

<https://utkcretech.rmutk.ac.th>

# Proceeding

9<sup>th</sup> International Conference on Creative Technology



# CreTech<sup>2021</sup>

Smart Tourism  
and Green Innovation  
4 – 6 Aug 2021

**UTK** RAJAMANGALA  
KRUNGTHAP

For Further Information

Rajamangala University of Technology Krungthep

Tel : +(66) 2 287 9600 EXT 1177 Fax : +(66) 2 287 9684

[utkcretech@mail.rmutk.ac.th](mailto:utkcretech@mail.rmutk.ac.th)



9<sup>th</sup> International Conference on Creative Technology

# CreTech<sup>2021</sup>

*SMART TOURISM AND GREEN INNOVATION*



## **9<sup>th</sup> CreTech International conference 2021**

Research proceeding for 9<sup>th</sup> International conference by Rajamangala University of Technology  
Krungthep, 2 Nanglingi Road, Thungmahamek, Sathorn, Bangkok, 10120, Thailand

Published on August, 2021



# CreTech<sup>2021</sup>

SMART TOURISM AND GREEN INNOVATION



## Welcoming Message

Dear Excellencies, distinguished guests, ladies and gentlemen,

On behalf of the CreTech 2021 organizing committee, it is my great pleasure and honor to welcome all of you at the opening ceremony of the 9th International Conference on Creative Technology. We are very delighted to see all researchers from many educational institutes to share and exchange your precious experiences as well as valuable studies diverse fields in the concept of “SMART TOURISM AND GREEN INNOVATION”. Due to the intense and severe widespread of Coronavirus (COVID-19), the infection and transmission have been found in Thailand. To follow the emergency decree, Rajamangala University of Technology Krungthep reorganize our Cretech 2021 as a Virtual Conference via Zoom application. This conference provides a forum for accessing to the most up-to-date and reliable knowledge from both commercial and academic worlds, sharing best practice in the fields as well as learning about case studies of successfully integrated technologies. Moreover, this conference also gives the opportunity to highlight the recent developments apart from identifying emerging future areas of growth. We also expect to provide technical demonstrations, and numerous opportunities for building the academic networks. The success of the conference is ultimately depended on all the people who have worked with us in planning and organizing both the technical program and supporting social arrangements. In particular, we would like to thank to the Program Chairs for their smart advice and brilliant suggestions on organizing the technical program; the Program Committee for their thorough and timely reviewing of the papers, and our sponsors who have helped us to organize this CreTech 2021.

We would like to say thank you again to precipitate CreTech 2021 conference. I hope that you will enjoy all forums and activities we offer.

Yours sincerely,

Somporn Peyapan  
Acting for the President  
Honorary Chair, CreTech 2021





# CreTech 2021

## SMART TOURISM AND GREEN INNOVATION



Content				
No.	Paper ID	Title	Author	Page
1	TR1-901	Preparation of water repellent and antibacterial fabrics by using fluorinated macromolecular polymer mixed with zinc oxide	Chantamanee Poonjarernsilp	1
2	TR1-902	A Review - Optimization case studies are based on the social behavior of insects and other animals to explain mathematical variables. Referring to the behavior of bees for the use of wireless network sensors	Wallop Tipwong	7
3	TR1-903	Road Network Simulation Model of Thammasat University (Pattaya Campus)	Nattadon Pannucharoenwong	18
4	TR1-904	Synthesize of the electron transporting layer of TiO <sub>2</sub> Co-doped with Niobium and Tantalum at low-temperature process for Perovskite solar cell fabrication	Akarin Intaniwet	25
5	TR1-905	Development of game for risk management learning in bottled water supply chain	PANUTHAT NADSASARN	31
6	TR2-901	Conformable fractional Sumudu transform for analytical solution of ordinary differential equation	Chainarong Wisassakwichai	37
7	TR2-902	The study of the cultivation time for $\beta$ -glucan production of Schizophyllum commune Fr. in Thailand	Duangrutai Thumrongchote1	43
8	TR2-904	Extraction optimization and emulsifying properties of bio-emulsifier from Acacia auriculiformis pod	Sutida Topa	51
9	TR2-906	PORE PRESSURE PREDICTION USING SEISMIC AND WELL LOG DATA CANTERBURY BASIN, NEW ZEALAND	Chavit Sangsri	60





# CreTech<sup>2021</sup>

## SMART TOURISM AND GREEN INNOVATION



Content				
No.	Paper ID	Title	Author	Page
10	TR4-902	Research on the management of micro credit business of rural credit cooperatives in Yunnan Province	Hu Hongyong	68
11	TR4-906	Factors Affecting Customer Satisfaction and Customer loyalty: A Case Study of a Domestic Airline in Nigeria	VICTOR UWAIFO IMONIDE	76
12	TR4-907	Analyzing visual and textual communication as International Corporate Communication through websites: The Case of Nike	Sarinya Kongtieng	82
13	TR4-909	Critical factors influencing the customer commitment at Everbright Securities Co. Ltd: A Case study	Liang Xinquan	89
14	TR5-901	High school student's behaviors and attitudes towards online learning amidst COVID-19 pandemics in Thailand	Oratai Charoensit	96



## Factors Affecting Customer Satisfaction and Customer loyalty: A Case Study of a Domestic Airline in Nigeria

Victor Uwaifo Imonide<sup>1\*</sup>, Sasithorn Suwandee<sup>2</sup>, Felicito Jabutay<sup>2</sup>, Chairat Suriyapa<sup>1</sup>

<sup>1</sup>Graduate school, Kasem Bundit University

<sup>2</sup>Business school, Kasem Bundit University

\*Corresponding author. E-mail: vimonide@yahoo.co.uk

### ABSTRACT

This research focused on the factors affecting the customer satisfaction and the customer loyalty of passengers of a domestic airline in Nigeria. This research aims to explore the impacts of service quality and brand reputation on customer satisfaction and on customer loyalty of the selected Airlines. This study contributes to extend SERVQUAL concept to airline business. This study measured the airline service quality based on the SERVQUAL model with five dimensions. This study collected the data from 273 passengers of the selected low-cost airline in Nigeria. The regression analysis showed that service quality and brand reputation have a significant positive impact on customer satisfaction. The study also found that service quality, brand reputation, and customer satisfaction impacted positively on customer loyalty. Though low-cost airline may focus on cost reduction in order to offer the flight ticket at lower price, the company have to elevate service quality and brand reputation to be able to compete in the market in a long run.

**Keywords:** Customer Satisfaction, Customer Loyalty, SERVQUAL, Service Quality, Brand Reputation

### 1. INTRODUCTION

The aviation sector has not only been useful in transporting passengers, but it has also impacted significant socio-economic development in other sectors in Nigeria [1]. The airline industry's rapid development in the country has not only provided opportunities, but it also has its opposing sides with various challenges to the various business entities in the sector [2]. Gilbert and Wong [3] found that every customer has been the most reliable channel for the progressive development of any aviation industry. They concluded, therefore, that customer satisfaction is a motivating factor for all companies, and managers should regularly seek to find the different methods to facilitate customer satisfaction.

Several researches in different fields have merged service quality and customer satisfaction over the years; while service quality and customer satisfaction remain a paramount

component of service delivery, there remains a challenge for the service provider to please the customer over the years [4]. Gomez *et al.* [5] stated that the only way an airline can retain its competitive power is to make sure that most passengers are retained as loyal and regular user. This means that they would repeatedly select the airlines. Brand Reputation are also mean through prospective customers get attracted to the services of an airline company, and it simply implies the perceived opinions of airline passengers/customers, stakeholders, and even the market as a whole about the services/products of an airline company.

The study explores the impact of service quality and brand reputation on both customer satisfaction and customer loyalty in the low-cost airline in Nigeria by facilitating with the domestic airline operators to take decisive decisions concerning service delivery and enable them to identify areas where more



# CreTech<sup>2021</sup>

## SMART TOURISM AND GREEN INNOVATION



attention needs to be imputed. This study therefore contributes to the body of existing literature in the field of airline service, particularly, SERVQUAL model, and expand the frontier of research environment.

## 2. LITERATURE REVIEWS

### 2.1 Customer Satisfaction Concept

Jones and Suh [6] discovered that satisfaction has a significant correlation with re-purchase intentions. This is because once the customer's expectations are satisfied, the urge to revisit and re-purchase the services offered will be next. Hence, service quality is described as the degree to which a service delivered to customers meets or exceeds their expectations [7]. Therefore, customer satisfaction can also be used as an exit barrier, assisting the firm in making sure their customers are retained.

### 2.2 Customer Loyalty Concept

Customer loyalty has become an essential part of every airline company's studies because it is such a factor in marketing strategies, which results to an increase in the sales and profit-making of any airline company if practiced effectively. Loyalty is conceptualized into two dimensions. The attitudinal perspective can be described as the willingness of the customer to maintain his relationship with the business given the cheaper costs of rival firms and to suggest goods or services to his or her mates [8]. For behavioral perspective, this view can better be analyzed with the idea of continuity, with the premise that regardless of the basis of loyalty. This implies an undefined number of recurring purchases from the same manufacturer at a given time [8].

### 2.3 Brand Reputation Concept

An airline's brand reputation built up over time can serve as significant benefits to its continuity of operation. The qualities of an airline can easily be imitated, but the functions of the airline's brand reputation, brand preference and brand loyalty cannot easily be emulated as they reflect differentiated

competitiveness [9]. Maintaining a positive reputation takes tremendous effort. Moreover, poor reputation not only degrades the quality of the brand, but also has the capability to develop a challenge for the company [9].

### 2.4 Signal Theory

Previous work has used signal theory to explain the effect of brand reputation. Spence [10] defined signals as corruptible attributes or actions that relay information on the characteristics of economic agents (e.g., firms, consumers, work applicants). Signaling theory is mainly concerned with removing information asymmetry between the two sides: which are the senders and the receiver [11].

### 2.5 Service Quality Concept

Service Quality has created a lot of interest in so many academicians and researchers because it is regarded as a concept of competitiveness in the airline business world, and it is also said to be problematic in definition and not easy to measure to quantify it. Howat *et al.* [12] related the standard service research approach to American and Nordic schools of thought [13]. As described in Pakdil and Aydin [14], the SERVQUAL model is used to expose the American school's approaches to service quality learning. In the conceptualization of the simple service quality model, the authors identified 10 main components of service quality. Later, the authors divided SERVQUAL measurements into five, which are tangibility, reliability, responsiveness, and assurance, empathy, whereby they added assurance and empathy measurements [13].

### 2.6 Hypotheses Development

Researchers see service quality as having an important influence on customer satisfaction and customer happiness. Adapting the Lazarus's theory of emotion and adaptation to a service context, it is likely that the overall service quality appraisal precedes emotional responses such as customer satisfaction [15]. The service literature reports empirical results suggesting that service quality is an intervening variable that mediates the relationship between overall





# CreTech<sup>2021</sup>

## SMART TOURISM AND GREEN INNOVATION



customer satisfaction perceptions [16]. Therefore, this study proposes *Hypothesis 1: Service quality has a positive impact on customer satisfaction*

Brand reputation is a key concern in the decision-making of consumer transactions. When airlines work successfully with variables linked to their reputation, e.g., ethical conduct, honesty, eco-friendly policies, and consumer value, they will have a strong competitive edge and thereby gain more profit in a long from the level of customers' satisfaction they are able to attained [17]. Therefore, this study proposes: *Hypothesis 2: Brand reputation has a positive relationship with Customer satisfaction.*

Ear, *et. al.*, [18] also investigate the impact quality service of Air Asia Airline Company in Cambodia with 110 passengers and customers, who experienced in taking Air Asia Airline. Tangible feature, servicing by flight attendants, online services and food services are statistically significant with customer loyalty. It was concluded that the degree to which service quality studies are restricted is uncertainty in deciding the correlation between consumer satisfaction and customer loyalty [18]. This research thus suggests that: *Hypothesis 3: Customer satisfaction has a positive relationship with customer loyalty*

The study by Chen and Liu [19] on 560 passengers of the Taiwan-based airlines on the key factors that influence customers' choice of airline showed service quality, perceived value and customer loyalty on Taiwan-based airlines as some of the factors. These researchers indicated that the political consequences for the impact of quality service lead to deliberate repurchase and commitment, which relate to both the academic development of expertise and the condition of managerial operation. This research thus suggests that: *Hypothesis 4: Service quality has a positive relationship on customers' loyalty*

Brymer[20] concluded that the demand for consistency, which is the consumer's mindset

towards brand image, has had a substantial positive impact on the attitudinal and behavioral loyalty of the customer. This research thus suggests that: *Hypothesis 5: Brand reputation has a positive relationship on customer loyalty*

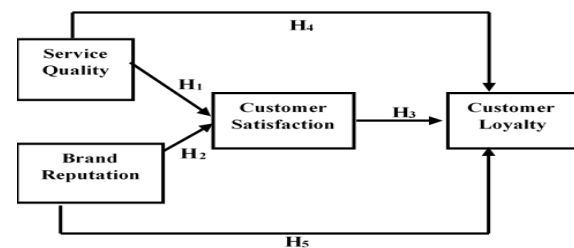


Figure 1. Research model

### 3. METHODOLOGY

This study randomly distributed 1,000 questionnaires to the customers of the selected low cost airline in Nigeria and collected the data from 273 respondents. According to Cochran [21] in determining the sample size of unknown population number, the sample size of 272 with 90% level of precision should be adequate for the analysis. The study showed that 58.6% of respondents are male while 41.4% of the them are female. Majority of the respondents are between 26-40 years of age (61.5%), and resided in Lagos, Ogun and Abuja states.

#### 3.1 Measurement Items

The measurement items for service quality were adapted from Parasuraman *et al.* [21] with 22 items of five dimensions. For example, "The airline performs the service right the first time a customer/passenger patronizes them", "The airline employees tell customers exactly when services will be performed"

The measurement items for brand reputation scales were adapted from Kim [22]. It includes 20 items of six dimensions which are emotional appeal, product and services, vision and leadership, workplace environment, social and environmental responsibility, financial performance.

The five measurement items for customer satisfaction are adapted from Chun [23] and Yunus *et al.* [24]. For instance, "the price of this



# CreTech<sup>2021</sup>

## SMART TOURISM AND GREEN INNOVATION



Arik airline was reasonable,” “I was satisfied with the way Arik airline had taken care of me.” The four measurement items of customer loyalty are adapted from Saha and Theingi [25]. The items included two aspects of brand loyalty, purchase loyalty, and attitudinal loyalty. For instance, “I will buy this brand the next time I buy air ticket” “I am committed to this brand”

### 3.2 Validity and Reliability Test

The study found that service quality, brand reputation, customer satisfaction, and customer loyalty have sufficient convergent validity and reliability. The average variances extracted (AVEs) for service quality (0.554), customer satisfaction (0.602), brand reputation (0.615) and customer loyalty (0.648) were above 0.5, confirming convergent validity [26]. The loadings of all measurement items for each construct were above 0.5 confirmed construct validity. In addition, the composite reliability of all variables exceeded 0.6, showing internal consistency for reliability. have Cronbach's Alpha above 0.8 which reflected that all variables have high internal consistency.

## 4. RESULTS

For hypotheses 1 and 2, the linear regression model indicated that service quality ( $\beta=.548$ ) and brand reputation ( $\beta=.386$ ) statistically significantly impact on customer satisfaction at 95% confidence level as p-value of the model is less than .05,  $F(2,270) = 837.879$ ,  $p= .000$ , adjusted  $R^2=.861$ . Hypotheses 1 and 2 are supported.

For hypothesis 3, the linear regression indicated that customers satisfaction ( $\beta=.821$ ) statistically significantly impacts on customer loyalty at 95% confidence level,  $F(1, 271) = 561.523$ ,  $p=.000$ , adjusted  $R^2=.67$ . Hypothesis 3 is supported. For hypothesis 4, the linear regression model indicated that service quality ( $\beta=.873$ ) statistically significantly impacts on customer loyalty at 95% confidence level,  $F(1, 271) = 869.191$ ,  $p= .000$ , adjusted  $R^2=.76$ . Hypothesis 4 is supported. For hypothesis 5, the linear regression model is statistically

significant at 95% confidence level as p-value of the model is less than .05,  $F(1, 271) = 857.040$ ,  $p= .000$ , adjusted  $R^2=.86$ . A linear regression indicated that brand reputation ( $\beta=.872$ ) statistically significantly impacts on customer loyalty. Hypothesis 5 is supported.

## 5. DISCUSSIONS AND CONCLUSIONS

This study indicated that service quality ( $\beta=.548$ ) is statistically significantly impact on customer satisfaction. This assertion is supported by Fornell and Larcker [27], who stated that there are interwoven relationship between service quality, customer satisfaction, customer behavior, and the customers' repurchase intention, whereby service quality can have a great effects on customer satisfaction. This study also indicated that brand reputation ( $\beta=.386$ ) is statistically significantly impact on customer satisfaction. This assertion is supported by Loureiro *et al.* [28], who had a study in Lisbon, Portugal on the effect of corporate brand reputation on brand attachment and customer satisfaction of car brands considering the automotive sector. The overall findings of this study reveal that the perception of corporate brand reputation is more effective on enhancing brand satisfaction of the customers than brand attachment. The multiple regression showed that service quality ( $\beta=.548$ ) has stronger impact on customer satisfaction than brand reputation ( $\beta=.431$ ). Hence, the airline should always focus on improving their services which will always enhance an improved customer satisfaction to regularly boost their brand reputation.

This study also indicated that customer satisfaction ( $\beta=.821$ ) is statistically significantly impact on customer loyalty. This assertion is supported from the study of Caudron [17] on the effect of service quality and price toward customer satisfaction and loyalty.



# CreTech<sup>2021</sup>

## SMART TOURISM AND GREEN INNOVATION



This study indicated that service quality ( $\beta=.873$ ) and brand reputation ( $\beta=.872$ ) are statistically significantly impact on customer loyalty. This assertion is more supported from the study of Chen and Liu [29] on the Taiwan-based airlines on the key factors to influence customers to choose an airline showed a research on the service quality, brand image, perceived value and customer loyalty on Taiwan-based airlines.

The standardized coefficient showed that service quality ( $\beta=.873$ ) has stronger impact on brand loyalty than brand reputation ( $\beta=.386$ ). With the presence of intense rivals, businesses are struggling to ensure the loyalty of their customers [30]. As an important differentiation tool, ensuring and rendering service quality for a strong brand reputation at their high end is considered essential in creating competitive edge for service organizations, in general [31].

For managerial implications, the findings from this study showed the importance of brand reputation on customer satisfaction and loyalty which are one of the primary tasks to be achieved by the airline managers. Hence, for managers of the airline, offer satisfied service quality becomes the essential running methods of the service industry business. Due to the invisible, heterogeneous, non-divisible, and easy-passing quality of the service industry, it is easy for the customers to have the sense of uncertainty and insecurity. Maintaining a great brand reputation and quality relationship with the customers will usually lower the customers' uncertainty and increase their sense of security. Therefore, establishing great relationship with customers has become the urgent business of enterprises.

Moreover, the airline should improve on their reliability service quality dimensions by efficiently and regularly keeping to their promise words to provide their service when due and the airline should also improve on insisting on error free records in their services delivery regularly.

Finally, the airline should also improve on their assurance service quality dimensions by efficiently and regularly making sure their

employees consistently courteous with customers/passengers, and that the employees Should behave to instill confidence in customers/passenger

### 5.ACKNOWLEDGMENTS

I would like to acknowledge my parents, Prince Patrick Monday Imonide (PAM) and my late mother, Princess Patience Ebenye Imonide, and my family and friends, for always being there for me and providing love and support.

### 6.REFERENCES

- [1] Maishanu MM, Kadiri IB. Promoting workers satisfaction for productivity in the service sector: A case study of Arik air Nigeria. Kuwait Chapter of Arabian. JBMR 2012;33:1-7.
- [2] Suhartanto D, Noor AA. Customer satisfaction in the airline industry: The role of service quality and price. JATFC 2012;6
- [3] Gilbert D, Wong RW. Passenger expectations and airline services: A Hong Kong-based study. JTM 2003;24:519-32.
- [4] Huang JM. Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions. JR 2013;66: 33-55.
- [5] Gomez BG, Arranz AG, Cillan JG. The role of loyalty programs in behavioral and affective loyalty. JCM 2006; 23: 387-96.
- [6] Jones MA, Suh J. Transaction-specific transaction and overall satisfaction: an empirical analysis. JSM 2000;14: 147-59.
- [7] Zahari W, Yusoff W, Ismail M. FM-SERVQUAL: A new approach of service quality measurement framework in local authorities. JCRE. 2008;10:130-44.
- [8] Soderlund M. Measuring customer loyalty with multi-item scales: A case for caution. IJSIM 2006;17:76- 98.
- [9] Seo EJ, Park JW. A Study on the Impact of Airline Corporate Reputation on Brand Loyalty. IJBR 2016;10:59.
- [10] Spence M. Job market signaling. QJE 1974;87:355-7





# CreTech<sup>2021</sup>

## SMART TOURISM AND GREEN INNOVATION



- [11] Spence M. Signaling in retrospect and the informational structure of markets. *Am Econ Rev* 2002; 92: 434-59.
- [12] Howat J, Crilley F, McGrath T. *Managing Customer Services*. England: Gower Publishing Limited 1998; 7:1-14.
- [13] Parasuraman A, Zeithaml VA, Berry LL. Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Further Research. *JM* 1985;58:111-24
- [14] Pakdil F, Aydin O. Expectations and perceptions in airline services: An analysis using weighted SERVQUAL Scores. *JATM* 2007;13:229-37.
- [15] Bagozzi RP. The self-regulation of attitudes, intentions, and behavior. *JSP Quarterly* 2006; 55:178-204.
- [16] Taylor SA, Baker TL. An assessment of the relationship between service quality and customer satisfaction in the formation of consumers' purchase intentions. *JR* 2009; 70:163-78.
- [17] Caudron S. Forget image: It's your reputation that matters. *Industry Week* 1997; 246:13.
- [18] Ear TY, Vongsinsirikul S, Suwandee S, Surakomol P. The Impact of Service Quality on the Consumer Satisfaction and Loyalty: The Case Study of Air Asia, *GRIESS Conf*: 575-85.
- [19] Chen KR, Liu Y.C. The study of domestic airline services quality promotion. *JQ* 2017; 44-54.
- [20] Brymer C. *The Nature of Marketing*, Palgrave, Macmillan 2009; 65:143-52.
- [21] Parasuraman A, Zeithaml VA, Berry L. SERVQUAL: A Multiple Item Scale for Measuring Consumer Perceptions of Service. *QJR* 1988;64:12-40.
- [22] Kim JH. The influence of the marketing communication on the service brand equity. *KASBA* 2007: 1-23.
- [23] Chun R. Corporate reputation: Meaning and measurement. *IJMR* 2012;7: 91-109.
- [24] Yunus SN, Jamil B, Rashid WE. Service Quality towards Customer Loyalty in Malaysia's Domestic Low Cost Airline Services. *International Journal of e-Education, e-Business, e-Management and e-Learning* 2013;3:333-6.
- [25] Saha G, Theingi. Service quality, satisfaction, and behavioural intentions. *MSQIJ* 2009;19:350-72.
- [26] Chaudhuri A, Holbrook MB. The Chain of Effects from Brand Trust and Brand affect to Brand Performance: The Role of Brand Loyalty. *JM* 2001;65:81-93.
- [27] Fornell RN, Larcker JH. A multi-stage model of customer's assessment of service quality and value. *J Consum Res* 2005;17:375-84.
- [28] Loureiro SM, Sarmento EM, Le Belle G. The effect of corporate brand reputation on brand attachment and brand loyalty: Automobile sector. *CBM* 2017;4:DOI: 10.1080/23311975.2017.1360031
- [29] Chen KR, Liu YC. The study of domestic airline services quality promotion. *JQ* 2017; 44-54.
- [30] Hegner-Kakar AK, Richter NF, Ringle CM. The customer loyalty cascade and its impact on profitability in financial services in Partial least squares structural equation modeling. *Springer, Cham* 2018; 53-75.
- [31] Prakash G. Understanding service quality: Insights from the literature. *JAMR* 2019; 16:64-90.