OBSERVED ISSUES IN CLOUD-BASED WEB COMMERCE ADOPTION FOR THE FINANCIAL TRANSACTIONS IN HYDERABAD

Srinivasa Rao Gundu[1], Panem Charan Arur[2], Thimmapuram Anuradha[3]

[1] Reseach Scholar, Department of Computer Science, Dravidian University,
Kuppam, Andhra Pradesh, India.

[2] Reseach Scholar, Department of Electronics, Goa University,
Taleigao Goa, Goa, India.

[3]Professor, Department of Computer Science, Dravidian University, Kuppam,
Andhra Pradesh, India.

Email: [1]srinivasarao.gundu@gmail.com, [2]panem.charan@gmail.com
[3]rajamaata@yahoo.co.in

Corresponding Author: **Panem Charan Arur**

Abstract

In the present day scenario, maximum financial transactions are being carried out with the help of Cloud-Based Web Trade (CBWT). These Cloud Oriented Web-Based Financial Transactions provide numerous advantages to the end-users. The Commodities are available at a much cheaper rate and numerous choices are left over to the customers and they are also reducing the shopping time. Particularly the time like Pandemic Situation would provide a better way to purchase multiple goods at their fingertips. There are many numbers of reasons are leftover behind the success and the downfall of such Cloud Oriented Web-Based Financial Transactions. Some of these include financial conditions, technical feasibility, and geographical location, etc. However, nowadays there it is facing many Ethical, Service-oriented, and financial challenges in this area. There is needed to make a SWOT Analysis since it is going to be the major financial gateway for numerous people.

Keywords : Cloud-Based Web Trade (CBWT), SWOT Analysis, Online Banking, Hacking, Security, Business.

I. Introduction

Cloud Oriented Web-Based Financial Transactions like Amazon, Flip cart, etc are presently indispensable parts of the global market [I]. They are the major trade support to the market worldwide. Many countries like India have opened their markets for the global arena for the free market. Financial and Trade based reformations insisted by the world bank have made the world a global economic opportunity.

Srinivasa Rao Gundu et al

Thereby integrating the Developing Countries with Developed Countries has given many opportunities for the youth in terms of employment and equal opportunities worldwide. However technological revolution has given major support for this wide success. Web-based technological hierarchy has become a boon   [II] for E-commerce sites and Online Banking Systems and Profit Oriented Electronic Educational Training. Cloud Oriented Web-Based Financial Transactions not only symbolizes our technological might and right but also symbolize cutting edge success of advancement of our civilization, electronic age along with dynamic business attitudes that are being carried out across the globe.

Cloud Oriented Web-Based Financial Transactions can be defined as 'any financial transaction(s) that are carried out using some world wide web merely using some web browser. This may be somebody has ordered some food online, ordered some furniture, or some other goods or commodities using some online transactions. Generally, all such transactions are being carried out by cloud computing technology. This cloud-based technology acts as a mediator for all their financial and money-related transactions between the banks and the vendor and the banks and the customer [IV]. Business is a term generally used here in this context but they are all financial transactions by nature.

It is not only creating and making opportunities worldwide but it is also creating a new economy at global stature. With their huge potentiality and gigantic spreading nature, these web-based financial transactions are changing the face of the traditional definition for business [V]. This internet-based interactive business platform has left good and bad records so far. This technology not only made people happy at the moment with their standard services but also made the public feel panic by their fraudulent activities.

II.   Existing related works on current issues

The electronic gadgets which are meant for communication [VI] between the people such as mobile phones and other household devices like televisions, refrigerators, etc are now considered and being controlled by web-based activities. Many upcoming programming languages are including their API's with web-based financial transactions. Today 'R' is a new programming language available for many calculation purposes like statistical information, making graphs, etc. A project is developed with the name BDIT-C2 which would run in VMs that are hosted by the developer.

Based on the most acceptable and believable internet and its security features [VII], today's web-based economy is being developed and spreading. Web-based purchasing and selling are increased due to the security provided on the internet. But fraud has become a new challenge for the users who steal not only the money on the internet but they are also stealing the faith of web-based finances and their transactions. There must be a change to this scenario. VAT algorithm is proposed in this study by Abdulrazaq who introduced VAT based clustering approach for improved dataset amalgamation into the cluster. The work focused on modeling the system which has amalgamation into the cluster.

Srinivasa Rao Gundu et al

Nowadays blockchain is an upcoming software system. It has wide usage in web- based financial transactions. It has many privacy protection mechanisms. It is not easy for anybody to find the transaction and its details [VIII] done between two parties. RZKPB is a mechanism to ensure to overcome this limitation it has proposed a novel privacy-preserving method to retain the transactional privacy of the public transactions.

Nowadays 3rd party online to offline platforms are being grown. Online to offline is a web-based transactional model which has more privacy concern [IX] and overcomes many challenges. It has a hybrid cloud-based privacy-preserving mechanism. In this, it analyzes the problems and finds an optimum solution keeping because of security and privacy. It is a combination of physical business with online transactions. The transactions are done using some online payment mode.

Many cloud-based web transactions will be deployed in different geographical location-based data centers. Whenever one data center fails the other data center would handle the failure. Data replication one simple operation which handles the issues related [X] to fault tolerance.

The study carried out by Chang has made a few directions to improve mobile- based payment. This model provides anonymousness among the vendor [XI] and the purchaser. With the help of a mobile operator, the authentication can be provided. This protocol becomes more practice and reliable in comparison with other protocols. There is no need for 3rd party authentication. Mobile transactions are made simple and easy of doing with this mechanism. Web-based cloud-oriented these financial transactions could be much benefited from this mechanism.

III. Cloud-based financial transactions in India and worldwide

Cloud-Based Financial Transactions in India and worldwide is an inherited concept from Global Trade Opportunities (GTO). Indian society is much aware of this for ages. Ancient India is at the Global Platform and way back in a few centuries. Foreigner's Envy, India's Pride can be a right description of words to represent the stature and the glory of the Indian Trade system before the foreign invaders could step on this land way back a few hundreds of years.

Global business opportunities are being raised in and around the Indian Society soon after the success of e-commerce sites started their business in India. Today the Internet is available on their Smart Mobile Phones and Banks are providing many Financial Transactions online. Today long Queues in the local banks and depositing their money are much more way back leaving it in past. Today's banks are highly sophisticated and they provide much more services incompetence with much of its ease to impress their customers and grab much of the business. Payment is done in a more sophisticated safe and secured manner to avoid any malfunctioning. OTP (One time Password) is a quite common word that is even known to a very layman in our society. Virtual Stores on the Internet are accessible around the clock and anyone can order any commodities 24 Hours a day, 7 days a week, 30 days a month, and 365 days in a year. The days are gone that a single company or a single organization providing its vital services to the customers. Now many companies are tied up together to take care of manufacturing, packaging, delivery, and billing of the goods.

Srinivasa Rao Gundu et al

Customers or the clients are given topmost priority by providing them many modes of payment like pay by debit card, pay by credit card, and pay by cash on arrival.

At present days the global market is being flooded with several cloud-based financial sites leaving many more options for the customers. A variety of innovative and interesting products along with reliable services are being offered by the vendors worldwide. This cloud-based shopping is not restricted to some of the developed countries like that of the USA and the United Kingdom. It is now at each one of our seldom making us feel happy and feel proud [XII]. Today Indian Mango can be purchased by a Japanese citizen and an Arabian Date can be ordered by an Indian customer. British Antique pieces can be owned by a Somalian person in an online auction, a Cuban Cigar can be bought by an American Citizen. Restrictions worldwide have gone with the wind and it is today a global economic alliance. This penetrated escalation of cloud-based transactions made the governments view carefully leaving them to audit from time to time.

Erupted technological advancements and ejected advantages of cloud-based transactions can be given as below,

(i). Improved Utilization and management of new clients: Cloud-based Web Trade has endeavored to improve the implementation of commercial and financial transactions worldwide with ease. It has spread to many fields of business.

(ii). Effective Trade transactions: Cloud-based Web Trade is leading to more effective performance [XIII] with its improved quality. However major sections of clients are much more satisfied with this mode of business.

(iii). Attractive performance: Quality is assured, competitive prices, reliable services, and customer satisfaction-oriented business performance are possible in this mode of business.

(iv). Flexible Financial Effectiveness: It is possible to achieve more economic and financial flexibility and efficiency and faster business [XIV] are possible with this mode of business. It is an interactive mode, digitally accelerated and virtually available electronic trading of the 21st century's real-time environment.

(v). Implementation and utilization of Information: This mode of business implements information shared transactions between two or more persons or

(vi). organizations with the help of the cloud-based web. Information plays a vital role in this field in all of its business transactions.

(vii). Integrated transactions: This mode also incorporates management in its transactions. Customers, Vendors, and Banks involve in routed transactions [XV] that are being carried out absolutely in an Integrated Environment.

(viii). Increment in profit: Profit to the organizations being increased due to this cloud-based web trade. Much of the youth today are interested in this mode of business. However middle-aged persons and old age people slowly being accustomed to this mode.

Srinivasa Rao Gundu et al

(ix). Smooth the progress of network form: This mode also increases the flexibility in its transactions, partnership, and product distribution around the world. This online transaction management assumes a central role in supply chain management.

(x). Representing Organizational Model: This represents an Organization. This represents an emerging techno trend in the modern-day scenario.

IV. Prospecting infringement in security mechanism in cloud-based financial transactions

Cloud computing has gained much more popularity worldwide. The academic circles are more responsible for this wide range of success. The industry has endorsed it. The general public started using this in their daily routine. This cloud computing aims to provide customized and flexible services to the clients [XVI].

The services are provided in a transparent mode and the services are allocated in a cloud. Cloud is a collection of computing devices and resources interconnected using the internet. Data is being stored in cloud computing has become a major service to the public and enterprises. Data storage has posed many new challenges in creating and security and reliability of the storage.

The accessibility of such data must be done in a gateway of the authentication process mechanism. In the last few years storing the data is considered one of the major concerns in this Industry. The advantages of network-based applications have led to the transition from the server-based attached storage to the distributed storage. Digital signatures, encryption, firewalls are a few practices that are well managed by the software industry way back before the existence of cloud computing.

Web security plays an important role in this time of cloud computing. A particular website server is the 1st gateway that is considered to protect much of the customer's data and online resources[XVII]. A cloud would run continuously to provide millions of people worldwide and obtain millions of rupees all the time.

Hacking the data or data theft is one of the terrific activities invented by terrific scientists and continued by scientific terrorists worldwide.

Web-based threats are common nowadays. The web-based security is observed that it is in vulnerable conditions, the cyber attacker will implement sophisticated tools which would take the advantage of system vulnerabilities [XVIII]. Generally, these

attacks occur in Authentication, Authorization, Client-side attacks, command execution, Information disclosure, and logical attacks.

Authentication is a process of verifying a simple claim that a particular subject is being made to act on behalf of some person or organization for a particular work. Authentication attacks target the web server's way of evaluating the process of the user, services, or applications. Generally, it is noted many number times that attackers use some Brute force algorithms and employ some automated process to make a wild guess of a username and password by using some trial and error method. Password recovery is quite common and it is being used as 'forget password' in many cases.

Srinivasa Rao Gundu et al

Authorization is a process of verifying a particular subject whether can perform a particular work. Insufficient authorization happens due to the improper protection of sensitive data. Client-side attacks will attract the users to make a click on a particular link provided by the fraudulent person [XIX].

When the user clicks the link immediately a malfunctioning occurs and leads to a malicious web page. It thefts all credentials like user name and password mechanism. This mechanism will impersonate him/her and can do all activities what the owner of the system could do on their own. XXS is such a mechanism[XX]. Usually called Cross-Site Scripting. This will penetrate the attacker send .exe file in the works in the user's browser. This code is generally written in VB Script, JavaScript, and Java. This malfunctioning code has the capacity to read, alter, and send super-sensitive information on the web like cookies, etc files.

In cloud computing, the SaaS Service model provides the services to the end-user based on some subscriptions either for monthly rental or yearly or even bi-annual subscription-based. Based on the subscription and their period expiry date appropriate action is taken either continuation of service or stopping the service.

Sometimes when the business relocates the Information Technology operations costs [XXI] apart from the software and hardware infrastructural costs.

Therefore there is every chance of unauthorized access of the same account without the proper authorization check because updates are released without the need for users to install new software. SaaS has the drawback as it stores the user's data on the cloud provider's server. Even though the cloud services are location independent, but the user request certainly makes an impact on the server and its performance.

As since there is a chance of unauthorized access to the data it should be prevented and to do so it needs to have only one entry and exit point. A single Entry Point in the cloud Computing Environment is needed [XXII].

Security has a pivotal role in the cloud environment. Mainly it addresses the logical and security-related issues among different models, platforms, and infrastructure. Cloud computing requires a better method to provide a safer and highly efficient service. A large number of third-party software and infrastructures are being implemented in cloud computing. Data centers use a large amount of electricity.

There is a need for better scheduling strategies since there is a need to save electric power. Security plays a major role in the cloud computing environment.

It addresses the model, platform, and infrastructure-related and logical-related issues. Since the service level agreement is set up among the end-users and service providers, quality of service and service analysis need to be properly monitored. This technology provides effective opportunities for a variety of dynamic shared services. The cloud suppliers (cloud service providers such as IBM, Microsoft, Rackspace, etc,) provide numerous assurances in service level agreements in the services that they offer.

The service level agreement is not reliable among cloud suppliers even though they offer services with comparable functionality. The clients are uncertain

whether they can recognize a reliable cloud supplier just in light of its service level agreement. To help the clients, and cloud suppliers, some points are noteworthy here.

(i). Simple and advanced application interfaces play a key role in cloud computing.

(ii). Data Delivery: due to resource constraints, cell phones have potential difficulties in accessing the cloud and information transmission.

(iii). Task division: The researchers need to separate mobile applications from other cloud applications. These applications should be divided into any number of subtasks. There are no particular algorithms existing or even there is no optional strategy for the division of tasks in mobile cloud computing.

(iv). Better Service: There is a need to explore more to get solutions to make suitable, easy, and interactive services for mobile devices since there is no such service is existing.

(v). Standard Interface: presently available interfaces are developed keeping in view of internet-based middleware. These are not specially developed keeping in view of mobile gadgets. Apart from this is the compatibility within the mobile device eventually may become an issue. To solve the problem, protocol, and an interface with the achievable standard needs to be developed.

V. Research Methology

This particular study is carried out by a survey. This study is carryout by a Descriptive Sample Survey Research Design (DSSRD). This design is appropriate to our present-day scenario because the research study has generated the data through the standardized collection and well-defined related variables.

The accessible population of this research consists of 100 people in Hyderabad. These people reside in three different areas of Ameerpet, Dilsukhnagar, and Mehdipatnam. They range from different financial backgrounds and socio-economical backgrounds. However, they are chosen randomly without any bias or prejudices.

The study was carried out by providing a Questionnaire and asked to fill it up. It is observed some of the participants could not write but they assisted by providing vocal information. A few people stringently said their details should not be disclosed. Overall survey has conducted satisfactorily. However, most of them had sophisticated gadgets like laptops, Smart mobiles, tabs, and internet access.

But a few people are senior citizens and they do not have access to such gadgets and in fact, they depend on their children/neighbor/known people for their usage of web-based financial transactions and online shopping. The response given by the participants is gathered and validated. This particular study has used simple random sampling techniques. For the Analysis purpose pictorial representation is given.

Srinivasa Rao Gundu et al

V. Analysis

Question -1: Whether to opt for Cloud-based web commerce for efficient financial transactions?

Total Number of Participants -100 Response for Yes- 85 out of 100 Response for No- 10 out of 100

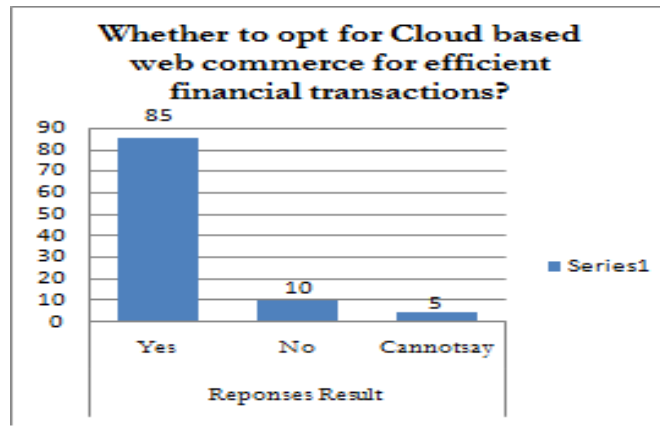Response for cannot say - 05 out of 100

Fig 1. Survey Response -1

Question -2: What is the major dissatisfaction with Cloud-based web commerce for efficient financial transactions?

(a). Satisfied - 78 out of 100 (Yes)

(b). Not satisfied with the Security & privacy lacking in Financial Transactions - 17 out of 100 (No)
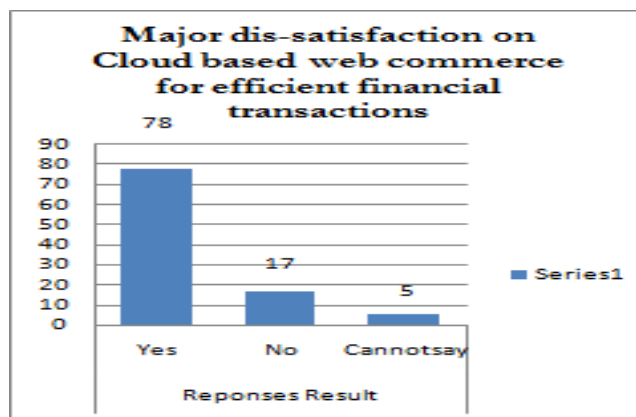
(c). cannot say -5 out of 100 (Cannot say)

Fig 1. Survey Response -2

Srinivasa Rao Gundu et al

Question - 3: Why you do like Cloud-based web commerce for efficient financial transactions?

(a). Easy Accessibility & Time saving - 82 out of 100 (Yes)

(b). Less Cost - 12 out of 100 (No)
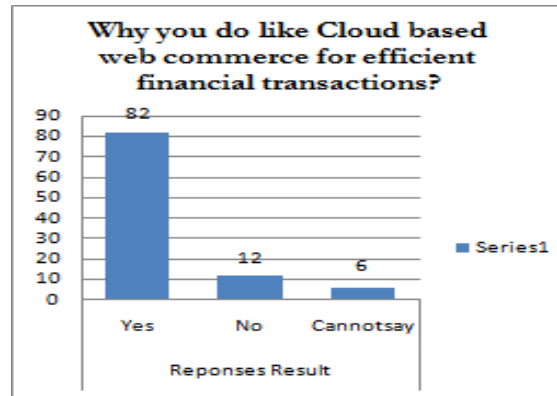
(c). cannot say -6 out of 100 (Cannot say)

Fig. 3. Survey Response -3

VI. Discussion

In this study people's intention is to try to find whether Web-based web commerce to adopt for all financial transactions. The purpose of this survey is deemed to be served by the cooperation and support of the participants. In the case of most of the participants, it is observed that they have responded quite impressively. A few people wish to refrain from their identity. In this analysis, it is questioned whether to opt for Cloud-based web commerce for efficient financial transactions? The total number of participants is 100, Response for Yes is 85 out of 100, Response for No is 10 out of 100, Response for cannot say is 05 out of 100. It is questioned that what is the major dis-satisfaction on Cloud-based web commerce for efficient financial transactions? The response for Satisfied is 78 out of 100 (that is Yes), the Response for Not satisfied with the Security & privacy lacking in Financial Transactions is 17 out of 100 (that is No), The response for cannot say is5 out of 100 (Cannot say). It is questioned Why you do like Cloud-based web commerce for efficient financial transactions? The response for Easy Accessibility & Time saving is 82 out of 100 (that is Yes), The response for Less Cost is 12 out of 100 (That is No), the response for cannot say is 6 out of 100 (that is Cannot say).

VI. Results obtained

In this particular study is understood that most of the Apps available for financial transactions are not safe. Much of them are prone to get compromised in terms of data loss. A few apps are not working appropriately during the time of high load. A few seniors citizens have directly expressed their dissatisfaction with their privacy loss and disclosing their anonymity in their financial transactions. When a customer has done some legal financial transactions he/she has every right to protect

Srinivasa Rao Gundu et al

his privacy. Web-based transactions have a major breach in this field. Most of the present youth are almost addicted to online payments and online shopping. The attitude of the present generation is revolving around web-based commerce with the aid of cloud computing. The efficiency has to be increased in terms of better speed, security and also.

VII. Findings

Lack of high- fi equipment and the latest smart mobiles is a strong hurdle for this based cloud aided financial transaction. Either the low price gadgets with the equal price of the basic mobiles can solve the problem or the Governments has to initiate to provide such equipment through some schemes. We-based transactions not only increase the transparency in financial transactions but also increases the efficiency of auditing of accounts. Reduction of block money is possible in this way. Therefore Governments have to focus to encourage their citizens to make web-based financial transactions. Digital literacy is also considered to be a second major hurdle for such financial transactions. There is a need to increase this. A digitally Educated Society could provide improvements in society with more legitimacy and transparency in its financial transactions.

VIII. Conclusion

Thereby integrating the Developing Countries with Developed Countries has given many opportunities for the youth in terms of employment and equal opportunities worldwide. Web-based transactions have a major breach in this field. Most of the present youth are almost addicted to online payments and online shopping. However technological revolution has given major support for this wide success. Web-based technological hierarchy has become a boon. In the present day scenario, maximum financial transactions are being carried out with the help of Cloud-Based Web Trade (CBWT). These Cloud Oriented Web-Based Financial Transactions provide numerous advantages to the end-users. The Commodities are available at a much cheaper rate and numerous choices are left over to the customers and they are also reducing the shopping time.

I. In this particular study is understood that most of the Apps available for financial transactions are not safe. Much of them are prone to get compromised in terms of data loss. A few apps are not working appropriately during the time of high load.

II. A few seniors citizens have directly expressed their dissatisfaction with their privacy loss and disclosing their anonymity in their financial transactions. When a customer has done some legal financial transactions he/she has every right to protect his privacy.

III. Lack of high- fi equipment and the latest smart mobiles is a strong hurdle for this based cloud aided financial transaction. A digitally Educated Society could provide improvements in society with more legitimacy and transparency in its financial transactions.

Srinivasa Rao Gundu et al

VI. Acknowledgements

Conflicts of Interest:

The authors declare that they have no conflicts of interest regarding the paper.

References

I.   A. A. Abdulrazaq, M. B. Abdulrazaq, I. J. Umoh and E. A. Adedokun, "Fraud Detection in Credit Card and Application of VAT Clustering Algorithm: A Review," 2019 2nd International Conference of the IEEE Nigeria Computer Chapter (NigeriaComputConf), Zaria,Nigeria, 2019, pp. 1-7, doi: 10.1109/NigeriaComputConf45974.2019.8949660.

II.   A. Mitrokotsa, N. Komninos and C. Douligeris, "Intrusion Detection with Neural Networks and Watermarking Techniques for MANET," IEEE International Conference on Pervasive Services, Istanbul, 2007, pp. 118- 127.

III.   Anitha Vemulapalli, Nandula Anuradha, Geeta Mahadeo Ambildhuke. 'RISK ASSESSMENT FOR BIG DATA IN CLOUD COMPUTING ENVIRONMENT FROM THE PERSPECTIVE OF SECURITY, PRIVACY AND TRUST'. *J. Mech. Cont. & Math. Sci., Vol.-15, No.-8, August (2020) pp 391-402.* DOI : 10.26782/jmcms.2020.08.00036

IV.   B. Li and Y. Wang, "RZKPB: A Privacy-Preserving Block chain-Based Fair Transaction Method for Sharing Economy," 2018 17th IEEE International Conference On Trust, Security And Privacy In Computing And Communications/ 12th IEEE International Conference On Big Data Science And Engineering (TrustCom/BigDataSE), New York, NY, 2018, pp. 1164-1169, doi:10.1109/TrustCom/BigDataSE.2018.00161.

V.   B. Galloway and G. P. Hancke, "Introduction to industrial control networks," IEEE Communications Surveys Tutorials, vol. 15, no. 2, pp. 860–880, Second 2013.

VI.   C. Chang, J. Yang and K. Chang, "An Efficient and Flexible Mobile Payment Protocol," 2012 Sixth International Conference on Genetic and Evolutionary Computing, Kitakushu, 2012, pp. 63-66, doi: 10.1109/ICGEC.2012.43.

Srinivasa Rao Gundu et al

VII.   C. Piao, Y. Zuo and C. Zhang, "Research on Hybrid-Cloud-Based User Privacy Protection of O2O Platform," 2016 IEEE 13th International Conference on e-Business Engineering (ICEBE), Macau, 2016, pp. 214-219, doi: 10.1109/ICEBE.2016.044.

VIII.   G. A. Lopes Ferreira et al., "Internet of Things and the Credit Card Market: How Companies Can Deal with the Exponential Increase of Transactions with Connected Devices and Can Also be Efficient to Prevent Frauds," 2015 12th International Conference on Information Technology - New Generations, Las Vegas, NV, 2015, pp. 107-111, doi: 10.1109/ITNG.2015.23.

IX.   G. Drakopoulos, E. Kafeza and H. Al Katheeri, "Proof Systems In Blockchains: A Survey," 2019 4th South-East Europe Design Automation, Computer Engineering, Computer Networks and Social Media Conference (SEEDA-CECNSM), Piraeus, Greece, 2019, pp. 1-6.

X.   H. D. Thai, C. Lee, D. Niyato and P. Wang, "A Survey of mobile cloud computing: Architecture, applications, and approaches," Wireless Communications and Mobile Computing, vol. 13, no. 18, 2013, pp. 1587–1611.

XI.   Hu Dongxing,et al. Information Network Security Situation Aware Technology Based on Artificial Intelligence [J]. Journal of Information Communication, 2012 (6):80-81.

XII.   H. Elayan, O. Amin, R. M. Shubair, and M.-S. Alouini, "Terahertz communication: The opportunities of wireless technology beyond 5G," in Proc. 2018 International Conference on Advanced Communication Technologies and Networking, Apr. 2018, pp. 1–5.

XIII.   J. Ni, X. Lin, and X. S. Shen, "Efficient and secure service-oriented authentication supporting network slicing for 5G-enabled IoT," IEEE JSAC, vol. 36, no. 3, Mar. 2018.

XIV.   J. Zhu, "Capacity-power consumption and energy- efficiency evaluation of green wireless networks," China Communications, vol. 9,no. 2, 2012, pp. 13–21.

XV.   K. Kotobi and S. G. Bilen, "Secure blockchains for dynamic spectrum access: A decentralized database in moving cognitive radio networks enhances security and user access," IEEE Veh. Technol. Mag., vol. 13, no. 1, pp. 32–39, Mar. 2018. doi:10.1109/MVT.2017.2740458.

XVI.   M. H. Bhuyan, D. K. Bhattacharyya and J. K. Kalita, "Network Anomaly Detection: Methods, Systems and Tools," in IEEE Communications Surveys & Tutorials, vol. 16, no. 1, pp. 303-336, First Quarter 2014.

XVII.   M. T. Hossan, M. Z. Chowdhury, M. Shahjalal, and Y. M. Jang, "Human bond communication with head-mounted displays: scope,challenges, solutions, and applications," IEEE Communications Magazine, vol. 57, no. 2, pp. 26-32, February 2019.

Srinivasa Rao Gundu et al

XVIII. R. Henry, A. Herzberg, and A. Kate, "Blockchain access privacy: challenges and directions," IEEE Security & Privacy, vol. 16, no. 4, pp. 38-45, Jul./Aug. 2018.

XIX. R. Li, "Towards a New Internet for the Year 2030 and Beyond," in Third Annual ITU IMT-2020/5G Workshop and Demo Day, 2018.

XX. R. Tripathi, S. Vignesh, V. Tamarapalli and D. Medhi, "Cost Efficient Design of Fault Tolerant Geo-Distributed Data Centers," inIEEE Transactions on Network and Service Management, vol. 14, no. 2, pp. 289-301, June 2017, doi: 10.1109/TNSM.2017.2691007.

XXI. S. Ali, N. Rajatheva, and W. Saad, "Fast uplink grant for machine type communications: Challenges and opportunities," IEEE Comm. Mag., vol. 57, no. 3, Mar. 2019.

XXII. T. Aste, P. Tasca, and T. Di Matteo, "Blockchain technologies: the foreseeable impact on society and industry," Computer, vol. 50, no. 9, pp. 18-28, 2017.

XXIII. Tallapally Sampath Kumar, B. Manjula. : 'EFFICIENT MULTI-LEVEL ENCRYPTION PROCEDURE FOR CLOUD SECURITY'. *J. Mech. Cont.& Math. Sci., Vol.-15, No.-6, June (2020) pp 402-410.* DOI : 10.26782/jmcms.2020.06.00031.

Srinivasa Rao Gundu et al