

# **An Investigation of Visitors Loyalty using Formative and Reflective Measurements**

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## **Abstract**

This study was conducted for investigating visitors' loyalty using formative and reflective measurements at the destination level of Cox's Bazar in Bangladesh. A conceptual model was developed and tested by a field study for making the model context specific. Then Partial Least Square (PLS) based Structural Equation Modeling (SEM) approach was used to test six hypotheses of proposed model on a sample of 602 visitors. Five hypotheses were supported at different significant levels. It is expected that the outcomes of this study will help the policymakers in tourism planning and implementing effective marketing strategies. Theoretically, this study will contribute in enhancing the causal relationships among formative and reflective constructs which have not been extensively studied yet in the tourism literature.

## **Introduction**

In the nature-based tourism, service quality is an important issue because overall satisfaction depends on quality of service that leads to destination loyalty which is the ultimate goal of business operators (Mackay and Crompton 1988). This study considers loyalty as visitors' revisit or recommendation of travel destinations to other potential visitors such as friends and/or relatives (Yoon and Uysal, 2005). In addition to that, visitors' extent of staying, frequency of revisit, and recommend the visitors who seek the information about destination are acknowledged as destination loyalty (Lobato et al 2006). Loyal consumers are more likely to act as free words-of mouth advertising agents as they informally bring networks of friends, relatives and other potential consumers which account for up to 60% of sales to new consumers (Reichheld and Sasser, 1990). Therefore, destination loyalty mechanism becomes an important strategic issue for tourism business operators including policymakers and academics (Chi and Qu 2008).

Although the distinction between formative and reflective measures dates back to more than 20 years (Fornell and Bookstein, 1982; Murphy and Hofacker, 2009), literatures that discuss formative measures and attempt to provide guidelines to researchers are relatively recent. Significant contributions on the topic made by Diamantopoulos and Winklhofer (2001), who attempt to provide certain guidelines on the development of formative measures. Chin and Gopal (1995) present these as molar and molecular and make their arguments basing on the empirically construed output using PLS software. Jarvis *et al* (2003) provide different rules for distinguishing between formative and reflective constructs. It may logical for practical reasons the formative constructs are widely used in information system research (Murphy and Hofacker, 2009). It is a relatively new concept in the leisure and tourism research. Recently some authors used concepts of formative construct along with other reflective constructs in the tourism (Murphy and Hofacker, 2009; Alvarez, 2009; Zakbar *et al* 2010). In fact, tourism literature is still limited in this regard. Hence, the fundamental objective of this study is twofold; a) to investigate visitors' loyalty to Cox's Bazar in Bangladesh considering formative and reflective constructs, and b) to find out structural relationships among the antecedents of visitors' loyalty.

## **Theoretical Framework and Hypotheses**

Consumers' perceptions of quality are generally formed on the basis of impressive series of cues (Chowdhury and Islam, 2003). Cues provide clear ideas about a product or services' powers to satisfy consumers' requirements; but determining the influence of quality cues (intrinsic and extrinsic) is still unexplored at the tourism destination level.

**Intrinsic Cues:** Intrinsic cues are such attributes that can't be changed without changing the physical characteristics of the product (Olson and Jacoby, 1972). In the nature-based tourism destination 'Cox's Bazar' in Bangladesh, it means core benefits (main attractions) for which visitors visit this particular destination. During the field interview most of the respondents said that they are satisfied with core attractions of the destination as well ancillary services. They also mentioned that they are more enthusiastic about the different core facilities with natural attractions for which they really visit this particular destination. Thus, H1a and H1b were proposed (Fig 1)

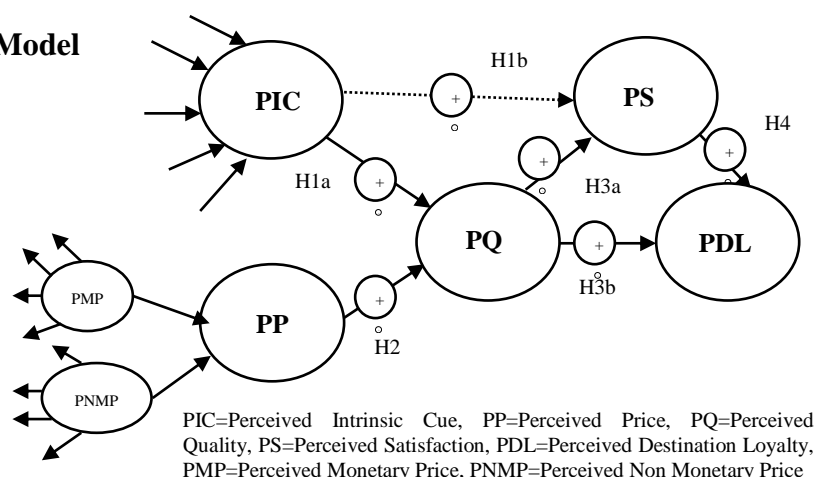
**Extrinsic Cues:** Extrinsic (non-product related) cues are defined as external aspects, which relate to a product's purchase or consumption. These cues convey different types of information such as price, brand image etc (Olson and Jacoby, 1972). Consumers often associate price with quality. When the consumer has few intrinsic signs of quality, as is the case with tourist services, he or she uses extrinsic signs of quality, especially price, to a greater extent (Campo and Yague 2008). It is likely that, in their minds, they may group products in a category by price. Say for example, price per day of \$500 for a hotel room itself suggests a quality that is higher than a hotel room for which the cost is \$100 per night. Thus, H2 was proposed (Fig 1)

**Quality, Satisfaction, and Loyalty:** In tourism, the impact of quality on satisfaction is supported in a variety of settings, for example, for a festival (Baker and Crompton, 2000; Cole and Illum, 2006), sports and leisure centers (Murray and Howat, 2002), cultural centers (Rojas and Camarero 2008) and attractions at tourist destinations (Chen and Tsai, 2007). Research by Butcher *et al* (2001) and Oh (1999) discovered that the effect of perceived quality on loyalty is indirect. Zabkar *et al* (2010) proved a positive relationship between perceived quality and satisfaction, and quality to behavioral intention (loyalty). In the mean time in the travel and tourism literature many empirical evidences have been confirmed the relationship between satisfaction and loyalty (Yoon & Uysal, 2005; Chi and Que, 2008; Zakbar *et al*, 2010) Therefore, Hypothesis H3a, H3b and H4 were proposed (Fig 1)

### Research Model

A conceptual model (Fig 1) was developed according to the hypotheses for empirical validation using the Partial Least Square (PLS) based Structural Equation Modeling approach (Hair et al. 1998).

**Figure 1, Proposed Model**



The model in this study has relied primarily on reflective constructs for the first order latent variables whereby the items are caused or driven by the construct and reflect a common theme. When different indicators of a construct represent reflections or manifestations of another construct (Fornell & Bookstein, 1982), it is called reflective construct. To increase the practical usefulness of the model a field study was conducted as a further sought to describe behavior of different indicators those are used in different constructs. Out of 5 constructs, perceived intrinsic cue (PIC) and perceived price (PP) were identified as formative constructs based on the nature of measures of these constructs (Table 1). It is found at the construct level, there is one second order multidimensional latent constructs named as 'perceived price (PP) has two more first order latent constructs i.e. perceived monetary price and perceived nonmonetary price. Conceptually, formative constructs are formed by several indicators representing different independent phenomena (Chin, 1998). Thus, removing a formative indicator implies removing a theoretically meaningful part of the construct (Bollen & Lennox 1991). It is mentioned in the literature that it is important to emphasize that the choice between a formative and a reflective specification should primarily be based on theoretical considerations regarding the relationship between the indicators and the latent construct (Edwards & Bagozzi, 2000). It is found that overall perceived price is a combination of monetary price (economic) and nonmonetary (psychological) price (Monroe & Krishnan, 1985; Zeithaml, 1988). Business people often use psychological (nonmonetary) pricing hoping that they will have a positive effect on consumer purchase decisions (Kashyap, and Bojanic, 2000). The real meaning of price may vary without any one of these. As such, attributes of perceived intrinsic cues (PIC) may be defined in terms natural (longest sandy beach, sound of water) and man-made (good location of accommodation, nearby places) in the tourism context. Thus this study has operationalized PIC as formative construct; PP as second order formative constructs, and rest three are reflective constructs.

**Table 1: Summarizes the Latent Constructs with Measurement Items used in the Study**

Con	T	SC	T	MI	Cons.	T	SC	T	MI
PIC	FC			Natural scenery Close Accommodation Sea bathing Nearby places Longest sandy beach	PQ	RC			Reliable service Timely Service Good value for money Good warranty Good location of hotels Adequate security
PP	FC	PMP	RC	Cost of accommodation Cost of transportation Cost of foods and beverage Cost for travelling nearby places Cost of locally made Pro	PS	RC			Thoroughly enjoy visiting Favorable tour Pleased with decision Wise choice Exact experience
		PNMP	RC	Much time Mental effort Much energy Physical fitness Opportunity cost	PDL	RC			Recommend to visit Advise everyone to visit Visit Again Extended visit Tell many experiences

Con=Constructs, T=types, SC=Sub Constructs, MI=Measurement Items, FC=Formative Construct, RC=Reflective Construct

The results from literature and qualitative field study showed that individuals differ with respect to different core attributes that offer the destination. Price has two specific dimensions

that indicate nature of the formative constructs. On the other hand indicators of monetary price and non monetary price provide the evidence of reflective constructs.

### Research Method and Results

This study used a combination of qualitative and quantitative methods (Babbie, 2004). We conducted 25 interviews in the field during March 2009 for contextualization the proposed model (Quaddus and Xu, 2005). Since this field interview was more exploratory than confirmatory in nature, we chose ‘content analyses’ in analyzing our interview transcripts (Berg 2001). Altogether initially 7 factors and 40 measures were identified from different interviews, after three round revisions total 5 factors and 31 measures were considered for this study (Table 1). We tried to label up the factors and variables in line with the literature and field study. Most of the indicators of different constructs are destination specific. In the quantitative phase, in total 602 completed samples were collected from four spots of Cox’s Bazar in Bangladesh with a set of four rounded pre-tested structured questionnaires using 6 point Likert Scale (1= Strongly Disagree and 6= Strong Agree). It is noted that Cox’s Bazar, the world’s longest (120 km) unbroken sandy beach, is a tourist capital of Bangladesh. The contribution of this destination to national economy of the country is very significant.

**Measurement Model:** Partial least Squares (PLS) v.3.00 is used to analyze the data as it is most appropriate as the model incorporated both formative and reflective indicators (Chin, 1998). As per PLS based SEM in the measurement part item loadings less than 0.6 (Hulland, 1999) were discarded from reflective constructs. But for ‘formative’ constructs only weights were considered (Santosa *et al* 2005). In this regard multicollinearity among the five proposed indicators for intrinsic cue and two for price (PMP,PNMP) as formative constructs were assessed (Diamantopoulos and Winklhofer, 2001). The tolerances were found from 0.736 to 0.891 for PIC which well above the common cut-off threshold of 0.30 (Zabkar *et al*, 2010). After discarding one measure from perceived quality (PQ1), item reliability ranged were from .601 to .834 for reflective constructs of PQ, PS, and PDL (Table does not include for page limitation). All the corresponding *t* value indicates the items were significant for the reflective constructs (table does include for page limitation). The weights were considered for formative constructs; perceived intrinsic cues and perceived price and found all are acceptable level.

**Table 2: Assessment of Items Reliability for First Order Reflective Constructs**

Items	Loadings	t-V	Items	Loadings	t-V
PMP1	0.6931	29.8986	PNMP1	0.6602	24.1822
PMP2	0.8154	33.1024	PNMP2	0.7813	35.3449
PMP3	-----		PNMP3	0.8166	39.2976
PMP4	0.7936	31.5854	PNMP4	0.6986	23.1881
PMP5	0.6810	27.2882	PNMP5	-----	

Besides, all items loading and corresponding *t* values (23.18 to 39.29) were significant for the first order reflective constructs of perceived monetary price (PMP) and perceived nonmonetary price (PNMP)

for second order formative construct of PP after discarding PM3 and PNMP5 (Table 2) .

**Structural Model:** Table 3, presents the results of estimated path coefficients, and associated t-value of the paths. Test of significance of all paths were performed using the bootstrap re-sampling procedure. Path coefficient, interpreted like standardized beta indicated the strength of relationships between constructs.

**Table 3: Results of Hypotheses**

HY	PR	PC	t-V	CO	CR	AVE	R <sup>2</sup>
H1a	PIC-PQ (+)	0.189	4.6156 **	PIC	-----	-----	-----
H1b	PIC-PS (+)	0.317	6.3969 **	PP	-----	-----	-----
H2	PP-PQ (+)	0.489	12.0128 **	PQ	0.838	0.511	0.315
H3b	PQ-PS	0.341	8.6520 **	PS	0.849	0.530	0.281

(HY=Hypotheses, PR= Path Relation, PC=Path Coefficient, t-V= t -Statistics, CO=Constructs, CR=Composite Reliability, AVE= Average Variance Extracted, \*\*Significant at P< .01)

H3b	PQ-PDL	-0.036	1.0849	PDL	0.895	0.630	0.358
H4	PS-PDL	0.613	15.4744 **				

Five (5) out of 6 hypothesized paths in the proposed destination loyalty model were found to be statistically significant at different significant levels. Only hypothesis (H3b) was not supported at the acceptable (0.01 or 0.05) level (Table 5). The two (PIC and PP) antecedent determinants of perceived quality were accounted for 31.5% of variance explanation. The PQ and PIC were found as direct and immediate antecedent of PS, accounted for 28.1% of the variance explained. Finally, PS was found as a direct and immediate antecedent of PDL which explained 35.8% of the variance. In case of relationship between perceived quality and destination loyalty was found opposite outcome with path coefficient -0.036. It is necessary to mention that the impact of perceived intrinsic cue, and perceived price on perceived quality were very strong in the context of Cox’s Bazar, Bangladesh, although both were operationalized as formative constructs.

### **Results Discussion and Implications**

The PLS based SEM analysis offered support for the statistically significant relationships between destination perceived intrinsic cues and perceived quality (H1a), perceived intrinsic cue and perceived satisfaction (H1b), perceived price and perceived quality (H2), perceived satisfaction and destination loyalty (H4). These outcomes are confirming the acceptance of our conceptual model. In the literature, although it has been acknowledged that quality is main determinant of satisfaction, not much has been done to investigate that quality depends on perceived intrinsic and extrinsic cues, and their structural relationships with satisfaction and loyalty. This study has revealed and confirmed the existence of the critical relationships among intrinsic and extrinsic cues, quality, and satisfaction and destination loyalty. In addition, the newly proposed direct path from perceived intrinsic cues to perceived satisfaction (H1b) was shown to be significant; thus, perceived intrinsic cue was also a direct antecedent of satisfaction at the destination level. The first order reflective constructs (PMP, PNMP) for perceived price were very much significant and had positive influence on second order formative constructs of price. The outcomes suggested that it would be worthwhile for destination managers to make greater investments in the tourism destination resources, in order to continue to enhance visitors’ loyalty. Moreover, perceived intrinsic cue was used as formative construct in the model which increased its diagnostic usefulness (Ruiz et al, 2008) at the destination level. Using formative indicators for intrinsic quality cue and price as extrinsic cue, enables destination operators to determine which destination core attributes are the most influential in forming visitor quality perceptions and thereby affect their satisfaction and loyalty. The relationship between perceived quality and perceived destination loyalty (H3b) was not supported as visitors were more conscious about satisfaction. They were more relaxed to be satisfied first, than quality to loyalty in the context of Bangladesh. In fact, this issue is still under consideration to look for its applicability for loyal visitors of third world countries.

### **Limitations and Future Research Direction**

First, on account of parsimony, our conceptual model includes constructs: quality, visitor satisfaction, destination loyalty in relation to intrinsic and extrinsic cues (price). Hence, it did not capture fully the comprehensiveness of tourism consumer behavior, as other factors influence and interact with visitors’ further behavioral intentions. Secondly, perceived intrinsic cue and perceived price were used as formative constructs in this study which may not permit generalization of the relevant indicators across different destinations. Therefore, our immediate future research plan is to test data extensively considering additional factors

like destination brand image including moderating variables (gender, age, education) on the proposed model.

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