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Evaluation of Block Chain and Artificial Intelligence using SPSS Statistics Analysis

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Abstract

Block chain is a peer-to-peer network of all transactions in a decentralized ledger. This generation By using, individuals have a mandatory settlement authority Transactions can be confirmed without needing to Possible applications might also consist of monetary transactions, settlement trades, voting, and lots of other troubles. Block chain Defined: Block chain is a shared, immutable ledger is, in an enterprise network Recording of transactions and assets Simplifies the monitoring process An asset can be tangible (a house, car, money land) or intangible (hyper properties, patents, copyrights, branding). Bit coin and Ethereum are popular examples of block chains. Everyone is authorized to connect with the block chain and transact on it. Most intelligence procedures by Using machines, especially computers systems. In particular sets of AI Expert systems, herbal language Includes processing, speech recognition and gadget imaginative and prescient. Unlike trendy databases that store records in a centralized, relational desk, block chain is an open, peer-to-peer (P2P) network that supports communal hobby as opposed to a centralized controlling entity. In block chain, facts is accumulated in organizations known as blocks Artificial Intelligence (AI) allows machines to Research from Experience, New Adaptation to inputs and Performing human duties Most AI examples you listen approximately these days From chess-gambling computers to self-driving deep knowledge - up to cars acquisition and natural language Highly dependent on processing.. The selections AI takes at each step are determined by using previously accumulated data and a selected set of rules. If planned properly, those errors may be reduced to 0.

Keywords: Marine Current Energy, MOORA method.

I. Introduction

Block chain is a shared, immutable ledger is, in an enterprise network Recording of transactions and assets Simplifies the monitoring process An asset can be tangible (a house, car, money land) or intangible (hyper properties, patents, copyrights, branding). Bit coin is a crypto currency; at the same time as block chain is a disbursed database. Bit coin is powered by using The era of block chain, however block chain Bit coin has many uses beyond Bit coin promotes anonymity, Block chain at the same time Sets transparency Artificial intelligence uses machines to Especially human using laptop systems Simulating intelligence processes In particular sets of AI Expert systems, herbal language processing Includes speech recognition and computer vision. Block chain groups make cash using software program as a provider – groups like Tier ion and Block cipher rate for use of their API and infrastructure with the assist of professional offerings. While a fe corporations expand custom projects for business enterprise clients that keep static databases in centralized, relational tables, block chain is an open, peer-to-peer (P2P) network that supports communal activity in preference to a centralized controlling entity. In block chain, records is gathered in companies known as blocks Block chain is a characteristic-primarily based technology, so the very last fee varies in line with the project requirements. Block chain software improvement expenses start at \$5,000 and can go as much as \$2 hundred. Artificial intelligence is the simulation of human AI movements that lessen the time it takes to perform a venture. This enables multi-tasking and eases the workload for present assets. AI enables to perform hitherto complex duties without significant prices. AI runs 24x7 without interruptions or breaks and has no downtime. Among the most important advantages of artificial intelligence one, its mistakes and growth Accuracy and precision significantly reduce AI makes decisions at every step are decided by means of previously accumulated information and a particular algorithm. If planned nicely, those errors may be decreased to zero. Job loss due to automation. Privacy violations, 'deep fakes', algorithmic bias resulting from awful facts, socioeconomic inequality, market volatility, weapons automation.

II. Block Chain

Block chain is a decentralized transaction and statistics control generation originally evolved for the Bit coin is a crypto currency in block chain creation Interest is increasing because concept changed into created in 2008. The motive for the hobby in Block chain is its critical properties of providing protection, anonymity and statistics integrity with none third-celebration device to govern transactions, so it creates. Interesting studies regions, specifically technically demanding situations and constraints from the angle. In this research, block chain All related to technology Science with the purpose of collecting studies we did the mapping [1]. Museum of Block chain, Bit coin, has recently received considerable attention Block chain acts as an immutable ledger it is decentralized transactions allowing it to take place in the manner. Block chain Based purely

on applications growing, overlaying sectors financial incentives, reputation management and off the internet including things (IoT). However, many demanding situations which include scalability and security issues of block chain generation are nonetheless ready to be triumph over. This paper presents a complete evaluation of block chain generation [2]. Block chains do not use frameworks data is shared and distributed or digital transactions store safely ledgers. Most importantly, peer-to-peer (P2P) automates smart contracts across networks block chains allow for systematic execution [9]. They are as a substitute visible as databases that allow more than one customer simultaneously changes should be made to the ledger more than one chain variations. Instead of the ledger being controlled with the aid of a relied on middle, every network member information chain keeps a copy and of the ledger consensus on validity reaches the point [3]. Block chain is statistics earlier than it's miles monetary or monetary, which permits many emerging and an increasing number of popular token free block chains. It is based closely on hashes and hash features. A hash (output) is the result of a metamorphosis of the original statistics (enter). A hash function is a mathematical algorithm that takes an enter and converts it into an output [4]. Block chain era guarantees us a brilliant destiny. It will assist make business, authorities and logistics structures extra reliable, honest and at ease. This technology has very robust advantages as it may help achieve the above desires in various settings. Of path, block chain generation has a few drawbacks, on the whole associated with the expenses of the generation and the implementation system. Successful implementation of technology depends on various factors consisting of authorities and legislative support [6]. Truth is, believe is complex. Block chain generation removes specific, slender beliefs approximately agree with, But in addition to this new assumptions are required and are for personal use events can be better or worse so, about block chain a single that can be perfect not many sentence seem points era's performance, protection, price, etc [7]. Block chain technologies consist of cryptography, mathematics, algorithms, and financial modeling, combining peer-to-peer networks and using a disbursed consensus algorithm to remedy the conventional dispensed database synchronization problem, which is an integrated multidisciplinary infrastructure construction. Block chain technology are generally advanced Six foremost additives.

- Decentralized
- Light penetration
- Open supply
- Autonomy
- Immutable
- Anonymous.

Block chain can help accelerate biomedical studies, at the same time as eliminating records falsification, bias and fabrication, all complicated troubles in contemporary clinical studies statistics with time-stamping and public transparency. Even earlier than a clinical trial starts off evolved, all plans, approvals, protocols, and capability results may be stored on a block chain [9]. Block chain generation, Satoshi Nakamoto in 2008 originally proposed by attracted plenty interest in latest years in many countries and in numerous fields. Satoshi Nakamoto in 2008 first proposed arena [10]. Block chain technology, a shared ledger technology based totally on an open-source dispensed database, has already aroused a whole lot hobby in its relative infancy, and a active debate is underway regarding its future improvement and the crucial blessings it can bring within the context of exchange. In conventional commercial enterprise networks, the processes that support asset ownership and asset switch are frequently inefficient, steeply-priced, and vulnerable. Block chain generation may additionally have a transformative impact on valuable banking, monetary institutions, and era organizations inside the not-too-remote destiny [13]. Blockchain Peer-to-peer distributed the Ledger Era information transactions, contracts, agreements and sales [6]. Originally evolved to support crypto-currency, block chain can be used for any sort of transaction without an middleman. The benefit of block chain is that an attacker simplest wishes to compromise fifty one% of the structures to surpass the hashing power of the target network. Therefore, launching an assault towards a block chain network is computationally impractical. The following example illustrates the running practices of block chain generation [14]. However, block chain is a exceptionally new generation and there is a lot of misinformation and speculation in press and gray guides like opinion pieces, commentaries, weblog posts, interviews, etc. Uncertainty approximately the capacity use of block chain within the healthcare enterprise. Members of the research community and practitioners may want to apprehend specific utility areas or use instances of block chain within the healthcare sector [11]. According to the principle cited earlier, present day applications of block chain are still in the 1.Zero and 2.Zero ranges. Most humans are surprising with the time period "block chain," not to mention the capacity packages of the usage of block chain generation. Although researchers have debated the application of Block chain in the commercial sector (Swann 2015) how to harness the block chain era in practice many studies have focused on the use of (Devin 2015; Surplus and Domingue 2011) The remainder of this text talk crucial phrases of block chain generation including "distributed ledger", "block and chain" four innovations follow packages For the statistical analysis, we used SPSS software version 16. [12].

III. Artificial Intelligence

Artificial intelligence is a technological know-how of research and alertness of the laws of human intelligence. After 50 years of development, it stays a distant go-border course. Nowadays, this era is used in many fields inclusive of professional device, expertise base gadget, wise database system and clever robotic system. Expert device is the earliest and most complete, most active and only region named as "Knowledge Management and Decision Making Technology of 21st Century". In the sphere of civil engineering, many issues, especially in engineering layout, creation control and program selection-making, are affected by many uncertainties, which no longer most effective require mathematical, bodily and dynamic calculations, however also rely on the revel in of practitioners [19]. The term synthetic intelligence becomes formally coined six years later,

in 1956 whilst Marvin Minsky and John McCarthy (a computer scientist at Stanford) performed the eight-week Dartmouth Summer Research Program on Artificial Intelligence (DSRP AI) at Dartmouth College. New Hampshire. The workshop, which marked the start of AI Spring and became subsidized through the Rockefeller Foundation – reunited the human beings considered to be the founding fathers of AI. Participants protected laptop scientist Nathaniel Rochester, who later designed the IBM 701, mathematician Claude Shannon, who based the primary industrial scientific computer and statistics idea. The purpose of DSRPAI is to carry collectively researchers from one of kind disciplines to create a new research region aimed toward growing machines which can simulate human intelligence [15]. Artificial intelligence must offer fashions that carry out nicely on all of the responsibilities we use to measure intelligence, which includes the energy of modifications within the enter facts that roughly maintain facts relevant to the project, such as a trade in texture or one-of-a-kind ranges of noise. In principle, this doesn't always take place in a model. However, there's organic mind evidence that there are systems that solve all responsibilities with the equal network [16]. In "synthetic existence" (and in "artificial intelligence") the time period artificial suggests a systematic technique based totally at the advent of artificial models. The procedural steps are as follows an event has been identified (eg, obstacle avoidance behaviour) It is constructed as an artificial device Efficient, artificial gadget operated within context, subsequent instances are recorded and those records are compared with unique activities. Possible missteps encompass remodelling or restructuring of the synthetic method [17]. Artificial Intelligence (AI) and Robotics Future progress will be even better expected and so on commenter's these technologies It is predicted that there will be remodel jobs worldwide (Brynjolfsson and McAfee, 2012; Ford, 2016; Boston Consulting Group, 2015; McKinsey, 2017). Recent research have observed high ranges of hysteria about automation and other technological developments, underscoring massive worries approximately nevertheless, the trendy and AI and robotics automation method in from exceptional knowledge of we are a short distance away especially have an effect on the exertions marketplace and productivity [20]. Can 'intelligence' or 'development' and intelligence be measured or as a minimum as compared as 'more' or 'much less' as one dimension? And, for our functions, we want a perception of intelligence at a stage that surpasses people or in which techno-shrewd systems could make a giant contribution to analyze – but 'human-degree intelligence' is an elusive concept that creates resistance. Finally, we need to avoid the use of terms already in circulation, as a result linking the questionnaire to positive corporations or ideas, along with "synthetic intelligence", "integrity", "synthetic preferred intelligence" or "cognitive structures" [22]. Artificial intelligence systems are regularly built from so-referred to as taking part experts, in which every expert has all of the understanding approximately its unique domain. In this context, Smith and Davis (1981) advocate the use of cooperative structures that limit interactions, allow load balancing, and keep coherent conduct whilst distributing manipulate [23]. Artificial Intelligence (XAI) undertaking in May 2017. DARPA defines AI systems as interpretable AI systems that may explain their reasoning to a human person, signify their strengths and weaknesses, and reveal an information of ways they will behave inside the future. Naming the assignment Explainable AI (in preference to, for example, explainable, comprehensible, or expressive AI) displays DARPA's intent to increase human-understandable AI structures the usage of useful causes. It also displays the XAI group's hobby in human psychology of interpretation, which draws on a huge variety of studies and expertise in the social sciences [4]. In Artificial Intelligence, editors Alan Bond and Les Gasser have created a logical collection and business enterprise of articles and papers in a single extent with the intention to offer the reader with a clean creation to the definitions, issues, and big studies efforts on this diverse area. They cite justifications for the modern growing interest in DAI primarily based at the opportunities it gives: open pc architectures, the usage of small, networked processors, modular device development, integration of crew expertise, and a couple of hassle-fixing views. Authors categorize disbursed artificial intelligence into 3 wide classes [6]. The real query of synthetic intelligence is not whether or not Bostrom is proper or no longer, it's that machines will surpass humans in the destiny. I will speak his position later. The first query to invite AI is, 'What exactly is being created and why? How this intelligence interacts with our world becomes a main difficulty. By this I suggest how well this intelligence is designed for realistic use and the way properly we adapt to accept it in our society [7]. Artificial intelligence has come a long way from the early Turing take a look at to its present day incarnation. As we enter the "roaring twenties," we are at the dawn of a new technology in medicinal drug, and AI is beginning to seep its manner into day by day medical practice. The capability packages for the role of AI in gastrointestinal illnesses are presently countless. These enhance our diagnostic skills in endoscopy, make endoscopy workflows greater efficient and permit extra correct threat stratification of patients with commonplace gastrointestinal situations together with gastrointestinal bleeding and neoplasia [11]. "Artificial intelligence" nearly never does--at the least now not through the technical requirements we generally tend to use in figuring out whether a activity attracts In AI methods AI across biomedical informatics for two years, as studies are expanding a one-time AIME conference and in medicine International Journal of Artificial Intelligence and Biology As a sub-field of medical Informatics and computer Science To define and detect AI in medicines [14]. Artificial intelligence has attracted a good deal attention from authorities, industry, and academia. In this have a look at, famous articles published in recent years related to artificial intelligence are selected and examined. This observe targets to provide a assessment of synthetic intelligence based on industrial records integration. It offers an outline of the scope of synthetic intelligence the use of history, drivers, technology and packages and logical ideas associated with the development of synthetic intelligence. This paper can play a role in wind-related studies and must provide important insights to practitioners in the real international. The major contribution of this look at is that it clarifies the kingdom of the art of AI for future research [13].

Banking: A bank is the safekeeping of money for others is business. Banks lend this money It will generate profit for the bank and its customers generate interest A bank is a depository A financial institution licensed to accept and issue loans. A bank is also for receiving deposits A fund that is also licensed to issue loans is the company. Retail, commercial and Investment There are many types of banks including banks. In most countries, banks are national are controlled by the government or the central bank.

Prediction markets: Predicting the market is challenging because the future unpredictable by nature. Short term traders usually a reversal will occur in the future rather than trying to predict, there is an upside to confirm that they work best by waiting.

Insurance: Insurance is a way to manage your risk. When you buy insurance, you purchase protection against unexpected financial losses. The insurance company pays you or someone you choose if something bad happens to you. If you have no insurance and an accident happens, you may be responsible for all related costs.

Healthcare: Basic health services are the following medically Indicates needed services: preventive maintenance, emergency Treatment, inpatient and outpatient and physician care, diagnostic laboratory and diagnostic and therapeutic radiology services.

Law enforcement: Law enforcement is both the lawmaker and the enforcer It refers to the responsibility of the government, which governs everyone in the state is subject to its laws ensures compliance. Laws that no one has violated it are the government's responsibility to ensure.

Energy management: Energy management includes planning and operation of energy production and energy consumption units as well as energy distribution and storage. Objectives are resource conservation, climate protection and cost savings, while the users have permanent access to the energy they need.

TABLE 1. Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Banking	20	4	1	5	2.80	1.152
Prediction markets	20	4	1	5	2.95	1.234
Insurance	20	4	1	5	3.10	1.210
Healthcare	20	4	1	5	2.95	1.276
Law enforcement	20	4	1	5	3.20	1.361
Energy management	20	4	1	5	3.60	1.142
Valid N (list wise)	20					

Table 1 shows the descriptive statistics values for analysis N, range, minimum, maximum, mean, standard deviation. Banking, Prediction markets, Insurance, Healthcare, Law enforcement, Energy management this also using.

TABLE 2. Frequency Statistics

		Banking	Prediction markets	Insurance	Healthcare	Law enforcement	Energy management
N	Valid	20	20	20	20	20	20
	Missing	0	0	0	0	0	0
Mean		2.80	2.95	3.10	2.95	3.20	3.60
Median		3.00	3.00	3.00	3.00	3.50	3.00
Mode		3	3	3	3	4	3
Std. Deviation		1.152	1.234	1.210	1.276	1.361	1.142
Skewness		-.257	-.269	-.012	-.235	-.540	-.273
Std. Error of Skewness		.512	.512	.512	.512	.512	.512
Kurtosis		-.478	-.464	-.621	-.793	-.800	-.294
Std. Error of Kurtosis		.992	.992	.992	.992	.992	.992
Sum		56	59	62	59	64	72
Percentiles	25	2.00	2.25	2.00	2.00	2.25	3.00
	50	3.00	3.00	3.00	3.00	3.50	3.00
	75	3.75	4.00	4.00	4.00	4.00	5.00

Table 2 Show the Frequency Statistics in Block chain and Artificial Intelligence is the number of waves that pass a fixed point in unit time Banking, Prediction markets, Insurance, Healthcare, Law enforcement, Energy management curve values are given

TABLE 3. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.577	.575	6

Table 3 shows the Cronbach's Alpha Reliability result. The overall Cronbach's Alpha value for the model is .577 which indicates 57% reliability. From the literature review, the above 50% Cronbach's Alpha value model can be considered for analysis

TABLE 4. Reliability Statistic individual

	Cronbach's Alpha if Item Deleted
Banking	.616
Prediction markets	.441
Insurance	.635
Healthcare	.487
Law enforcement	.523
Energy management	.431

Table 4 Shows the Reliability Statistic individual parameter Cronbach's Alpha Reliability results. The Cronbach's Alpha value for Banking - .616, Prediction markets - .441, Insurance - .635, Healthcare - .487, Law enforcement - .523, Energy management - .431 This indicates all the parameter can be considered for analysis.

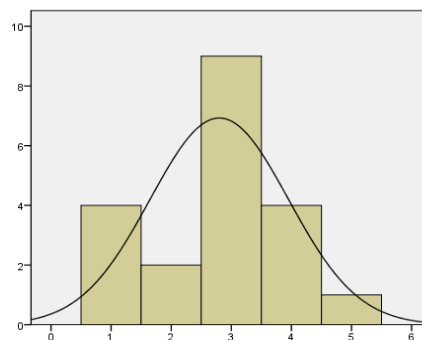


FIGURE 1. Banking

Figure 1 shows the histogram plot for Banking from the figure it is clearly seen that the data are slightly Right skewed due to more respondent chosen 3 for Banking except the 2 value all other values are under the normal curve shows model is significantly following normal distribution

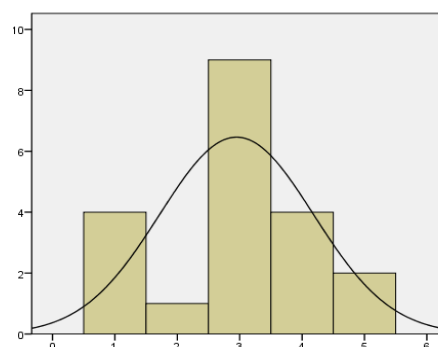


FIGURE 2. Prediction markets

Figure 2 shows the histogram plot for Prediction markets from the figure it is clearly seen that the data are slightly Right skewed due to more respondent chosen 3 for Prediction markets except the 2 value all other values are under the normal curve shows model is significantly following normal distribution

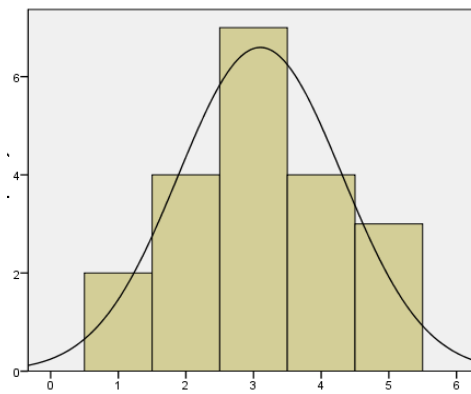


FIGURE 3. Insurance

Figure 3 shows the histogram plot for Insurance from the figure it is clearly seen that the data are slightly Left skewed due to more respondent chosen 3 for Insurance except the 3 value all other values are under the normal curve shows model is significantly following normal distribution

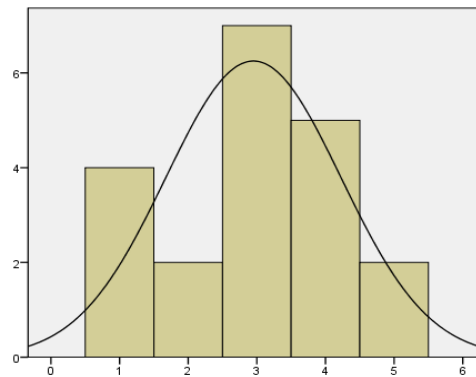


FIGURE 4. Healthcare

Figure 4 shows the histogram plot for Healthcare from the figure it is clearly seen that the data are slightly Left skewed due to more respondent chosen 3 for Healthcare except the 2 value all other values are under the normal curve shows model is significantly following normal distribution

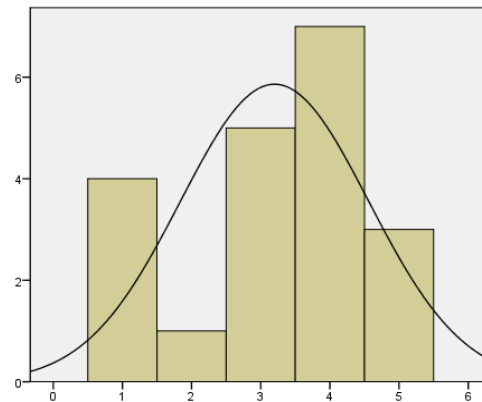


FIGURE 5. Law enforcement

Figure 5 shows the histogram plot for Healthcare from the figure it is clearly seen that the data are slightly Right skewed due to more respondent chosen 3 for Healthcare except the 3 value all other values are under the normal curve shows model is significantly following normal distribution

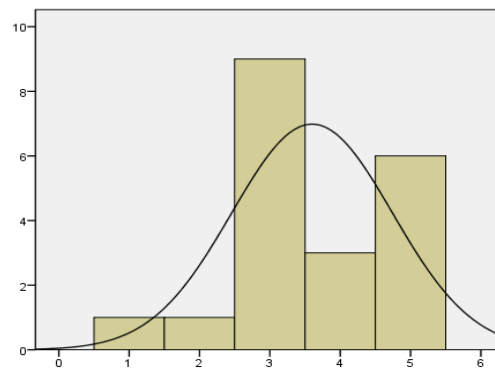


FIGURE 6. Energy management

Figure 6 shows the histogram plot for Energy management from the figure it is clearly seen that the data are slightly left skewed due to more respondent chosen 3 for Energy management except the 2 value all other values are under the normal curve shows model is significantly following normal distribution

TABLE 5. Correlations

	Banking	Prediction markets	Insurance	Healthcare	Law enforcement	Energy management
Banking	1	-.007	-.363	.243	.060	.376
Prediction markets	-.007	1	.532*	.399	.163	.321
Insurance	-.363	.532*	1	-.167	.179	-.046
Healthcare	.243	.399	-.167	1	.218	.491*
Law enforcement	.060	.163	.179	.218	1	.359
Energy management	.376	.321	-.046	.491*	.359	1

Table 5 shows the correlation between motivation parameters for Banking for I Energy management is having highest correlation with Law enforcement and having lowest correlation. Next the correlation between motivation parameters for Prediction markets For Insurance is having highest correlation with Law enforcement and having lowest correlation. Next the correlation between motivation parameters for Insurance for Prediction markets is having highest correlation with Law enforcement and having lowest correlation. Next the correlation between motivation parameters for Healthcare for Energy management is having highest correlation with Law enforcement and having lowest correlation. Next the correlation between motivation parameters for Law enforcement For Energy management is having highest correlation with Banking and having lowest correlation. Next the correlation between motivation parameters for Energy management For Healthcare is having highest correlation with Prediction markets and having lowest correlation.

IV. Conclusion

Block chain is a decentralized transaction and statistics control generation originally evolved for the Bit coin is a crypt currency in block chain creation Interest is increasing because concept changed into created in 2008. The motive for the hobby in Block chain is its critical properties of providing protection, anonymity and statistics integrity with none third-celebration device to govern transactions, so it creates. Interesting studies regions, specifically technically demanding situations and constraints from the angle. In this research, block chain all related to technology Science with the purpose of collecting studies we did the mapping. Artificial intelligence is a technological know-how of research and alertness of the laws of human intelligence. After 50 years of development, it stays a distant go-border course. Nowadays, this era is used in many fields inclusive of professional device, expertise base gadget, wise database system and clever robotic system. the Cronbach's Alpha Reliability result. The overall Cronbach's Alpha value for the model. 557 which indicates 57% reliability. From the literature review, the above 50% Cronbach's Alpha value model can be considered for analysis.

References

1. Yli-Huumo, Jesse, Deokyoon Ko, Sujin Choi, Sooyong Park, and Kari Smolander. "Where is current research on blockchain technology?—a systematic review." *PloS one* 11, no. 10 (2016): e0163477.
2. Zheng, Zibin, Shaoan Xie, Hongning Dai, Xiangping Chen, and Huaimin Wang. "An overview of blockchain technology: Architecture, consensus, and future trends." In *2017 IEEE international congress on big data (BigData congress)*, pp. 557-564. Ieee, 2017.

3. Andoni, Merlinda, Valentin Robu, David Flynn, Simone Abram, Dale Geach, David Jenkins, Peter McCallum, and Andrew Peacock. "Blockchain technology in the energy sector: A systematic review of challenges and opportunities." *Renewable and sustainable energy reviews* 100 (2019): 143-174.
4. Pilkington, Marc. "Blockchain technology: principles and applications." In *Research handbook on digital transformations*. Edward Elgar Publishing, 2016.
5. Golosova, Julija, and Andrejs Romanovs. "The advantages and disadvantages of the blockchain technology." In *2018 IEEE 6th workshop on advances in information, electronic and electrical engineering (AIEEE)*, pp. 1-6. IEEE, 2018.
6. Ammous, Saifedean. "Blockchain technology: What is it good for?." Available at SSRN 2832751 (2016).
7. Niranjnamurthy, M., B. N. Nithya, and S. J. C. C. Jagannatha. "Analysis of Blockchain technology: pros, cons and SWOT." *Cluster Computing* 22, no. 6 (2019): 14743-14757.
8. Radanović, Igor, and Robert Likić. "Opportunities for use of blockchain technology in medicine." *Applied health economics and health policy* 16, no. 5 (2018): 583-590.
9. Hou, Heng. "The application of blockchain technology in E-government in China." In *2017 26th International Conference on Computer Communication and Networks (ICCCN)*, pp. 1-4. IEEE, 2017.
10. Cocco, Luisanna, Andrea Pinna, and Michele Marchesi. "Banking on blockchain: Costs savings thanks to the blockchain technology." *Future internet* 9, no. 3 (2017): 25.
11. Golosova, Julija, and Andrejs Romanovs. "The advantages and disadvantages of the blockchain technology." In *2018 IEEE 6th workshop on advances in information, electronic and electrical engineering (AIEEE)*, pp. 1-6. IEEE, 2018.
12. Biswas, Kamanashis, and Vallipuram Muthukumarasamy. "Securing smart cities using blockchain technology." In *2016 IEEE 18th international conference on high performance computing and communications; IEEE 14th international conference on smart city; IEEE 2nd international conference on data science and systems (HPCC/SmartCity/DSS)*, pp. 1392-1393. IEEE, 2016.
13. Cocco, Luisanna, Andrea Pinna, and Michele Marchesi. "Banking on blockchain: Costs savings thanks to the blockchain technology." *Future internet* 9, no. 3 (2017): 25.
14. Lu, Pengzhen, Shengyong Chen, and Yujun Zheng. "Artificial intelligence in civil engineering." *Mathematical Problems in Engineering* 2012 (2012).
15. Haenlein, Michael, and Andreas Kaplan. "A brief history of artificial intelligence: On the past, present, and future of artificial intelligence." *California management review* 61, no. 4 (2019): 5-14.
16. Sinz, Fabian H., Xaq Pitkow, Jacob Reimer, Matthias Bethge, and Andreas S. Tolias. "Engineering a less artificial intelligence." *Neuron* 103, no. 6 (2019): 967-979.
17. Steels, Luc. "The artificial life roots of artificial intelligence." *Artificial life* 1, no. 1_2 (1993): 75-110.
18. Acemoglu, Daron, and Pascual Restrepo. "Artificial intelligence, automation, and work." In *The economics of artificial intelligence: An agenda*, pp. 197-236. University of Chicago Press, 2018.
19. Müller, Vincent C., and Nick Bostrom. "Future progress in artificial intelligence: A survey of expert opinion." In *Fundamental issues of artificial intelligence*, pp. 555-572. Springer, Cham, 2016.
20. Chaib-Draa, Brahim, Bernard Moulin, René Mandiau, and P. Millot. "Trends in distributed artificial intelligence." *Artificial Intelligence Review* 6, no. 1 (1992): 35-66.
21. DW, Gunning D. Aha. "DARPA's explainable artificial intelligence program." *AI Mag* 40, no. 2 (2019): 44.
22. Bond, Alan H., and Les Gasser, eds. *Readings in distributed artificial intelligence*. Morgan Kaufmann, 2014.
23. Ćwiklicki, Marek, Norbert Laurisz, and Anna Mirzyńska. "Case 7: Artificial Intelligence facilities customer experience. Example of Getdressed." *HOW TO DO BUSINESS IN DIGITAL ERA? CASEBOOK*: 55.
24. Askari Firoozjaee, Rezvan, and Ehsan Khamehchi. "A novel approach to assist history matching using artificial intelligence." *Chemical Engineering Communications* 202, no. 4 (2015): 513-519.
25. Patel, Vimla L., Edward H. Shortliffe, Mario Stefanelli, Peter Szolovits, Michael R. Berthold, Riccardo Bellazzi, and Ameen Abu-Hanna. "The coming of age of artificial intelligence in medicine." *Artificial intelligence in medicine* 46, no. 1 (2009): 5-17.