliability and Communalities

Table 3 demonstrates the high internal consistency of the constructs and their stability (Nunnally and Bernstein 1994). In each case, Cronbach's alpha far exceeded Nunnally and Bernstein's (1994) recommendation of 0.7 and Bagozzi and Yi's (1988) of 0.6. Thus, the scales are sufficiently reliable for data analysis. Higher communalities value indicates the higher importance of that independent variable. Table 3 shows that all item's communality exceeds 0.3. Most of the visitors stated that the security of the park, pass time without harassment, the ticket price is cheaper than other parks, and the safety of roller coaster is the most the important variable, and their communalities value were 0.826, 0.796, 0.778 and 0.777 respectively.

Table 4. Factor Loading of Items Using Exploratory Factor Analysis (EFA)

Items	Time Pass	Security	Safety
To pass time without harassment	0.884		
Ticket Price is cheaper than other parks	0.682		
Variety of entertainment options	0.666		
Park cleanliness	0.613		
To give children a break from their daily routine	0.611		
Security of the park		0.874	
To get rid from busy life		0.763	
To pass leisure time		0.692	
Safety of roller coaster			0.856
To introduce children with new rides			-0.851
Total variance explained %	44.224	14.766	11.348
Cumulative %	44.224	58.990	70.338
Eigen values	4.422	1.477	1.135

4.4. *Exploratory Factor Analysis and Eigenvalues*

Table 4 provides the rotated factor loadings against the 10 observed variables. Moreover, Factor analysis using Varimax rotation finds three derived factors. Factor1 (Time Pass) consists of 5 variables. Factor 2 (Security) consists of 3 variables and Factor 3 (Safety) consists of 2 variables. Table 4 shows that three factors were extracted from the EFA and the cumulative variance explained was 70.34%.
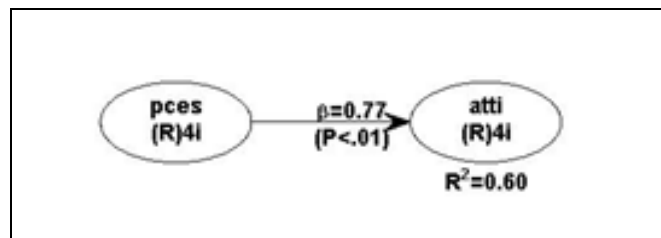

Figure 1. Structural Equation Model (SEM) path diagram

Figure 1 reveals that attitude towards DNCC wonderland depends on rid from busy life(att2), pass leisure time(att 3), pass time without harassment(att 4), and break from daily routine(att 5). Moreover, PCES depends on price (p 1), cleanliness (c 1), entertainment (e 1), and security (s 2). The R^2 value of the diagram is 0.60 which is quite satisfactory.

Table 5. Fit Indices for the Structure Model

Fit Indices	Suggested Value	Model Value
AFVIF	acceptable if <= 5, ideally <= 3.3	2.424
GOF	small >= 0.1, medium >= 0.25, large >= 0.36	0.591
SPR	acceptable if >= 0.7, ideally = 1	1.000
RSCR	acceptable if >= 0.9, ideally = 1	1.000
SSR	acceptable if >= 0.7	1.000
NLBCDR	acceptable if >= 0.7	1.000

Note: Average full collinearity VIF (AFVIF), Tenenhaus GoF (GoF), Sympson's paradox ratio (SPR), R-squared contribution ratio (RSCR), Statistical suppression ratio (SSR), Nonlinear bivariate causality direction ratio (NLBCDR). Based on the model values, the model is adequately fit (table 5).

Table 6. Latent Construct and Reliability Estimates

Construct	CR	AVE	Cronbach's Alpha Coefficients	VIF
Attitude(atti)	0.806	0.512	0.678	2.424
Price and Security (PCES)	0.884	0.657	0.824	2.424

Note: CR=Composite Reliability, AVE=Average Variance Extracted, VIF=Variance Inflating Factor

Construct reliability estimates provided in Table 6 also provide evidence of good levels of reliability (>0.70). The results of AVE, VIF, and Cronbach's Alpha value are quite satisfactory.

Table 7. Measurement Items

Scale		Item	Combined Loadings
Attitude(atti)	1.	To get rid from busy life (att2)	0.736
	2.	To pass leisure time (att3)	0.815
	3.	To pass time without harassment (att4)	0.616
	4.	To give children a break from their daily routine (att5)	0.680
Price and Security (PCES)	1.	Ticket Price is cheaper than other parks (p1)	0.864
	2.	Security of the park (s2)	0.753
	3.	Park cleanliness (c1)	0.863
	4.	Variety of entertainment options (e1)	0.756

Among the four independent variables of construct 1(attitude), pass leisure time is the most important variable based on its loading value (0.815) quiet high than any other independent variables. Among the four independent variables of construct 2 (price and security), the ticket price is the most important variable based on its loading value (0.864) quiet high than any other independent variables (Table 7).

5. Conclusions and Recommendations

From the above analysis, it is clear that time pass, security, and safety have emerged important factors for selecting DNCC Wonderland. From the factor analysis, it is identified that there are three factors that are responsible for selecting DNCC Wonderland. These three factors can be used as a guideline for concerned investors. Among the three factors, time pass is the most important factor for selecting DNCC Wonderland because it reveals higher eigenvalues than any other factor. The conclusions of the study emphasize the importance of understanding visitors' experiences within leisure context. Among the ten variables, the study depicts that five variables have direct relationships with visitors' positive experiences because of their communalities of more than 0.7. Management must design the service offer in such a way that it contributes positively to the visitors' experiences.

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