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Legitimacy Types, Platform Reputation, and Public Engagement: A Mediated Analysis of Cryptocurrency Markets

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Chronicle**Article history****Received:** Oct 2, 2025**Received in the revised format:** Oct10, 2025**Accepted:** October 12 2025**Available online:** Oct 14, 2025**Asghar Ali Arshad**, is currently affiliated with Lahore Business School, University of Lahore, Pakistan.**Email:** asghar.arshad99@gmail.com**Syed Faiq Niaz, Afifa Jamil, Ibrar Haider & Sarmad Saeed**, are currently affiliated with the National College of Business Administration and Economics, Lahore Pakistan.**Email:** faianaqvi09@gmail.com**Email:** afifa09786@gmail.com**Email:** ibrarana168@gmail.com**Email:** sarmadsaeed5234@gmail.com**Abstract**

This paper discusses the aspects of the normative, the regulative, and the cognitive aspects of legitimacy and their role in influencing the population to participate in the cryptocurrency market in Pakistan as well as the moderating effect of the reputation of crypto platforms. The article aims to define the perceptions of the legitimacy of users with respect to their readiness to adopt and use electronic financial devices in a semi-regulated, dynamic market. It had a quantitative research design with the use of a sample of 199 Pakistani respondents in the data collection process. The statistical analysis was done in SPSS. The research has used reliability assessment, correlation and regression as well as mediation analysis via Hayes PROCESS Model 4. The findings indicate that normative and cognitive legitimacy have high positive influence on the involvement of the population; whereas regulative legitimacy does not have any significant influence. Such results demonstrate that social acceptance and cognitive understanding are the direct factors that influence people to engage in cryptocurrency operations instead of legal institutions. Moreover, when the mediation analysis is conducted, the reputation of the crypto platform is a mediator between the relationship between the legitimacy and the involvement of the population. This highlights the level of trustworthiness, transparency in platforms, and credibility in encouraging participation towards the user when the state regulation is still emerging. The end of the paper states that legitimacy is the requisite underlying factor in relation with engaging with the platform, and that platform reputation is a system that has the capacity of converting the appreciation of legitimacy into actual behavioral reactions. The observations made can be added to the theory of institutional and legitimacy theory because they demonstrate that some gaps within the regulatory framework of developing economies like Pakistan can be covered using the trust-based institutions.

Corresponding Author***Keywords:** Crypto currency, Legitimacy, Public Engagement, Crypto Platform Reputation, Mediation Analysis.

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INTRODUCTION

The financial landscape on a global scale has been changing significantly over the last ten years with the emergence of digital currencies and decentralized technologies. Bitcoin, Ethereum and a growing number of altcoins have challenged the conventional central bank hegemony, i.e. they make people change the perception of value, exchange processes and trust. The application of cryptocurrency by the developing economies and South Asia in particular is no longer merely an alternative financial channel, and it turned out to be a symbol of economic empowerment and innovation (Elsayed et al., 2022). Even though the future of cryptocurrencies is by all means quite bright, the absence of regulatory solutions and a general distrust towards the technology has established a dilemma between innovation and institutionality. More developed economies have increasingly

implemented extensive legal frameworks to govern blockchain-based transactions, nevertheless, developing countries, including Pakistan, are still in the stage of regulatory uncertainty, often swinging between ban and potential exploration (Almahendra et al., 2024; State Bank of Pakistan, 2018). The current trend of the increased popularity of cryptocurrencies in Pakistan can be explained by two overlapping processes the spread of technology and macroeconomic instability. On the one hand, people see cryptocurrencies as the protection against inflation, devaluation of money, and the lack of safe investment opportunities. Conversely, the absence of institutional support exposes the market to manipulation, fraud and unstable trading. Although the government has already limited the usage of cryptocurrencies, Pakistan is one of the most active emerging markets of the assets as of 2024, which highlights a gap between the implementation of regulations and the involvement of citizens (Kumari et al., 2023)

Such dichotomy implies that the participation in the cryptocurrency markets is chiefly prompted by the social cognition, normative perceptions, and economic ambitions as opposed to the adherence to the regulatory guidelines. As a result, the discussion is placed under the prerogative of the organizational legitimacy theory (Deephhouse et al., 2017). The validity of cryptocurrency in Pakistan is contentious and fragile on the institutional level. In 2018, the State Bank of Pakistan specifically forbade banks and payment service providers on any transaction or involvement of virtual currency citing money laundering, financing terrorism, and consumer protection. Still, millions of people are investing in and trading cryptocurrencies in the informal sector and via international transactions (Sharma, Sam, et al., 2021). This effect highlights an accentuated lack of legitimacy: the regulative aspect of legitimacy, which is based on formal law and institutional support is weak, and normative and cognitive one, which is based on the acceptance of society and perceived reasonableness, seems to support the system (Diez-Martin et al., 2019).

Such an imbalance between policy regulation and social tolerance has created sharp policy and discrepancies in conduct. Regulators must deal with the question of innovation versus control, and, in many cases, they do not have the technical capability to adequately monitor digital assets. On a behavioral perspective, people do not support the engagement on legal basis but by the perceived sense of social acceptance, economic need, or technological hope. Thus, the cryptocurrency economy in Pakistan has a so-called shadow legitimacy, a socially accepted but institutionally unapproved one. Without a subtle comprehension of the way the different legitimacy interplay within such an environment, there is a danger of either the policy interventions being too restrictive and hence inhibiting innovation or being too permissive and, hence encouraging exploitation.

The current literature on cryptocurrency adoption and regulation is dominated by the participation of developed economies, and there is a lack of empirical studies on the issue of legitimacy perceptions in the developing environments. The existing research has mainly focused on technological acceptance models, the security issue, or financial performance indicators (M. Chen et al., 2021; Hughes et al., 2019). The sociological and institutional levels that explain the internalization of the legitimacy norms with weak formal control, however, are less researched (Bryman, 2012; Diez-Martin et al., 2019). As much as recent studies by (Almahendra et al., 2024) and (Viyani et al., 2024) develop the legitimacy models in emerging markets, their scope is limited to Indonesia. Similarly, parallel research in Pakistan or other related economies in South Asia is considerably limited. Furthermore, current research frequently regards

legitimacy as a fixed institutional state rather than a fluid social process shaped by culture, trust, and perception (Bornstein et al., 2013; Elsayed et al., 2022). This overlooks the ways in which individuals in uncertain contexts, like Pakistan's informal crypto ecosystem, formulate cognitive and normative rationalizations to validate their involvement. Consequently, this study fills a significant void by investigating the collective impact of regulative, normative, and cognitive legitimacy on public participation in cryptocurrency markets within the context of a developing economy. It also investigates whether regulatory prohibition really stops people from adopting something or if social legitimacy can take the place of institutional absence.

- To identify how normative legitimacy would impact the public engagement, including the affective commitment, positive affect, and empowerment, in the cryptocurrency market.
- To determine the role of regulative legitimacy in influencing the involvement of the public engagement in the cryptocurrency market.
- To examine how cognitive legitimacy affects the involvement of the public engagement in the cryptocurrency market.
- To determine the mediating position of the crypto platform reputation between the relationships between normative, regulative and cognitive legitimacy, and its impact on the public engagement in cryptocurrency market.

SIGNIFICANCE OF THE STUDY

There is much importance in the study both at theoretical, practical, and policy levels. Theoretically, it contributes to the literature on the topic of institutional legitimacy by putting it in the setting of new digital economies where the established methods of regulation grove before the technological revolution. It goes further than the Western-oriented models and offers a description that can be adapted to transitional economies with inefficient enforcement and high active informal rates (Deephouse et al., 2017). The paper has a multidimensional stature of legitimacy that people in non-institutionalized markets employ by acclimating the legitimacy theory with behavioral economics and sociocultural analysis.

Practically, the findings can guide financial policy makers, regulators and technologists to come up with context-sensitive frameworks that would be able to balance innovation and risk aversion. Since the research has observed that individuals are likely to believe and omnipresently adhere to policies, which subsequently lead to regulatory changes, it is pointed out that citizens as well as institutions must be incorporated in policy deliberations. The sources of legitimacy of cryptocurrency adoption can lead the development and establishment of central bank digital currencies (CBDC) or controlled usage of blockchain applications in line with the requirements of Islamic finance in the case of Pakistan where financial inclusion remains a motivation strategy.

Finally, as far as the societal approach is concerned, the current study throws some light on how the population of the developing environment redefines the concepts of legality and the legitimacy in the context of technological change. The mapping of the intersection between economic motivation and moral reasoning is a beneficial input of the research in the socioeconomic psychology of financial innovation - an argument that has increasingly become of central significance to the discourses of digital transformation in the Global South.

LITERATURE REVIEW

Legitimacy In the Crypto currency Market

Legitimacy is an essential factor influencing the adoption and utilization of cryptocurrencies within international financial institutions. The institutional theory assumes that people interpret the behavior of a particular entity as normative coinciding with a socially constructed system of norms, values, and beliefs (Deephouse et al., 2017). Legitimacy in the bitcoin market can be classified under three broad categories, normative, regulative and cognitive legitimacy. These aspects are critical to understanding why cryptocurrencies would gain the social acceptance of people and institutional legitimacy, resulting in more involvement and attendance.

Normative legitimacy is founded on traditionalism and implies social compliance to social norms and values. Consequently, the innovation is ethically and socially acceptable. The specified factor is, to a large extent, preconditioned by the discourse of the society, which defines cryptocurrencies as advanced financial devices capable of rendering the access to wealth more available, and, simultaneously, destabilize the conventional financial processes (Diez-Martin et al., 2019). Normative legitimacy may be effectively attained by developing the vision of cryptocurrencies as the means of social change that ought to result into transparency and equality in the financial domain.

Regulative Legitimacy is where cryptocurrencies adhere to all the rules and laws governing such. This section examines the extent to which cryptocurrencies can adhere to government regulations and institutions. Regulative legitimacy can particularly be significant in reducing consumer attitudes of risk and creating trust since it demonstrates a desire to be open and responsible. (Elsayed et al., 2022). Governments and financial institutions are very important in defining regulatory legitimacy because they make laws and rules that either promote or discourage the use of bitcoin.

Cognitive legitimacy has to do with how people understand and see the usefulness of cryptocurrencies. This dimension indicates the extent to which cryptocurrencies are perceived as comprehensible and beneficial, facilitating their integration into everyday financial transactions (Almahendra et al., 2024). Cognitive legitimacy is often linked to initiatives in public education and awareness, alongside demonstrable advantages, such as increased financial returns or enhanced transactional efficiency.

Public Engagement in Crypto currencies

The public engagement is a complex concept which involves emotional, behavioral, and intellectual aspects. It reveals the extent to which users contribute to the aspects of crypto currency-related efforts since they are emotionally engaged, believe it would be helpful, and have confidence in the system (Y. Chen et al., 2018). Crypto currencies must be applicable and relevant in the real world. This can be demonstrated by interacting with the public.

The element of Affective Commitment plays a large role in the public engagement. It implies emotional attachment and the dedication to the Crypto currency ecosystem. This dimension indicates the feelings of pride and excitement as well as feeling of belonging when using crypto currency. The affective commitment is

commonly used to estimate durability commitment as emotionally invested people tend to encourage and promote cryptocurrencies among their acquaintances.

Positive Affect refers to the excitement and hope that individuals experience when performing crypto-related activities. The studies indicate that positive emotions are relevant to enhance engagement since they enhance motivation and participation. The positive feelings can be reinforced by the perception of economic benefits of successful transactions, and the identity of cryptocurrencies with personal beliefs and goals can be considered successful as well.

Whenever individuals utilize crypto currency, they get empowered since they can control and have the power over their money. A lot to do with it is the extent to which people trust the system, as well as the degree to which they believe that cryptocurrencies can contribute to making the economy grow. Empowerment is a notable indicator of public engagement because it shows to what extent citizens believe that they have the ability to maneuver and exploit opportunities in the crypto market.

Relationship Between Legitimacy and Public Engagement

The legitimacy and the public involvement dimensions are under permanent change and strengthen each other. Individuals desiring to transform the manner of money functioning and possessing such values are attracted to cryptocurrencies being perceived as the means of financial liberty and innovative concepts. Individuals will spend more time and money on activities related to crypto currency because they know that the regulations established by the regulators are being observed. Citizens tend to resort to controlled markets and platforms as they believe that they are more secure and transparent. Individuals would tend to participate in the market when they believe that cryptocurrencies are convenient and simple to utilize.(Chen et al., 2018).

Mediating Role of Platform Reputation

The image of a crypto platform is the mediator between Legitimacy Factors and Public Participation. A platform of good reputation is likely to make people use crypto currencies as trust and faith is established. In case we seek factors which make something legitimate, legal legitimacy of a platform is exceptionally significant due to demonstrating the platform being liable and trustworthy. Normative legitimacy assists image of a platform in the same manner by ensuring that the activities of the platform do not contradict the ideas of what is considered right and wrong in the society. The image is enhanced by cognitive legitimacy that examines the comprehension and perception of advantages of a platform by the users. It has been found out that platforms that have positive reputations have more active users since they believe that they are secure and reliable destinations to trade in cryptocurrencies. The positive impact of legitimacy on the public participation is stronger due to the connection between legitimacy and public engagement.(Kumari et al., 2023).

Crypto currency in Pakistan

Developing countries such as Pakistan often exhibit unique cryptocurrency acceptance rates, which are affected by their financial instability, limited access to conventional banking facilities, and attitudes of the society to innovation. Normative legitimacy is especially significant in financially disadvantaged countries like Pakistan, where the challenge of financial inclusion is a primary one, and cryptocurrencies are viewed as methods of economic empowerment and inclusion (Sharma, et al., 2021) Regulatory legitimacy is also significant in engaging individuals in highly regulated

places. When the rules are accessible and friendly then people will trust the system and be willing to participate. Conversely, in case the rules are not clear or too stringent, there is less likelihood of people participating. Cultural values provide an impact on cognitive validity because the usefulness and importance of cryptocurrencies depend on the context (Hughes et al., 2019). The laws of cryptocurrencies in Pakistan have been changed. State Bank of Pakistan (SBP), in the past, has stated that it is concerned with digital currencies due to their unstable nature and abuse of bad intentions. In 2018, the SBP issued a circular according to which banks and other financial institutions were not able to assist in dealing with crypto currency transactions (State Bank of Pakistan, 2018).

However, the next thing that occurred indicates that the movement is towards regulation rather than prohibition. Recently, the SBP proposed reforms to the legislation which may legalize digital money, such as cryptocurrencies. These are aimed at introducing digital currencies in the financial system of Pakistan. This would help in making the rules more equitable and involve more people. The attitude that people have towards cryptocurrencies is mixed in Pakistan since they are concerned about the economy and seek alternative methods to earn money. Due to high rates of inflation, individuals are considering the cryptocurrencies as a way of securing themselves. This is an indication that there is an increase in the number of people who use and accept digital assets. Summing up, the interaction between normative, regulatory, and cognitive legitimacy has a significant influence on the adoption of cryptocurrency in Pakistan. All the activities aimed at simplifying the use of digital currencies by people, legislative transformations, and shifts in cultural orientations influence the environment of using digital currencies in the country.

THEORETICAL FRAMEWORK

The theoretical framework for this study examines the Mediating Role of Crypto Platform Reputation in the Relationship between Legitimacy Dimensions and Public Engagement in Pakistan's Crypto currency Market.

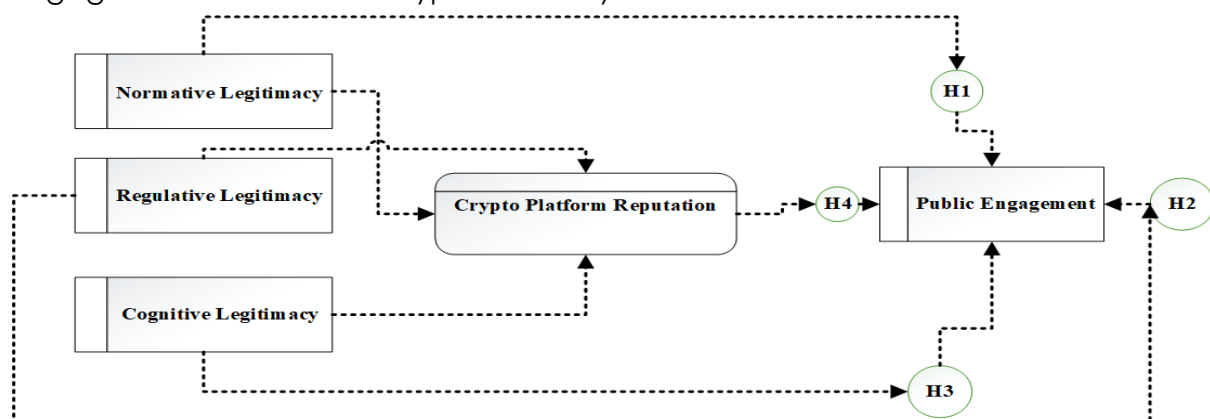


Figure 1.
INSPIRED FROM (Almahendra, Viyani, & Nabawi, 2023)

RESEARCH HYPOTHESIS

H1: How does normative legitimacy influence public participation/engagement in the crypto currency market?

H2: How does regulative legitimacy influence public participation/engagement in the crypto currency market?

H3: How does cognitive legitimacy affect public participation/engagement in the crypto currency market?

H4: How does the reputation of a crypto platform affect the link between legitimacy dimensions (normative, regulative, and cognitive legitimacy) and how much people are involved in the crypto currency market?

Research Design

Quantitative Research is one of the methods which we are studying. Quantitative research is particularly suitable in such a study as it makes the objective measurement of variables possible, and provides an opportunity to analyze the obtained data statistically in order to identify tendencies and correlations, (Bryman, 2016). We perform an analytical assessment of the relationship between legitimacy attributes (normative, regulative, and cognitive legitimacy) and public engagement (affective commitment, positive affect, and empowerment) within the cryptocurrency market. The research examines the intermediary effect of cryptocurrency platform reputation in this context. This design makes it easier to test hypotheses and investigate relationships using numbers. This method makes sure that the results are correct and reliable, which gives us a good starting point for testing our hypothesis. A standardized questionnaire was given to 199 people from different demographic areas of Pakistan to collect primary data.

Sample and Sampling Method

The sample included both men and women with different levels of education and work experience, which is like the population. We used a convenient sampling method. This method was specifically selected for its convenience in obtaining a substantial number of responses in a short timeframe via online means, while ensuring extensive coverage. Convenience sampling may limit the generalizability of the findings; however, it is commonly employed in quantitative research to facilitate efficient data collection from a diverse array of participants (Bornstein et al., 2013). The questionnaire was online so that more people could fill it out.

Respondent Characteristics

Below table 1 shows the respondent characteristics

Table 1

Characteristics	Respondent Amount	Percentage Grade
Gender		
Male	131	65.83%
Female	68	34.17%
Age		
18-24	104	52.26%
25-34	73	36.68%
35-44	19	9.55%
45-59	2	1%
Senior Citizen	1	0.5%
Occupation		
Job Holder	48	24.12%
Student	74	37.19%
Student + Job Holder	56	28.14%
Self Employed	14	7.03%

Other	7	3.52%
Marital Status		
Single	146	73.37%
Married	50	25.13%
Divorced	2	1%
Widower	1	0.50%

Questionnaire Development

The questionnaire was adopted from on (Almahendra, Viyani, & Nabawi, 2023) and was divided into three main parts, each focusing on a different variable or its parts. The questionnaire utilized a 5-point Likert scale, from "strongly disagree" to "strongly agree," with "1" signifying strong disagreement and "5" signifying strong agreement, to evaluate respondents' views on cryptocurrency regulations, trust in cryptocurrency platforms, and their level of participation in the cryptocurrency market.

Definition of Variables

Legitimacy Dimensions

- a) **Normative Legitimacy:** The acceptance of a group or practice because it fits with social norms, values, and moral standards.
- b) **Regulative Legitimacy:** The authority an organization gets by following laws, rules, and formal rules set by the government.
- c) **Cognitive Legitimacy:** When a group or idea is widely accepted as normal or taken for granted, it seems like the obvious choice in society.

Public Engagement Factors:

- a) **Affective Commitment:** The emotional bond and loyalty a person has to an organization that makes them want to stay because they really care about it.
- b) **Positive Affect:** A person's propensity to feel good emotions like happiness, enthusiasm, and hope, which can affect how they act and interact with others
- c) **Empowerment:** Giving people or employees the power, confidence, and tools they need to make choices and act on their own.

Mediating Variable: Crypto Platform Reputation

- a) **Cognitive Reputation:** How people see an organization or person in terms of their knowledge, expertise, and ability to make good decisions.
- b) **Affective Reputation:** How people feel about an organization or person, based on how much they like or trust them.

Table 2.

The table 2 shows the definition and reliability of variables

Variable Type	Variable	Description	Cronbach's Alpha
Dependent Variable	Public Engagement	Represents the overall involvement of participants in crypto-related activities, including emotional attachment, enthusiasm, and sense of empowerment while using cryptocurrency platforms.	0.930

A Mediated Analysis of Cryptocurrency Markets			Arshad, A, A et al., (2025)
Independent Variable	Cognitive Legitimacy	Reflects the extent to which respondents understand, recognize, and perceive cryptocurrencies as credible, beneficial, and part of normal financial practice.	0.924
	Regulative Legitimacy	Indicates how participants perceive the role of formal rules, governmental oversight, and compliance mechanisms in shaping their confidence and participation in the crypto market.	0.860
	Normative Legitimacy	Refers to how well cryptocurrencies align with social norms, cultural values, and ethical expectations, thereby gaining societal approval.	0.807
Mediator	Crypto Platform Reputation	Measures the overall reputation of crypto platforms based on trust, transparency, security, and perceived reliability in managing user transactions and information.	0.856

The Cronbach's Alpha values shown in Table 2 confirm a high level of internal consistency and reliability across all constructs used in the study. A coefficient value above 0.70 generally indicates acceptable reliability, while values exceeding 0.80 represent strong internal consistency.

In this dataset of 199 respondents, all constructs demonstrate excellent reliability, with values ranging from 0.807 to 0.930. This indicates that the items used to measure each construct (legitimacy dimensions, public engagement, and platform reputation) were well-understood and consistently interpreted by participants.

The highest reliability score, **Public Engagement ($\alpha = 0.930$)**, suggests that respondents exhibited a stable pattern of responses across affective commitment, positive affect, and empowerment items. **Cognitive Legitimacy ($\alpha = 0.924$)** indicates that participants possessed coherent and consistent perspectives concerning their comprehension of cryptocurrency systems.

The **Regulative Legitimacy ($\alpha = 0.860$)** and **Normative Legitimacy ($\alpha = 0.807$)** are marginally lower but still within the acceptable levels. It implies that the individuals that responded to the survey always considered the legal and ethical facets of crypto adoption.

The **Crypto Platform Reputation ($\alpha = 0.856$)** reliability value indicates that the respondents were coherent in their opinion towards trustworthiness and credibility of the platform, which demonstrates its mediating power in the general model.

Concisely, these reliability findings reveal that the data of 199 participants are statistically viable and can be applied to future studies. This is attributed to the fact that the scales, which were employed to measure each variable, captured the thoughts of the respondents with little to no errors.

Data Analysis

The data were analyzed using SPSS statistical software, employing descriptive statistics, correlation analysis and multiple regression analysis. Pearson's correlation was used to assess the relationships between Cognitive Legitimacy, Regulative Legitimacy, Normative Legitimacy, Public Engagement, and Crypto Platform Reputation. Additionally, linear regression analysis was conducted to examine the impact of these legitimacy factors on Public Engagement, determining their individual and collective influence.

The SPSS descriptive analysis defines the major characteristics of a dataset. The mean statistic will be the mean score of the population and will depict the central tendency of the data.

Descriptive Statistics

Table 3.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Affective Commitment	199	3.00	15.00	8.9799	3.15742
Positive Affect	199	3.00	15.00	9.9447	2.98514
Empowerment	199	4.00	20.00	13.7035	3.62894
Normative Legitimacy	199	3.00	15.00	10.0603	2.62205
Regulative Legitimacy	199	3.00	15.00	9.6181	2.90156
Cognitive Legitimacy	199	3.00	15.00	10.2362	2.95582
Cognitive Reputation	199	4.00	20.00	13.1910	3.63398
Affective Reputation	199				
Valid N (listwise)	199	3.00	15.00	8.9799	3.15742

Standard deviation measures the degree to which the individual observations are different with the larger the deviation, the more variable the observations, and the smaller the deviation, the more homogenous the observations. The basic features of the collected data that were summarized and interpreted using descriptive statistics were the number of respondents (199).

- **Affective Commitment (Mean = 8.97, SD = 3.15)**

The results indicate that the participants are strongly emotionally attached and belong to cryptocurrency platforms. The average variation shows that although there are a lot of participants who are connected to the crypto community, there is a group that is different in the degree of engagement.

- **Positive Affect (Mean = 9.94, SD = 2.98)**

The findings suggest that the respondents tend to feel positive emotions, i.e. enthusiasm, optimism and confidence in relation to crypto engagement. The standard deviation is rather low, which means that people generally are optimistic about the prospects of cryptocurrencies.

- **Empowerment (Mean = 13.70, SD = 3.62)**

This variable has the largest mean of all factors of engagement, which indicates that the participants feel empowered significantly with the use of crypto. The respondents perceive cryptocurrency as the means of financial independence and personal control, which proves their high levels of perceived empowerment in handling digital assets.

- **Normative Legitimacy (10.06, SD = 2.62)**

The results show that the respondents are becoming increasingly aware of the increased social and moral acceptance of cryptocurrencies. Despite the dissimilarity, the average score demonstrates that society has growing positive views on crypto and is in harmony with innovation and autonomy.

- **Regulative Legitimacy (Mean = 9.61, SD = 2.90)**

The respondents agree that regulatory structures are in existence, however, with different degrees of effectiveness. The findings suggest that although there are people who believe in the current structures, some people are not sure about the government regulation because the crypto industry in Pakistan is still regulated ambiguously.

- **Cognitive Legitimacy (Mean = 10.23, SD = 2.95)**

The high average score means that the people who took part know about cryptocurrency systems and think they work well and are trustworthy. The deviation suggests that the respondents may possess differing levels of financial literacy and exposure; however, they are generally expected to exhibit significant cognitive awareness.

- **Cognitive Reputation (Mean = 13.19, SD = 3.63)**

The people who answered the survey seem to have a pretty good opinion of the technical credibility and expertise of crypto platforms. The high mean shows that users trust the sites' intellectual and operational integrity.

- **Affective Reputation (Mean = 8.97, SD = 3.15)**

This metric reflects the emotional confidence and attachment users possess towards cryptocurrency platforms. The differences in responses showed that most of the participants trust the systems a lot, but some are not very sure or even neutral. This could be because of security concerns and market instability.

In conclusion, the descriptive analysis indicates a high degree of engagement, increasing legitimacy, and a positive reputation for the platform within the Pakistani cryptocurrency market. The participants are usually excited and empowered, which shows that the ecosystem of trust and participation between digital asset users is growing.

Table 4
Correlation Analysis

Prior to the regression analysis, Pearson correlation was used to test the strength and direction of the relationship between the legitimacy dimensions and the public

Correlations		Public Engagement	Normative Legitimacy	Regulative Legitimacy	Cognitive Legitimacy
Public	Pearson Correlation	1	.822**	.579**	.790**
	Sig. (2-tailed)		.000	.000	.000
	N	199	199	199	199
Normative Legitimacy	Pearson Correlation	.822**	1	.545**	.758**
	Sig. (2-tailed)	.000		.000	.000
	N	199	199	199	199
Regulative Legitimacy	Pearson Correlation	.579**	.545**	1	.605**
	Sig. (2-tailed)	.000	.000		.000
	N	199	199	199	199
Cognitive Legitimacy	Pearson Correlation	.790**	.758**	.605**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	199	199	199	199

** Note:

N = 199; Correlation is significant at the 0.01 level (2-tailed).

engagement. The correlation coefficients take the values between 0 and ± 1 with the value closer to 1 representing stronger positive relationships. The results derived in Table 4 show that all the aspects of legitimacy are positively and significantly related to the engagement of the people in the 0.01 significance level that there are strong correlations in all the constructs.

Normative Legitimacy ($r = 0.822$, $p < 0.01$), demonstrates the most significant correlation with the state of public engagement which suggests that social and ethical compatibility of cryptocurrencies is a dominant factor that will stimulate people to engage. In cases where respondents feel crypto platforms are following moral, cultural, and social standards, the respondents become more emotionally and behaviourally invested in the ecosystem.

High correlation is also observed in the **case of Cognitive Legitimacy** ($r = 0.790$, $p < 0.01$), which demonstrates that the knowledge and awareness of crypto technologies have a significant influence on engagement. The users that perceive cryptocurrencies as valid, comprehensible, and useful will become more active users.

Regulative Legitimacy ($r = 0.579$, $p < 0.01$) is correlated positively, though mediocre, indicating that, although compliance and formal regulations are contributors to trust, they have relatively less influence on causing the people to participate in the semi-regulated crypto market in Pakistan. This reinforces the contextual interpretation that regulation comes second in the decision that users make based on the perception of value and reputation.

The conceptual coherence is further exhibited in the inter-relations between the legitimacy dimensions especially the relationships between **Normative and Cognitive Legitimacy** ($r = 0.758$) where the two concepts develop in unison to increase the overall legitimacy.

In general, correlation analysis confirms that the normative and cognitive legitimacy have a strong impact on the public engagement whereas regulative legitimacy supports but does not play a decisive role. Such findings provide a good basis to the ensuing regression and mediation studies, highlighting that the dimensions of legitimacy as a bloc influence the behaviour of the population within the crypto environment.

Table 5
Linear Regression Analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.864 ^a	.746	.742	4.44357
a. Predictors: (Constant), Cognitive Legitimacy, Normative Legitimacy, Regulative Legitimacy				
b. Dependent Variable: Public Engagement				

Analysis of the legitimacy dimensions through linear regression was done to determine the predictive ability of the Normative, Regulative, and Cognitive Legitimacy dimensions on Public Engagement in the cryptocurrency market. The aim of this investigation was to establish the degree of variability in the level of engagement of the respondents that can be explained by each of the legitimate factors.

Table 5 with the model summary shows that the **R value of 0.864** is extremely high, so there is a strong relationship between the aggregate predictors and the dependent variable. **The R SQ value, 0.746, indicates** that the three legitimacy dimensions are useful in explaining the variance in Public Engagement, which is strong, and it proves that the perceptions of legitimacy are quite strong factors to be used to determine the level of engagement of the individual with the cryptocurrency platforms.

The model reliability and generalizability is also supported by the **Adjusted R SQ of 0.742**, which is sensitive of the sample size and number of predictors. **The Standard Error of the Estimate (4.44357)** is relatively small, which proves the fact that the

predicted values of public engagement are very close to the observed ones, and the model is well-fit with a small error in predictions. We used the Analysis of Variance (ANOVA) test to see if the regression model was important overall and if the legitimacy dimensions of Normative, Regulative, and Cognitive Legitimacy as a group had a statistically significant effect on Public Engagement.

Table 6 shows the results of the model are highly significant as the F value is 191.068 and the p value is .000, significantly below the 0.05 level. This affirms the fact that the regression model has a significant effect in explaining the relationship between the dimensions of legitimacy and the involvement of the masses, thus, disregarding the null hypothesis in favor of the alternative hypothesis, which is that there is a relationship between the two.

Table 6
Analysis of Variance (ANOVA)

Model	Sum of Squares	ANOVA ^a			
		df	Mean Square	F	Sig.
1 Regression	11318.139	3	3772.713	191.068	.000b
Residual	3850.344	195	19.745		
Total	15168.482	198			

a. Dependent Variable: Public Engagement

b. Predictors: (Constant), Cognitive Legitimacy, Normative Legitimacy, Regulative Legitimacy

The fact that the Regression Sum of Squares (11318.139) is quite large as compared to the Residual Sum of Squares (3850.344) indicates that a substantial amount of the overall variation of the public engagement can be explained by independent variables. It means that the model is highly predictive and it confirms the results of the prior regression summary ($R^2 = 0.746$).

The F ratio value is large showing that the legitimacy perceptions changes are important predictors of engagement behavior change among the 199 respondents. In simple terms, the respondents who have more perceptions of perceived increased legitimacy, whether social or regulatory or cognitive, express more emotional and behavioral dedication to crypto platforms. These results confirm the awareness that the model is critical and robust. They state that the combination of these three aspects of legitimacy is a significant component of how much the people in the cryptocurrency ecosystem are involved and trust it, which provides it with a strong empirical foundation in the following coefficient analysis to analyze the predictor impact of each of these concerns.

Coefficients

The coefficient analysis provides deeper insights into the significance and strength of each predictor:

Table 7.

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
(Constant)	2.346	1.339		1.752	.081
Normative Legitimacy	1.695	.187	.508	9.053	.000
1 Regulative Legitimacy	.273	.139	.090	1.967	.051
Cognitive Legitimacy	1.036	.175	.350	5.922	.000

a. Dependent Variable: Public Engagement

The coefficient analysis will provide a deeper understanding of the contribution and importance of each dimension of legitimacy (Normative, Regulative and Cognitive) towards prediction of Public Engagement. The coefficients (B) are not universal because the rate of change of the dependent variable (Public Engagement) on a one-unit change in each independent variable at constant other variables is represented. The standardised coefficients (Beta) give the intensity of the effect of each predictor on the dependent variable.

Normative Legitimacy (B = 1.695, β = 0.508, p < 0.001)

This variable comes out as the most influential and strongest predictor of Public Engagement. The large-value of the beta coefficient implies that, every time the participants get the impression that cryptocurrencies are socially acceptable, morally upright, and aligned with moral values, their engagement level will rise significantly. Its significant role in determining the commitment of the users and their involvement in the crypto market is supported by strong t value (9.053).

Cognitive Legitimacy (B = 1.036, β = 0.350, p < 0.001)

There is also statistically significant positive influence with cognitive legitimacy. This implies that the more people learn and get to know about cryptocurrencies, the more likely they are to feel confident and be engaged. It is more affected and behaviourally involved when respondents find crypto platforms to be understandable, trusted, and beneficial.

Regulative Legitimacy (B = 0.273, β = 0.090, p = 0.051)

The effect is not at the 0.05 level in spite of the fact that the relationship is positive. This means that the regulatory factors have a poor direct impact on the engagement of the people. This observation points to the changing regulatory climate in Pakistan, as official regulation on crypto currencies has not been finalized yet, and interaction choices are largely influenced by individual trust and word of mouth instead of control by institutions.

Constant (B = 2.346, p = 0.081)

Constant shows the level of interaction that will exist at zero of all the independent variables. Although not statistically significant, it offers a point of reference when it comes to the interpretation of incremental effect of the legitimacy dimensions. On the whole, these findings suggest that Normative and Cognitive Legitimacy are the major contributors to the participation of the population in the Pakistani crypto market, whereas Regulative Legitimacy takes a secondary position at the present time. This is in line with the realities on the ground whereby social pressure and perceived utility prevail over formal control.

Altogether, the analysis of the coefficient supports the previous correlation and regression findings: the engagement of users is mostly determined by the acceptance of society and cognitive perceptions instead of the government regulations. Such insights also confirm the good behavioral applicability of legitimacy perception in new digital economies.

Regression analysis on 199 responses indicates that Normative and Cognitive Legitimacy have a strong positive impact on the public engagement, whereas the Regulative Legitimacy has a weak and statistically insignificant impact. These results make it clear that the use of cryptocurrency services in Pakistan by individuals is

motivated primarily by the acceptance of the society and the intellectual interpretation, as opposed to adherence to official regulations.

- **H1:** The findings prove that in case people treat cryptocurrency platforms as observing social standards, moral standards, and ethical norms, they will be much more inclined to engage in the market.
- **H3:** Cognitive Legitimacy has a big impact, and, by extension, indicates that, in case individuals get the idea of cryptocurrency simple to perceive, credible, and advantageous, the degree of interaction will rise significantly.
- **H2:** Conversely, Regulative Legitimacy is not a significant factor in the work of the public, which means that the existence or lack of formal rules does not affect the readiness of people to participate in the activities of cryptocurrencies significantly.

One of such unsurprising results is the non-significant effect of Regulative Legitimacy. Although legal systems and institutional regulation play a key role in the long-term formation of stability in the market, in Pakistan, their role in user engagement in the crypto market is weak. This trend has a number of contextual explanations.

To start with, cryptocurrencies are decentralized and therefore will not be dependent on state regulation; in other words, individuals can rely more on peer-based trust and technological transparency as the sources of assurance. Second, the regulatory clarity is still lacking in Pakistan because the State Bank of Pakistan (SBP) has not officially accepted cryptocurrencies as legal tender.

Since this is not yet recognized by the government, the choice of users concerning engagement mostly depends on the reputation of the platform, their sense of security, ease of use, and current trends in the market but not on official approval. Even without the state control, participants are inclined to trust platforms which provide transparency, technical capability and community credibility. This trend justifies the reason why normative and cognitive legitimacy have a major effect on engagement, whereas regulatory legitimacy is marginal in the prevailing market circumstances.

Nevertheless, this observation does not reduce the theoretical applicability of regulatory legitimacy. With the shift towards the formalization of digital-asset policies by Pakistan, regulation can emerge as a more salient factor of public trust and uptake. Further studies ought to be conducted on the same to determine how changing government models and enforcement systems redefine the perception and behavior of the populace in the long run.

Mediation Analysis Using Hayes' PROCESS Macro

Using Hayes's PROCESS Model 4 in SPSS, we investigated if Crypto Platform Reputation mediates the link between Legitimacy (Normative, Regulative, and Cognitive) and Public Engagement. Mediation analysis helps ascertain whether a third variable (Crypto Platform Reputation) directly or indirectly affects a dependent variable (Public Engagement) from an independent variable (Legitimacy). The legitimacy of a crypto currency platform is a critical factor influencing user trust and engagement. However, legitimacy alone may not be sufficient to drive engagement-platform reputation may play a bridging role in this relationship.

Thus, mediation analysis is necessary to determine:

- **Direct Effect:** Does Legitimacy directly impact Public Engagement?
- **Indirect Effect (Mediation):** Does Legitimacy influence Crypto Platform Reputation, which in turn affects Public Engagement?

Table 8.
Mediation Analysis Results

Path	Relationship	β (Coefficient)	p-value	95% Confidence Interval
Path A	Legitimacy $\rightarrow$ Platform Reputation	0.4175	0.0000	[0.3808, 0.4542]
Path B	Platform Reputation $\rightarrow$ Public Engagement	0.5716	0.0011	[0.2300, 0.9132]
Path C (Direct Effect)	Legitimacy $\rightarrow$ Public Engagement	0.7530	0.0000	[0.5848, 0.9213]
Path C' (Indirect Effect)	C' Legitimacy $\rightarrow$ Platform Reputation $\rightarrow$ Public Engagement	0.2386 (Bootstrapped SE = 0.0819)	—	[0.0894, 0.4041]

To test the hypothesis of the mediating effect of the crypto-platform reputation on the connection between the legitimacy dimensions (normative, regulatory and cognitive), and the public engagement, the PROCESS Model 4 developed by Hayes was utilized with the help of bootstrapping procedures. This approach will provide an opportunity to determine whether legitimacy has a direct or indirect effect on engagement based on the reputation of the platforms in the eyes of users.

Table 8 shows that the partial mediation effect is statistically significant. Path A (Legitimacy $\rightarrow$ Platform Reputation) has a strong positive value ($b = 0.4175$, $p < 0.001$), meaning that increase in the level of legitimacy is a strong positive predictor of reputation to cryptocurrency platforms. The higher the degree to which users in the system believe in the credibility, socially accepted, and understood crypto systems, the higher the degree of belief in the reliability and transparency of the platforms.

Path B (in the Platform Reputation $\rightarrow$ Public Engagement) is also significant ($b = 0.5716$, $p = 0.0011$), which means that the level of engagement of the users increases with platform reputation. This implies that trust and perceived security is a psychological facilitator and legitimacy perceptions are converted to active participation in the marketplace. Path C (direct effect) is also important ($b = 0.7530$, $p < 0.001$), which proves that even with platform reputation taken into consideration, legitimacy is a significant factor that contributes to engagement. However, the indirect impact (Path C') is also substantial ($b = 0.2386$, CI [0.0894, 0.4041]) which confirms the part of the effect of legitimacy on engagement that is mediated by platform reputation. The fact that the confidence interval does not have a zero value justifies the strength of this mediation effect. Altogether, these results suggest that although legitimacy is a direct factor contributing to a better engagement of the population, its impact is enhanced by the reputation of the platform. Users are going to base their trust on the plausibility of crypto platforms since it is a concrete demonstration of the wider plausibility of the cryptocurrency regime. Differently put, reputation acts as the middle ground that transforms legitimacy perceptions to behavioural involvement.

This finding is consistent with the findings of other researchers (Kumari et al., 2023), who have pointed out that reputation-based trust systems can replace ineffective formal regulation in emerging economies. In the developing crypto-environment in Pakistan, where the state has yet to establish significant control, the reputation of the platform is a much-needed institutional gap, making it easier to build trust with users, keep them in the market, and offset the relative lack of regulatory legitimacy.

To conclude, the mediation analysis confirms that the legitimacy and public engagement are connected partially through the Kristallnacht crypto-platform reputation. The issue of trust, transparency, and credibility as crucial mediators that

could switch the perception of legitimacy into actual user engagement in the cryptocurrency ecosystem is highlighted.

CONCLUSION

The research presents solid empirical data emphasizing the imperativeness of legitimacy dimensions in determining the engagement of people in the cryptocurrency market in Pakistan. According to the quantitative data obtained with the participation of 199 participants, the study proves that the normative and cognitive legitimacy are the most productive predictors of engagement, and the regulatory legitimacy has a weak and statistically non-significant impact.

The results indicate that emotional commitment, optimism, and empowerment among people to participate in cryptocurrencies are higher when cryptocurrencies are in line with societal values and are viewed ethically acceptable (normative legitimacy) and cognitively understandable (cognitive legitimacy). These dimensions go a long way in promoting the level of trust and motivation among the people hence encouraging them to be actively involved in crypto-related practices.

The low power of regulatory legitimacy on the other hand reveals that formal laws and government control are currently playing a small part in encouraging participation by the users. This is aligned with the current regulatory uncertainty in Pakistan, as the cryptocurrencies are not recognized by the State Bank of Pakistan. This leads to the situation where the users depend on informal systems like peer trust, technological transparency, and platform reputation more than the government-approved assurance.

It is also found during the mediation analysis that the reputation of crypto-platform is a partial mediator on the relationship between legitimacy and public engagement. This is an indication that legitimacy is not a complete explanation of engagement and that users will translate the perception of legitimacy into behavior by trusting the reputation of the platform. In practice, legitimacy has a positive effect of cryptocurrency platform credibility, security, and transparency, which increases confidence in the ecosystem. In general, the findings confirm that social approval, user knowledge, and platform credibility are the most influential factors that prompt individuals to participate in the cryptocurrency markets, and not the official regulatory acceptance. Such findings expound institutional and legitimate theory by demonstrating how trust-based institutions are used to overcome a poor regulatory system in emerging economies. Summing up, this research paper suggests that legitimacy is the anchor, and reputation is the mediator between belief and participation. Reliable, open, social orientation crypto-development would play a significant role in creating sustainable relations in the changing digital economy in Pakistan.

LIMITATIONS

While this research has made a substantial contribution to the empirical data regarding the relationship between legitimacy dimensions, platform reputation, and user engagement in the cryptocurrency market, it possesses several limitations that warrant discussion. First, even though there were 199 respondents, the sample is still not big enough to apply the results to all cryptocurrency users in Pakistan. The sample was predominantly comprised of individuals proficient in digital literacy and familiar with online trading systems, potentially failing to reflect the perspectives of those who are less technologically inclined or reside in rural areas. Future studies utilizing larger,

demographically representative samples could enhance external validity. Second, the cross-sectional design of this study constrains its capacity to detect changes in perceptions and behaviors over time. The cryptocurrency market in Pakistan is dynamic, and discussions regarding regulations are ongoing. Longitudinal research would be better suited to predict how evolving legislation, market volatility, and technological advancements affect user interactions. Third, this paper solely examines legitimacy dimensions and platform reputation as the principal variables. These constructs elucidated a significant portion of engagement variance ($R^2 = 0.746$); however, they did not encompass other potential factors such as risk perception, technological literacy, investment experience, and social influence. Neglecting these factors can omit additional behavioral dynamics that influence cryptocurrency activity.

FUTURE RECOMMENDATIONS

To address these constraints, the subsequent research and policy recommendations have been proposed: Longitudinal Studies: The subsequent research must adopt a longitudinal or time-series design to monitor the fluctuations in legitimacy perceptions, engagement behaviors, and platform prestige as cryptocurrency regulation in Pakistan evolves. These studies would elucidate whether the enhancement of public confidence correlates with the elucidation of governmental policies and legal frameworks. Studies that look at different cultures and compare them. To improve generalizability, it would be advantageous to broaden the sample to include multiple countries or regions with varying regulatory frameworks, thereby elucidating how cultural and governance contexts selectively influence perceptions of legitimacy in emerging markets. Inclusion of Extra Variables. You can make the model better by adding moderators or mediators, such as perceived risk, social trust, digital literacy, or technological adoption. This will give you a more complete picture.

These factors can be examined to elucidate the relationship between psychological and situational variables and legitimacy and reputation. Qualitative Enrichment By including interviews or focus group sessions with cryptocurrency investors, developers, and regulators, you can find out what drives, stops, and shapes people's views that can't be found in quantitative data. A dual approach would illuminate the complexities of cryptocurrency activity within Pakistan's evolving financial landscape. Consequences for policy and for practice. Policymakers and platform developers should focus on transparency, consumer protection, and educational programs to make the platforms more legitimate and build user trust. Making new laws and helping people adopt digital assets responsibly by following ethical rules and reputation standards are likely to help bring about the ethical practices and long-term growth of digital assets. Summary Note All of these discussions stress how important it is to do more research to fill in the regulatory gaps and learn more about trust-based engagement, even though the dataset has been improved and is very reliable. This project will help the Pakistani cryptocurrency sector grow in a responsible and official way that fits in with the global monetary pattern.

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REFERENCES

- Almahendra, R., Viyani, A. O., & Nabawi, M. (2024). Is crypto legitimate? Study on the relationship between legitimacy and public engagement on crypto market in Indonesia. *Intangible Capital*, 20(2), 393–411. <https://doi.org/10.3926/ic.2425>
- Bornstein, M. H., Jager, J., & Steinberg, L. D. (2013). Sampling in developmental science: Situations, shortcomings, solutions, and standards. *Developmental Review*, 33(4), 357–370.
- Bryman, A. (2012). *Social Research Methods*. Oxford University Press.
- Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.
- Chen, M., Zhang, Y., & Chen, J. (2021). Artificial intelligence in fintech: Applications, challenges, and opportunities. *Information Processing & Management*, 58(6), 102725. <https://doi.org/10.1016/j.ipm.2021.102725>
- Chen, Y., Zheng, P., Zhou, Y., Cui, J., & Ngai, E. W. T. (2018). Understanding the determinants of cryptocurrency adoption: Empirical evidence from China. *Industrial Management & Data Systems*, 118(8), 1733–1756. <https://doi.org/10.1108/IMDS-09-2017-0400>
- Deephouse, D. L., Bundy, J., Tost, L. P., & Suchman, M. C. (2017). Organizational legitimacy: Six key questions. In *The SAGE Handbook of Organizational Institutionalism*. SAGE.
- Diez-Martin, F., Blanco-Gonzalez, A., & Prado-Roman, C. (2019). Factors affecting individual decisions based on business legitimacy. *Management Decision*.
- Elsayed, A. H., Gözgör, G., & Yarovaya, L. (2022). Global determinants of cryptocurrency returns and volatility: The role of geopolitical risks, economic policy uncertainty and attention indices. *Finance Research Letters*, 46, 102732. <https://doi.org/10.1016/j.frl.2022.102732>
- Hughes, N., Niekamp, S., & Lee, P. S. (2019). Digital currency adoption in emerging markets: Institutional trust and perceived risk. *Emerging Markets Review*, 40, 100622. <https://doi.org/10.1016/j.ememar.2019.100622>
- Kumari, S., Bala, R., & Chakraborty, S. (2023). Understanding consumer adoption of cryptocurrency in India: An extended UTAUT2 model approach. *Journal of Theoretical and Applied Electronic Commerce Research*, 18(3), 80. <https://doi.org/10.3390/jtaer18030080>
- Sharma, S., Sam, C., & Verma, S. (2021). *Unspecified (crypto legitimacy and financial inclusion in emerging economies)*.
- Sharma, S., Verma, S., & Sam, C. (2021). Factors influencing the adoption of cryptocurrency in India: An empirical investigation. *International Journal of Technology Transfer and Commercialisation*, 18(3), 247–260.
- State Bank of Pakistan. (2018, April). *Circular No. 03 of 2018: Prohibition on dealing in virtual currencies/tokens*. <https://www.sbp.org.pk/bprd/2018/C3.htm>
- Viyani, A. O., Almahendra, R., & Rahatmawati, M. (2024). Questioning the legitimacy of NFT: A study on public engagement in Indonesia. In *Eurasian Business Perspectives* (pp. 113–127). Springer. https://doi.org/10.1007/978-3-031-55813-9_10



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