iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 9 **Issue:** II **Month of publication:** February 2021

DOI: https://doi.org/10.22214/ijraset.2021.32995

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429
Volume 9 Issue II Feb 2021- Available at www.ijraset.com

Artificial Intelligence, Smart Contract, and Islamic Finance

Sai Sruthi Gadde[1], Venkata Dinesh Kalli[2]
[1, 2]*(Software Developer, CVG, Medtronic, IND)*

Abstract: ***This examination looks at the two significant parts of the most recent innovation issues in Islamic money that identified with Artificial Intelligence (A.I.) and smart contract.***
A smart contract is a P.C. code running on top of a square chain containing many rules under which the gatherings to that savvy contract consent to associate with one another.
This article's fundamental targets are to assess the activities of A.I. and keen agreement and make the correlation between the tasks of A.I. and super understanding. This article reasons that A.I. and the sensitive deal will have a massive effect on the Islamic finance industry's future.
Keywords: Artificial intelligence (A.I.), smart contract, digital banking, Islamic Finance.

I. PRELIMINARY

Artificial Intelligence (A.I.) is the knowledge machine that can think. Now, Artificial Knowledge offers quick headway in innovation that copy human insight. It's accepted that insight machines related to human reasoning exercises include dynamic and critical thinking learning.

Educator J. McCarthy (1955) set up Artificial Intelligence (A.I.) during the first human-made reasoning meeting at Dartmouth gatherings in 1956. Bogue (2014) affirms this advancement, who depicted Artificial insight as an innovative specialist framework that makes moves to boost the odds of accomplishment in a specific assignment. Skillet (2016) uncovered that A.I. turns out to be amazingly basic when it applies to innovation. As indicated by the research report on human-made brainpower, this market must be worth $16.06 billion by 2022.

Under the subheading "Point of view toward Artificial Intelligence in the Enterprise 2016", a special message has been produced by Narrative Science as a team with National Business Research Establishment. This report sent an online study with a sum of 235 respondents.

The outcome unmistakably shows that 58% of the respondents accept that A.I. ought to have the capacity to do the visionary investigation by and large. This incorporates the employments of information mining, measurements, displaying, and A.I. A late paper by Abdullah (2017) shows that computerized reasoning, advanced bank 4.0, and FinTech banking have indicated the possible application since the year 2017 (Figure 1). Abdullah (2017) expressed that we present in the time of human-made consciousness, Islamic Fintech, and Digital Bank 4.0.

As clients become more modern and knowledgeable, they like to make their monetary exchanges with a less human connection. The extent of innovation is a lot more extensive and can improve the by and enormous financial framework efficiencies. One of the famous devices is the smart contract, a P.C. program that can execute contract terms (Idelberger, Governatori, Riveret, and Sartor, 2016).

Wholly robotized, brilliant agreement either supplement or completely substitutes average legitimate contracts. This is evident since smart contracts are getting critical in a few businesses like medical services, land, and protections.

There are some other potential applications, for example, in financial frameworks, protections, the executives, and others. Defined as some further innovation and development driven, the brilliant agreement and computerized reasoning may be embraced in some Islamic financial items.

Kmeid (2017) found that A.I. is fit for making machine learning apparatuses and profound nonpartisan organizations that can carry an entirely different encounter to the money business.

©IJRASET: All Rights are Reserved

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429
Volume 9 Issue II Feb 2021- Available at www.ijraset.com

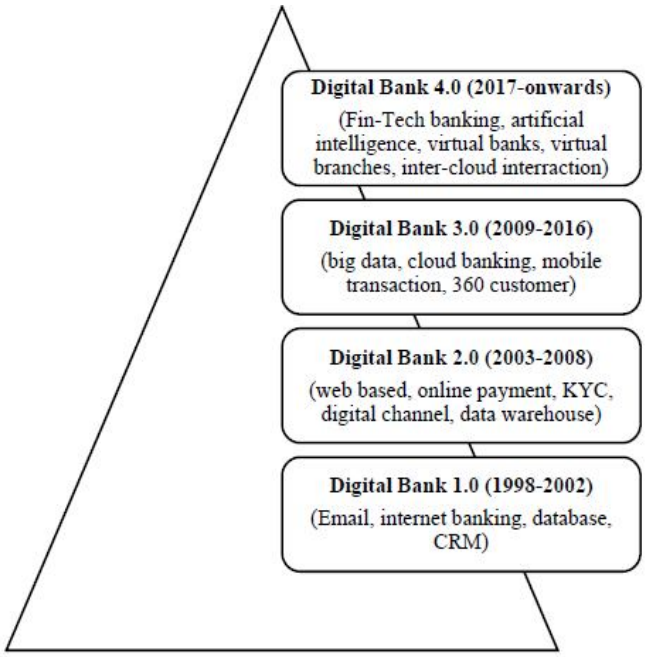


Figure 1. Digital Banking Evolution

This examination analyzes the two significant parts of the most recent innovation issues in Islamic money that identifies with Artificial Intelligence (A.I.) and keen agreement. This investigation's goals are three-crease: first, to assess the operational of computerized reasoning and keen understanding, second, to make some correlation on the functioning of human-made consciousness and brilliant agreement. Third, to expand the favorable circumstances between the two.

This article is coordinated as follows. A writing survey is given a conversation on the use of human-made reasoning and shrewd agreement. Subsequently, the advantages and disadvantages of embracing fake insight and smart contracts have been surveyed. Finally, this exploration presents the end and a few suggestions.

II. LITERATURE REVIEW

The fields of neuroscience and human-made consciousness perceived the need to see how natural minds functions could be the best arrangement in building smart machines. The key, though, is to consider the cooperation between the A.I. and neural calculation in people. Hamet and Tremblay (2017) depict the use of A.I. in medication. This A.I. has supported hereditary qualities and atomic medication, treating ongoing mental infections and refreshing the clinical records (family background of an innate illness or a constant sickness). It uncovered that A.I. is quickly creating in barely any field like military, security, transport, and assembly.

Khan (2017) recognizes that A.I. helps bank and monetary foundations through the improvement called "robot guides." Headway in "robot guides" is especially significant because it can go about as a robotized monetary consultants that encourage clients to settle on their monetary choices (for example, individual monetary administration). On occasions to come, she conceded that A.I. would move towards the monetary examination, resource designation, protection guaranteeing, determining, and detailing because of its remarkable highlights identified with speed and precision.

Pan (2016) composed that few firms are presently receiving automated reasoning, specific projects. Nonetheless, a large portion of the speculations and activities were additionally in their outset stage. As indicated by Pan (2016), Microsoft built up the talking robot known as Xiaobing. In the interim, IBM built up the Watson framework. This framework encourages the screening of the chronicled records of the malignancy quiet in numerous clinics. Somewhere else, in China, Baidu keeps on zeroing in on creating stages for keen gadgets just as A.I. into monetary administrations areas. In addition to other things, this paper recognized the endeavors done by the Chinese Academy of Engineering.

The explanation behind this, Chinese Academy of Engineering transform current frameworks into smart urban areas, large information, producing, inventive plan and the advanced imaginative industry. Eventually, Pan (2016) has asked nearer key joint effort among researchers and research organizations. This joint effort is essential to guarantee a further improvement of A.I. innovation.

©IJRASET: All Rights are Reserved

Alzaidi and Kazakov (2008) proposed using the computerized reasoning way to improve the tawarruq cycle based on the current framework. They proposed that the production network ought to deal with the information stream and connect it to the assortment of production network members (for example borrowers, banks, providers, and distribution centers). This framework permits every specialist to control its financial balance to bring simple and simple cash in a single tick.

Alzaidi and Kazakov (2008) additionally advanced tawarruq using global representatives and worldwide business sectors. The bank includes a benefit of the aggregate and afterward exchange the items for their sake. At that point, the bank will contacts the merchant indeed to exchange the items for the borrowers.

Dirican (2015) explains that human-made reasoning and considers semantic examinations, mechanical technology, and mechatronics improvements, large information, information mining, distributed computing, and neural organizations are the primary patterns that prompt future banking bearings and monetary administrations. An exploration done by Dirican (2015) recognized that robots utilize immense measures of data called large information from numerous data sets or associated with cloud figuring and are overseen by computerized reasoning. The proposal could be for creation lines and the human asset plan.

A nearer investigation by Giancaspro (2017) proposes that a keen agreement may be customized to buy a specific thing at a specific cost. This agreement ought to incorporate the item guarantees. The tale utilization of shrewd agreements is supposed to be a significant component instead of the merchant being associated with the buyer's individual and monetary data through a confided in middle person, as the framework is normally associated straightforwardly to the buyer's computerized wallet. Giancaspro (2017) even communicated that this keen agreement could prompt distinguishing parties in the agreement, the cutoff time for reference to the trade cost of stock, the pre-conditions, and the rationale for the program's execution as outlined by the pre-conditions.

Savelyev's (2017) paper investigates the vital component between a customary agreement and a wise agreement. The creator characterizes the keen agreement as "arrangements existing as programming code actualized on the Blockchain stage." The idea of the keen agreement depends on a foreordained arrangement of elements. Mik (2017) examines the issues of incorporating this keen agreement with this present reality. This paper proposed some innovative and lawful imperatives of the keen agreement's capacities. By and by, Mik (2017) shows that intelligent agreement is appropriate for banks, legal advisors, and courts.

Szabo (1997), who is the author of the smart contract, presented the possibility that using conventions and client
interfaces will encourage all means of the contracting cycle. This keen agreement is unquestionably more useful than the customary agreement. Szabo (1997) indicated keen agreements would encourage numerous monetary administrations, ordinarily for portion advances and Mastercards. He accepts that keen agreements can uphold numerous industries, for example, banking, protection, energy, e-government, telecom, music and entertainment world, artistry, instruction, and some more.

III.APPLICATION OF ARTIFICIAL INTELLIGENCE

Monetary establishments are looking for approaches to convey chatbots to deal with everyday financial undertakings every minute of every day client administration exercises. As a rule, chatbots offer administrations for individual monetary administration (PFM) also, abundance the board. Chatbots cover a few practical regions, including:

1) *Client Services:* Answering straightforward inquiry from call focuses, revealing the lost card, and re-setting the PIN.
2) *Item Deals:* Chatbots helping in distinguishing or gathering clients as indicated by the financial items.
3) *Exchange:* Assist in asset move between accounts, covering tabs and financial records balance.

The most straightforward chatbot measure stream appears in Figure 2. The primary cycle of Chatbot starts with the underlying pre-preparing of the client's content. This progression requires the info text to be changed over into discourse to-message (S2T) or text-to-message (T2S). Above and beyond required the discourse to-message (S2T) or text-to-message (T2S) to be changed over into a common language processor. Common language processor errands regularly elaborate the immediate hand-coding. The measure keeps on creating huge information extricated from the clients in an organized manner. A bot can audit visit accounts through machine learning to enlarge conversational capacities for monetary organization and customers. A simple answer to the discussion will be made to answer the client's explanation's best matches. The present preparation is required to guarantee the chatbot framework isn't perform gravely. The interface connector is upheld through Skype, WeChat, WhatsApp, Facebook courier, and so forth.

©IJRASET: All Rights are Reserved

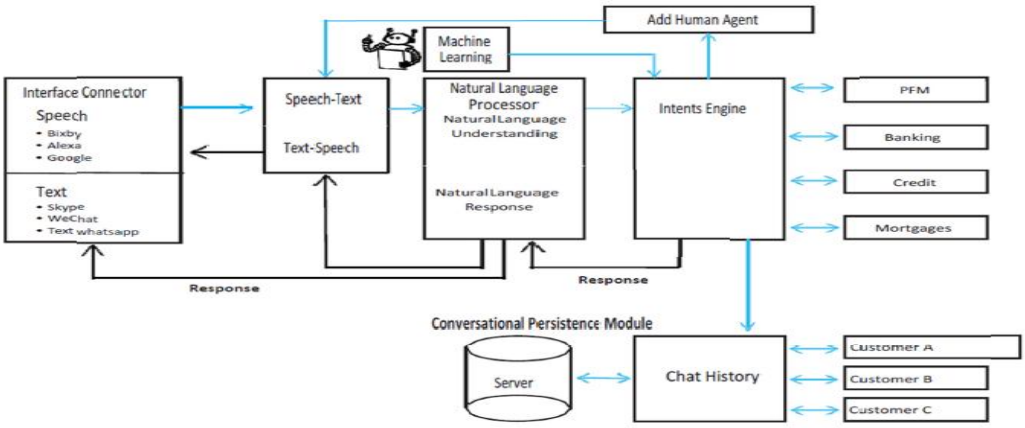


Figure 2. Chatbot process flow

The following three situations portray the utilization of Artificial Intelligence (A.I.) in banking, which is as per the following:

A. Situation 1

Simultaneously, Canada's Big Five banks utilize A.I. visit bots that communicate with clients through the bank's advanced channels (on the web, portable and web-based media). Because of a pilot project, the Royal Bank of Canada has been testing programmable programming bots that can perform regulatory undertakings, for example, handling contract applications and protection claims measures (Ligaya, 2017).

The A.I. talk guide can address client's financial inquiries on subjects, such as Visas, fixed store, current and saving record, personal advance, contract advance, automobile advance, and so on. This client visit administration is intended to complete pre-scripted discussions. It likewise can deal with any client request by giving client care beginning to end. When essential, it can even timetable an arrangement through the telephone as per the client's select date and time.

Motivated by human-made brainpower innovation, RHB bank has present an individual credit application handling stage through Chatbot. The chatbot framework is the aftereffect of a coordinated effort between RHB bank and monetary correlation site RinggitPlus. Customers would now be able to apply for their advance utilizing Chatbot on RinggitPlus.com, and they will get the outcomes inside a day using SMS. RHB bank focuses on developing its credit dispensing by 60% to RM60 million by 2018 through Chatbot. CIMB bank looks to help clients in versatile applications called CIMB EVA to deal with clients' everyday banking needs in the interim. CIMB EVA clients need to have a substantial CIMB Clicks User ID and a cell phone running either iOS 8.1 or more or any Android 4.1 or more. With CIMB EVA, the client effectively checks their record adjusts, taking care of tabs, and reload prepaid telephones.

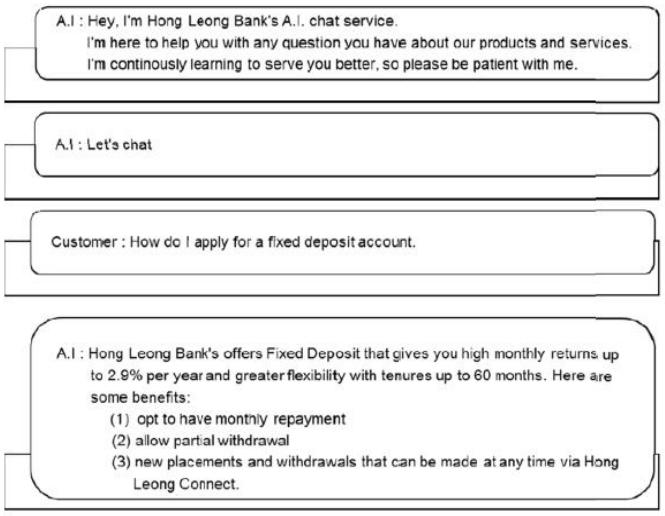


Figure 3. Hong Leong Bank's A.I. chat service

©IJRASET: All Rights are Reserved

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429
Volume 9 Issue II Feb 2021- Available at www.ijraset.com

B. Situation 2

"NAO" is a client care humanoid robot, weighing 5.4 kg and standing 58 cm tall, which is now in its fifth rendition since 2006. It was created by the French organization, reviewed as Aldebaran Robotics. This organization is an auxiliary of Japanese telecom and innovation goliath, Softbank Corp. Mitsubishi UFJ Financial Group Inc was believed to be the primary monetary help industry that utilized the "NAO" robot (Marous, 2017). Figure 4 indicated the robot named "NAO" at Mitsubishi UFJ Financial Group Inc in Japan. The "NAO" robot works in the banquet room. The entire undertaking is to invite the visitors and gives them data in an assortment of dialects. The "NAO" robots are additionally ready to show kung fu moves and dance while welcoming clients and giving out financiers' business cards. The expense is around $8,000 and endures 12 hours between charges.

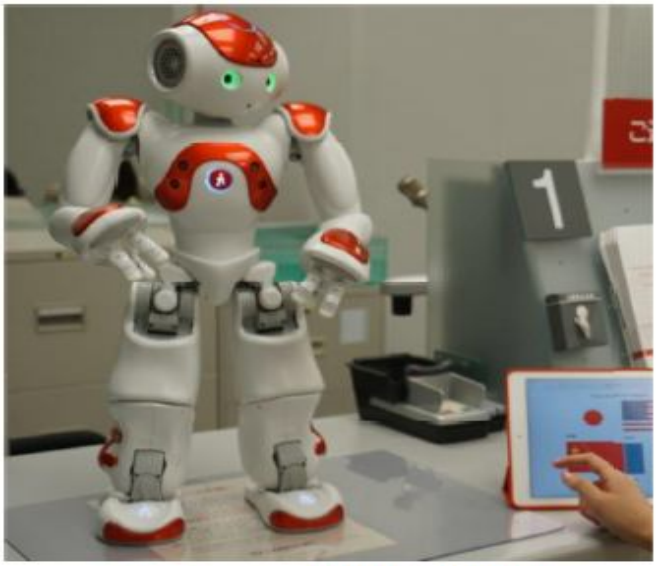


Figure 4. The "NAO" humanoid robot

C. Situation 3

In another model, Mizuho bank use "Pepper" to show the essential data about their organization. Figure 5 shows the robot named "Pepper" send at the Mizuho Bank in Japan (Softbank Robotics, 2017). It has an intelligent tablet that helps increase correspondence with clients. "Peppers" are associated with the cloud, which permits them to learn new things continually. The uplifting news about "Pepper" can store data while associating with clients on the cloud for future investigation. Pepper stands only 4 feet tall and weighs just 28 kg. Pepper has been introduced along with a 3D camera and 10-inch contact screen. At this moment, the Pepper robot is selling for JPY 198,000 or USD$ 1,900. With the 3D camera establishment, "Pepper" is ready to distinguish client development and comprehend human feelings. "Peppers" react with re-enactments of emotions like satisfaction, outrage, and bothering. It opened up to Japanese shoppers in June 2015. From that point forward, roughly 1,000 units of the robot have gone at a bargain each month.



Figure 5. Robot "Pepper"

©IJRASET: All Rights are Reserved

IV. ADVANTAGES OF ARTIFICIAL INTELLIGENCE

A portion of the principle favorable situations of human-made consciousness are recorded beneath:

A. *Reducing Error*

Computer-based intelligence offers a chance to accomplish exactness with a more severe accuracy level, thus empowering to limit human mistakes. The intellectual innovation blunder is uncommon contrasted with human errors. In the medical care industry, A.I. has honey been utilized to enhance the clinical system. Typically, medical care experts give solutions dependent on addressing and regular registration. In any case, most of the time, medical care proficient can't go to an enormous number of issues all at once. This may make an opportunity for mistakes. Assignment of obligations to A.I. is intended for clinical error caused by humans because of excessive work pressure.

Jiang, Jiang, Zhi, et al. (2017) accept that A.I. does not just help doctors to settle on better clinical choices; it may even supplant human judgment, for example, in the radiology territory. Another angle identified with the issue is that A.I. decreases blunders in financial administrations by limiting the human inclusion in digital, misrepresentation, consistence, credit, and the review. The information contributions to A.I. can separate great exchanges from deceitful ones, which people ignore.

Another model, the new instance of West Wind Aviation Flight 280 on 13th December 2017, enlivened A.I. innovation in the aircrafts business. This would permit carriers to utilize human-made reasoning autopilot in complex aircraft activities. Haitham Baomar and Peter Bentley, who drove the innovation of A.I. autopilot at University College London, expect to decrease the human mistake factors brought about by stress, data over-burden, absence of adequate and modern preparation.

B. *Multi-tasking*

Undertakings can be ordered into regular or non-routine errands. For instance, the very neural organization intended to sift through spam messages may reuse its information in recognizing the phishing endeavors, focus on the inbox in agreement to significance, and help with drafting the reactions to regular solicitations. Artificial intelligence offers to keep more data than paper-based documenting. The colossal dataset space assists clients with transferring perform multiple tasks data and discover data. Regardless, performing various tasks improves the exhibition of assembling organization. Today, A.I. ready to serve different errands from forklift drivers to item plan and quality affirmation. With this trend-setting innovation, it is advantageous to the assembling business to bring down the work cost and diminish reliance on low talented work.

C. *Work for Longer Hours*

In contrast to humans, A.I. is modified for extended periods. Human-made intelligence could change the cheap food industry. Before long, artificial intelligence will influence each feasting experience, including setting up the dinner, taking requests, and conveyance. The development in computerized capacity empowers the client to encounter relentless assistance from the cheap food industry. Another illustration of A.I. is the mechanized teller machine ready to supplant the working long stretches of bank representative and auto consider focuses prepared to get your call whenever. Unquestionably, we are making a beeline for rapid innovation development and taking focal points of A.I.

V. APPLICATION OF SMART CONTRACT

Conventional agreements don't happen solely through innovation. It is generally clear to distinguish when an offer has been made and acknowledged by inspecting the gatherings' words and direction alongside all applicable conditions. On the other hand, a brilliant agreement can turn into a legal contract if certain conditions are met. How keen agreement function? The deals' requirements are coded in P.C. calculation as many directions that will consequently execute the following stage until the whole exchange cycle finishes. It is planned in an unpredictable arrangement of programming codes to mechanize execution and settlement of authoritative understanding.

Figure 6 clarifies the brilliant agreement where the process started once there is an understanding between parties (for example, alternative contract). The information is put away on each P.C. in the organization composed as code into the blockchain. The savvy agreement will trigger significant occasions, for example, the termination date and strike cost. This data is recorded, and the wise contract executes itself as per the coded terms. If two or more gatherings concurred settled upon the terms and conditions inside the agreement, they cryptographically sign the brilliant deal and send it to an appropriate record. Later on, when the particular code is met, the program consequently runs a relaxing activity. Controllers force the last stage. Hence, controllers can utilize the blockchain in maintaining the security of the individual entertainers' position.

©IJRASET: All Rights are Reserved

Figure 7 shows the cycle of brilliant agreement. The pre-characterized shrewd agreement sets the particular conditions such as the rights and commitments to which the gatherings of a convention or keen understanding agree. The occasions trigger the execution of the agreement. These occasions allude to the exchange started, and data got. Therefore, the terms of direct agreement development of significant worth dependent on conditions met. For the settlement, there are two choices accessible (I) on-chain resources (computerized) and (ii) off-chain resources (physical). The keen agreement selects the digital currency for computerized resources on the chain (Bitcoin, Ethereum, Lite Coin, Ripple, Dash, NEM, NEO, or Monera). As an outcome, installment exchanges happen consequently. For essential resources, the smart contract requires stocks and fiat cash. Past straightforward encryption and respectability checks, this framework will make changes to vivid accounts pondered the record. The exchanges, at the same time, refreshing the match off-chain settlement guidelines.

A keen agreement could uphold the Islamic money items. The terms and legitimate conditions are explicit in lawful records and should be executed in the right request to guarantee Shariah's consistency. As such, brilliant contracts would smooth out Islamic monetary foundations' tasks and mechanize the whole legally binding measure. Malaysian Digital Economic Corp (MDEC) is anticipating dispatched "Islamic Computerized Economic Framework" by March 2018. MDEC is working intimately with Jabatan Kemajuan Islam Malaysia (Jakim) and Amanie Advisors Sdn Bhd to detail the structure. This system will fill in as a rule for investments to maintain a business. In particular, the paper by Khan (2017) personality the applications of brilliant agreements with Islamic capital business sectors, legacy law, and advances. Like this, keen arrangements would bring takaful administrators, financiers, clients, and outsiders to a solitary stage that will prompt cycle efficiencies and diminish guarantee handling time and expenses.

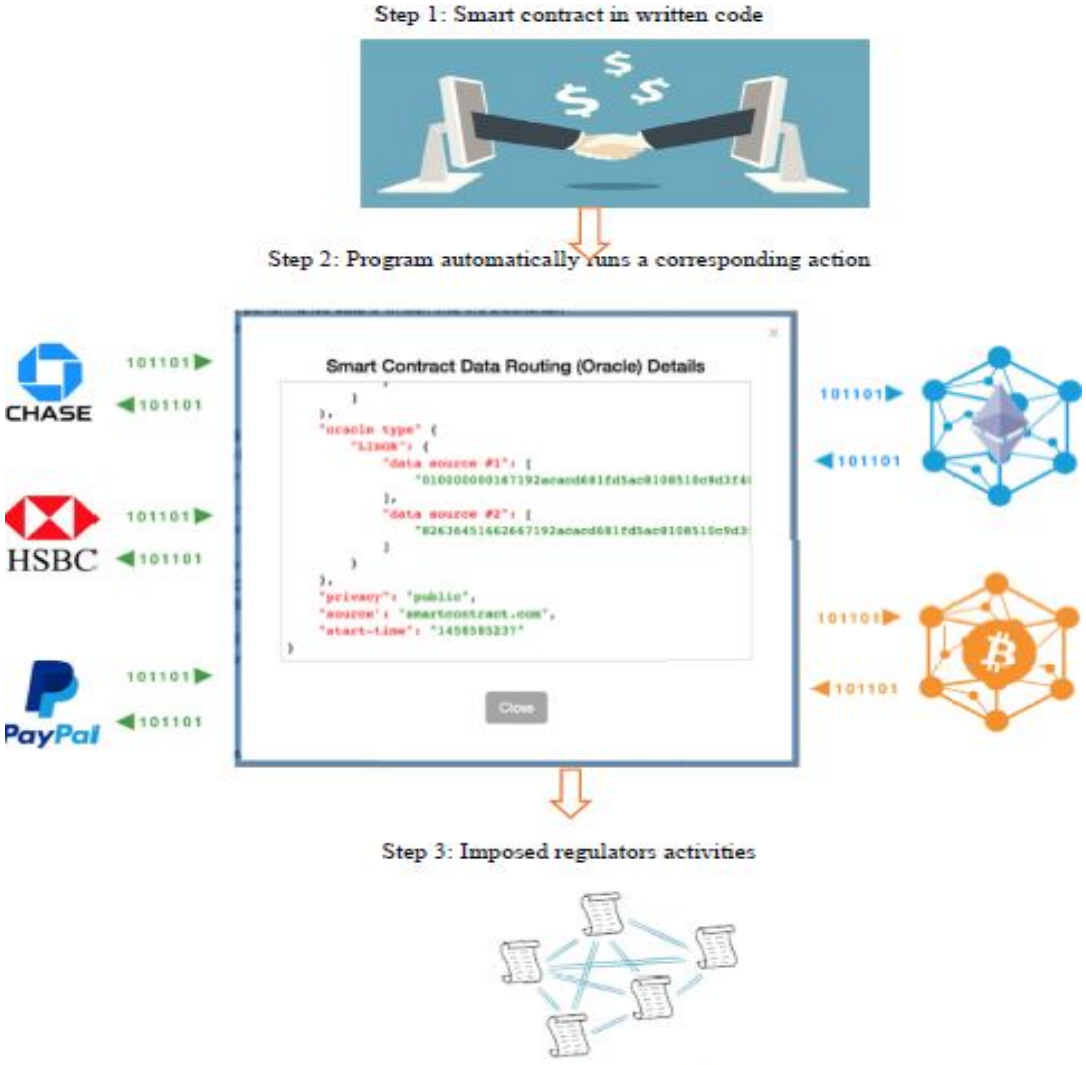


Figure 6. Scenario of Smart Contract

©IJRASET: All Rights are Reserved



Figure 7. Process Flow of Smart Contract

VI. ADVANTAGES OF SMART CONTRACT

The benefits of the keen agreement to some other sort of understanding, among others, incorporate:

A. Efficiency

Smart contracts work better when there is a fatty informational index that can be gotten from existing data. Each term and state of the agreement should be coded in like manner. The exchange may be evident to individuals or gatherings identified with the contract.

B. Transparency

The straightforwardness will make business-to-business (B2B) exchanges simpler. Transparency disentangles trades and lessens the requirement for cooperation from banks, legal counselors, and go-betweens.

VII. CONCLUSION

The advanced intelligent agreement successfully supplants conventional types of paper contracts. The smart contract serves to improve to a more solid exchange without risking legitimacy and its validity. Without a doubt, shrewd computerized agreements can alter the exchange and banking industry. Likewise, the possibility of counterfeit insight won't just improve how we think or carry on with our lives and to investigate new skylines. One can envision that human-made reasoning and brilliant agreement assists with improving odds of arriving at precision. At the equivalent time, it deals with limiting blunders in the association and information the board. With banking grasping the innovation, bank clients can expect an excellent financial encounter and satisfying their rising assumptions.

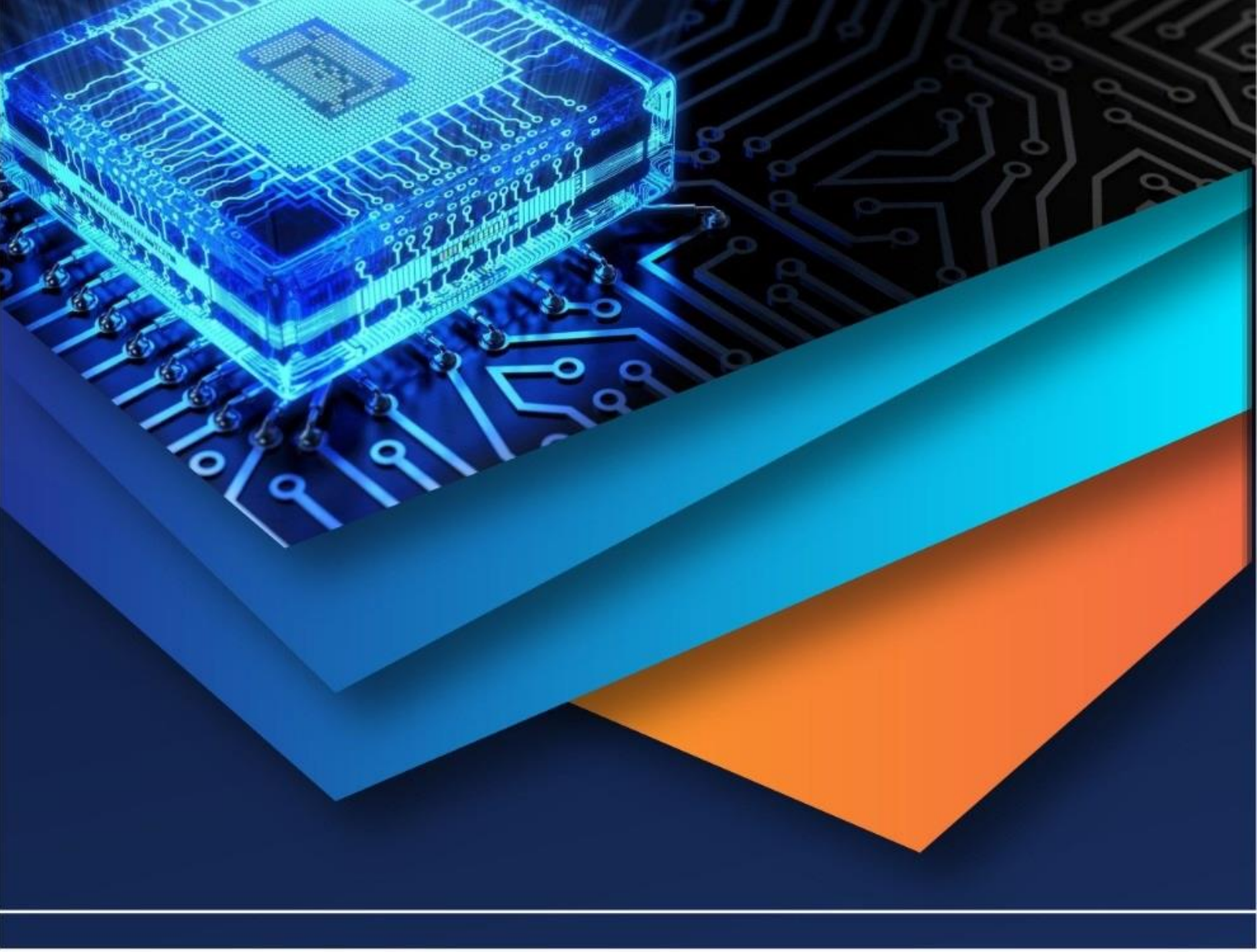
REFERENCES

[1] Abdullah, O. (2017, 3rd October). Digitalization in Islamic Finance. Retrieved from http://kliff.com.my/wpcontent/ uploads/2016/09/Sesi-3-Digitalization-of-Islami-Finance-Othman.pdf.
[2] Alzaidi, A., & Kazakov, D. (2008). Artificial Intelligence for Islamic Banking. Journal of Muamalat and Islamic Finance Research, 5(1), 1-15.
[3] Bogue, R. (2014). The Role of Artificial Intelligence in Robotics. Industrial Robot: An International Journal, 41(2), 119-123. https://doi.org/10.1108/IR-01-2014-0300
[4] Dirican, C. (2015). The Impacts of Robotics, Artificial Intelligence on Business and Economics. Procedia Social and Behavioral Sciences, 95, 564-573. https://doi.org/10.1016/j.sbspro.2015.06.134
[5] Finley, K. (2017, 12th December). A $50 million Hack just showed that the DAO was all too human. Retrieved from https://www.wired.com/2016/06/50-million-hack-just-showed-dao-human/.
[6] Giancaspro, M. (2017). Is a 'smart contract' really a smart idea? Insights from a legal perspective. Computer Law & Security Review, 33, 825-835. https://doi.org/10.1016/j.clsr.2017.05.007
[7] Hamet, P., & Tremblay, J. (2017). Artificial Intelligence in Medicine. Metabolism Clinical and Experimental, 69, 36-40. https://doi.org/10.1016/j.metabol.2017.01.011
[8] Hassabis, D., Kumaran, D., Summerfield, C., & Botvinick, M. (2017). Neuroscience Inspired Artificial
[9] Intelligence. Neuron, 19(2), 245-258. https://doi.org/10.1016/j.neuron.2017.06.011
[10] Idelberger, F., Governatori, G., Riveret, R., & Sartor, G. (2016). Evaluation of Logic-Based Smart Contracts for
[11] Blockchain Systems. Rule Technologies. Research, Tools, and Applications,10th International Symposium (pp. 167-183). New York, United States: Springer, Cham. https://doi.org/10.1007/978-3-319-42019-6_11
[12] Jiang, F., Jiang, Y., Zhi, H., et al. (2017). Artificial intelligence in healthcare: past, present, and future. Stroke and Vascular Neurology. http://dx.doi.org/10.1136/svn-2017-000101
[13] Khan, N. (2017, 13th December). The Impact of Financial Technology. Retrieved from https://www.linkedin.com/ pulse/impact-financial-technology-Nida-khan
[14] Kmeid, R. (2017, 13th December). Islamic Banker. Retrieved from Will Artificial Intelligence rejuvenate Islamic finance? https://www.islamicbanker.co/2017/08/31/will-artificial-intelligence-rejuvenate-islamic-finance/
[15] Ligaya, A. (2017, 23rd December). Financial Post. Retrieved from Rising of the robot: How banks are using artificial intelligence upfront and behind the scenes. Retrieved from http://business.financialpost.com/ news/FP-street/rise-of-the-robot-banks-using-artificial-intelligence-upfront-and-behind-the-scenes
[16] Marous, J. (2017, 22nd December). Robots and A.I. invade banking. Retrieved from The Financial Brand. https://thefinancialbrand.com/52735/robots-artificial-intelligence-ai-banking/

©IJRASET: All Rights are Reserved

[17] Mik, E. (2017). Smart Contracts: Terminology, technical limitations, and real-world complexity. Law, Innovation and Technology, 9, 296-300. https://doi.org/10.1080/17579961.2017.1378468
[18] Narrative Science. (2016). Outlook on Artificial Intelligence in the Enterprise 2016. Chicago: Narrative Science. ass.ccsenet.org Asian Social Science Vol. 14, No. 2 2018154
[19] Pan, Y. (2016). Heading toward Artificial Intelligence 2.0. Engineering, 2(4), 409-413. https://doi.org/10.1016/J.ENG.2016.04.018
[20] Research and Markets. (2017). Artificial Intelligence Market: Global Forecast to 2020. Ireland: Research and Markets. Retrieved from https://www.researchandmarkets.com/reports/3979203/artificial-intelligencechipsets- market-by Savelyev, A. (2017). Contract law 2.0: 'Smart' contracts as the beginning of the end of classic contract law.
[21] Information & Communications Technology Law, 26(2), 116-134. https://doi.org/10.1080/13600834.2017.1301036
[22] Softbank Robotics. (2017, 22nd December). Who is Pepper? Retrieved from https://www.ald.softbankrobotics.com/en/robots/nao
[23] Steve, & Laser, T. (2017, 22nd December). Nissan Hires 100 Robots for its Dealers in Japan: "Pepper" Droid Greets Customers. Retrieved from https://www.carnichiwa.com/car-news/nissan-hires-100-robots-for-itsdealers-in-japan-pepper-droid-greets-customers/
[24] Szabo, N. (1997). Formalizing and Securing Relationships on Public Networks. First Monday, 2(9), http://firstmonday.org/ojs/index.php/fm/article/view/548/469. http://dx.doi.org/10.5210/fm.v2i9.548

©IJRASET: All Rights are Reserved



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)