Impact Of Blockchain Technology In Enhancing Customer Loyalty Programs In Airline Business

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Abstract: In today business world, companies have accelerated the use of Blockchain technology to enhance the brand recognition of their products and services. Company believes that the integration of Blockchain into the current business marketing strategy will enhance the growth of their products, and thus acting as a customer loyalty solution. The goal of this study is to obtain a deep understanding of the impact of blockchain technology in enhancing customer loyalty programs of airline business. To achieve the goal of the study, a contextualized and literature based research instrument was used to measure the application of the investigated "constructs", and a survey was conducted to collect data from the sample population. A convenience sample of total (450) Ouestionnaires were distributed to customers, and managers of the surveyed airlines who could be reached by the researcher. 274 to airline customers/passengers, and the remaining 176 to managers in the various airlines researched. Questionnaires with instructions were hand-delivered to respondents. Out of the 397 completed questionnaires returned, 359 copies were found usable for the present study, resulting in an effective response rate of 79.7%. The respondents had different social, educational, and occupational backgrounds. The research instrument showed encouraging evidence of reliability and validity. Data were analyzed using descriptive statistics, percentages and t- test analysis. The findings clearly show that there is significant evidence that blockchain technology enhance customer loyalty programs of airline business. It was discovered that Usage of blockchain technology is emphasized by the surveyed airlines operators in Nigeria., the extent of effective usage of customer loyalty programs is related to blockchain technology, and that he level or extent of effective usage of blockchain technology does affect the achievement of customer loyalty program goals and objectives. Feedback from the research will assist to expand knowledge as to the usefulness of blockchain technology being a customer loyalty solution.

Keywords: Blockchain, Technology, Customer loyalty, Programs, Airlines, Nigeria

I. INTRODUCTION

One of the uniqueness of business is for firm to be customer focus. Study have shown that this could be achieved through blockchain technology in enhancing customer loyalty programs (Michael J. Casey 2015; John Ream et al 2016; Sean Dennis 2016; James O'Brien and Dave Montali, 2016; Peiguss 2012; Singh, Khan, 2012; and among others). Recent advances in block chain technology have provided the tools for marketing managers to create a new generation of being able to assess the level of control companies want to have over customer data and activities as well as security/privacy issues that always arise with every additional participant of the network

While block chain technology is still in the early stages of adoption, it could prove valuable for loyalty rewards program providers. Hundreds of blockchain initiatives are already underway in various industries, particularly airline services, even though standardization is far from a reality. One attractive feature of loyalty rewards is that they are not core to business revenue and operations and companies willing to implement blockchain for customer loyalty programs benefit lower administrative costs, improved customer experiences, and increased user engagement (Michael J. Casey, 2015; James O'Brien and Dave Montali 2016; Peiguss 2012; Singh, Khan, 2012). As a rule, it is believed that owners of firms and managers of organizations who understand and appreciate the significance of a blockchain-supported loyalty platform are the ones most likely to thrive. Those that don't get it, generally experience challenges that can seep into multiple areas of operations, including overall sales, as well as recruitment and retention of loyal customers and employees alike.

Blockchain for customer loyalty programs touches every aspect of most business. Recently it is used to promote product, service or organization, with the objective of making sale, attracting, maintaining and retaining customers.

There are scholarly arguments pertaining to the effectiveness of Impact of blockchain technology in enhancing customer loyalty program, especially in developing economies, including Nigeria. However, some scholars have argued that these arguments do not detract from the use of blockchain technology in enhancing customer loyalty programs, and that these should be of benefit to all the companies world over, including developing countries such as Nigeria. However, the effectiveness of usage differs from one firm to another.

Based on the above perception, this paper is using a contextualized and literature based research instrument to measure the application of the investigated constructs for an understanding of the impact of blockchain technology in enhancing customer loyalty programs in airline business, using Nigerian as a case study (a less developed economy).

This study recognizes the difficulty and complexity associated with changing environment and increasing complexity of the 21st century workplace. It is the believed that b;ockchain deliver a customer loyalty experience that drives engagement and generates strong recommendation behavior on all levels that will lead to a higher return.

The paper starts with a critical look at the current literature on blockchain, customer loyalty programs, and goes on to purpose hypotheses based on key constructs of finding the level of emphasis and effectiveness of blockchain technology in enhancing customer loyalty programs in airline business. This paper then investigated each of the hypotheses in turn, linking it to the Nigerian environment and outcomes established.

The major objective of this research is to provide knowledge regarding the effectiveness of block chain technology in enhancing customer loyalty programs in airline business. Flowing from this central purpose, are the following specific objectives of the study: to determine the extent to which airlines operating in Nigerian emphasize the usage of blockchain technology, to determine the relative effectiveness of airlines operators in Nigeria in achieving their set goals and objectives of customer loyalty programs via the usage of blockchain., to determine the reliability of the research measures used in this research, to make managerial and policy recommendations for improved understanding of the importance of blockchain technology in enhancing customer loyalty programs in airline business, and to suggest cognate areas for future research.

The following hypotheses stated in the null form were formulated and tested in order to achieve the objectives of the study: H1o: Usage of blockchain technology is not emphasized by the surveyed airlines operators in Nigeria. H2o: The extent of effective usage of customer loyalty programs is not related to blockchain technology, H3: The level or extent of effective usage of blockchain technology does not affect the achievement of customer loyalty program goals and objectives.

This study will not only find out the importance of blockchain technology in enhancing customer loyalty programs by airline operators in Nigeria, but also add to the previous literature.

This paper begins with a short literature review to define where the paper aims at contributing to the literature. It then moves on to describe the study and the selection of the airline operators in Nigeria under research methods. The finding from the study are further analyzed in the results section and followed by the implications for theory and practice, as described in the concluding comments.

II. LITERATURE REVIEW

Blockchain has been touted as a technology to revolutionize a lot of things - moving money, clearing trades, making contracts smart and enforcing terms, allows for the "interoperability of data and the security of maintaining consumer privacy, allow companies promote their brand, create stronger partnerships and strengthen consumer loyalty. It is also seen as what the doctor - or anyone interested in attracting and retaining an engaged consumer ordered (Sherree De Covny (2015). Blockchain can innovate loyalty, because it can eliminate the fragmentation that plagues the industry and help it scale supported loyalty platform. If continued, can keep all the loyalty programs "under one umbrella, and this can mean high levels of issuance and redemption and greater value for end customers (Sherree De Covny (2015). It can also help leverage knowledge of customer preferences in real time and even enable "end users to become the program operators. It offers new ways to generate revenues and new ways to engage customers in ways that had not been done before. However, blockchain program is intended to streamline loyalty and reward programs for the airlines, and will help promote access to cultural events, and eventually, adjusting the rewards program (and offerings) accordingly.

Customer loyalty on the other hand, is the customer attitude and behavior to prefer one brand over all competitor ones, whether due to satisfaction with the product or services, thus, encourages consumers to shop more consistently (Peiguss, 2012; Singh, Khan, 2012). Customers can demonstrate loyalty to price, brand, company, and other customers. However, Customer loyalty is a result of a positive emotional experience, physical attribute- based satisfaction and perceived value of an experience, which includes the product or services (Ghavami & Olyaei, 2006; Zikmund 2002; Lindsay Kolowich, 2015)

Sharp, B. and Sharp A., (1997) posit that loyalty programs are structured marketing efforts that reward, and therefore encourage loyal buying behavior which is potentially beneficial to the firm. The rewards programs are offered by a company to customers who frequently make purchases. A loyalty program may give a customer advanced access to new products, special sales coupons or free merchandise. Customers typically register their personal information with the company, and from time to time, companies come up with monetary or non-monetary programs, in an attempt of providing value to customers.

III. INTRODUCING BLOCKCHAIN AS A CUSTOMER LOYALTY SOLUTION

Customer loyalty and engagement can make or break companies, and as such, rewards programs represent strategic investments for all types of organizations. But as they have been growing rapidly, they are also still ailing due to inefficiencies. However, blockchain, has been described as powerful technology that can help realize the full value of customer loyalty programs. Any organization (from banks to airlines) that have rewards programs can take note of the gained efficiencies, reduced costs, and enhanced brand loyalty that blockchain technology can provide (Lowenstein, 2002; Sherree De Covny 2015; Peter Clark 2010; Reinatz Wener 2004; Sarah Jenn 2015).

The breadth and variety of reward programs is mindboggling, ranging from airline loyalty programs. Based on extant literature, loyalty programs are beneficial for both businesses and consumers. For business, loyalty programs are profitable because business benefits from the loyalty initiative programs by retaining existing customers, acquire new customers, move customers up - segment, win - back defected & churned customers, increase Customer Lifetime Value, build relationships, create brand advocates, adjust pricing levels, responding to competitive challenges, select stock lines effectively, plan merchandising more intelligently, reduce promotional and advertising costs, selecting new trading sites, building true attitudinal and behavioral loyalty, making the costs of serving loyal customers less, building confidence in loval customers that make them low price sensitive and thus spend more with the company, likewise, pass on positive recommendations about their favorite brands to their friends and relatives. and leading to efficiency profit. (Lowenstein, 2002; Peter Clark 2010; Kannan P. K. & Bramlett Matthew D. 2000; Reinatz Wener 2004; Dowling and Uncles 1997; David Schatsky and Craig Muraskin 2015; Lewis Michael 2004; and among others). Blockchain revolutionize business and redefine companies and economies. In this world every agreement, every process, every task, and every payment would have a digital record and signature that could be identified, validated, stored, and shared. Intermediaries like lawyers, brokers, and bankers might no longer be necessary. Individuals, organizations, machines, and algorithms would freely transact and interact with one another with little friction. This is the immense potential of blockchain. Likewise, with blockchain manv barriers-technological, governance, revolution. organizational, and even societal-will have to fall. Blockchain is a *foundational* technology, and It has the potential to create new foundations for our economic and social systems (Marco Iansiti and Karim R. Lakhani 2017) Marco Iansiti and Karim R. Lakhani (2017) posit five basic principles underlying blockchain technology:

A. DISTRIBUTED DATABASE

✓ Each party on a blockchain has access to the entire database and its complete history. No single party controls the data or the information. Every party can verify the records of its transaction partners directly, without an intermediary.

B. PEER-TO-PEER TRANSMISSION

✓ Communication occurs directly between peers instead of through a central node. Each node, stores and forwards information to all other nodes.

C. TRANSPARENCY WITH PSEUDONYMITY

✓ Every transaction and its associated value are visible to anyone with access to the system. Each node, or user, on a blockchain has a unique 30-plus-character alphanumeric address that identifies it. Users can choose to remain anonymous or provide proof of their identity to others. Transactions occur between blockchain addresses.

D. IRREVERSIBILITY OF RECORDS

✓ Once a transaction is entered in the database and the accounts are updated, the records cannot be altered, because they're linked to every transaction record that came before them (hence the term "chain"). Various computational algorithms and approaches are deployed to ensure that the recording on the database is permanent, chronologically ordered, and available to all others on the network.

E. COMPUTATIONAL LOGIC

✓ The digital nature of the ledger means that blockchain transactions can be tied to computational logic and in essence programmed. So users can set up algorithms and rules that automatically trigger transactions between nodes.

Basically, blockchain enables a ledger of transactions to be shared across a network of participants. When a new digital transaction occurs (for example, a loyalty point is issued, redeemed, or exchanged), a unique algorithm-generated token is created and assigned to that transaction. Tokens are grouped into blocks, and distributed across the network, updating every ledger at once. New transaction blocks are validated and linked to older blocks, creating a strong, secure, and verifiable record of all transactions, without the need for intermediaries or centralized databases. For consumers juggling an array of loyalty programs, blockchain could provide instant redemption and exchange for multiple loyalty point currencies on a single platform. With only one "wallet" for points, consumers would not have to hunt for each program's options, limitations, and redemption rules.

Adopting blockchain would enable companies to rapidly add and maintain loyalty partnerships without adding complexity to their programs.

IV. RESEARCH METHODS

The study is a survey that used both primary and secondary data. Primary data were obtained with the aid of standardized instrument (questionnaires) while the secondary data were obtained from extant literature. A convenience sample of total 450 Questionnaires were distributed to customers, and managers of the surveyed airlines (Arik Air, Aero Contractors, Peace Air, Air France, British Airways, Delta Airlines, Emirates, Egypt Air, Ghana Airways, Lufthansa German Airlines, Qatar Airways, Turkish Airlines, Virgin Atlantic, and among others) who could be reached by the researcher. 274 to airline customers and the remaining 176 to managers in the various airlines researched. Ouestionnaires with instructions were hand-delivered to respondents. Confidentiality was assured and incentive for participating in the research by making the report of the research available to the respondents if they so desire was promised. Out of the 397 completed questionnaires returned, 359 copies were found usable for the present study, resulting in an effective response rate of 79.7%. The data was analyzed using descriptive statistics. The research instrument showed high reliability and validity. The Cronbach alpha reliability coefficient is 0.86, and exceeds the value of 0.70 (suggesting adequate reliability, Cronbach (1947). The opinions of scholars of management and marketing confirmed the content validity of the measures used, while the pilot study result confirmed their predictive validity. The findings from the research are presented below.

V. RESULTS AND DISCUSSION

In order to accomplish the purpose of the research study, the key to research variables in the appendix are designed and used in Tables 1-3 to enable the researcher collect information relating to the impact of blockchain technology in enhancing customer loyalty programs in airline business operators in Nigeria. Table 1 shows the descriptive statistics of the degree of enhancement/ benefits of blockchain – based loyalty rewards network practice by the surveyed respondents.

Variable	Mean	STD DEV	Skewness	Kurtosis
A1 - Usage of blockchain technology is emphasized by the surveyed airlines operators in	4. 6205	1.6301	-1.1748	3.051
Nigeria.	4.6163	1.6902	-1.184	3.026
A2 Blockchain – based loyalty reward network encourage				
consumer to shop more consistently.				
A3 Blockchain – based loyalty reward network encourage customer to purchase a company product or services over that of competitors available in the	4.5255	1.3414	-1.362	3.180
Marketplace . A4 Blockchain – based loyalty	4.4261	0.9271	-1.123	2.3456
reward network provide stronger value for customer purchase behavior.	4.4201	0.9271	-1.125	2.34.30
A5 Blockchain – based loyalty reward network assist customers in having positive effect on other prospects.	4.6503	0.8464	-0.634	-0.563
A6 Blockchain – based loyalty reward network impact and improve customer experience	4. 2375	1.1710	-1.916	3.036
A7 Blockchain – based loyalty reward network provide the company with a wealth of	5 0163	1.0321	-1204	3.103
consumer information A8 Blockchain – based loyalty	5.1625	1.1054	-1.412	2.456

reward network encourage relationship development.				
A9 Blockchain – based loyalty	4.8640	1.0413	-0.932	0.137
reward network help in				
maintaining and retaining				
customers. A10 Blockchain – based loyalty	4,8013	0.8543	-0.941	-0.574
reward network encourage	.,0015	0.0040	0.741	0.574
customer satisfaction .		0.77		
A11 Blockchain – based loyalty reward network aid sustainable	4.8615	0.9862	-0.773	-0.256
competitive advantage .				
A12 Blockchain - based loyalty	4.6240	0.7845	-1.573	3.421
reward network help in building				
true attitudinal and behavioral loyalty.				
A13 Blockchain – based loyalty	5.0530	1.1284	-0.831	0.541
reward network encourage				
achievement of customer loyalty				
programs goals and objectives. A14 Blockchain – based loyalty	5.0333	1.0232	-0.732	0.415
reward network encourages brand				
recognition of product and				
services. A15 Blockchain – based loyalty	4.9050	1.2134	-1.482	0.558
reward network achieve higher	4.2050	1.21.34	1.402	0.550
level of growth of customer base,				
and even faster.	5 1750	1.1776	-0.477	0.622
A16 Blockchain – based loyalty reward network help program	5.4750	1.1//6	-0.4//	-0.632
providers and their customers in				
multiple ways .	10.55	0.077	0	0.077.0
A17 Blockchain – based loyalty reward network enable a	4.9124	0.8304	-0.730	0.674
transaction to be recorded and				
accessed by multiple involved				
parties in near real time, and				
making the process faster. A18 Blockchain – based loyalty	4,9435	0.8743	-0.890	0.508
reward network help create faster		0.0745	0.070	5.500
redemption for customers.	1.0.777	1.0.777	0	0.017
A19 Blockchain – based loyalty reward network help in creating	4.9130	1.8635	-0.742	0.643
memorable customer experience				
that would enhance loyalty.				
A20 Blockchain – based loyalty	4.8250	1.6750	-0.854	0.626
reward network creates database entry that are irreversible, and				
this prevent double spending ,				
fraud abuse , and any other type of				
Manipulation of any transactions. A21 Blockchain – based loyalty	4.9125	1.1115	-0.676	-0.135
reward network are tougher to	7.7123	1.1115	-0.070	-0.155
hark and also have the ability to				
provide security on multiple levels				
that were not possible previously. A22 Blockchain – based loyalty	5.0241	1.1257	-1.573	2.766
reward network is very easy to				
access through a digital wallet,				
both on a smart phone and online . A23 Blockchain – based loyalty	4.8250	1.0771	-1.337	2.267
reward network improve front –	T.0230	1.07/1	-1.337	2.207
end capabilities for customer				
experience .	5 0200	1.0591	1.057	1 27(2
A24 Blockchain – based loyalty reward network operate smoothly.	5.0300	1.0581	-1.257	1.3762
A25 Blockchain – based loyalty	5.1772	1.5024	-0.883	0.033
reward network provide reward				
providers access to control interaction with customers				
A26 Blockchain – based loyalty	4.9125	0.8236	-1.133	0.873
reward network act as customer				
loyalty solution for loyalty				
A27 Blockchain – based loyalty	5.2325	1. 3302	-0.632	0.238
reward network achieve higher	5.2323	1. 3302	-0.032	0.230
profitability				
A28 The extent of effective usage	4. 982	1.0381	-1.236	0. 418
of customer loyalty programs is related to blockchain technology,				
A29 The level or extent of		1	İ	İ
effective usage of blockchain	5.001	1.2012	-0.621	0.235
technology does affect the				
achievement of customer loyalty program goals and objectives.				
Source: Fieldwork 2017	7	•		

Source: Fieldwork 2017

Table 1: Descriptive Statistics of Blockchain – Based Loyalty Reward Network Measures (n = 359)

From the mean values in Table 1, it can be seen that all the variables (A1 - A29) witnessed encouraging degree of blockchain – based loyalty reward network benefit and support the statement, that blockchain technology enhance customer loyalty programs of airline business in Nigeria. A16

with mean value of 5.47 having the highest extent of support to statement asked - Blockchain - based loyalty reward network help program providers and their customers in multiple ways. There is a general consensus in extant literature that support that blockchain – based loyalty reward network support customer engagement, program management, tokenization of loyalty points, assist single wallet platform in managing multiple membership programs, gives a clear understanding of current, unused loyalty points and where they reside in the loyalty ecosystem, aid near-real-time credit of rewards points, make reward readily redeemable, link customers to more service providers and thus providing fuller customer experience, increase redemption options, give nearreal- time capability and interlinked programs, provide more transparent reporting and tracking with byproduct of data analysis to provide more insight into customer behavior, enable a transaction to be recorded and accessed by multiple involved parties in near real time, help in reducing loyalty provider system management cost, reduce costs associated with errors and fraud, enabling a frictionless system, enable transaction process near real-time, assist in providing a secure environment, and to a large extent assist in creating unique business opportunities and among others (Lowenstein, 2002; Peter Clark 2010; Kannan P. K. & Bramlett Matthew D. 2000; Reinatz Wener 2004; Dowling and Uncles 1997; David Schatsky and Craig Muraskin 2015; Lewis Michael 2004)

It is believed that that blockchain – based loyalty reward network program gives solution to loyalty provider and customer's problems. This can also be seen in A26 having a mean of 4. 91. Likewise, A27 with mean value of 5.23 (Blockchain – based loyalty reward network achieve higher profitability, and A25 with mean value of 5.17 (Blockchain – based loyalty reward network provide reward providers access to control interaction with customers) followed respectively. This has been supported by extant literature (Lowenstein, 2002; Peter Clark (2010; Reinatz Wener 2004)

Based on surveyed airline firms and customers, variables A 6 (Blockchain – based loyalty reward network impact and improve customer experience), and A4 (Blockchain – based loyalty reward network provide stronger value for customer purchase behavior) with mean value of 4.25 and 4.42 received the least emphasis among the surveyed respondents. This can be explained from the perspective that all respondents believed that blockchain – based loyalty reward network enhance business.

The results above suggest that blockchain technology enhance customer loyalty programs of airline business in Nigeria to a reasonable extent. However, it should be noted that the emphasis on blockchain technology in any organization, sector, industry or country is a question of degree. The sign of effective usage of blockchain technology in enhancing customer loyalty programs of the airline operators is exhibited by the degree of profitability, total sales volume, number of customers, and achievement of the customer loyalty program goals.

VI. TEST OF RESEARCH HYPOTHESES

RESEARCH HYPOTHESIS ONE

Ho: stated that usage of blockchain technology is not emphasized by the surveyed airlines operators in Nigeria.

With the generation from the mean value in table 1 which shows the full result of the descriptive statistics of the Blockchain - based loyalty reward network, the first hypothesis in the study was put to test, and from the mean column in table I it can be seen that all the variable (A1 - A29)witnessed encouraging degree between 4.25 - 5.47 respectively, experiencing average support for the researchable questions. This suggests that Blockchain - based loyalty reward network is emphasized and practiced to a reasonable extent in the surveyed airline operators in Nigeria. Hence the null hypothesis is rejected and the alternative hypothesis is hereby accepted. Likewise, in t - test analysis (not recorded here), for the first hypothesis tested at 5 percent level of significance, the t score value = 4.476 and the t table value = 1.96. Since the t score value of 4.476 exceeds the t table value of 1.96 values, therefore the null hypothesis was rejected and the alternative hypothesis was accepted. Hence, usage of blockchain technology is emphasized by the surveyed airlines operators in Nigeria.

RESEARCH HYPOTHESIS TWO

The second hypothesis states that: Ho: - the extent of effective usage of customer loyalty programs is not related to blockchain technology, With the generation from the mean value in table 1, the second hypothesis in the study was put to test. From the mean column in table I, it can be seen that A28 – The extent of effective usage of customer loyalty programs is related to blockchain technology witnessed encouraging degree of support of 4.98. This suggests that the extent of effective usage of customer loyalty programs is related to blockchain technology in the surveyed airline in Nigeria. Hence the null hypothesis is rejected and the alternative hypothesis is hereby accepted.

Likewise, in the t-test analysis (not recorded here), tested at 5 percent level of significance, the t-score value = 5.629. The t score value of 5.629 exceeds the t – table value of 1.96. Since the t-score value of 5.629 exceeds the table value of 1.96, therefore the null hypothesis was rejected and the alternative hypothesis was accepted. Hence it can be concluded that the extent of effective usage of customer loyalty programs is related to blockchain technology.

RESEARCH HYPOTHESIS III

The third hypothesis states that: H3o: The level or extent of effective usage of blockchain technology does not affect the achievement of customer loyalty program goals and objectives. With the generation from the mean value in table 1, the third hypothesis in the study was put to test. From the mean column in table I, it can be seen that A29 – The level or extent of effective usage of blockchain technology does affect the achievement of customer loyalty program goals and objectives witnessed encouraging degree of support of 5.001. This suggests that the level or extent of effective usage of blockchain technology does affect the achievement of customer loyalty program goals and objectives of the surveyed airline operators in Nigeria. Hence the null hypothesis is rejected and the alternative hypothesis is hereby accepted. Likewise, in the t-test analysis (not recorded here), tested at 5 percent level of significance, the t-score value = 5. 485 and the t score value of 5.485 exceed the t – table value of 1.96. Since the t-score value of 5.485 exceeds the table value of 1.96, therefore the null hypothesis was rejected and the alternative hypothesis was accepted. Hence it can be concluded that the level or extent of effective usage of blockchain technology does affect the achievement of customer loyalty program goals and objectives.

From the demographic profile of respondents in table 3 (see appendix), considering respondents response with respect to title, address, phone number, category of industry of respondent company, educational qualification, marital status, gender, ages and working experience, respondents working experience ranged from 5 to 30 yrs while respondent ages ranged mainly from 30 to 50 yrs. Generally, the demographic profiles of the respondent sample represent a rich data set with regard to ages, working experience, educational qualifications, and title.

VII. CONCLUSION AND SUGGESTION FOR FURTHER RESEARCH

The research has empirically investigated the impact of blockchain technology in enhancing customer loyalty programs in airline business in Nigeria. It has been found that blockchain technology significantly influenced the enhancement and achievement of customer loyalty programs of airline operators in Nigeria, and that blockchain will revolutionize business and redefine companies and economies. Blockchain technology have provided the tools for marketing managers to create a new generation of being able to assess the level of control companies want to have over customer data and activities, as well as security/privacy issues that always arise with every additional participant of the network. It is believed that owners of firms and managers of organizations who understand and appreciate the significance of a blockchain-supported loyalty platform are the ones most likely to thrive. Blockchain program is intended to streamline loyalty and reward programs for the airlines and will help promote access to events. From the research findings, some conclusions can be made that usage of blockchain technology is emphasized by the surveyed airlines operators in Nigeria, and that the extent of effective usage of customer loyalty programs is related to blockchain technology. Hence, the level or extent of effective usage of blockchain technology does affect the achievement of customer loyalty program goals and objectives.

The study confined itself to blockchain – based loyalty reward network program by airline operators in Nigeria. For effective generalization, this research therefore should be replicated in other developing economies and the results be compared so as to establish whether there is consistency in the results. Thus the findings may not be a thorough reflection of the developing nations as a whole. .

These results may be useful to both academics and business practitioners with interest in airline business.

APPENDIX

TIANTAN				
VARIABLES		NTAGE %		
1. Title of Respondent	Airline operators / Customers			
- CEO/MD/Chairman	-	28.8		
- Manager	98.4	22.3		
- Self employed	-	44.1		
No response	1.6	4.8		
_				
2. Address				
Given	88.2	21		
Not given	11.8	79		
3. Phone number				
Given	80.6	12.7		
Not given		9.4		
8		7.3		
4. Category of Business		,		
Service	99.2	58.4		
Manufacturing	<i>,,,_</i>			
No response	3	8.4		
i to response	0.8			
		3.2		
5. Working experience				
01 - 04 yrs	4	5.0		
		2.5		
05-15 yrs				
16 - 30 yrs		9.6		
31 – above		2.8		
		5.4		
	6	0.3		
	2	4.4		
6. Gender	_	5.0		
Male		5.3		
Female	63.2			
No response	24.7			
	3	6.8		
		-		
7. Educational				
Qualification	59.6			
B. SC / HND	17.4			
Masters	0.6			
Doctorate	21.0			
PGD	1.4			
No response				
8. Marital Status				
Single	31.2			
Married	66.8			
No response	2.0			
9. Age				
01 – 29	2.4			
30 - 40	56.1			
41 - 50	34.2			
51 - 60	7.3			

61 and above

Source: Field Survey, 2017.

Table 3: Demographic statistics of respondents

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