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Is crypto legitimate? Study on the relationship between legitimacy and public engagement on crypto market in Indonesia

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Abstract

Purpose: In recent years, the development of the crypto market has grown exponentially compared to other investment assets. Using the lens of institutional entrepreneurship theory, our research seeks to understand the antecedents of public engagement on crypto market in Indonesia.

Design/methodology/approach: To capture this phenomenon, we use institutional and legitimacy theories to explain how social constructs toward cryptocurrency can be formed and accepted by society. Based on the survey of 213 individuals actively engaging in the crypto market, we confirm that public engagement in the crypto market is associated with three different types of legitimacy

Findings: The main contribution of this research is that it shows that normative and cognitive legitimacies play a big role in public engagement in the crypto market. This study also found that, in general, individuals engaged in crypto are individuals who only focus on personal gain. They can engage with the crypto market if their personal goals are met.

Research limitations/implications: This research is only carried out within the geographical boundaries of Indonesia. It is imperative to conduct investigations in various contexts in order to comprehend how diverse cultural contexts can potentially impact public engagement in the crypto market.

Practical implications: This study provides support for the notion that public engagement in the crypto market is correlated with different levels of legitimacy. The results of this study show that public participation in the crypto market is significantly influenced by normative and cognitive legitimacies.

Social implications: This research can be helpful for policymakers and industries able to consider the institutional development of crypto ecosystems and will generate fresh insight into our understanding of the nature of legitimacy-seeking behavior among cryptocurrency adopters

Originality/value: We propose a new mechanism explaining how institutional frameworks could help explain the emergence of public engagement on Crypto Market.

Keywords: Cryptocurrency, Legitimacy, Public engagement, Intangible assets

Jel Codes: M190

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1. Introduction

Metaverse and blockchain technology are widely regarded as highly transformative innovations in the internet era (Kar & Varsha, 2023). The potential for technological innovation is reflected in the high market value of crypto assets (Kar & Varsha, 2023) and the increasing number of new business models developed in the blockchain ecosystem (Pascual-Pedreño,Gelashvili & Pascual-Nebreda, 2021). In today's digital age, blockchain technology is being closely studied from a technical point of view and links to the Internet of Things (IoT) (Zubaydi, Varga & Molnár, 2023).

The widespread advances in blockchain technologies have shown that any context can present opportunities for those who focus on obtaining information. The innovative nature of blockchain technology, combined with the world of financial investments, has become fascinating and full of opportunities, risks and challenges (Chen, Zheng, Cui, Ngai, Zheng & Zhou, 2018) Blockchain and crypto assets also have the potential to enhance the efficiency of financial transactions and reshape the institutional governing structure of market capitalism in the new virtual realm (Hodgson, 2015). Davidson, De Filippi and Potts (2018) further argue that blockchain should not be considered solely as a general-purpose technology, similar to the internet, computers, and electricity (Perez, 2009; Pilkington, 2016). Rather, they propose that blockchain, along with the metaverse, should be regarded as institutional technologies and institutional innovations with the capacity to revolutionize economic transactions and social interactions (Anastasiou, Kallandranis & Drakos, 2022).

Since the adoption of cryptocurrency, such as Bitcoin, the blockchain has quickly become an economic hotspot (Ammer & Aldhyani, 2022). Cryptocurrency market is gradually being accepted by investors as an emerging financial market. Bitcoin is the largest Cryptocurrency that is frequently traded since 2017 and has influenced other Cryptocurrencies (Bouri, Gabauer, Gupta & Tiwari, 2021). These cryptocurrencies essentially use blockchain technology and reward mechanisms, but usually live on isolated transaction networks. Many of them are basically clones of Bitcoin, although with different parameters such as transaction validation times, different supply, etc. (El-Bahrawy, Alessandretti, Kandler, Pastor-Satorras & Baronchelli, 2017).

The recognition of intangible assets as valuable resources for companies has increased due to globalization, expansion, and technological advances (Madhani, 2012 & Thum-Thysen, Voigt, Maier, Bilbao-Osorio & Ognyanova, 2017). These assets, although lacking physical substance, contribute significantly to market value. Investments in intangible assets and research and development projects have been on the rise in recent decades, aligning with the increasing market value share of intangible assets in global equity indices (Elsten & Hill, 2017). Intangible assets can be categorized into technology-related assets, such as developed technology, patents, and ongoing research and development, and marketing-related assets, including trademarks, trade names, domain names, and customer-related assets. Crypto assets, which have value and generate cash flow, fall into both categories. However, their uncollateralizable and partially unidentifiable nature makes them intriguing subjects for further investigation.

The legitimacy of cryptocurrencies is a topic of intense dispute. Alekseenko and Gidigbi (2021) advocate for government adoption and regulation of cryptocurrencies due to their advantages, but others contend that doing so will be harmful to the innovation and entrepreneurial spirit of cryptocurrencies (Elsayed, Gozgor & Yarovaya, 2022). There has been very little agreement over the criteria that lead to the legitimacy of cryptocurrencies, resulting in a great deal of disagreement regarding the precise impact of public engagement on the crypto market.

The Indonesian government recognizes crypto assets not as currencies but as commodities regulated by Act No. 10 of 2011 on Commodity Futures Trading. In this case, cryptocurrency assets are regarded as the subject of futures contracts, or a kind of derivative contract that can be traded but cannot be used as currency. It is an undeniable fact that to date, over 17 million individuals in Indonesia have registered on government-approved platforms to conduct crypto asset transactions. Additionally, the Ministry of Trade of the Republic of Indonesia discloses that over 400,000 new users register on the cryptocurrency platform each month within Indonesia. Given this fact, it can be argued that crypto transactions have achieved widespread acceptance and recognition within society. The primary objective of our research is to assess the level of public engagement with cryptocurrency, determining whether it is regarded as an institutional innovation or merely a temporary occurrence that has little sustainability. Therefore, the theory of legitimacy is employed to assess the feasibility of crypto phenomena from the lenses of institutional entrepreneurship theory (DiMaggio, 1988; Scott, 1995).

A growing body of literature recognizes the linkage between entrepreneurship and institutions (Sambharya & Musteen, 2014); especially in the context of innovation trajectories (Henfridsson & Yoo, 2013), mature industry (Greenwood & Suddaby, 2006), social enterprise (Tracey, Phillips & Jarvis, 2011) and sharing economy (Zhang, Kien & Lee, 2018). The process of establishing institutional legitimacy in the context of crypto investing has not been thoroughly examined. Institutional entrepreneurship theory posits that individuals or organizations can act as agents of change in shaping, challenging, or creating institutions within a socio-economic context. Institutional entrepreneurship theory provides a robust framework for understanding the legitimacy of cryptoinvestment, offering insights into how entrepreneurial actors navigate and influence institutional structures (Tracey et al., 2011).

According to DiMaggio and Powell (1983), the fundamental concept of institutional theory is that organizations must adhere to the rules and norms established by dominant institutions to obtain legitimacy and support. Institutional theory explains why organizations sometimes act irrationally to gain social legitimacy. New entities are attempting to institutionalize themselves to obtain legitimacy through isomorphism, or the process of forming and adjusting with existing institutions that are regarded as already established: mimetic isomorphism, coercive isomorphism, and normative isomorphism (Prahalad & Bettis, 1986). The concept of institutional entrepreneurship involves the examination of organizational conduct that aligns with established norms, the adoption of socially accepted organizational models, and the ability of institutional guidelines to withstand challenges (Scott, 2001). Our study will discuss the legitimacy and public engagement of crypto in society, particularly in the context of developing countries where the crypto market is not yet widely used (Sharma, Verma & Sam, 2021). We propose a new mechanism explaining how institutional frameworks could help explain the emergence of engagement in crypto market ecosystems.

We argue that individual engagement is essential for collective judgment in shaping crypto's legitimacy. The purpose of this research is to learn more about the dynamics of individual engagement and overall legitimacy performance in new crypto industries (Scott, 1995). Our study sought to answer the following research questions: What factors contribute to the social legitimacy of cryptocurrency, and in particular, how do those factors interact in shaping public engagement in the crypto market?

This study will generate fresh insight in the legitimacy-seeking behavior among cryptocurrency adopters. The existing literature on cryptocurrency adoption in Indonesia lacks a comprehensive examination of the underlying factors driving adoption. Previous studies primarily concentrate on the regulatory framework and the volatility of cryptocurrencies in Indonesia (Wiwoho, Pratama, Pati & Tejomurti, 2023; Press, 2023). However, this research endeavor aims to fill this gap by investigating the behavioral aspects that influence the adoption of cryptocurrencies in the country. The findings of this study can be valuable for policymakers and industry stakeholders in formulating effective strategies for the institutional development of cryptocurrency ecosystems.

This paper begins with the identification and background of the problem, then proceeds with this study's theoretical background and hypotheses. Afterward, we describe the research methodology, while in the last part, we describe the study's findings, discussion, and conclusions.

2. Literature Review

2.1. Public Engagement and Legitimacy

The increasing importance and widespread acceptance of cryptocurrencies require the inclusion of social science research to fully understand the factors driving their rapid growth and acceptance in the financial markets. Some theories, such as the Diffusion of Innovation Theory (Dearing, 2009), the Theory of Rational Choice (Hechter & Kanazawa, 1997), and the Theory of Social Learning (Bandura, 1969) are being used to explain the early acceptance of new technology. However, there is still a lot of discussion in the social sciences about whether or not the general public will adopt cryptocurrency more widely in the coming years.

Two prominent theories in the field of social sciences are behavioral economics and the theory of social capital. Behavioral economics seeks to explain the influence of prior experiences and emotions on decision-making processes, particularly in relation to incentives and risk assessments (Kahneman & Tversky, 1979). This theory highlights the role of individual experiences and emotions in shaping decision-making behavior. On the other hand, the theory of social capital explores the connections between individuals within a society and how these relationships drive individual motivations and actions (Blanchard & Horan, 1998). In addition, the theories of planned behavior (Ajzen, 1985) and reasoned action (Yousafzai, Foxall & Pallister, 2010) posit that individuals' decision to engage in certain behaviors is influenced by their perception of social acceptability rather than solely relying on what they believe to be logical.

Our study's specific goal was to determine what motivates public interest in the crypto market. What can promote society's increasing involvement in the crypto market? We define public engagement as an affective, cognitive, and behavioral state in which individuals and organizations with a common interest interact on a regular basis. These interactions range from passive to active, from control to collaboration, and aim at goal attainment, adjustment, and adaptation for the public and organizations (Dhanesh, 2017). Our study suggests that individual participation is necessary for a group to make a decision about crypto's legitimacy.

The activation of a joyful impact is one of the defining characteristics of engagement as a form of positive affect (Larsen & Diener, 1992; Kang, 2014). Engagement is also defined as a state of happiness that is usually marked by enthusiasm, dedication, absorption, participation, excitement, and emotional involvement. Macey and Schneider (2008) suggest that positive affectivity is linked to many different feelings, such as tenacity, strength, energy, determination, focus, enthusiasm, awareness, and pride.

Public engagement is a psychological drive that leads to extra-role behavior that is not required and is marked by emotional commitment, positive affection, and the sense of empowerment that people feel when they regularly interact with social institutions (Kang, 2014). Public engagement is also characterized in terms of positive motivation, where a state of fulfillment is usually noted by passion, dedication, absorption, participation, and excitement.

The impact of public engagement on the formation of the crypto market is a significant area of study. In order to gain a comprehensive understanding of this phenomenon, it is crucial to identify the factors that drive public engagement. Leston-Bandeira (2014) argues that legitimacy plays a pivotal role in encouraging the public to engage with a specific entity. This notion is further supported by Wuestewald's (2022) research, which provides an illustrative example of how individual legitimacy towards police organizations can lead to increased public engagement with these institutions.

Previous research on public engagement in the crypto ecosystem has not definitively identified the specific type of legitimacy that influences such engagement. In light of legitimacy theory, we present a comprehensive explanatory framework that elucidates the mechanisms underlying public engagement with the crypto market.

According to institutional theory (DiMaggio, 1988; Scott, 1995), legitimate-seeking behavior helps us understand the cognitive, normative, and coercive institutions that make up legitimacy. Legitimacy can refer to either affirmative support for a given social construction as essential or inevitable based on some culturally accepted account. The institutional theory places significant emphasis on the environment as a contextual factor and perceives an organization as more than just a production system, but also as a social and cultural system (Scott,

1995). The institutional viewpoint emphasizes the significance of socially constructed reality, in which individuals engage in the process of assigning meaning to their environment (Berger & Luckmann, 1966).

Institutional theory is a framework that explains how an institution is structured and values are established. The term "institutionalizing" refers to the process of designating and integrating value beyond simple technological instruments in order to establish long-term stability within a company's structure. It can also be viewed as a mechanism for establishing values and the development of societal norms and perceptions of reality (Scott, 1995). The institutional viewpoint highlights the importance of a socially created reality, whereby people interpret and comprehend their environment (Berger & Luckmann, 1966).

Theorists who study the legitimacy function describe the social world as a chaotic cognitive environment in which individuals must attempt to organize their experiences coherently to gain clarity of reason (Sambharya & Musteen, 2014). Legitimacy is the general belief or assumption that an entity's actions are desirable, appropriate, or appropriate in some socially constructed system of norms, values, and beliefs (Suchman, 1995). Institutional legitimacy is not solely derived from the activities of specific entrepreneurs, but also from the broader narratives and the collective responses of the related institutions within the social context (Tracey et al., 2011).

Institutions are seen as a resilient social structure composed of cognitive, normative, and regulative elements that provide stability and meaning for social life; they include symbolic systems, routines, artifacts, and relational elements that are subject to change (Scott, 1995).

With a different understanding of institutionalization mechanisms and processes (Scott, 1995), there are still many unanswered questions about how public engagement in the crypto market is shaped. Therefore, we propose the first hypothesis for our research.

H1: Legitimacy affects public engagement in the crypto market.

We formulate this hypothesis based on the argument that public engagement to an entity is strongly influenced by the extent to which the new entity builds legitimacy to challenge incumbent institutions that have long been established (Leston-Bandeira, 2014). According to Tsoukas (2005), the process of institutionalization occurs when a critical mass of individuals adopt specific practices that encompass notions of societal acceptance and credibility (Delmestri, 2009). Legitimacy and public engagement can be achieved through various approaches such as media framing, branding, and imaging (Humphreys 2010); implementing regulatory measures (Navis & Glynn 2010; Lamberti & Lettieri 2011); and fostering information exchange among interconnected market actors (Schultz, Castelló & Morsing, 2013).

The theory of institutional entrepreneurship describes a particular category within the institutionalized belief system that explains how the logic of institutions (normative and cognitive systems) assists organizations in surviving and achieving their goals. According to Suchman (1995), there are three views on why a person legitimizes an institution: the three types of legitimacy: normative, regulative, and cognitive. In this study, we elaborate hypotheses on the relationship between three different types of legitimacy and public engagement.

2.2. Normative Legitimacy and Public Engagement in the Crypto Market

Normative legitimacy relates to the perceived acceptability or appropriateness of an entity's activity in accordance with established cultural norms or societal standards. Crypto entrepreneurs commonly share the belief that cryptocurrency represents the future of financial transactions. They believe that investment in this sector right now will provide substantial gains in the future. Normative legitimacy may also be associated with broader political, economic, or social interdependencies, in which organizational activity has a visible impact on the audience's well-being (Geels, 2011).

Normative legitimacy arises when individuals perceive crypto adoption as the "normal thing to do," especially in the internet era, as crypto is often confronted as an alternative to the dominance of central banks in regulating the circulation of money. In our study, we look at normative legitimacy by figuring out if a person's view of crypto market is based on ideological values or a belief that crypto market is the future of money that will change the way people do business (Klarin, 2020). In the context of institutional entrepreneurship theory, normative legitimacy plays a crucial role in facilitating effective public participation (Easter & Braman, 2014).

Crypto entrepreneurs may enhance their overall legitimacy and generate opportunities for more profound and enduring public engagement by ensuring that their entrepreneurial pursuits are in accordance with established societal norms and values. Thus, the authors hypothesize that:

H1a: Normative legitimacy affects public engagement in the crypto market.

2.3. Regulative Legitimacy and Public Engagement in the Crypto Market

Regulative legitimacy refers to moral judgments about organizational actions are in line with regulations and the law of authorities (Suchman, 1995). This concept is based on society's prevailing notions of what is right and wrong in the world of governance. This judgment is generally based on the audience's socially constructed value system's assessment of whether the action complies with regulation and effectively improves society's welfare.

Regulative legitimacy is different from normative legitimacy. Normative legitimacy aims to achieve results, while regulative legitimacy focuses more on the procedures, techniques, or organizational structures used to achieve results that are most appropriate in a regulatory sense (Diez-Martin, Blanco-Gonzalez & Prado-Roman, 2019).

This regulative legitimacy refers to the compliance of a novel entity with established legal frameworks, regulations, and governmental authorities. In the context of cryptocurrency, the validation of regulatory legitimacy by institutional entrepreneurs significantly influences the formation of public engagement (Braun & Busuioc, 2020) The integration of cryptocurrency activities into existing regulatory frameworks will help institutional entrepreneurs enhance the legitimacy of cryptocurrencies in the eyes of the general public, thereby promoting greater engagement and market adoption. AAss a result, the authors propose that:

H1b: Regulative legitimacy affects public engagement in the crypto market.

2.4. Cognitive Legitimacy and Public Engagement in the Crypto Market

The third type of legitimacy is the recognition of whether or not a company's or institution's actions or activities are understandable (Suchman, 1995). Cognitive legitimacy can be associated with the entrepreneurial creation of new corporate values, resulting in a new understanding of the prospective audience (Sabah & Koçak, 2016). Then, the people who have a stake in a company should keep an eye on how these initiatives are going, because the effects of legitimacy might show up in the future once companies or industries have institutionalized value creation.

Cognitive legitimacy refers to the extent to which the actions of an entity are consistent with the existing beliefs, values, and mental models within a specific context. In the context of cryptocurrency, which embodies a comparatively novel and complex financial technology, attaining cognitive legitimacy involves having an influence over individuals' cognitive processes, shaping their perceptions and comprehension of the inherent characteristics and worth of cryptocurrencies. Referring to this understanding, the crypto market gains cognitive legitimacy when stakeholders achieve their immediate goals through crypto market adoption.

In the next hypothesis, we suggest public engagement in the crypto market will be generated when the crypto market can cognitively fulfill each individual's goals. An entity achieves this cognitive legitimacy when the constituent or stakeholder perceives that it will give direct benefit or utility. In the context of cryptocurrency, we suggest that cognitive legitimacy significantly impacts public engagement. Crypto entrepreneur need to align the narrative, education efforts, and communication strategies to build trust, shaping positive understanding, and facilitating behavioral change. which, in the end, might support cryptocurrencies' cognitive legitimacy and encourage more market interaction and public engagement. Therefore, the authors hypothesize that:

H1c: The cognitive legitimacy of crypto affects public engagement in the crypto market.

2.5. Mediation Effect on the Reputation

Research on explaining the relationship between legitimacy and engagement remains inconclusive. Shen & Sha (2020) suggest that the relationship is positive, while Wuestewald (2022) finds the opposite. In this study, we

suggest that the reputation of a platform or exchange could be a possible explanation for how legitimacy and public engagement are related.

The study by Alessandri, Yang and Kinsey (2006) defines reputation as the overall perception of the public or collective opinions towards a particular entity. Factors such as brand, previous customers, special offers, and public interactions influence a firm's reputation. Reputation can also be seen as a person's subjective impression of a company's actions, attitudes, services, brands, and products, based on their knowledge, beliefs, feelings, and impressions.

Del-Castillo-Feito, Blanco-González and Delgado-Alemany (2020) and Miotto, Del-Castillo-Feito and Blanco-González (2020) suggest that a good corporate reputation will increase the level of acceptance and legitimacy of the company. Therefore, we suggest that the reputation of crypto exchange platform acts as a signal of its legitimacy. When the crypto platform is perceived as reputable, it signals to the public that it operates in a trustworthy and legitimate manner.

Our next hypothesis examines how crypto platform reputation influences the relationship between legitimacy and public engagement in the crypto exchange industry. We suggest that positive legitimacy, driven by institutional entrepreneurship efforts, fosters trust and a favorable reputation for crypto platforms. This reputation serves as a sign of legitimacy and boosts the perceived legitimacy of the cryptocurrency industry overall, resulting in greater public engagement. Therefore, we suggest that:

H2: Crypto platform reputation mediates the relationship between legitimacy and public engagement in the crypto market.

3. Methodology

This study employed survey methodology to investigate the impact of the three different types of public engagement in the crypto market. Which factor is the most important, and how does the reputation of the ecosystem of the platform affect the relationship between the two?

This research will use a quantitative approach. The data for this research were gathered via a survey that included a cross-sectional design. The sample selection method used is a non-probability sample selection method using the purposive type.

The primary respondents of our study are individuals who are actively involved in the cryptocurrency community. We were able to identify these individuals through a variety of cryptocurrency investment forums and the blockchain community. We assume that the majority of the participants in this forum are familiar with crypto assets.

We discovered this community by utilizing social media platforms such as Twitter, Facebook, and Instagram, as well as other channels that are maintained by institutions that own cryptocurrency platforms. After becoming members of this community, we first introduced ourselves as researchers from the university, and then we proceed to engage with the community by disseminating an electronic survey in the form of a Google Form to all constituents within the community.

The present study employs structural equation modeling (SEM) as a data analysis technique, specifically utilizing the variance-based SEM known as partial least squares (SEM-PLS). The rationale behind selecting this approach is its numerous advantages, such as its ability to accommodate small sample sizes. The study utilizes Partial Least Squares Structural Equation Modeling (PLS-SEM), a commonly used method in academic research, to enhance the measurement models for reflective and formative constructs. The use of SEM is particularly important in this study as it allows for the measurement of second-order constructs, leading to increased research accuracy. This approach is crucial for testing and advancing existing models. We also follow to prior research that used structural equation modeling (SEM) as a methodological approach to assess legitimacy (Miotto et al., 2020), public involvement (Kang, 2014), and corporate reputation (Del-Castillo-Feito et al., 2020).

SEM-PLS analysis was used in this study using WarpPLS 7.0. The SEM-PLS analysis only consists of one stage: confirmation of the measurement model (outer model) and evaluation of the structural model (inner model). Both are run simultaneously by the software.

After ensuring there are no missing values or outliers, the next step is to figure out if the measurement model uses reflective or formative constructs. Then, test the validity and reliability as explained above, and see if the research model fits. The suitability test of the research model is known by looking at the average path coefficient (APC), the average R-Square (ARS) value, and the average variance inflation factor (AVIF). The research model is said to have a good fit if the P values of APC and ARS are 0.05 ($P < 0.05$) and the P value of AVIF is < 5 (Sholihin & Ratmono, 2013). The structural model evaluation is carried out after confirming the validity and reliability of the measurement instrument and the suitability of the research model. Evaluation of the structural model is carried out to determine the results of the estimated path coefficient (β) and the significance value (P value), which will later be used in hypothesis testing.

There are multiple definitions of public engagement. In this study, we define public engagement as a psychological motivation that brings affective commitment, positive affection, and empowerment experienced by the community/public toward cryptocurrency. Based on Kang (2014), encompasses many measurement items that may be further elaborated upon as follows:

Dimension	Items	Question
Affective Commitment	AC1	I have an emotional connection to the crypto market
	AC2	I have a sense of belonging to the crypto market community
	AC3	I have a personal connection with crypto.
Positive Affect	PA1	I'm attracted to an idea called crypto.
	PA2	I have a strong concern with the development of crypto market
	PA3	I feel excited when trading in the crypto market
	PA4	I feel enthusiastic when trading in the crypto market
	PA5	I am proud when trading in the crypto market
Empowerment	E1	I feel energized after trading in the crypto market
	E2	I am determined to learn more about the crypto market
	E3	I entrust my future to crypto market
	E4	I believe the crypto market has the potential to grow
	E5	I follow the crypto trading community

Table 1. Public Engagement Items (Kang, 2014)

Dimension	Items	Question
Normative Legitimacy	NL1	I consider that activities in the crypto market are carried out in the best way possible.
	NL2	I understand how the crypto market works.
	NL3	I am aware that the crypto market is well managed.
Regulative Legitimacy	RL1	The crypto I buy and sell has legal recognition
	RL2	The crypto that I buy and sell is responsible and free from fraud
	RL3	The crypto I buy and sell has a clear standard and is authorized by the government
Cognitive Legitimacy	CL1	The crypto that I buy and sell helps me grow and develop economically
	CL2	The crypto I buy and sell offers me personal benefits
	CL3	The crypto I buy and sell fulfills my immediate needs

Table 2. Legitimacy Items (Miotto et al., 2020)

The first set of questions aims to understand the different dimensions of legitimacy in shaping public engagement with cryptocurrencies. Legitimacy is the general perception or assumption that an entity's actions are desirable and appropriate within some socially constructed system of norms, values, and beliefs (Suchman, 1995). Zimmerman and Zeitz (2002) previously suggested that legitimacy cannot be measured precisely as it is intangible; therefore, for this study, we use perceptual measurement on three different dimensions of legitimacy, modified from Wang, Song and Zhao (2014) and Miotto et al. (2020). In addition, we have enhanced the back-translation process of our questionnaire to ensure its alignment with the specific context of our research. We elaborated on the questionnaire item as can be seen in Table 2.

Deephouse and Carter (2005) have previously suggested that legitimacy and reputation are two distinct concepts, although these two variables are often used interchangeably to capture the process of the social construction of an institution. Legitimacy on one side is characterized by social acceptance that arises from conforming to social norms and expectations. On the other hand, reputation is characterized by a favorable view when compared to other institutions (Deephouse & Carter, 2005). According to Alessandri et al. (2006), reputation is the general opinion that the general public holds about a company or institution. We use this definition in Table 3. Therefore, the concept of reputation can be analyzed through two distinct aspects of assessment, specifically cognitive reputation and affective reputation. The individual items are as follows:

Dimension	Items	Question
Cognitive Reputation	CR1	The crypto platform I use has good facilities
	CR2	The crypto platform I use offers a good range of trading training assistance
	CR3	The crypto platform I use are oriented toward and pay attention to the interests of stakeholders
	CR4	The crypto platform I use is prestigious
Affective Reputation	AR1	The crypto platform I use is fun
	AR2	The crypto platform I use stimulates its consumers to make transactions
	AR3	The crypto platform I use is dynamic and adapts to changes

Table 3. Crypto Platform Reputation Items

4. Result

At the end of the survey period, data had been collected from 373 participants who participated and filled out the survey. Among these respondents, 213 out of 373 were actively engaged in investment or trading activities within the cryptocurrency market, while the other participants had only an interest in joining the community but no prior experience in transacting with cryptocurrencies. The dataset utilized in this study was obtained from a sample consisting of 213 individuals who completed the survey. It is worth mentioning that a considerable percentage of participants in this survey were male, predominantly belonging to the age group of 20 to 30 years, and defining themselves as self-employed individuals. Additionally, the majority of respondents possessed educational backgrounds that included either a high school diploma or qualifications from a university. It is also crucial to emphasize that a significant majority of participants in this research were actively involved in the daily trading of cryptocurrencies. A detailed explanation is in Table 4 of the characteristics of the respondents below.

	Number of Respondents	Percentage
Age		
<20	38	18%
20-30	124	58%
>30	51	24%
Amount	213	100%
Gender		
Male	186	87%
Female	27	13%
Amount	213	100%
Work		
Graphic Design, Content Creator, Digital Creator, Illustrator	16	8%
Social Media Strategist, Digital Marketing	7	3%
Web Developer, Other Developer	8	4%
Writer, Content Creator, Art Director	6	3%
Freelancer	14	7%
Traders	21	10%

	Number of Respondents	Percentage
Government employees	14	7%
Private sector employee	33	15%
Photographer	4	2%
Self-employed	41	19%
Student/ Student	36	17%
Not Working and Only Trading	13	6%
Amount	213	100%
Intensity of Crypto Transaction		
Almost every day	58	27%
Once a week	37	17%
2-3 times a week	22	10%
3-4 times a week	27	13%
Once a month	31	15%
2-3 times a month	20	9%
Once a year	9	4%
2-5 times a year	9	4%
Amount	213	100%

Table 4. Characteristics of Respondents

Then the instruments in this study were also tested using validity and reliability tests. The test resulted in the following numbers:

	Legitimacy	Public Engagement	Platform Reputation	P-Value
Normative Legitimacy 1	(0.719)			<0.001
Normative Legitimacy 2	(0.755)			<0.001
Normative Legitimacy 3	(0.770)			<0.001
Regulative Legitimacy 1	(0.548)			<0.001
Regulative Legitimacy 2	(0.718)			<0.001
Regulative Legitimacy 3	(0.759)			<0.001
Cognitive Legitimacy 1	(0.604)			<0.001
Cognitive Legitimacy 2	(0.810)			<0.001
Cognitive Legitimacy 3	(0.817)			<0.001
Affective Commitment 1		(0.818)		<0.001
Affective Commitment 2		(0.809)		<0.001
Affective Commitment 3		(0.774)		<0.001
Positive Affect 1		(0.787)		<0.001
Positive Affect 2		(0.865)		<0.001
Positive Affect 3		(0.827)		<0.001
Positive Affect 4		(0.824)		<0.001
Positive Affect 5		(0.824)		<0.001
Empowerment 1		(0.782)		<0.001
Empowerment 2		(0.758)		<0.001
Empowerment 3		(0.471)		<0.001
Empowerment 4		(0.624)		<0.001
Empowerment 5		(0.710)		<0.001
Cognitive Reputation 1			(0.867)	<0.001
Cognitive Reputation 2			(0.751)	<0.001
Cognitive Reputation 3			(0.615)	<0.001

Cognitive Reputation 4			(0.895)	<0.001
Affective Reputation 1			(0.898)	<0.001
Affective Reputation 2			(0.813)	<0.001
Affective Reputation 3			(0.846)	<0.001

Table 5. Convergent Validity

Convergent validity is a statistical concept used to assess the degree to which different measures or items that are theoretically expected to be related indeed show a meaningful level of association. We use this analysis to validate our measurement scales or questionnaires. Convergent validity Table 5, we found a loading score above 0.5, resulting in a p-value of significance <0.05, which indicates a good measure of convergent validity for all items in the questionnaire.

	Legitimacy	Public Engagement	Company Reputation
Composte realib	0.909	0.948	0.944
Cronbach's alpha	0.886	0.939	0.931

Table 6. Composite Reliability and Cronbach's Alpha

In Table 6, a measure of Reliability Cronbach's alpha scores were tested for each variable, resulting in scores above 0.7, demonstrating good reliability or consistency (Nunnally & Bernstein, 1994). According to Kock (2022), a model is considered to exhibit favorable results in terms of goodness of fit when Average Path Coefficient (APC) is below 0.483 and Average R-squared (ARS) is below 0.610; both with P Value <0.001; furthermore Average block VIF (AVIF) will be ideal if score below 3.3. The results of testing this research model are as follows:

Model	Fit Indices	P Value	Description
APC	0.289	P<0.001	Fit
ARS	0.568	P<0.001	Fit
AVIF	2.021		Ideal

Table.7 Research Fit Model

Table 7 shows the P APC and P ARS values have a P value < 0.01 and an AVIF value < 3.3. It means that the model in the study has good goodness of fit. Regression analysis was also used to predict the causal relationship between legitimacy and public engagement. The propositions were tested using the following general equation models

$$\text{Public Engagement} = \alpha + b^* \text{ Legitimacy} + e \quad \text{(Model 1)}$$

$$\text{Public Engagement} = \alpha + b1^*\text{Normative Legitimacy} + b2^*\text{Regulative Legitimacy} + b3^*\text{Cognitive Legitimacy} + e \quad \text{(Model 2)}$$

$$\text{Public Engagement} = \alpha + b^*\text{Legitimacy} + b4^*\text{Reputation} + e \quad \text{(Model 3)}$$

Based on the results of testing the research model in Figure 1 above, the significance value (P value) for hypothesis 1 legitimacy affects public engagement in the crypto market is < 0.001, which means it is significant (P <0.05). It means that hypothesis 1 is supported, which says that crypto legitimacy affects public engagement. In addition, the path coefficient value (β) has a positive value of 0.70, which means that the influence of legitimacy on public engagement has a positive influence.

Furthermore, statistical data also shows the significance value (P value) for hypothesis 1a is <0.001, which means it is significant (P<0.05). It means that hypothesis 1a is supported. Normative legitimacy has become essential in shaping public engagement in the crypto market. The results also show that the path coefficient value (β) is positive at 0.40, which means that the normative legitimacy effect on public involvement has a positive effect.

Then the statistical data also shows that the significance value (P value) for hypothesis 1b regulative legitimacy affects public engagement in the crypto market is 0.40, meaning that it is not significant (P <0.05). Hypothesis 1b is not supported, meaning that public engagement in the crypto market is not affected by regulative legitimacy. Despite the public's excitement and enthusiasm for crypto assets, most individuals who trade in these assets do not place excessive emphasis on their legality or compliance with authorities.

In addition, the most recent statistical data indicates that the significance value (P value) for hypothesis 1c is < 0.001, indicating that it is statistically significant (P<0.05). It indicates that cognitive legitimacy influences public engagement in crypto transaction. The value of the path coefficient (β) also produces a positive value of 0.45, indicating that cognitive legitimacy positively affects public participation.

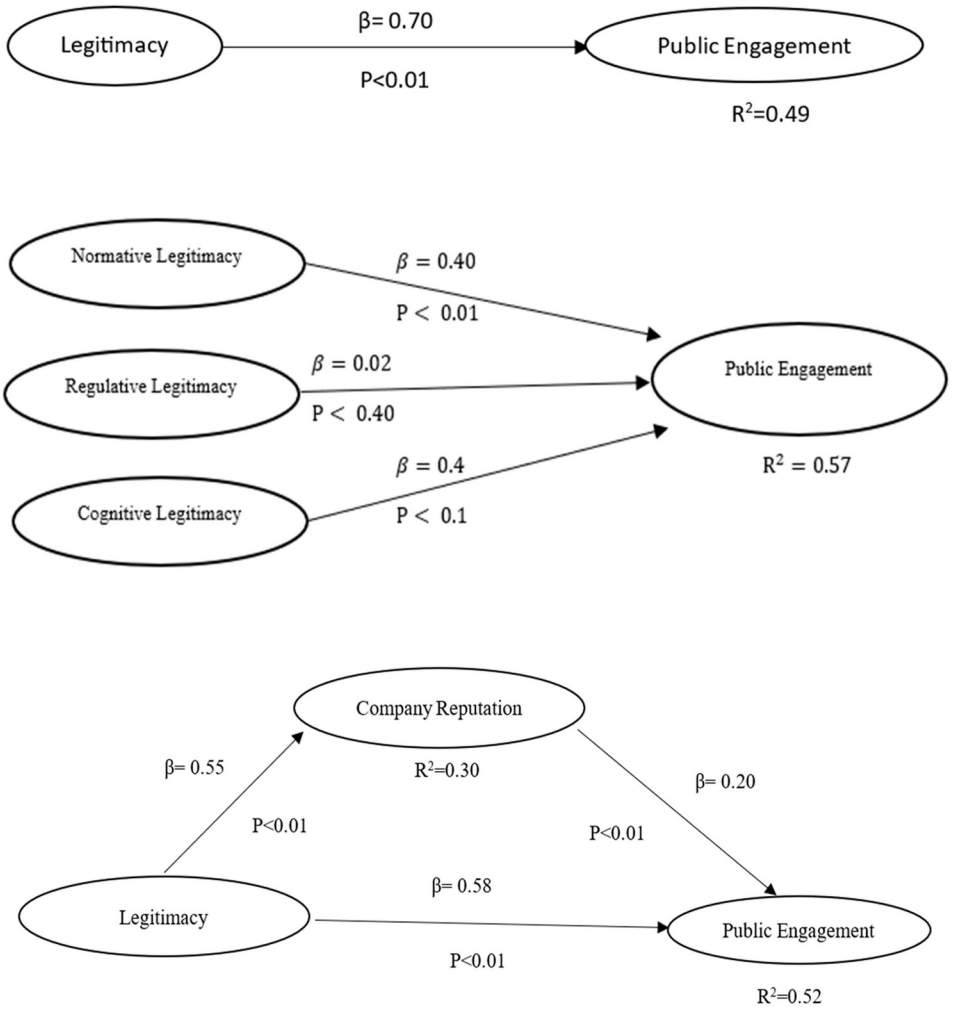

Figure 1. Research Model

In the final section of the survey, we test the mediation effect of the reputation of a crypto platform on the relationship between legitimacy and public participation in the crypto market. The results are shown in table 8 below.

P values of indirect effects for paths with 2 segments			
	Legitimacy	**Public Engagement**	**Crypto Platform Reputation**
Legitimacy			
Public Engagement	0.028		
Crypto Platform Reputation			

Table 8. Indirect and Total Effects

Based on Table 8 above, the p-value of the indirect influence of legitimacy on public engagement through the reputation of crypto platforms is obtained at p-value <0.05. It means that hypothesis 2 is supported, which means that the reputation of crypto platforms significantly mediates the relationship between legitimacy and public involvement in the crypto market. However, when viewed from the mediating criteria, the reputation of the crypto exchange partially mediates the legitimacy of public engagement because the beta value of the legitimacy relationship to public engagement decreases and remains significant when the image of the exchanger is included in the model.

5. Discussion

Our study aims to understand the process of developing new institutional legitimacy in the context of the adoption of cryptocurrencies and the overall blockchain economy. It explores the challenges and threats posed to traditional institutions by this emerging economy and the complex process of constructing new institutional legitimacy.

Previous research related to the adoption of crypto uses behavioral theory, which explains the factors that drive individual decisions in crypto adoption (Jankeeparsad & Tewari, 2018). From our study we can conclude that the phenomenon of crypto engagement can be explained using institutional entrepreneurship theory, which focuses on how new ideas, products, or technologies are introduced and accepted within existing institutional frameworks (Munir & Phillips, 2005). In this study, we argue that the phenomenon of cryptocurrency as a social construct requires insights related to the legitimacy of normative and regulatory cognitive aspects.

The legitimacy of blockchain technology as well as its derivatives, including crypto assets themselves, continues to be a topic of dispute within society. Our study suggests that the process of institutionalizing the crypto market plays a crucial role in fostering legitimacy and garnering public engagement.

Scott (1995) proposes a theoretical framework of institutional entrepreneurship, which identifies three observable forms of institutional legitimacy: normative, regulative, and cognitive. This study produced a number of findings in regards to those matters. First, Normative legitimacy influences public engagement in the crypto market positively (hypothesis 1a is supported). We found that crypto entrepreneurs in Indonesia are working hard to conform to societal norms and value in order to enhance public trust, minimize rejection and campaign for new norms that cryptocurrency is the manifestation of the future of money and will become the new standard in the internet era (Klarin, 2020).

Second, it is noteworthy that the observed level of regulative legitimacy does not have a substantial impact on shaping public engagement. The tendency for individuals to legitimate cryptocurrency is more driven by their personal objectives and disregards compliance with regulations.

Third, we also found that cognitive legitimacy has a positive role in shaping public engagement. Cognitive legitimacy is accomplished when a person reaches the point where they begin to see practices as something that can be taken for granted. Fourth, we found that cryptoplatform reputation also plays a mediating effect on the role of legitimacy in public engagement.

This study provides support for the notion that public engagement in the crypto market is correlated with different levels of legitimacy. The results of this study show that public participation in the crypto market is mainly influenced by normative and cognitive legitimacies. Both normative cognitive and regulative legitimacies play a significant role in public engagement in the crypto market. Normative legitimacy refers to the congruence between social values and acceptable norms, while cognitive legitimacy involves the fit with existing cognitive and cultural norms (Scaraboto & Fischer, 2013).

The central finding of this study is that much of the enormous excitement regarding the crypto market is actually motivated by the collective mindset of earning immediate benefits. It is not motivated by the belief that the cryptocurrency market will become a formal government-supported entity to replace traditional economic transactions (Williamson, 1979, 1991) or the government monetary system.

An intriguing aspect of our research is that the presence of formalization or a legal framework is found to be a relatively insignificant factor in the adoption of cryptocurrencies. This finding differs from previous research,

which emphasized the critical role of the regulatory environment established by institutional theory in fostering entrepreneurship development (Silwal, Poudel, Dahal, Thapaliya & Sah, 2022).

This can be explained because the notion of cryptocurrency is based on the philosophy of 'Agorism,' which seeks to eradicate government interference in controlling individuals' lives, therefore indicating a challenge to existing regulative structures (Pandya & Rao, 2022). Additionally, Abdullah and Nor (2018) confirmed with similar study which indicates that the establishment of a national cryptocurrency in Malaysia is primarily influenced by normative factors such as Shari'ah compliance based on religious values instead of government legal framework to assess the impact of its adoption

Our study complement previous study in which the adoption of cryptocurrencies has not only been driven by observable factor such as precious metal-backed cryptocurrency (Abuamria & Ajouz, 2020), price value (Chen, Miraz, Issa-Gazi, Rahaman, Habib & Hossain, 2022); but also intangible factors such as reputation, emotional reaction (Huy, Corley & Kraatz, 2014), future reward and innovativeness (Dilanchiev, Chikvaidze & Mercan, 2023).

Our study confirms the influence of legitimacy on public engagement within the Indonesian crypto asset market. A P value below 0.05 indicates that the findings point to a statistically significant relationship between legitimacy and public engagement. This discovery is consistent with the investigations carried out by Leston-Bandeira (2014) and Wuestewald (2022), which also showed the impact of legitimacy on public engagement. This finding might explain why the level of public participation is one of the highest in Indonesia, with more than 17 million individuals trading in crypto with market value of areas more than USD 720 million.

6. Conclusions

The objective of this study is to examine the process through which the crypto market in Indonesia seeks legitimacy and strives to acquire public engagement. Acquiring legitimacy for a new institution poses a formidable challenge. The state of being new suggests crypto entrepreneurs to establish their own distinct area different from existing entities. In general, we can conclude that individuals engaged in crypto are those who only focus on pragmatic gain. They can engage with the crypto market if their personal goals are met. In other words, respondents who have engaged with crypto have a short-term nature to their investments and tend not to think long-term about the commodities or instruments that will be used as investments. Among the various forms of institutional legitimacy, normative legitimacy tends to be associated with the most prevalent issues. It seems that people are more concerned with cryptocurrency prices or discussing the inherent promise of the underlying technology that crypto will change traditional economic transactions than whether the government will officially support crypto transactions in the future. Crypto platforms and crypto communities, in general, need to prioritize cultivating constructive relationships with governmental entities and enhancing regulatory structures. This approach is crucial for improving legitimacy and promoting increased public engagement.

Crypto entrepreneurs in Indonesia are urged to work harder to improve the legitimacy of cryptocurrencies. This includes strengthening legal aspects and complying with the rules set by authorities in the country. In the process of institutionalizing crypto transactions, the Indonesian government has implemented a comprehensive regulatory framework for the trading of crypto assets. These regulations, outlined in BAPPEBTI Regulation No. 4 of 2023, to legalize over 500 different types of crypto assets. The government has also established a specialized surveillance unit, known as CoFTRA (Commodity Future Trading Authority), under the Ministry of Commerce. CoFTRA is responsible for overseeing the development, regulation, and supervision of commodity futures trading, warehouse receipt systems, and commodity auction markets specifically for crypto assets. In February 2019, CoFTRA issued Regulation No. 5 of 2019, which officially classified cryptocurrencies as commodities in Indonesia

This government initiative is seen as a positive step towards establishing the legitimacy of the crypto market in Indonesia and shaping broader trust and greater public engagement. The crypto community should prioritize enhancing the education of its members to encourage a comprehensive understanding of the significance of complying to regulatory frameworks and legal authority governing crypto assets. This approach is crucial for establishing wider public engagement and recognition of the legitimacy of crypto assets.

In addition to its interesting contributions, this research includes certain limitations. This research does not compare legitimacy assessments based on the gender, age, occupation, or educational level of the people who were involved in this study, which is one of the limitations of this research. This research is only carried out within the geographical boundaries of Indonesia. It is imperative to conduct investigations in various contexts in order to comprehend how diverse cultural contexts can potentially impact public engagement in the cryptocurrency market.

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