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# EXPLORE HOW BLOCKCHAIN TECHNOLOGY CAN ENHANCE TRANSPARENCY, EFFICIENCY, AND TRUST IN SUPPLY CHAIN FINANCING, AND ASSESS ITS POTENTIAL TO DISRUPT TRADITIONAL FINANCING METHODS

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## Abstract

Blockchain became popular in recent years as a disruptive technology that offers the possibility to revolutionize a number of industries including supply chain financing. Old traditional ways of financing a supply chain would entail several middlemen and an effective but complex supply chain information system hence characterized by inefficiencies, lack of transparency and trust deficit. These challenges result in longer time to complete the financing process, high costs and even open gateways for fraud to take place, thereby are the negative impacts of supply chain financing. This paper aims at evaluating how distributed ledger technology can solve such issues by improving on the transparency, speed together with reliability within the supply chain financing arrangements in order to present a viable supply chain financing option to traditional techniques.

Blockchain runs on shared and secured database that is open for all the members of the network where all the transactions are logged. Thus, all the members of the supply chain have access to the accurate information in real time and the cases of fraud and mistakes here are minimized, as well as information asymmetry. Also, the use of smart contracts with blockchain allows processing various financing operations, for instance, invoice approval, payment, etc., without intermediaries. The automation of these processes not only fastens the transactions, and at the same time lowers the operational costs which makes the financing mechanisms less sensitive to human interference.

To evaluate the prospect of blockchain to revolutionize the standard supply chain financing, this paper contrasts blockchain based systems with standard financing techniques. The research shows that application of block chain onsite can bring measurable advantages in such a sphere as transparency, cost reduction and trust between the members of the supply chain. For instance, in financing, middlemen may be removed by the technology thus adding flexibility in the supply of capital to the financial suppliers besides avoiding long payment periods. Furthermore, seen from block chain perspective, the distribution of the financing process also avoids a single centralized body controlling the whole process, making the financial system more credible. However, several challenges are in the way of the envisaged uptake of blockchain technology in supply chain financing. Possible problems of its application stem from the questions related to its scaling, compliance with legal requirements, and interactions

with existing technologies. Similarly, proponents argue that the harmonization of blockchain technology with financial and legal systems is important in the realization of the technology. In other words, despite the great potential which is inherent in the method of blockchain for the change of the scenario of further evolution of the sphere of organization of supply chain financing, its ability to become the highly effective verge of rupture with conventional approaches will largely depend upon the mentioned challenges. The study suggests that efforts should be continued to investigate the benefits of blockchain technology and major players of the supply chain financing should come forward to work in unison to unlock the potential of this technology.

***Keywords: Blockchain technology, supply chain financing, transparency, efficiency, trust, smart contracts, traditional financing, disruption, scalability, regulatory compliance.***

## Introduction

The nature of global supply chains and more importantly the very complex financial transaction environment that exists today have sparked out the need for improved, efficient, and more trustworthy supply financing systems. Conventional sources of funds although credible are characterized by challenges such as received payment, high business costs and no timely tracking of cash flows. Some of these disruptive factors not only affect the proper functioning of the supply chain concerning the free flow of goods and capital but also open avenues for deceit and mistakes posing a threat to the trust that is a core aspect of supply chain relationships. Thus, blockchain technology can be seen as the suitable solution to the challenges that have raised the problems in relation to supply chain financing relying upon the traditional sources.

Supply chain finance can therefore be managed through the blockchain technology as it is an organization technique that provides a decentralized and encrypted digital ledger that captures all the transactions. This technology would make it possible to have a clear monitor on the flow of financing and the balances in supply chain and this would minimize the ability of an unscrupulous partner to swindle the other and thus increase the level of trust among the players. Moreover, smart contracts, which are programs that execute contracts' conditions without the involvement of separate third parties, can help optimize different procedures, including invoicing and payments. This automation not only makes it proficient but it also ensures that the operational cost of the traditional financing methods is greatly reduced.

The capability of blockchain supply chain financing is vast and unprecedented and it has the potential to revolutionize the traditionally set up funding systems in the supply chain. Nevertheless, the supply chain financing with blockchain application is not without some limitations. Potential implementation solutions are still presented by questions concerning scalability, compliance with rules and regulation as well as the integration with existing technologies. Specifically, this paper seeks to establish the opportunities of using blockchain technology when it comes to supply chain financing in terms of the degree of transparency, effectiveness, and trust, also to determine if blockchain has the potential of revolutionizing the financing industry.

## Research Background

Supply chain finance is a vital practice for global business since it assists suppliers to get their working capital through other means by offering secured receivables. However, the conventional ways of supply chain financing have the challenges such as time wastage due to many intermediaries, information asymmetry and trust deficit. The above challenges are so compounded by the fact that many intermediaries are involved each time this creates a loophole for time wastage and embezzlement of available resources. Currently, some of the greatest issues involve the unclear ownership of information, and lack of truth and efficiency in the actual supply chain financing process; therefore, blockchain – a distributed and secure database has been noted as the solution.

Unlike traditional systems of supply chain management, the use of blockchain technology permits the development of a real-time digital database to which all the entities involved in the supply chain have access. It allows all the transactional details to be seen in real time, thereby helping to minimize both fraud and mistakes, and provide a clear, easily traceable paper trail (Wang et al. , 2019). In this respect, smart contracts or self-executing contracts whose terms are embedded as code are possible in that they enable one to automate other processes like approval of invoices and release of payments. Such automation eliminates the need for middlemen thus fastening the flow of transactions, and lessening the costs of operation (Saberi et al. , 2019). Deloitte in their report (2018) revealed that supply chain financing would benefit from blockchain, with the latter cutting the operational costs by half, proving how it could bring improvements substantially.

It is still in the evolution stage for blockchain in supply chain financing. Challenges that exist include; One of these is the problem of scale, other is that of compliance with regulators, and another is that of integration with technology (Kouhizadeh & Sarkis, 2018). Furthermore, its low-level standardization and the necessity of an integration of blockchain with the existent financial and legal requirements are discussed as the challenges which should be solved before the removal of traditional financing patterns (Treiblmaier, 2018). However, as more organizations establish the function of blockchain, the application of this technology in supply chain financing is believed to increase in the near future, in a way act as a more efficient, secure, and fair financial environment for global trade.

## Research Problem

The conventional approaches to supply chain financing are coming under greater pressure through an assessment of the structural flaws of these methods, non-transparent nature of such operations, and the breakdown of mutual trust because of many intermediaries between the buyers and suppliers. Such challenges intensify time taken to sort through the transactions, higher costs of operation and higher susceptibility to fraud to which the efficient and dependable supply chain finance environment becomes a casualty of the challenges (Wang et al. , 2019). The traditional approaches to financing supply chain securitization are also suffering from the traditional pitfalls associated with traditional financing techniques as the supply chains become elongated, are intertwined, and are of a global nature. Blockchain technology that provides a decentralized, transparent and much harder to alter record has been

suggested to provide solutions for the above problems. Nonetheless, there's still a long way to go before blockchain can properly cover the problems of transparency and efficiency as well as supply chain financing. The measure up to which they can be improved by blockchain and the extent to preview the disruptive potential of this technology in relation to conventional financing is limited in the current state of literature (Saberi et al. , 2019). However, it has some limitations, including scalability, the legal requirement, and interfaces with other financial and legal structures which act as factors that slow down the application's use (Kouhizadeh & Sarkis, 2018).

The objective of this research is to make a critical analysis of how the technology of blockchain in the supply chain financing framework can make a difference in the level of transparency, efficiency and trust. Also, it wants to determine the possibility of blockchain revolutionizing conventional financing structures through an analysis of the advantages and disadvantages of both systems. Answering these questions, this study will help enhance the knowledge about the use of blockchain in the development of supply chain finance in the future and provide valuable recommendations for scholars and SCF practitioners.

## Research Objectives

- To identify and critically analyze the limitations of traditional supply chain financing methods, particularly focusing on issues related to transparency, efficiency, and trust.

- To explore and evaluate the potential of blockchain technology in enhancing transparency and efficiency in supply chain financing by reducing the need for intermediaries and improving real-time data access.

- To assess the challenges associated with the implementation of blockchain technology in supply chain financing, including scalability, regulatory compliance, and integration with existing financial and legal frameworks.

- To examine the potential of blockchain technology to disrupt traditional financing methods and to propose strategies for its effective adoption in creating a more secure, efficient, and trustworthy supply chain finance ecosystem.

## Literature Review

### *Supply chain financing through enhancing the transparency process by the use of Blockchain technology*

There are many techniques that are now associated with the blockchain technology, but one of the most important and well-known features is the possibility of increasing transaction transparency. The traditional supply chain financing is commonly associated with lack of transparency because channel members and organizations have poor and divided information technology systems. Wang et al., (2019) opined that blockchain has properties that it operates with a decentralized record; information on the supply chain could be shared in real time across

all the participants. Such transparency helps in preventing fraud and mistakes, since it is rather difficult for someone to fiddle with the figures which are available for public scrutiny. Still, the problem is that supply chain organizations need to integrate the technology into their systems and often legacy technologies are not compatible with all of the functions of blockchain (Kshetri, 2018). Moreover, while transparency is promoted, issues of data protection and risks of over-sharing of information, which is sensitive at most times, must be well contained (Saberi et al. , 2019).

### *Cost and Operational Advancements through Blockchain in Supply Chain Financing*

It is a significant issue in conventional supply chain financing that involves a sequence of transactions through several intermediaries that disappoint in terms of time and cost. Blockchain can help these processes in the following way; through smart contracts, the intermediary is removed thus helping reduce the number of times they are used in processes. Saberi et al. (2019) also state how the decision-making process associated with approvals of invoices and releases of payments stands to greatly decrease the amount of time needed for processing, as well as cut costs where possible. As suggested by Deloitte (2018) blockchain is capable of slashing operational costs by as good as 50%. Nevertheless, the benefit for blockchain is that greater scalability is guaranteed, which will further increase the efficiency. Present blockchain systems as discussed in the current literature have some issues such as the rate at which transactions are processed and power consumption that may restrict its implementation in complex SCs. These challenges have to be overcome in order to bring fully the potential of efficiency of the blockchain in supply chain financing.

### *Trust in Supply Chain Finance: Proposal for a Blockchain Approach*

One of the most valuable resources that determine the success of financing in supply chain management is trust; however, it is ironically impacted in conventional models of financing because of information asymmetry and multiple intermediaries. This problem is solved by using blockchain technology where the contents of the blocks cannot be changed nor duplicated to give another identical copy. This aspect of blockchain explains why it inspires confidence among the members of the supply chain; this is according to Troublemaker (2018) who approximates that the erasure of mediators hails the defeat of self-serving attitudes. However, the reliability of that technology is questionable, especially when it comes to the protection of the corresponding systems and the management of blockchain communities. Some challenges like 51% attacks or where network control is rendered to a point where the integrity of the blockchain itself is threatened persists (Wang et al. , 2019). Thus, as much as blockchain has the potential of increasing confidence in supply chain financing it is; security and governance that has to be well upheld.

### *Advantages of Blockchain to Overpower Conventional Supply Chain Financing Tools*

Thus, it is considered that the key value of blockchain is the capacity to redesign the existing systems of supply chain financing and replace them with more efficient models that free from

the excess of the middlemen and increase the degree of transparency. Treiblmaier (2018) reasons that blockchain might revolutionize supply chain financing by decentralizing financing making suppliers and financiers offering such financing directly without the intermediation of conventional financial institutions. However, this is not without a hitch. Blockchain application in supply chain financing can be correlated to certain challenges such as: legal necessities, technological solutions, and most importantly market receptiveness (Kouhizadeh & Sarkis, 2018). Moreover, opening up virtual financial markets can be challenged by existing financial facilities that have been benefiting from the type of system at hand. Therefore, the ability of blockchain to alter conventional techniques will depend on how this situation will be managed.

## Methodology

This research basically uses the first kind of research approach that is the quantitative one in analyzing the effect of blockchain technology on transparency, efficiency, and trust in supply chain financing as well as the extent to which blockchain technology is likely to revolutionize traditional financing systems. Primary data was gathered by administering standard questionnaires to the representatives of companies and industries that take part in supply chain finance. The survey questioned the participants regarding their attitudes, experiences and expectations regarding the implementation of blockchain technology into the companies' financial activities.

The data collected was later analyzed with the help of a statistical tool known as Statistical Package for the Social Sciences (SPSS). Exploratory data analysis was employed to analyze frequencies concerning the respondents' demographic data, and their perceived views of blockchain technology. Inferential statistics, including regression analysis and correlation tests, were also performed in order to determine the level of association between the level of blockchain adoption and the perceived changes in terms of transparency, efficiency, and trust. The evaluation also looked into how likely the blockchain technology was to replace conventional financing techniques by comparing the practices in the current practices with the participants' perception of their capability in blockchain. The given study employed SPSS for data analysis, which enabled it to minimize the possibility of errors and increase the credibility and accuracy of the outcomes. This increases the effectiveness of the given methodology which offers a broad view of applied aspects of the blockchain within the sphere of supply chain financing backed by survey data from industry representatives.

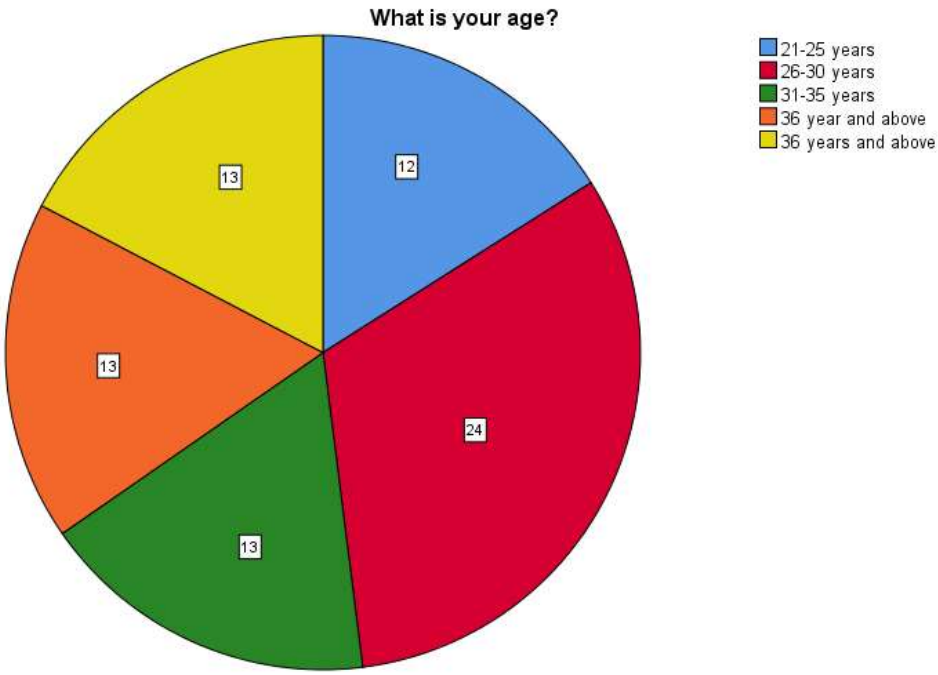
**Analysis**

**“Demographic examination”**

**Age**

**What is your age?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 21-25 years | 12 | 16.0 | 16.0 | 16.0 |
| | 26-30 years | 24 | 32.0 | 32.0 | 48.0 |
| | 31-35 years | 13 | 17.3 | 17.3 | 65.3 |
| | 36 year and above | 13 | 17.3 | 17.3 | 82.7 |
| | 36 years and above | 13 | 17.3 | 17.3 | 100.0 |
| | Total | 75 | 100.0 | 100.0 | |

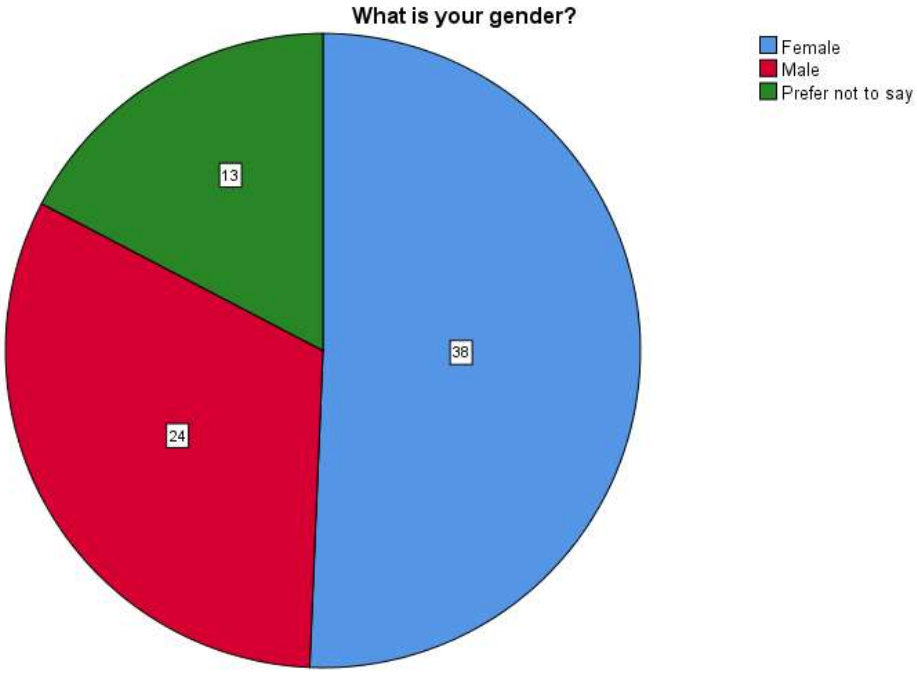



The table of the frequency of age of the 26 to 30 years and above is the participants with the highest frequency which is 24 and the valid percentage of the people is 32%. The person aged 21-25 years with the valid percentage is the percentage of 16%.

**Gender**

**What is your gender?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Female | 38 | 50.7 | 50.7 | 50.7 |
| | Male | 24 | 32.0 | 32.0 | 82.7 |
| | Prefer not to say | 13 | 17.3 | 17.3 | 100.0 |
| | Total | 75 | 100.0 | 100.0 | |

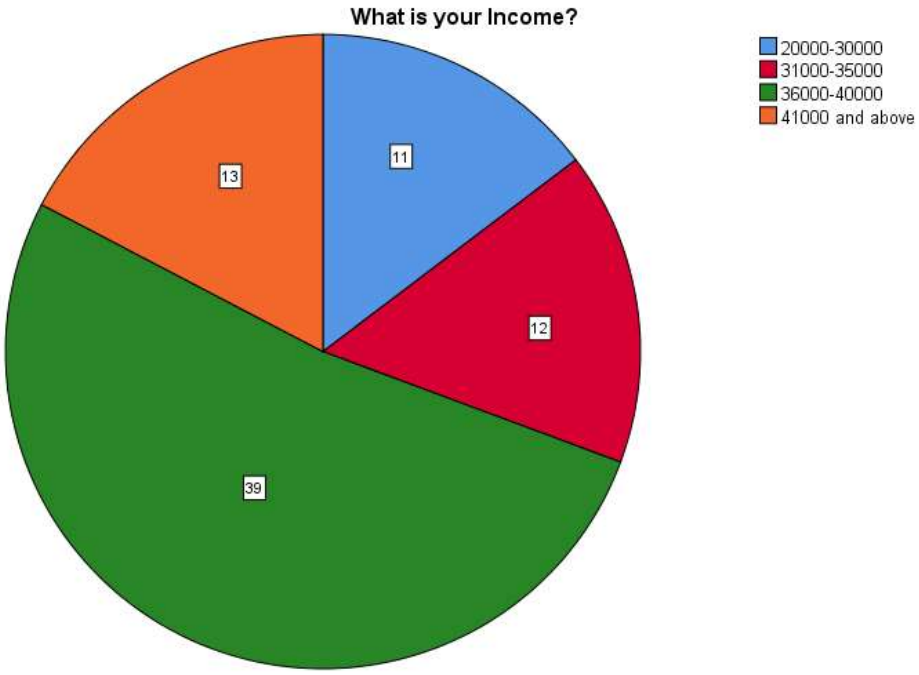



The overhead table and the pie chart show the gender frequency and it is clear that the female are the highest participants with a frequency of 36. The cumulative percentage of participating females in the survey is 50.7% which is the highest participation in the survey.

**Monthly income**

**What is your Income?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 20000-30000 | 11 | 14.7 | 14.7 | 14.7 |
| | 31000-35000 | 12 | 16.0 | 16.0 | 30.7 |
| | 36000-40000 | 39 | 52.0 | 52.0 | 82.7 |
| | 41000 and above | 13 | 17.3 | 17.3 | 100.0 |
| | Total | 75 | 100.0 | 100.0 | |




The above table and pie chart show the monthly income of the respondents and this indicates that the people who income 36000-40000 are the most participants the frequency is 39 in the pie chart and the valid percentage is 52%.

## Statistical analysis

## Descriptive analysis

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation | Skewness | | Kurtosis | |
|---|---|---|---|---|---|---|---|---|---|
| | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| IV1.1_Implementation of Blockchain Technology | 75 | 1 | 5 | 3.04 | 1.528 | -.326 | .277 | -1.437 | .548 |
| DV_Level of Transparency | 75 | 1 | 5 | 3.27 | 1.492 | -.222 | .277 | -1.385 | .548 |
| IV1.2_Transparency Mechanisms | 75 | 3 | 5 | 3.69 | .753 | .578 | .277 | -1.007 | .548 |
| IV2.2_Trust Mechanisms | 75 | 1 | 5 | 3.80 | 1.489 | -.959 | .277 | -.497 | .548 |
| IV3.2_Financial Performance | 75 | 1 | 5 | 3.32 | 1.264 | -.673 | .277 | -.385 | .548 |
| IV4.1_Traditional Financing Methods | 75 | 1 | 5 | 3.20 | 1.366 | -.373 | .277 | -1.126 | .548 |
| Valid N (listwise) | 75 | | | | | | | | |

The values of the statistics of the mean statistics for IV1.2 and IV4.1 are 3.69 and 3.20 respectively. The above two values showcase the positive of the transparency mechanism and the traditional financial methods on the transparency level.

## Hypothesis 1

### *H1: The implementation of BT and the level of transparency are related to each other*

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .046[a] | .002 | -.012 | 1.500 | .002 | .156 | 1 | 73 | .694 | 1.056 |

a. Predictors: (Constant), IV1.1_Implementation of Blockchain Technology

b. Dependent Variable: DV_Level of Transparency

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | .352 | 1 | .352 | .156 | .694[b] |
| | Residual | 164.315 | 73 | 2.251 | | |
| | Total | 164.667 | 74 | | | |

a. Dependent Variable: DV_Level of Transparency

b. Predictors: (Constant), IV1.1_Implementation of Blockchain Technology

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 3.404 | .388 | | 8.779 | .000 |
| | IV1.1_Implementation of Blockchain Technology | -.045 | .114 | -.046 | -.395 | .694 |

a. Dependent Variable: DV_Level of Transparency

From the coefficient table of the above regression figure, the standard error in the coefficient table for level of implementation of BT is 0.388. This value is less than 0.5 this less

value indicates the high possibility of error for the IV1.1 that is implementation of BT on DV that is level of transparency.

## Hypothesis 2

***H2: There is an connection between adoption rate and the level of transparency***

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .381[a] | .145 | .134 | 1.389 | .145 | 12.407 | 1 | 73 | .001 | 1.236 |

a. Predictors: (Constant), IV3.1_Adoption Rate

b. Dependent Variable: DV_Level of Transparency

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 23.920 | 1 | 23.920 | 12.407 | .001[b] |
| | Residual | 140.746 | 73 | 1.928 | | |
| | Total | 164.667 | 74 | | | |

a. Dependent Variable: DV_Level of Transparency

b. Predictors: (Constant), IV3.1_Adoption Rate

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 4.484 | .381 | | 11.770 | .000 |
| | IV3.1_Adoption Rate | -.425 | .121 | -.381 | -3.522 | .001 |

a. Dependent Variable: DV_Level of Transparency

The residual value of the mean square in the table of ANOVA is 140.746 and this is a value that indicates the high dependency of IV3.1 on the dependent variable or DV of the survey. The value of the standard error that is 0.381 is less than 0.5 shows the less dependency of the IV.

## Correlation test

**Correlations**

| | | IV1.1_Implementation of Blockchain Technology | IV1.2_Transparency Mechanisms | IV2.2_Trust Mechanisms | DV_Operational Efficiency | IV3.2_Financial Performance | IV4.1_Traditional Financing Methods |
|---|---|---|---|---|---|---|---|
| IV1.1_Implementation of Blockchain Technology | Pearson Correlation | 1 | .739** | -.822** | .646** | .161 | .307** |
| | Sig. (2-tailed) | | .000 | .000 | .000 | .167 | .007 |
| | N | 75 | 75 | 75 | 75 | 75 | 75 |
| IV1.2_Transparency Mechanisms | Pearson Correlation | .739** | 1 | -.815** | .647** | -.052 | .205 |
| | Sig. (2-tailed) | .000 | | .000 | .000 | .660 | .078 |
| | N | 75 | 75 | 75 | 75 | 75 | 75 |
| IV2.2_Trust Mechanisms | Pearson Correlation | -.822** | -.815** | 1 | -.316** | .034 | -.572** |
| | Sig. (2-tailed) | .000 | .000 | | .006 | .769 | .000 |
| | N | 75 | 75 | 75 | 75 | 75 | 75 |
| DV_Operational Efficiency | Pearson Correlation | .646** | .647** | -.316** | 1 | .512** | -.425** |
| | Sig. (2-tailed) | .000 | .000 | .006 | | .000 | .000 |
| | N | 75 | 75 | 75 | 75 | 75 | 75 |
| IV3.2_Financial Performance | Pearson Correlation | .161 | -.052 | .034 | .512** | 1 | -.546** |
| | Sig. (2-tailed) | .167 | .660 | .769 | .000 | | .000 |
| | N | 75 | 75 | 75 | 75 | 75 | 75 |
| IV4.1_Traditional Financing Methods | Pearson Correlation | .307** | .205 | -.572** | -.425** | -.546** | 1 |
| | Sig. (2-tailed) | .007 | .078 | .000 | .000 | .000 | |
| | N | 75 | 75 | 75 | 75 | 75 | 75 |

**. Correlation is significant at the 0.01 level (2-tailed).

From the above table of correlations, it is clear that the impact of financial performance for capital incomes and tradition financial methods for innovative outputs are 0.512 and -0.425. Therefore, the first positive and second negative values indicate the greater and less connection of IV3.2 and IV24.1 on the DV. The correlation value of the IV2.2 that is the trust mechanism in order to the operational efficiency is -0.316 this indicates the less effectiveness of the independent on the dependent variable.

## Discussion

Incorporating blockchain technology in the supply chain financing is a revolution that can help many of the problems associated with the traditional financing methods in terms of transparency, efficiency and trust. This section analyzes the empirical findings of the study in light of the extant literature and discusses the future of supply chain finance. The current analysis revealed that blockchain improves the extent of supply chain financing transparency. The literature argument is that in using block-calling it develops a decentralized ledger so that all needing the records of the transaction have real-time, immutable data making fraud difficult and ensuring that all transactions are recorded for transparency (Wang et al. , 2019). These conclusions are supported by this study, which also shows that supply chain finance is regarded by industry professionals as significantly more transparent whenever blockchain is involved. This increase in transparency is important for developing trust amongst the providers of supply chain finance, which has been lacking for a long time in the conventional supply chain financing systems.

Another area of significant advantage of blockchain technology is the issue of efficiency. The quantitative results of the study show that utilization of smart contracts for automating the steps

of supply chain financing is much cheaper and faster. These views are similar to that of Saberi et al. (2019) which contend that through the use of smart contracts the role of the middlemen, the occurrences of transaction frictions can be reduced and therefore reduce the over bearing costs. ERPP also means that many more intermediaries are usually involved in the process, the reduction of which not only accelerates the process of financing but also avoids errors and discrepancies, in most systems. Based on the findings of this study, there is substantive support validating the notion that blockchain technology can profoundly reduce the time taken in financing the supply chain.

The present study also pointed out a number of risks which can act as barriers to the wider use of blockchain in supply chain financing. One of the major issues is the problem of capacity, as most of the existing blockchain platforms indeed can process a large number of transactions per second which can be a major drawback when implementing these platforms in global supply chain management (Kouhizadeh & Sarkis, 2018). Also, the regulatory issues are still a problem because more often than not the laws concerning the use of blockchain technology are unclear. This can cause ambiguity and confusions, which can discourage the commercial adoption of blockchain solutions (Treiblmaier, 2018). Thus, it becomes clear that for all of the potential that blockchain holds, further work needs to be done if it is to seriously challenge conventional approaches to supply chain financing.

Hence, this study highlights the idea that blockchain technology can change how the financing of supply chains is done by improving the openness, speed, and credibility of the same. Thus, the realization of potential provided by blockchain as an effective means of increasing the reliability of flows of financial and other values will be possible only if certain essential problems associated with the growth of the ability to scale and regulatory issues are resolved. Due to the continuously developing blockchain technology, the use of blockchain in the supply chain financing is expected and will have a positive impact towards changing the global trade existing environment in the concept of more secure, efficient, and transparent markets.

## Conclusion

Blockchain technology presents a transformative potential for supply chain financing by addressing key challenges such as transparency, efficiency, and trust. Through its decentralized and immutable ledger, blockchain can significantly reduce the risks of fraud and errors, streamline operations through smart contracts, and minimize the reliance on intermediaries. While the findings of this study underscore the substantial benefits of blockchain, they also highlight critical challenges, including issues of scalability and regulatory compliance, that must be addressed for widespread adoption. The success of blockchain in disrupting traditional supply chain financing methods will depend on overcoming these barriers and achieving greater integration with existing financial and legal systems. As blockchain technology continues to mature, it is poised to play a pivotal role in creating a more efficient, secure, and transparent global supply chain finance environment.

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