FACTORS AFFECTING CONSUMERS INTENTION TO USE BLOCKCHAIN-BASED SERVICES (BBS) IN THE HOTEL INDUSTRY

MAHADI HASAN MIRAZ1, MOHAMMAD TARIQ HASAN2, MOFIJUL HOQ MASUM3, MD. MAHBUB ALAM4 & SHUMI SARKAR5

1PhD Fellow, School of Technology Management and Logistics, Universiti Utara Malaysia (UUM), Malaysia
2,3Assistant Professor, School of Business and Economics, United International University, Dhaka, Bangladesh
4Independent University, Bangladesh
5Assistant Professor, Department of Business Studies, University of Information Technology and Sciences (UITS), Bangladesh

ABSTRACT

Purpose: Purpose-This paper aims to introduce and discuss blockchain technology and its effect on the hospitality and tourism industry as well as a practical point of view to hospitality and tourism businesses. The central interest in this study is to produce a new and rigorous in-depth analysis that will provide the basis for a broad debate and perspective on potential uses of blockchain technology for hospitality and tourism research as well as the industry as a whole.

Importance of the research: This study leads to knowledge development in the tourism industry by creating an extensive structure that enhances hospitality and tourism efficiency. The current study thus helps to alleviate tourism & hospitality integrated blockchain technology.

Theory: A single technology adoption and use theory (UTAUT 2) is the fundamental theory for this study. Reference was made in this analysis to progress in the growth of the blockchain capability of hospitality and tourism.

Methods: The current study focused on a concise methodology and quantitative analysis. QR is the simplest way to accept or deny a theory. Quantitative analysis from all of Malaysia has been obtained through a cross-sectional analysis via the sampling method.

Originality: One of the latest research to boost the efficiency of hospitality and tourism performance by blockchain. This research demonstrates how blockchain (familiarity, concern and error), trust, facilitating condition, consumer intention and blockchain adoption.

KEYWORDS: Blockchain-based Service & Blockchain usability

1. INTRODUCTION

In the current decade, the blockchain has increased dramatically is various ground, namely tourism [1-5]. Technology adoption in the homestay industry is a significant source of strategic competitive advantage [6] and businesses that do not keep pace with the new technological advances will lose competitive profits [24]. Hospitality companies have started to use blockchain-based services (BBS) to harness the exponential development of mobile devices and provide personalized assistance at the right place and time [32,64]. Also, a survey shows that hospitality operators are highly satisfied with BBS [11]. For example, 60% of participants shared their satisfaction with their ability to send location-based customized content to their consumers and claimed that BBS approaches added to the financial gains of their businesses [12]. The widespread use of consumers mobile devices attracts interest and
spending by hospitality operators in BBS[7].

Nevertheless, BBS was questioned as it allows service providers the ability to collect, store, use and report user location [8-10], contributing to privacy concerns. Hotel operators implementing BBS will resolve consumer questions about adopting this technology, especially as regards privacy [13]. No research has extensively examined customer privacy issues about BBS and other essential aspects of BBS acceptance in the housing industry [14]. Therefore, the goals of this analysis were to determine positive factors (i.e. essential familiarity with BBS, coupon proneness, and trust) and negative factors (i.e., four forms of privacy concerns) affecting the wishes of customers to use BBS in the lodging sense [15].

This study provides a theory-driven approach based on the Technology Acceptance Model (TAM) [40]. It advances UTAUT theory[6] and Privacy Calculus Model [36] to address BBS and related topics by designing the BBS Acceptance Model [17-20]. This study's theoretical aim is to enrich existing models by incorporating new variables and defining key factors that influence users' behavioural intentions towards BBS in a modern context, the tourism industry [16]. The results of this study show how hosting companies will expand the use of BBS and provide advice to operators on possible BBS-related privacy issues [21-25]. Revealing factors that influence behavioural preferences of travellers can help hotels schedule and execute BBS to improve customer experience and satisfaction [26-28].

2. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

2.1 Technology Acceptance Model

Ramli et al. [37] suggested a desire to conduct actions as a necessary precursor to behaviour. Their research developed into well-known Theory Planned Behavior (TPB) and Theory Theory Reasoned Action (TRA) models [48]. Numerous TPB and TRA studies found human behaviour driven by expectations [40,63,32]. Psychologically, a goal motivates a person to perform specific actions [28-33]. Intentions were identified as proximal antecedents to actual behaviour across a wide range of areas [34-39]. [6] expanded the TPB and TRA structures to researching the determinants of an individual's disposition toward technology use expectations and practical use in the sense of IT [40]. The resulting TAM suggests that perceived usefulness and perceived user-friendliness are determinants of attitude and purpose [41]. Perceived utility refers to the assumption of the prospective customer that using a particular technology can improve their efficiency in an organisational setting [42]. Ease of use is defined as how simple the consumer wants the target application to be used in the hotel industry [43]. Attitude refers to favourable or unfavourable emotions of the consumer towards using technology [44]. Intentions are the only primary determinant of real product use [45].

Considerable evidence suggests a person's behavioural intent having a significant impact on their actual behavior [46-49]. Kim et al. [18] found that traveller development interactions had a positive impact on their mobile device use intentions. This intention also triggered the actual behaviour of travellers using their mobile devices [50]. Therefore, in the theoretical BBS adoption model, the current study used behavioural intention as a dependent variable, suggesting that people's strong desire to use BBS would eventually lead to their successful use of BBS [51].

2.2 External Variables and Privacy Calculus Model

The TAM was adapted for various hospitality settings by adding external variables such as personal characteristics, technology experience and innovativeness [54], which recommended additional context-specific external variables in TAM [52]. Recent studies stress the importance of other context-specific variables [55]. In addition, the TAM extended model is UTAUT has been extensively applied as a complementary theory in studying supply chain technology adoption [56]. These
are used to explain the extent of use and usefulness of supply chain blockchain adoption in an organization and factors affecting blockchain adoption in hotel performance [57].

This research, therefore, used seven external variables to describe the actions of a BBS user: experience with BBS, trust and privacy concerns reported that BBS consumer behaviour is not only affected by enablers such as perceived utility, but also by BBS inhibitors such as privacy risk associated with disclosure of personal information [58-60]. While BBS monitors an individual's location to provide incentives, some individuals feel uncomfortable monitoring and revealing their current location due to privacy concerns [61]. The data privacy calculus model describes the transactional nature of this relationship, where the privacy of an individual is factored into the decision to exchange personal information for some beneficial compensation [62]. Miraz et al. propose that consumers include a privacy calculus transaction before disclosing their personal information to complete a purchase transaction [34]. They find that customers are more likely to commit to sharing their personal information to a corporation when they are well educated and consider it to be honest [17]. Ramli et al. further suggest that customers will only reveal their personal information if the expected overall benefits are at least equal or greater than the perceived disclosure harm [37]. Extending this to a hotel sense, guests may embrace privacy loss when sharing their location and other personal information, if the advantages of doing so outweigh a reasonable level of risk [34]. Few studies investigated the impact of privacy concerns of hotel customers on BBS adoption. The following section gives detailed evidence for the partnerships described in Figure 1.

- **H1** Relationship between familiarity with blockchain-based services and intention to use BBS-based services
- **H2** Relationship between trust and intention to use BBS services
- **H3** Relationship between blockchain errors and intention to use BBS services
- **H4** Relationship between concern of blockchain stability and intention to use BBS services
- **H5** Relationship between blockchain unauthorized and intention to use BBS services
- **H6** Relationship between blockchain adoption and intention to use BBS services
- **H7** Relationship between facilitating condition and intention to use BBS services

### 2.3 Theoretical Framework

In this section, we describe the theoretical framework.

---

![Theoretical Framework](image.png)

**Figure 1: Theoretical Framework.**
3. METHOD
3.1 Measures
The analysis utilized a scenario-based sample of offers generated by hotel form tourist perception. First, the participants were asked to consider a situation in which they went to a full-service hotel with various facilities. During the simulation tour, there were three different points in the scenario where information on hotel amenities and activities and related incentives was given via the resorts or hotel. The survey questions were introduced after the participants finish the research scenario section. Measurement items are focused on blockchain-based experience, crypto coupon service and digital privacy issues and intention to use blockchain-based service. The measuring elements are based on LBS literature. Everything was calculated with a Likert scale of five points: from 1="strongly opposed to 5="strongly supported by the same. In order to identify the appropriate measuring items, three tourism experts and two industry experts reviewed the list of items of the variables of this study. In order to continue checking the validity of the survey, a test was conducted with 71 students in hospitality management.

3.2 Sample and Data Collection
Consumers who possessed smartphones and spent the past five months at a full-service hotel were chosen as the target population. Using a convenience sample of hotel clients, this study conducted an online survey through the Qualtrics survey management platform. Qualtrics invited study participants to provide an example of participants not limited to a single brand, service level, or geographic region. A survey has done over 1,350 Malaysian residents, and the survey was closed after two weeks. Of the 380 survey respondents respond to our online inquiry.

4. DATA ANALYSIS
Structural Equation Modeling (SEM Smart PLS) for data preparation and concise analysis of this study[46]. The authenticity of both face and content was achieved during the questionnaire planning. The second is to analyze the composite reliability (range from 0.7 to 0.9). Validity is discriminated against when the meaning is more significant than 0.5. Finally, by confirming material validity, convergent validity and discriminating validity, construct validity identified in this study.

5 RELIABILITY
Table 1 summarizes the findings of the reliability review. The value of Cronbach alpha (α) must be equal to or greater than 0.7. All values are above 0.7. Therefore indicates that the views of the respondents are valid in all the elements.

<table>
<thead>
<tr>
<th>Scales</th>
<th>Items</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Familiarity with BBS</td>
<td>4</td>
<td>0.962</td>
</tr>
<tr>
<td>Trust</td>
<td>3</td>
<td>0.768</td>
</tr>
<tr>
<td>Blockchain Errors</td>
<td>4</td>
<td>0.831</td>
</tr>
<tr>
<td>Concern of Blockchain Stability</td>
<td>4</td>
<td>0.854</td>
</tr>
<tr>
<td>Blockchain Unauthorized</td>
<td>4</td>
<td>0.743</td>
</tr>
<tr>
<td>Blockchain Adoption</td>
<td>4</td>
<td>0.923</td>
</tr>
<tr>
<td>Facilitating Condition</td>
<td>3</td>
<td>0.803</td>
</tr>
<tr>
<td>Intention to Use Blockchain Base Service</td>
<td>4</td>
<td>0.763</td>
</tr>
</tbody>
</table>
6. DISCUSSIONS & CONCLUSIONS

Although previous studies confirmed privacy concerns as a significant factor in determining consumers willingness to use technology, their models did not include multiple dimensions of privacy concerns. Therefore, one of the main findings of this study and contribution to literature in this area is that out of four sizes related to privacy, only one aspect, collection issue, had a significant impact.

A BBS digital technology-based model. The underpinning theory of this study is UTAUT has been developed in the current research and was tested in a hotel context. Seven variables were hypothesized to influence a hotel customers readiness to use. The findings showed that all systems met the standards for the reliability and convergent, equal validity of the instruments. Trust, in particular, had the most positive effects on customers intend to use BBS, followed by familiarity and proneness of coupons. In summary, a series of structures were examined which are concurrent in the process of decision-making on BBS use. It demonstrates that consumer adoption of blockchain in the BBS provider and the suitability.

APPENDIX A

Table A1 Measurement Items

<table>
<thead>
<tr>
<th>Variables</th>
<th>Items</th>
<th>Adapted from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Familiarity with BBS</td>
<td>I am familiar with BBS in hotel industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am fascinated BBS in hotel industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am well-known with BBS in hotel industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BBS took my attention in hotel industries</td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td>I have trust BBS in hotel industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I feel secure with BBS in hotel industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BBS in hotel industries is transparent</td>
<td></td>
</tr>
<tr>
<td>Blockchain Error</td>
<td>Sometimes BBS got an error in hotel industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Often BBS got the transactional error in hotel industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am not happy with BBS service</td>
<td></td>
</tr>
<tr>
<td>The concern of Blockchain Stability</td>
<td>BBS is a periodic offer offered by hotel industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BBS is not stable in hotel industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BBS is volatile service</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BBS concerns to me</td>
<td></td>
</tr>
<tr>
<td>Blockchain Unauthorized</td>
<td>The BBS is not authorized for every hotel industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The BBS precisely nominated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BBS is formatted for a specific purpose</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The BBS is permission to use in hotel industries</td>
<td></td>
</tr>
<tr>
<td>Blockchain Adoption</td>
<td>The BBS is easy to understand</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The BBS is adaptable for hotel industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The BBS has a guideline to use in hotel industries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BBS has become accustomed to comprehend</td>
<td></td>
</tr>
<tr>
<td>Facilitating Condition</td>
<td>I have all the environment to use BBS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I have all the technology to use BBS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I have all the resources to use BBS</td>
<td></td>
</tr>
<tr>
<td>Intention to Use Blockchain Base Service</td>
<td>I intend to use BBS very soon</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I attracted to use BBS coming month</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I plan to use BBS in the hotel industry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I fascinated to use BBS</td>
<td></td>
</tr>
</tbody>
</table>
REFERENCES


Impact Factor (JCC): 8.8746 SCOPUS Indexed Journal NAAS Rating: 3.11


43. V.Vijaya Lakshmi & Geeta Munje, “Problems Faced by University Students While Purchasing Consumer Durable Goods”, International Journal of Business and General Management (IJBGM), Vol. 7, Issue 1, pp. 9-16


AUTHORS PROFILE

Mahadi Hasan Miraz completed BSC, MSC from Universiti Utara Malaysia (UUM) and a PhD fellow at UUM. Well, I have outstanding Technical, Entrepreneur and leadership skill. Besides, I have involved with Universiti Utara Malaysia numerous FRGS and Government PROJECT, Malaysia. Furthermore, I have published 42+ articles on Management, information technology, Entrepreneurship and supply chain in SCOPUS & ISI index journal. My core research on Blockchain, IT, Management & Supply chain. Apart from that, I have vast knowledge about research and analysis Using SEM-PLS, AMOS and SPSS. Also, an expert on JAVA, MS Office, Joomla and Java Script.

Mr. Mohammad Tariq Hasan, he has completed his BBA and MBA from Faculty of Business Studies of Dhaka University in 2005 and 2006 respectively. After completion his graduation, he has started his career in corporate sector as Financial analyst in CRISL, a credit rating company and was part of different company in various position over the period of 2006-09. In 2009, he has joined in ASA University Bangladesh, as a lecturer of Accounting and from that time, he is a part of the education industry and working in different top ranked private university of Bangladesh. At present he is working as Assistant Profess, Accounting in United International University, Bangladesh and doing his PhD from School of Accountancy, Universiti Utara Malaysia. Till now, he has published 20+ (plus) research papers in different National and International peer reviewed journal.

MofijulHoq Masum is currently working as an Assistant Professor of School of Business and economics in United International University, Dhaka, Bangladesh. As an academician, Mr. Masum serve in tertiary education since 2009. He is an associate member of the Institute of Cost and Management Accountants of Bangladesh (ICMAB). Mr. Masum is also an Income Tax Practitioner (ITP) certified by the National Board of Revenue, Bangladesh. His research interest includes, voluntary reporting, sustainable reporting, balanced scorecard, islamic accounting and corporate social responsibility.
Factors Affecting Consumers Intention to use Blockchain Based Services (BBS) in the Hotel Industry

Dr. Md. Kashedul Wahab Tuhin is an Associate Professor of the Department of Marketing at Jahangirnagar University. In addition, Dr. Tuhin was Assistant Professor of Jahangirnagar University, Bangladesh. Prior to that, he was a Lecturer at Jahangirnagar University and Comilla University, Bangladesh. Before starting his academic career, Dr. Tuhin worked as an Executive of Marketing and Sales at IDLC Finance Limited, the leading non-bank financial institution of the country. Dr. Tuhin has more than 10 years’ experience in the field of teaching as well as training, workshops, and research. His key research interest is in branding, consumer-brand relationships, Halal marketing, tourism, and supply chain. He has been supervising a number of thesis students at the master and M.Phil level. Currently, Dr. Tuhin is the chief editor of Jahangirnagar University Journal of Marketing.