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Janardan Krishna Yadav, Deepika Chandra Verma,
Srinivas Jangirala and Shashi Kant Srivastava

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Blockchain and Tourism: Transformation of three research propositions to the policy paradigm

Janardan Krishna Yadav^a, Deepika Chandra Verma^a, Srinivas Jangirala^a and Shashi Kant Srivastava^b

^aJindal Global Business School, O. P. Jindal Global University, Sonapat, Haryana-131001, INDIA.
jkyadav@jgu.edu.in, dcverma@jgu.edu.in, sjangirala@jgu.edu.in

^bIndian Institute of Management-Sirmaur, Paonta Sahib, Himachal Pradesh-173025, INDIA.
shashikant.srivastava@iimsirmaur.ac.in

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ABSTRACT

This paper extends Önder & Treiblmaier (2018)'s propositions regarding blockchain's integration with tourism to valorize the policy angle. This is because policy across countries on blockchain is different. This difference is because of varied levels and stages of acceptance due to differential trust in a distributed ledger.

KEYWORDS

Blockchain, Tourism, Policy, Disintermediation, Trust.

1. Introduction

Önder & Treiblmaier's (2018) have initiated scholarly work on tourism and Blockchain technology. We use their work to bring into discussion the role of national policy on Blockchain and tourism research. Tourism today is tending towards smart tourism (Jovicic, 2019). 'Smart' is understood as synchronous operational data, its integration, sharing, modelling, and visualization for better real-time decisions that create value for the end user (Harrison, Eckman, Hamilton, Hartswick, Kalagnanam, Paraszczak, and Williams, 2010). It goes beyond the traditional use of internet enabled bookings and record maintenance. In practice, bringing ease to combine lifecycle experience of tourism to create a *wow* experience for the tourists.

This paradigm shift in tourism industry requires large amount of consumer data for better tourist profiling and customized touristic experiences for nearly accurate personalized market offerings. Further, customer-to-customer (C2C) business models (Sigala, 2017) and peer feedback (Akehurst, 2009) have also introduced additional intermediaries that work on data aggregation to bring trust into the tourism supply chain.

This very detailed and intimate data about tourists, poses a challenge of data storage and security as the data can be manipulated and misused. Tourism literature recognizes blockchain technology's decentralized and immutable character to support the trust and repu-

tation of tourism companies in the decentralized marketplace (Calvaresi, Leis, Dubovitskaya, Schegg, and Schumacher, 2019), where traditional *structural assurance agents*, e.g. ‘banks’ for transactions, ‘quality assurance agents’ like TripAdvisor, risk mitigating insurance companies etc. become irrelevant. (Rashideh, 2020).

In the hypothesized tourism supply chain, monetary requirements of tourists are met by cryptocurrencies. Cryptocurrencies are borderless that implies that they are beyond the control and management of conventional monetary policy instruments of central banks like creation of additional cryptocurrencies, fixing interest rates to regulate circulation etc. (Peters, Panayi, & Chapelle, 2015). In blockchain and tourism research, the role of national policy becomes critical as the anonymity of agents who transact in cryptocurrencies is understood to be used as a means of money laundering, black marketeering, buying and selling of illegal weapons, terrorism financing, drug dealing and human trafficking (Foley, Karlsen, & Putninš, 2019). In such instances, countries may choose to ban or block cryptocurrencies’ exchange. In economies where cryptocurrencies are not banned, their status may differ¹ which may lead to issues in completing certain type of transactions across countries, the usual situation in tourism.

While there has been an increase in the scholarly literature on the intersection of Blockchain and Tourism (more than 8000 Google scholar results), the number of papers published in this area in tourism journals since 2018 are scarce (please see Appendix I). Thus, theoretical frameworks and refinement of research propositions are still needed to create a comprehensive agenda for tourism-blockchain research.

In this research note we extend three propositions by Önder & Treiblmaier’s (2018) to urge the researchers within the tourism community to assign a permanent place for the discourse on the divergent policy stance across countries while engaging with the discourse on blockchain and tourism.

2. Propositions

2.1. Proposition 1

It is theoretically recognized that blockchain technology can solve issues of trustworthiness of online consumer reviews of tourism products like hotels, restaurants, and travel agents from manipulation (Rashideh, 2020). This is because reviews will be a part of immutable blockchain in a distributed network.

There are possibilities of blockchain technologies in starting new forms of evaluations and review mechanisms that will lead to trustworthy rating systems. There are possibilities of users with access to multiple computing devices who can very easily maintain multiple identities and duplicate reviews even in a blockchain setup using identity management schemes (IdMs) (Dunphy & Petitcolas, 2018). The breakdown of blockchain in case of dishonest nodes taking over may also arise (Orcutt, 2019).

However, given the features and improved protocols of blockchain technology, these instances would also get detected fairly quickly (Zheng, Xie, Dai, Chen, & Wang, 2018; Orcutt, 2019). This does not mean that the use of blockchain has little worth in increasing

¹Recognized as money, near money assets, assets, property, limited to transacting in the share market etc.

trustworthiness of online consumer reviews of tourism products. Blockchain technology when used with policy support to address grievances in case of breakdown of the technology at any point can improve trustworthiness of the rating systems within the tourism industry. Therefore, we extend Önder & Treiblmaier's (2018) proposition as follows:

Research proposition 1: New forms of evaluations and review technologies will lead to trustworthy rating systems *if there is adequate policy support to address instances of multiple identities and complete breakdown.*

2.2. Proposition 2

Tourism as an industry often deals with international transfers of money, and transacting with unknown agents like hotels, airlines, tour groups local to the travel destination which requires trustworthy institutions and contracts. This is insured by institutions like banks that act as trusted intermediaries that charge fees for services rendered.

Cryptocurrencies and smart contracts based on blockchain technology allow for the quick, easy and trustworthy transactions with much lower transaction fees. The scope of such cross-border transactions can get limited due to the differences in the policy stance on cryptocurrencies in different countries. Two issues may arise here. First, differences in the policy stance itself across countries that may hinder transacting in cryptocurrencies. If transacting in cryptocurrencies is illegal, banned or strongly advised against by the central bank of either of the countries, then there is no scope for using such a solution. Second, even if transacting in cryptocurrencies is legal in the destination countries, the scope for blockchain based transactions may be limited due to a difference in classification of cryptocurrencies on the basis of their usage-asset, property, or legal fiat (Cvetkova, 2018).

Research proposition 2: The widespread adoption of cryptocurrencies will lead to new types of C2C markets *provided, the same legal status is enjoyed by cryptocurrencies across countries.*

2.3. Proposition 3

Tourism literature has touted disintermediation as one of the most prominent impacts of blockchain within the tourism industry. Multiple intermediaries such as Physical Travel Agents, Online Travel Agents (OTAs), C2C and Global Distribution Systems (GDS) are likely to lose their place as prominent agents of the tourism industry because of the promise of increased ease of transactions and removal of commissions. Additional value for tourists can be realized by reducing the power gap by relying on distributed network where each node has the same power. The possibility of this change in the tourism industry is limited to the extent to which the a user may participate and the fact that there are supporting institutions across countries to facilitate resolution of issues that may occur as is the case with existing intermediaries like consumers' grievance redressal forums that may also act as tribunals for dispute resolution. This again, is possible if and only if the legality of cryptocurrencies and blockchain supported institutions is not questioned by the laws of the land of the home and destination countries.

Research proposition 3: Blockchain technology will lead to increased disintermediation in the tourism industry *if the policy towards cryptocurrencies and blockchain are clear and supportive.*

Önder & Treiblmaier (2018) have sparked a relevant debate in tourism regarding the scope of blockchain's usage and future impact on the tourism and hospitality industry (Nam, Dutt, Chathoth, & Khan, 2019; Rashideh, 2020). This research note extends the viewpoint by emphasizing the pressing issue of divergence in policy paradigm on cryptocurrencies and blockchain technology (in association) across countries.

The possible transition to increased blockchain use in tourism does have tremendous potential, but in practice, may get mired due to national policy differences on Blockchain technology in different countries. This research is an attempt to stimulate academic discussions on policy paradigm of countries on Blockchain technology in reference to tourism industry.

3. Conclusions

In this research note we have extended three propositions by Önder & Treiblmaier's (2018) to highlight the role of policy in the discourse on blockchain and tourism. We highlight this positioning through the revisions we propose in the propositions of Önder & Treiblmaier (2018).

In this work we extend Önder & Treiblmaier's (2018) propositions as follows:

- (1) New forms of evaluations and review technologies will lead to trustworthy rating systems if there is adequate policy support to address instances of multiple identities and complete breakdown.
- (2) The widespread adoption of cryptocurrencies will lead to new types of C2C markets provided, the same legal status is enjoyed by cryptocurrencies across countries.
- (3) Blockchain technology will lead to increased disintermediation in the tourism industry if the policy towards cryptocurrencies and blockchain are clear and supportive.

This work is relevant in drawing out the nuanced issues in the adoption and diffusion of cryptocurrencies as financial innovations. Future researchers can focus on the interlinkages of the related variables.

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