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Financial Freedom or Financial Chaos? The Rise of Defi Platforms

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ABSTRACT

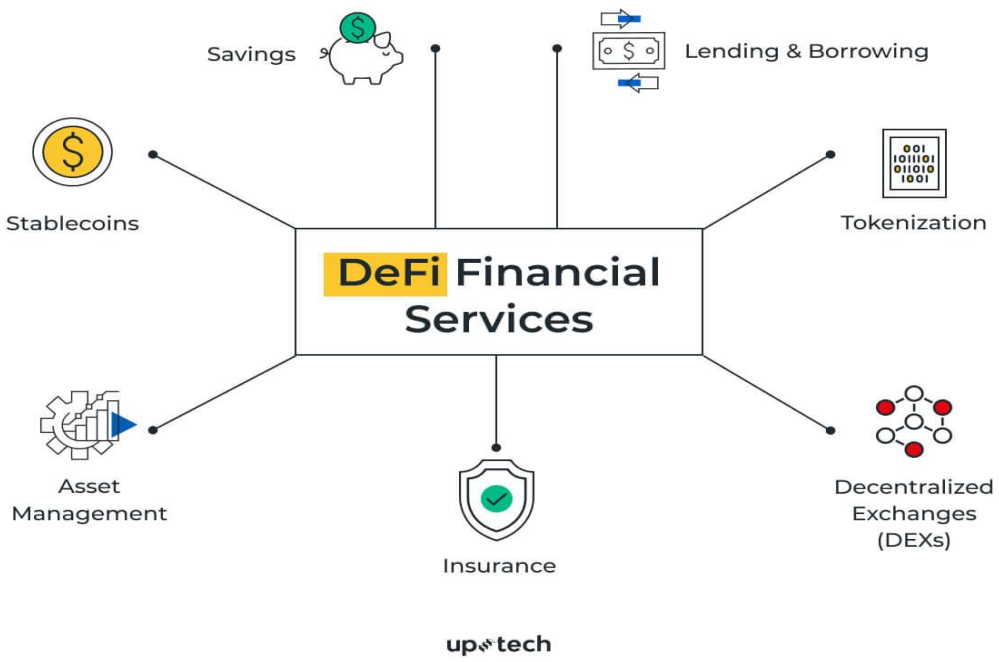
Decentralized Finance (DeFi) platforms are transforming traditional financial systems by offering open, permissionless access to services such as lending, borrowing, trading, and investing through blockchain technology. By removing intermediaries and using smart contracts, DeFi democratizes finance, potentially addressing financial exclusion in underserved regions. While DeFi presents opportunities for financial inclusion and innovation, it also introduces significant risks. Technical vulnerabilities, such as smart contract hacks, can compromise the system. Financial risks include liquidity shortages, market volatility, and systemic instability. Additionally, the anonymity and decentralization of DeFi create loopholes for illicit activities like money laundering and fraud, posing challenges for regulatory and law enforcement agencies. Regulating DeFi is complex, as traditional financial regulations often do not align with decentralized ecosystems. This paper examines regulatory approaches across different jurisdictions and highlights issues such as assigning legal responsibility, protecting consumer interests, and combating financial crimes while preserving innovation. Regulatory arbitrage, where DeFi platforms shift to regions with lax oversight, further complicates global regulation. The paper concludes that DeFi's success depends on mitigating risks and establishing a balanced regulatory framework that fosters innovation while ensuring financial stability and consumer protection. Future research should focus on developing risk assessment models and regulatory strategies tailored to the decentralized finance landscape.

Keywords: - Decentralized Finance, Blockchain, Demographicization, Financial services

1. Introduction

DeFi has become perhaps the most disruptive innovation of the past few decades in the financial sector as it provides individuals with open, permissionless, and borderless access to a wide variety of financial services. Using decentralized block chain technology, DeFi does not involve the use of central ollier s such as banks and other financial institutions, but relies on smart contracts which are self- executing contracts where the terms of the agreement are coded into the computer program. The key idea of DeFi is decentralization that brings tangible benefits related to providing people with sound financial services irrespective of their location or status. The conventional financial structure has for long been accused of being slow, expensive and an exclusive preserve of the wealthy (Allen et.al 2020). Availability of financial services is governance by certain barriers like geographical location, income level, requirement of documentations and credit worthiness. These barriers lock out massive portions of the global society from any sort of integration into a formal economy – a notion especially relevant to the developing world given the nascent state of the latter's financial systems. These problems are being solved by DeFi platforms, which aim to build an open financial system which is decentralized and can be used by anyone to lend, borrow, trade, and invest. The main reasons for emergence of DeFi include general growth of the popularity of the blockchain, the advancements of cryptocurrencies, and skepticism in the trustworthiness of the traditional financial institutions after the 2008 financial crisis. Decentralized finance solutions are powered by public blockchains such as Ethereum, and the latter offers the tools for building the apps that would not require interaction with human participants (Arner et.al 2017). These platforms provide a vast number of financial services, which were earlier provided by the traditional financial institutions and so, they gradually demarginalized the access and control of finances and thus, people got the capability to manage their finances on their own. Combating exclusion from the formal financial system is one of the major ways through which decentralised finance could potentially bring value to society. Looking at

the removal of intermediaries and expenses that are associated with various financial operations, the use of DeFi can open financial tools to millions of people who have no access to formal financial services. This is especially the function of focusing on the territories where it is impossible or very costly to get a bank credit. In these regions, DeFi will offer people an opportunity to get credit, save and invest their money, and participate in the economy that earlier they cannot or did not dare to enter. Nevertheless, DeFi's growth represents a host of risks and challenges, due to the relatively new nature of this financial category. These platforms depend on the decentralized distribution centers, which makes them quite susceptible to technical troubles, security break-ins, and instability in their finance. The emerging trend of technological advances known as smart contracts are not infallible and have been breached leaving many users high and dry with massive loses. Furthermore, there is no mechanism to oversee consumer protection, money laundering and potential occurrence of systemic risks which can affect the financial sector. The rapidly growing DeFi is a phenomenon that regulators from different countries try to understand how to prepare for. These platforms operate in a de-centralized and trans-border basis making it inherently hard to control them with the tools that are built for centrally controlled economic entities that are confined to distinct geographies. This has resulted to a situation where some countries have adopted the use of DeFi to promote innovation while others are already trying to place restrictions on DeFi, due to the risks that come with it (Zohar et.al 2017). Industry analysts and regulators face the main question, how to encourage development of innovative financial products while maintaining the stability of the financial markets. The idea of this paper is to give the comprehensive understanding of DeFi movement, considering its possibilities for creating the real financial inclusion, its dangers, and the problems of the regulation of these completely decentralized systems. Through this analysis, the paper shall identify major factors that have led to the advancement in DeFi, opportunities and challenges that are likely to accompany the use of DeFi, and specific measures that governments across the world have put in place to address DeFi. Lastly, it aims at advancing the current discourse on the future of DeFi and its impact on the global financial industry and to provide valuable suggestions on how this novel technology can be used to develop a fair financial system (Auer et.al 2021).



Research Objective

- To evaluate the potential of DeFi platforms in democratizing access to financial services globally.
- To analyze the technical and financial risks associated with DeFi platforms.
- To investigate the challenges faced by regulators in overseeing DeFi platforms.
- To assess the impact of DeFi adoption on the traditional financial system.

2. Research Problems

Decentralized Finance (DeFi) platforms have rapidly appeared and started growing throughout the world providing a new perspective and solution of using decentralized financial services which are opened for everybody. These P2P platforms are based on the blockchain that aims to provide accessible financial services by doing away with middlemen, cutting costs and allowing users all over the world to participate in activities such as lending, borrowing, trading and investing. But with these opportunities, DeFi also has countless negative consequences that question its stability, security, and sustainability (Beck et.al 2017). However, the key problem of DeFi is the conflict of making finance decentralised and accessible on one hand and the high vulnerabilities that it exposes users and the financial ecosystem on the other hand. DeFi platforms may of course also improve the reach of financial services to the unbanked and underbanked, specifically in areas where there is limited to no traditional banking infrastructure, however, the technology and monetary costs that come with such platforms are quite high. An example of risks is that smart contracts have several more or less obscure flaws, which, for example, allowed hackers to steal millions of dollars. Also, due to the high possibility of value fluctuation of cryptocurrencies on which DeFi transactions are based, there is a high likelihood of financial risk that goes against the aim of DeFi in creating equal opportunities for individuals. However, the decentralised structure and the fact that DeFi operate beyond the conventional borders of one country can also be an issue to regulators too. Conventional financial regulations are supposed to act and are implemented within certain territories and are conducted through centralised bodies (Chen et.al 2019). Unlike DeFi which is a global platform with decentralized management and no controllers who can oversee and impose regulations on the processes occurring. This lack of regulation has led to apprehensions regarding unlawful practices, especially money laundering fraud, and manipulation of the market trends leading to more vulnerability of the financial markets as well as further sophistication of the DeFi systems.

Some of the obstacles are that there are still no standard legal frameworks for regulating decentralized finance and the fact that some DeFi platforms are not inclined to follow any current legal requirements (Werbach et.al 2018). Policy makers are stuck with the unenviable task of coming up with new methods for the proper regulation of DeFi processes without hindering progress thereon. It is especially important to achieve such a balance because excessively strict rules could lead to the decentralised finance activities going underground or moving to other regions, thereby fuelling the practice of regulatory race to the bottom and making their global supervision even more difficult. In addition to these issues, the effects of Decentralized Finance on conventional financial systems have not been well researched. Amidst the popularity of decentralised finance platforms, DeFi's impact on existing and traditional institutions, markets, and laws continues to solidify. It is high time to study ways in which DeFi could challenge traditional financial systems, may it be by offering new competitors, partners, or enemies to CFI (Defi Pulse et.al 2021).

Given these complexities, the research problem this study seeks to address is multifaceted: How can DeFi platforms unlock the peoples' access to financial services while addressing the considerable technology, cost, and legal challenges, which DeFi platforms bring to the industry? Further, how can such competent authorities design effective regulatory regimes that will allow them to regulate DeFi without dampening its growth and innovation? Last but not least, what does the emergence of DeFi mean for the incumbent financial system and how can one envision the future collaboration between these two systems? Answering these questions is important to see the further evolution of DeFi and its position in the global financial system. The primary objective of this research will be to produce a thorough understanding of these topics in an effort to add to the literature on decentralized finance and its prospects and difficulties (Gudgeon et.al 2020).

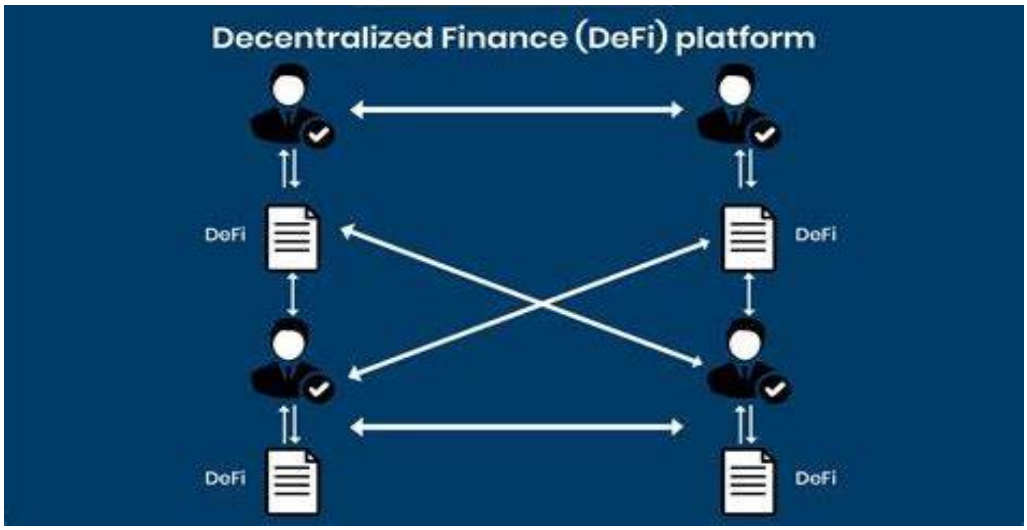
Literature Review

Investigating the challenges faced by regulators in overseeing DeFi platforms

Currently, Decentralized Finance (DeFi) platforms have revolutionized the financial market, and brought new regulatory models to question the previous central financial regulation that was developed for the centralized financial systems. The main problem is that DeFi is a decentralized and global space, which dramatically contrast with the top-down approach that dominates the conventional financial system. DeFi platforms are built on the blockchain which means that there is decentralised decision-making and control by the users across the globe which makes it challenging for the regulators to adopt traditional means of supervision. This decentralization also poses severe challenges to the regulators since there is no unified body or organization to coruscate to the regulators to implement the existing financial laws (Goforth et.al 2020). An examination by Zohar, (2015) shows that while decentralization is a strength that provides protection and independence

to de-finance platforms, it poses major problems to the authorities. It also implies that regulators cannot directly control them, make rules, set sanctions or even guarantee their compliance due to the fact that participants in the relevant markets are interconnected all over the world. This has resulted in DeFi platforms effectively having little to no rules to follow putting the system at risk of legal issues such as money laundering, fraud, and market manipulation among others. These issues are further compounded by the fact most DeFi platforms offer anonymity to their users, making it hard to conduct transaction monitoring, identify the involved parties or even enforce AML and KYC rules. However, another limitation of decentralized DeFi platforms is that it gets rather difficult for the regulating authorities of a specific jurisdiction to regulate such platforms.

The legislation regulating traditional financial institutions comes from the countries where they operate While DeFi platforms are built with provable technology, they are unbound to the traditional geography of legislation. Therefore, they tend to work rather in a legal grey zone, where various countries have distinct measures and statures of regulation and punishment (Tasca et.al 2018). As stated by Arner, Barberis, and Buckley in their article in 2017, the decentralized nature results in the fragmentation of regulation by creating risks for regulatory arbitrage that may be utilized by the DeFi platforms for avoiding more stringent controls. This not only weakens the impact of regulating the platforms through individual country regulatory systems but also results into an unbalanced environment for the platforms to operate in the regions that have ambiguous or liberal regulations. Besides jurisdictional factors, the continuously evolving development in the DeFi sector also becomes one of the biggest obstacles for the regulators. DeFi platforms are still in the development phase with new products and services being launched frequently in the market thus the regulators are always under pressure.



This has resulted to a situation where most of the regulatory frameworks are may be already outdated or are not even relevant by the time they are put in to practice. As pointed out by Goforth (2020), there is a massive gap in the regulation of DeFi, mainly because the industry is still rapidly evolving, thus making it difficult for regulators to catch up. Such a rapidly evolving landscape implies higher volatility and shorter cycle time which means that regulators have to be more flexible while, at the same time, most of the current regulatory authorities lack sufficient technical knowledge and tools to meet DeFi challenges efficiently. Another important concern felt is the lack of compliance with Consumer protection laws applicable for DeFi marketplace. Conventional banking organizations are bound by the guidelines of consumer protection to make sure clients receive fair treatment as well as their monies' safety.

However, unlike traditional financial platforms, most DeFi platforms lack such protections and thus pose risks such as loss of funds due to collapsing Smart Contracts or hacks. Allen (2019) found that decentralization of DeFi means that it is hard to implement consumer protection laws because there is no specific authority that can deal with complaints from consumers or provide some form of redressal in case they lose their money (Houben et.al 2018). This has prompted actors to call for new regulation that would suit DeFi due to the distinctive qualities present while at the same time ensuring that restrictions are not placed on innovation to prevent consumers from being exploited. Lastly, due to the often anonymous and

pseudonymous nature of DeFi transactions new types of problems arise regarding compliance with AML/CFT regulations. Currently, most DeFi platforms grant anonymity to their users; therefore, it is challenging for the regulators to monitor and address compliance with AML/CFT legal requirements. Cross-sectional research by Houben and Snyers in 2018 unveiled that despite the incorporation of the KYC measures, it's revealed that most DeFi platforms have only implemented partially and inadequately to meet advanced financial regulations. For the regulators, it becomes difficult to force DeFi platforms into following standards set by the AML/CFT laws while at the same time maintaining the decentralization and anonymity which is somehow a rallying point to the DeFi platforms. Therefore, the uncharted, de-centralized, borderless and constantly emerging character of DeFi poses risks and significant hurdles to regulation.

At the same time, the existing systemic models of the traditional regulatory structure that have been developed for large, centralized financial intermediaries, are utterly ineffective for the regulation of DeFi, and that has created a rather dangerous lack of regulation in this sphere, in terms of risks it holds for the consumers, and for the financial system as a whole. Overcoming these challenges shall be through collective efforts of the regulators to devise and come up with mechanisms that are new, responsive and synchronous with the advancements obtained in DeFi that would ensure that the financial market remains stable, secure and of high integrity.

Assessing the Impact of Defi Adoption on the Traditional Financial System

By integration of Decentralized Finance (DeFi), a disruptive innovation to the current conventional financial system has been averted and this is a complete shift in the manner through which financial services can be provided/consumed. DeFi is based on blockchain that provides decentralised financial products including lending, borrowing, trading and investment without the involvement of banks or financial companies. This shift towards decentralization is a disruption to the traditional financial services since they involved the provision of services by central players. Disintermediation of these procedures delivers evolutions of economic benefits indicated by Schär (2021) other than smoothing the transaction costs while enhancing transparency and directly threatening the conventional banking model.

Restructuture of the intermediaries brings power and flexibility to the use hence promoting the democratization of the finances thus undermining the power of the traditional financial bodies ((Shadab et.al 2021). Given the fast expansion of DeFi, there has been rapid expansion of new financial instrument as DEX, yield farming, and liquidity mining. These innovations are changing dynamics in the competition, offering the users a chance for financial opportunities that was earlier only in the domain of large institutions or those who had a huge capital base (Kiviat et.al 2019). Allen (2020) assert that Decentralized Finance has a competitive advantage since it provides flexible, transparent, and easily accessible financial services that are being appreciated by many people and thus drifting from the traditional financial institutions. This change is exerting pressure on traditional banks to adapt and adapt its business models to embrace DeFi in its operations in order to survive in an increasingly dynamic financial market. The need to adapt is a challenge that is apparent with traditional financial institutions since they need to answer the capacities of DeFi while still observing the regulatory demands imposed to them. But, just as it is true with any revolutionary advance, the use of DeFi comes with its own risks and challenges especially in regards to financial stability and regulation.

Among them, there is a fear that due to the connections between DeFi platforms, some types of risks can become systemic in the entirety of the financial system. Due to its decentralised structure in addition to leveraging highly volatile tokens as collateral, the system introduces systemic risks that may lead to vicious cycles of defaulting, similar to the subprime mortgage crisis. According to Gudgeon et al. (2020), because of the decentralised operation of DeFi and because there is usually no central authority overseeing them, they can easily be exposed to such systemic risks that may lead to drastic consequences in the international financial system. The primary risk is that DeFi platforms can falter down due to smart contract vulnerabilities or liquidity issues which will harm not just those platforms' users but the broader conventional financial markets. A key problem related to the popularization of DeFi is the fact that these platforms are still rather unknown to the legislators. Currently, the vast majority of DeFi entities is outside the common legal regimes that apply to traditional financial institutions and other organizations; therefore, it is unclear how existing rules of financial regulation apply to DeFi.

This regulatory ambiguity poses threats to the consumers of the DeFi platforms as well as the financial institutions who may interface with or integrate with the DeFi providers (Lyons et.al 2020). Arner, Barberis, and Buckley (2017) note that it is possible that DeFi will remain largely unregulated and demand will cause the market to become the "wild west" where scams, money laundering, and other misconduct take place. Many stakeholders in the DeFi space would lose confidence in the innovation and worse the global financial ecosystem could be at risk which is not good for the society. For this reason, traditional financial institutions which are strictly governed by different laws and regulations may be wary of interacting with DeFi platforms due to these legal and compliance issues thus hampering integration of DeFi with traditional financial industry. However, there is also strong synergy opportunities for integration of DeFi with the existing financial systems. It is noticeable that some incumbents of the traditional finance sector are also currently in the process of searching for the legal ways to integrate the DeFi tech and the principles of its work into their companies and businesses because the potential of DeFi is seen as quite promising in terms of creation and development.

For instance, banking industry and other financial institutions are researching on how blockchain technology can be used in improving on the settlement and tokenization of assets, and the creation of dApps that can operate with compliance to the rules of law. It can therefore be deduced that even though the current relations between DeFi and traditional finance are more or less hostile, the two systems could in the future co-exist where each supports and compliments the other to create a more healthy financial world.

Thus, the use DeFi protocols underlines the transformation of the conventional financial environment, opening the new opportunities for the development ahead of time and at the same time provoking the new threats to its stability and the regulator's intervention. On the same note, the adoption of decentralized financial technologies inherent in DeFi to solve some of the problems associated with financial inclusion and efficiency may have to wade through the various risks and uncertainties of incorporating DeFi into the traditional financial systems. Possible shifts of DeFi and traditional finance also will most likely be key to the shift of the global financial system as both industries develop to fit the changing landscape.

3. Methodology

This work employs a mixed research methodology to unravel the phenomenon of DeFi, specifically the opportunities and benefits that DeFi seeks to bring to the general public and how these concepts are risky; The threats that come with decentralised systems and the roles and critical issues that regulators face in dealing with DeFi. Using both qualitative and quantitative research approaches, this study intends to capture all the multi-dimensionsality that characterizes the DeFi ecosystem. Therefore, this research work adopts an exploratory research design as the topic – Decentralized Finance (DeFi) – is still in its infancy. This research approach enables the broad look at the topic and enables the identification of themes, trends, and issues which might not be well understood in the existing studies. The research is structured into three primary

phases: literature analysis to develop a theoretical background, survey to evaluate the DeFi usage and effects, and expert and policymaker interviews to understand the DeFi specific issues and benefits. In the first phase, there will be a comprehensive review of literature in order to achieve adequate theoretical framework for the research. This review will encompass the following topics; history of DeFi, opportunity of decentralize financial service, the concern affecting DeFi platforms, and the regulations of such. In this case, the literature review, which will comprise existing academic and industry research, will therefore be useful to establish areas of research that are lacking research and to formulate particular research questions and hypotheses for the next phases of the study.

The second phase is quantitative analysis, in which aggregated data of adoption and performance of the DeFi platforms will be gathered and analyzed (O'Sullivan et.al 2020). These would include Block explorer companies, Financial databases and reports from other industries which belongs to the blockchain trade. It will be hence possible to review the general tendencies within the specified field, based on such indicators as the total value locked in DeFi platforms at a certain period, the number of active users, the frequency of the performed transactions, as well as the number of security breaches occurred in the given field. Several methodologies, namely quantitative analysis and regression analysis, with the use of time series will be used to evaluate the effects posed by DeFi on conventional financial markets as well as identify the risks that come with decentralised finance. In the third phase, focused primarily on the analysis of the complex qualitative data which will be collected in the middle of the study by using the qualitative semi structured interviews, the participants will be chosen from the delegater group such as DeFi developers, financial analysts and regulators. These interviews are intended to give a better understanding of the actual events and benefits and risks linked to DeFi. There will be gray areas regarding the regulatory framework for DeFi, the threat of DeFi applications replacing centralized financial firms' roles and, finally, addressing the risks that are intrinsic to decentralized systems. The responses obtained from these interviews will be taped and transcribed; they will then be analyzed under thematic coding analysis in order to get the qualitative understanding of the data which will supplement the quantitative one.

Last of all, a synthesis of conclusion drawn from both quantitative and qualitative study will offer a comprehensive understanding of the research problem. It is important to note that this research will be conducted using both mixed-methods approach so that the large-scale surveys and outcome measurements can give large perspective as well as 'big picture' and the qualitative data will provide suggestions context and accuracy. The use of these data sources in this study will help the researcher to come up with sound conclusions and recommendation for the growth and public policy making for the DeFi. In the course of the study, an ethical standard will be upheld. In the qualitative interviews, the participants will be made aware of the purpose of the study to be conducted, their freedom to participate or decline as well as the fact that their responses will be kept confidential. Besides, any secondary data gathered will be processed and managed appropriately in order to maintain research integrity of the data. This methodology is intended to provide a comprehensive analysis of DeFi's emergence, impact on the conventional financial sector, and the legal issues surrounding it (Philippon et.al 2020).

4. Analysis and Interpretation
"Demographic examination"

Age:

What is your age?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-25 years	25	33.3	33.3	33.3
	26-30 years	25	33.3	33.3	66.7
	31-35 years	11	14.7	14.7	81.3
	36 year and above	14	18.7	18.7	100.0
	Total	75	100.0	100.0	

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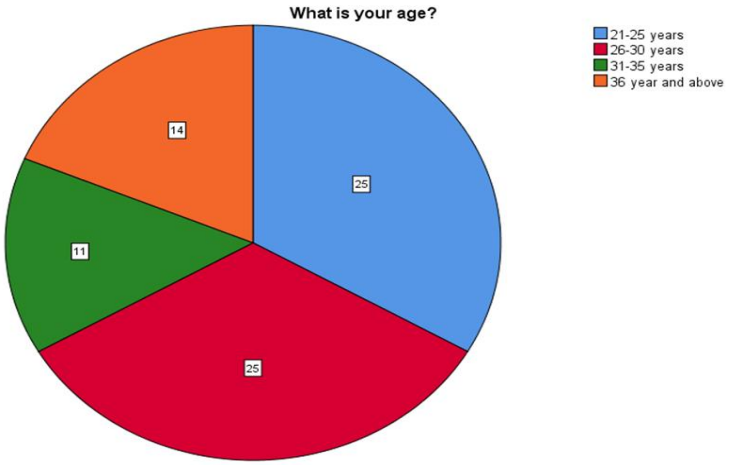
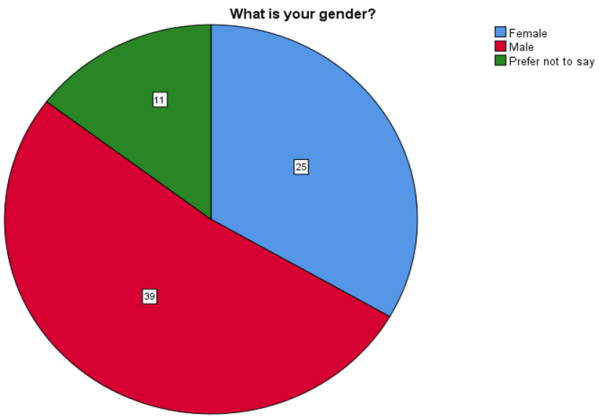


The table of the frequency of age of the 26 to 30 years and above is the participants with the highest frequency which is 25 and the cumulative percentage of the people is 66.7%. The person aged 21-25 years with the valid percentage is the percentage of 33.3%.

Gender

What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	25	33.3	33.3	33.3
	Male	39	52.0	52.0	85.3
	Prefer not to say	11	14.7	14.7	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 male are the highest participants with a frequency of 39. The cumulative percentage of participating females in the survey is 33.3% which is the second highest participation in the survey.

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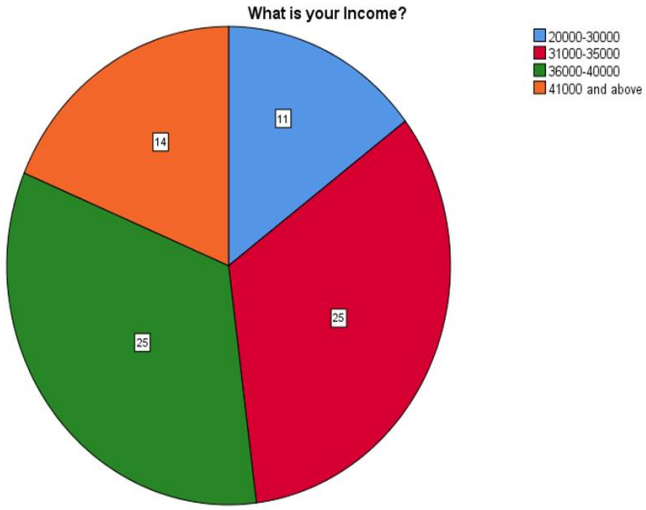
Monthly Income

What is your Income?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20000-30000	11	14.7	14.7	14.7
	31000-35000	25	33.3	33.3	48.0
	36000-40000	25	33.3	33.3	81.3
	41000 and above	14	18.7	18.7	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 31000-40000 are the most participants the frequency is 25 respectively in the pie chart and the valid percentage is 33.3%.

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_Technological Advancements in Blockchain	75	1	5	3.15	1.682	-.237	.277	-1.603	.548
DV_Democratization of Financial Services	75	1	5	3.03	1.355	-.150	.277	-1.222	.548
IV1.2_Regulatory Environment	75	3	5	3.85	.651	.153	.277	-.625	.548
IV2.2_Technological Innovation in DeF	75	1	5	3.71	1.333	-.986	.277	-.046	.548
IV3.2_Investor Sentiment	75	1	5	3.44	1.435	-.510	.277	-.895	.548
IV4.2_Privacy and Security Features	75	2	5	3.15	1.049	.493	.277	-.939	.548
Valid N (listwise)	75								

The values of the statistics of the mean statistics for IV1.1 and IV3.2 are 3.15 and 3.44 respectively. The above two values showcase the positive of the technical advancement in BT and the investor sentiment for the financial service.

Hypothesis 1

H1: The are related to each other demarcation of finance service technical innovation in DeFi

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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	.027[a]	.001	-.013	1.364	.001	.053	1	73	.819	1.243

a. Predictors: (Constant), IV2.2_Technological Innovation in DeF

b. Dependent Variable: DV_Democratization of Financial Services

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.098	1	.098	.053	.819[b]
	Residual	135.849	73	1.861		
	Total	135.947	74			

a. Dependent Variable: DV_Democratization of Financial Services

b. Predictors: (Constant), IV2.2_Technological Innovation in DeF

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.926	.468		6.249	.000
	IV2.2_Technological Innovation in DeF	.027	.119	.027	.229	.819

a. Dependent Variable: DV_Democratization of Financial Services

From the coefficient table of the above regression figure, the standard error in the coefficient table for technical innovation in DeFi of BT is 0.468. This value is less than 0.5 this less value indicates the low possibility of error for the IV2.2 that is technical innovation on DV that is demarcation of finance service.

Hypothesis 2

H2: There is an connection between transection fees and financial services

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	.178[a]	.032	.019	1.343	.032	2.400	1	73	.126	1.155

a. Predictors: (Constant), IV4.1_Transaction Fees

b. Dependent Variable: DV_Democratization of Financial Services

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.327	1	4.327	2.400	.126[b]
	Residual	131.620	73	1.803		
	Total	135.947	74			

a. Dependent Variable: DV_Democratization of Financial Services

b. Predictors: (Constant), IV4.1_Transaction Fees

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.499	.374		6.677	.000
	IV4.1_Transaction Fees	.158	.102	.178	1.549	.126

a. Dependent Variable: DV_Democratization of Financial Services

The residual value of the mean square in the table of ANOVA is 131.620 and this is a value that indicates the high dependency of IV4.1 on the dependent variable or DV of the survey. The value of the standard error that is 0.374 is less than 0.5 shows the less dependency of the IV.

Correlation test

Correlations

		IV1.1_Technological Advancements in Blockchain	IV1.2_Regulatory Environment	IV2.1_User Education and Awareness	DV_Growth in DeFi Market Size	IV3.1_Market Volatility	IV3.2_Investor Sentiment
IV1.1_Technological Advancements in Blockchain	Pearson Correlation	1	.427**	-.322**	.752**	.656**	-.094
	Sig. (2-tailed)		.000	.005	.000	.000	.421
	N	75	75	75	75	75	75
IV1.2_Regulatory Environment	Pearson Correlation	.427**	1	-.262*	.481**	.013	-.089
	Sig. (2-tailed)	.000		.023	.000	.913	.447
	N	75	75	75	75	75	75
IV2.1_User Education and Awareness	Pearson Correlation	-.322**	-.262*	1	-.700**	.298**	-.607**
	Sig. (2-tailed)	.005	.023		.000	.009	.000
	N	75	75	75	75	75	75
DV_Growth in DeFi Market Size	Pearson Correlation	.752**	.481**	-.700**	1	.325**	.539**
	Sig. (2-tailed)	.000	.000	.000		.004	.000
	N	75	75	75	75	75	75
IV3.1_Market Volatility	Pearson Correlation	.656**	.013	.298**	.325**	1	-.130
	Sig. (2-tailed)	.000	.913	.009	.004		.266
	N	75	75	75	75	75	75
IV3.2_Investor Sentiment	Pearson Correlation	-.094	-.089	-.607**	.539**	-.130	1
	Sig. (2-tailed)	.421	.447	.000	.000	.266	
	N	75	75	75	75	75	75

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

*. Correlation is significant at the 0.05 level (2-tailed).

From the above table of correlations, it is clear that the impact of market volatility and user's education and awareness for the growth of DeFi market size are 0.325 and -0.700. Therefore, the first positive and second negative values indicate the greater and less connection of IV3.1 and IV2.1 on the DV. The correlation value of the IV1.2 that is the regulatory in order to the operational efficiency is 0.481 this indicates the less effectiveness of the independent on the dependent variable.

5. Discussion

DeFi is a new venture which has disrupted the financial industry and is presenting both prospects and threats in equal measures. This section of the discussion contains evaluation and analysis of DeFi by highlighting its advantages, which are accessibility of financial services, threats that come with adoption of the Defi and regulation difficulties that comes with the adoption of Defi (Raskin et.al 2018). A key feature of DeFi is therefore its capacity to decentralised and permissionless access to any financial function. In contrast to the standing financial systems that are contained by geographical, social-economic and legal boundaries, the DeFi market unites participants from all over the globe, who can address it via the internet connection. It can have the effect of extending specific services such as financial services to people who have no access to conventional banking at all. In fact, decentralized financial services cut across costs and enhance the efficacy and effectiveness of financial instruments in reaching the end consumers. It could profoundly lessen the incidence of financial exclusion, and make developing economy individuals active participants in the global financial process. Nevertheless, the advantages that decentralized finance brings are understandable, yet the potential threats and drawbacks of the its implementation cannot be ignored. This is due to the complexity of the DeFi ecosystem and the high risk of technical malfunction of platforms, as well as hacking attacks. The use of smart contracts which are contracts withe the provisions of the agreement directly coded in the blockchain leads to some risks different from those at places where such traditional

financial systems are applied. Some authors went on to say that smart contracting as a system is far from perfect since as any other system it is capable of encountering errors, bugs, or even malicious attacks. There have been losses of large amounts of funds through heists and exploits, thus eroding the customers' confidence in DeFi platforms. These incidents clearly identify the need of the enhanced security measures and better risk management in the DeFi environment. Besides the technical vulnerabilities, DeFi brings the financial threat that can concern society more widely, given the present unpredictability of the financial system. Incorporation of Crypto-assets as collateral in the decentralized finance platforms brings in the factor of volatility that was not previously observed in the conventional financial systems (Schär et.al 2021).

Volatility of coins implies that holders often can't meet their obligations or the obligations of the platforms they interact with, thus engendering specification risks which can lead to contagion and general instability of the platform. As a result, the applications in the DeFi ecosystem are dependently integrated, which implies that if one platform fails, this affects the others because assets and contracts within the Decentralized Finance ecosystem are interoperable.

The regulatory issues which arise from DeFi are also as follows: Most of the current regulatory models are suitable for standard financial organizations that are located in certain geographical locations, and, therefore, it is easy for the authorities to regulate them; on the other hand, the decentralized nature of the platform makes it hard to exert control over it. The decentralised nature of most DeFi platforms compounded by the fact that many of the transactions are anonymous or conducted under pseudonyms makes it extremely difficult to enforce AML and KYC requirements. Authorities all over the globe are lost as to what course of action to take regarding DeFi due to the need to loot out for consumers and monetary stability while at the same time creating for innovations. Some regulators have adopted a laissez-faire approach and had not interfered with the Development of the DeFi market while others are considering coming up with new regulations that could make DeFi platforms fall under the Financial sector. It also defines the current interaction between DeFi and traditional finance. While there has been an initial perception of DeFi as a threat that can replace the existing more 'centralized' financial structures, currently DeFi is viewed as the technology that can complement the existing financial systems. However, it is gradually Emerging that some traditional financial institutions have started seeking ideas to incorporate DeFi technologies into their operations since they stand to benefit from the adoption of these technologies. But this integration is not without its problems, as it would review the basic legal issues pertained to it and other risks inherent in decentralised systems. Therefore, it can be stated that the use of DeFi offers both prospects and risks at the same time. DeFi is seen as the enabler of decentralised financial services that have been made open to the masses and as a promoter of innovation in the financial industry, but it also presents crucial risks that need to be addressed. Thus, DeFi's success will substantially rely on security investments, risk management approaches, and the ability to regulate decentralized finance uniquely. As the DeFi grows, it would require industry players and the regulators, FinTech developers, traditional financial firms, and other stakeholders to form alliances on the future of collaborating on DeFi to achieve the maximum benefits without encountering several drawbacks (Scott et.al 2020).

6. Conclusion

Technological advancements, particularly the emergence of Decentralized Finance (DeFi) is one of the biggest and significant revolutions in the financial industry. What makes DeFi platforms special is the usage of blockchain and smart contracts to bring trustless, decentralized lending/borrowing, trading or investing services to each and every person in the world without the need for involvement of middlemen. Such capability of mobile money for the financial inclusion one that is most crucial in the areas where banking solutions are inadequate, or sometimes unattainable, which provides a chance for the marginalized groups of people to become economically included. Nevertheless, use DeFi as a service is not without its drawbacks and constant risks. The mentioned platforms thus present new risks which are different from the ones inherent in traditional finance. As seen with the examples of smart contract hacks and other cyberattacks, technical risks have already led to significant losses and losses and hence we need to see improved security measures and management of risks in the DeFi space. Moreover, there has emerged the possibility of the financial instability deriving from risks connected with the fluctuations of cryptocurrencies' rates and dependence within interconnected DeFi platforms may lead to the systemic crises. Another important problem that needs to be discussed with reference to DeFi is that of the regulatory environment. The existing conventional legal structures that are geared towards the centralized organizations are not very effective in addressing the tasks related to decentralized, global-scale platforms. This is even so since DeFi

transactions involve total anonymity and the pseudonymity of some unknown parties who make transactions, making it hard for the authorities to enforce some of the regulations such as the AML and KYC requirements. This is especially so as the DeFi industry expands; there is a pressing necessity for authorities to come up with new strategies that would enable them to monitor activities while not hampering the progress of financial services. Therefore, DeFi has a great potential in reshaping the financial industry by providing the openness of financial services and stimulating new initiatives, but in order to achieve these goals the interaction with the existing risks and the ability of DeFi to become a component of the legal environment is crucial. The future of DeFi and the emerging decentralized financial assets will be marked by the integration of mainline developers, authorities, and incumbent financial institutions as to produce an effective and secure financial environment. If these difficulties are resolving, DeFi can maintain the unprejudiced origin of decentralization and fully develop the concepts of a new financial organization, maintaining the stability of financial markets at the same time.

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