Service Quality Dimensions of Crypto Assets Platform in Indonesia

Ronny Immanuel Hutauruk and Erlinda Nusron Yunus[(✉)]

Sekolah Tinggi Manajemen PPM, Jakarta, Indonesia
yunus.erlinda@gmail.com

Abstract. Crypto asset platforms in Indonesia have great potential to grow in the future and the competition in the industry will increase. This study aims to determine the quality dimensions based on user expectations and perceptions of the service quality of crypto-asset platforms in Indonesia. This study uses mixed methods consisting of qualitative and quantitative methods. The researcher conducted interviews with 30 informants to collect qualitative data on quality variables. The respondents are crypto-asset platform users who have been using the service for more than 6 months and the data collection techniques use convenience sampling techniques combined with snowball sampling. The researcher uses NVivo software to organize and synthesize the collected data to produce variables. These variables were developed into a measuring instrument in the form of a questionnaire. Two experts conducted separate face validity on the questionnaire, then the researcher conducted a pre-test on 30 respondents, before finally being distributed to a total of 100. The results of this study found that the service quality of crypto-asset platforms in Indonesia has the dimensions of reliability, responsiveness, ease of use, security, credibility, and appearance.

Keywords: Crypto Assets · Crypto Asset Platform · Quality Dimension

1 Introduction

Cryptocurrencies are digital or virtual currencies that are not controlled by a central authorization, such as a bank in their creation and transactions but use cryptographic technology [44]. The history of cryptocurrency began with the birth of Bitcoin as the first cryptocurrency and eventually began the creation and the development of many other cryptocurrencies. Along with these developments, in recent years, cryptocurrencies have attracted more and more attention; this can be seen in the trend of increasing cryptocurrency market capitalization.

Crypto assets are a relatively new phenomenon, especially in Indonesia, but there are already many crypto asset traders in Indonesia. Based on a report from [1] in the Indonesia Crypto Outlook 2021 Report, Indonesia's estimated trader has reached more than 2.2 million in 2021. Furthermore, even until the first quarter of 2021, Badan Pengawas Perdagangan Berjangka Komoditi (Bappebti) (Commodity Futures Trading Regulatory Agency Regulation) stated that the number of active investors in crypto assets reached

4.2 million people, far exceeding the number of stock investors. Today, cryptocurrencies are starting to become mainstream, and it is becoming increasingly difficult for investors to ignore them.

Currently, there are 11 crypto-asset platforms registered with Bappebti, which provide crypto trading services in Indonesia, where users have complete freedom in choosing them. However, in its competition, service providers need to involve superior service quality to be able to achieve a competitive advantage. Service quality measures how well a service meets customer expectations [28]. Based on this, the researcher conducted exploratory research that aims to find the dimensions of service quality of the crypto asset platform based on the customer's perspective.

Researchers compiled this study to find out the criteria of the quality of crypto-asset trading platform services in Indonesia based on the experiences of users of these services. Other researchers can use the results of this study as a reference for conducting further research in the future or by service providers as a consideration in decision-making. Based on the above background, the problem in this research is: What are the dimensions of the quality of the crypto asset platform in Indonesia based on the description of user expectations and perceptions? This study aims to determine the quality dimension based on the description of user expectations and perceptions of the quality of crypto-asset trading services in Indonesia. This research is limited to users of crypto trading platform services in Indonesia.

2 Literature Review

2.1 Definition of Cryptocurrency

Cryptocurrency is a digital or virtual currency that is secured with cryptography, which makes it nearly impossible to counterfeit or double-spend. Cryptocurrency coins do not have a physical form but are stored in a network system called a blockchain. Blockchain is a digital ledger that is resistant to data manipulation which is implemented in a distributed manner and usually without a central authority (bank, company, or government) [47]. Blockchain uses military-grade cryptography to ensure records are permanent and immutable [14].

The term cryptocurrency itself only existed in praxis since 2009 when Bitcoin was introduced by [4]. However, this concept was first described in 1998 by Wei Dai, a computer expert, who came up with the idea of a new form of money that uses cryptography to control its creation and transactions, without a central authority, which later became the basic concept for the creation of Bitcoin. Nakamoto posted a paper to a cryptography mailing list in 2008 with the title "Bitcoin: A Peer-to-Peer Electronic Cash System" [33].

To date, there are more than 4000 cryptocurrencies in the world [5]. Meanwhile, according to [27], cryptocurrency is a system that meets six conditions:

1. The system does not require a central authority, distributed achieve consensus on its state.
2. The system keeps an overview of cryptocurrency units and their ownership.

3. The system defines whether new cryptocurrency units can be created. If new cryptocurrency units can be created, the system defines the circumstances of their origin and how to determine the ownership of these new units.
4. Ownership of cryptocurrency units can be proved exclusively cryptographically.
5. The system allows transactions to be performed in which ownership of the cryptographic units is changed. A transaction statement can only be issued by an entity proving the current ownership of these units.
6. If two different instructions for changing the ownership of the same cryptographic units are simultaneously entered, the system performs at most one of them.

2.2 Crypto Asset Regulation in Indonesia

In Indonesia, cryptocurrencies or cryptocurrencies are not recognized as legal payment instrument but have been recognized as legally tradable commodities under Bappebti. In the Letter of the Coordinating Minister for the Economy Number S-302/M.EKON/09/2018 dated September 24, 2018, regarding the Follow-up to the Implementation of the Coordination Meeting on the Regulation of Crypto Assets as Commodities Traded on the Futures Exchange, it is stated that crypto assets are still prohibited as a means of payment, however, as an investment tool, it can be included as a commodity that can be traded on the futures exchange. In this regard, in Indonesia cryptocurrency is referred to as a crypto asset, not a currency.

2.3 Crypto Asset Platforms

Currently, the cryptocurrency exchange platform is the best place to start trading crypto assets [2] where users can trade various crypto assets in one single platform. Cryptocurrency/crypto-asset trading platforms are sometimes also called market exchanges, and the lines are now blurring with crypto wallets [20]. In this study, the researcher uses the term crypto asset platform to name every crypto asset trading service provider.

In general, under Indonesian government regulations, these platforms are referred to as Crypto Physical Asset Traders (or Prospective Crypto Asset Physical Traders). According to the Regulation of the Bappebti Number 5 of 2019 concerning Technical Provisions for the Implementation of the Crypto Asset Physical Market on the Futures Exchange, a Physical Crypto Asset Trader is a party that has obtained approval from the Head of Bappebti to conduct Crypto Asset transactions either on their behalf and/or facilitate Crypto Asset Customer transactions. Currently, there are 11 crypto trader registered with Bappebti (Table 1).

Table 1. List of Crypto Asset Platforms Registered With BAPPEBTI

No.	Company
1	PT Indodax Nasional Indonesia (Indodax)
2	PT Crypto Indonesia Berkat (Tokocrypto)
3	PT Zipmex Exchange Indonesia (Zipmex)
4	PT Indonesia Digital Exchange (Idex)
5	PT Pintu Kemana Saja (Pintu)
6	PT Luno Indonesia LTD (Luno)
7	PT Cipta Koin Digital (Koinku)
8	PT Tiga Inti Utama
9	PT Upbit Exchange Indonesia
10	PT Rekeningku Dotcom Indonesia
11	PT Triniti Investama Berkat

Source: Badan Pengawas Perdagangan Berjangka Komoditi

2.4 Service and Quality of Service

The general definition of service is any action or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything [24]. Crypto asset trading services are included in e-services or electronic services, which is a general term that refers to services through information – communication technology [26, 30] e-service is different from traditional services which can be seen from the following 3 aspects:

1. No sales staff. In e-service, there is no service meeting between the customer and sales staff as in traditional service.
2. There is no element of traditional form. In e-service, the service process is almost complete in a virtual environment with some intangible elements.
3. Customer self-service. In e-service, customers are self-service in purchasing and realize control in business processes
4. According to [24] quality is the totality of features and characteristics of a product or service that depend on its ability to satisfy stated or implied needs. More specifically in the scope of services, according to Lewis and Booms [28], service quality is a measure of how well the level of service provided meets customer expectations. So, it can be said simply that service quality is the criteria or factors that determine how well a service can meet customer expectations and needs.

3 Research Methods

This type of research is basic research. The method used in this study is a mixed-method consisting of qualitative and quantitative methods. According to [6], the qualitative method is a research and understanding process based on a methodology that investigates a social phenomenon and human problem. The qualitative approach is characterized by the aim of the researcher trying to understand the symptoms in such a way that does not require quantification, or because these symptoms are not possible to measure precisely [13].

[10] argues that service quality is perceived and determined by customers based on experience, and by understanding the emotional drivers, new challenges associated with service quality can be raised and addressed. This study tries to explain service quality criteria from a customer perspective, so the focus of this qualitative approach is to explore customer experiences with crypto-asset trading services in Indonesia.

Customer experience is a customer's internal and subjective response to direct or indirect contact with a company that covers every aspect of the company's offerings, such as customer care quality, advertising, packaging, product and service features, ease of use, and reliability [31]. Studies say that experience is related to customer satisfaction, loyalty, confidence or trust, and emotional bonds with customers and affects the company's competitive advantage [22] (Table 2).

Meanwhile, quantitative research is a means to test objective theories by testing the relationship between variables [7]. Departing from the findings in the previous qualitative analysis as a theory, the researchers conducted tests on the dimensions of the variables. In this quantitative method, the researcher conducted a factor analysis to explain several factors with a variety of data and independent factors [46].

The research stage begins with the researcher collecting information by conducting interviews with 30 sources. The interviewees are crypto asset platform users who have been using the service for more than six months. The selection of the sources used a convenience sampling technique combined with snowball sampling. Then the results of the interviews were converted into text form and processed using NVivo software to generate variables.

These variables were developed into an instrument in the form of a questionnaire. Two experts performed face validity separately on the questionnaire; then the researcher conducted a pre-test on 30 respondents before finally distributing it to 100 respondents. The respondents to the questionnaire are users of the crypto asset platform who have used the service for more than six months, and the data collection technique uses a convenience sampling technique. Researchers used SPSS software to analyze the data to produce variable dimensions.

3.1 Data Types and Sources

By the method used, this study uses qualitative data and quantitative data. Qualitative data is data presented in the form of words containing meaning, while quantitative data is data presented in numbers. Based on the source, the data used in this study are classified as primary data, that is, data obtained directly from the source by taking measurements, questionnaires, observations, interviews, and others. Sources of data in the qualitative

Table 2. List of Previous Research

Researchers	Title
Barnes & Vidgen (2002) [3]	An Integrative Approach to the Assessment of E-Commerce Quality
Cristobal & Guinalıu (2007) [8]	Perceived e-service quality (PeSQ): Measurement validation and effects on consumer satisfaction and web site loyalty
Dabholkar (1996) [9]	Consumer Evaluation of New Technology-Based Self Service Options: An Investigation of Alternative Models of Service Quality
Fassnacht & Koese (2006) [7]	Quality of Electronic Services: Conceptualizing and Testing a Hierarchical Model. Journal of Service Research
Elangovan (2016) [32]	Design quality of Mobile trading system application software for Smartphones
Huang, Lin & Fan (2015) [21]	M-S-QUAL: Mobile service quality measurement
Li, Liu & Suomi (2009) [29]	Measurement of E-service Quality: An Empirical Study in Online Travel Service
Li & Suomi (2008) [20, 30]	Dimensions of E-service Quality: An Alternative Model
Parasuraman, Berry, & Zeithaml (1985) [36]	A Conceptual Model of Service Quality and its Implication for Future Research (SERVQUAL)
Parasuraman, Berry, & Zeithaml (1988) [37]	SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality
Parasuraman, Malhotra, & Zeithaml (2005) [38]	E-S-QUAL A Multiple-Item Scale for Assessing Electronic Service Quality
Santos (2003) [40]	E-service quality: a model of virtual service quality dimensions
Wang & Liao (2004) [45]	The conceptualization and measurement of m-commerce user satisfaction
Yang & Fang (2004) [48]	Online service quality dimensions and their relationships with satisfaction
Yang, Peterson, & Cai (2003) [49]	Services quality dimensions of Internet retailing: an exploratory analysis
Zeithaml, Parasuraman, Malhotra (2000) [50]	A Conceptual Framework for Understanding e-Service Quality: Implications for Future Research and Managerial Practice

Source: The results of the author's study

method in this study are the words and actions of the informants. These words and actions are recorded through written notes or audio/videotape recordings and taking photos or videos. Meanwhile, the source of data on the quantitative method in this study is the attitude of the respondents to the statements in the questionnaire.

3.2 Data Collection Method

Data on qualitative analysis in the study were obtained from interview techniques. To gain an in-depth understanding of the phenomenon, researchers need to interview enough people to get a good insight into the topic, but not so many that they lose the essence of the topic [11]. Based on [6] in [25], a good resource for a phenomenological study depends on its capability to be able to articulate experiences and views well.

Different kinds of literature will suggest different sample sizes for phenomenological research. Polkinghorne in [6] suggested the number of sources as many as 5–25 people, [11] said that 6–20 people were enough. The researcher determined that the sources were 30 crypto asset users. Crypto asset users in question are crypto asset platform users in Indonesia who have used or traded crypto assets for a minimum of six months.

Data on quantitative analysis in this study were obtained from questionnaires. Questionnaires are data collection techniques that are carried out by giving a set of questions or written statements to respondents to be answered [42]. The questionnaire uses a Likert scale to measure respondents' attitudes and perceptions of the phenomenon. The Likert scale is designed to test how strongly the subject agrees or disagrees with statements on a 5-point scale [41]. The explanations for the points on the Likert scale are 1. Strongly disagree; 2. Disagree; 3. Neutral, 4. Agree; 5. Strongly agree.

The determination of the questionnaire respondents in this study was carried out using a convenience sampling technique or also called incidental sampling, which is a method of determining the sample based on chance who can be used as a respondent if the person meets the criteria for the data source [42]. The criteria for eligible respondents are users of the crypto asset platform who have used the platform for more than 6 months. According to [17] the suggested sample size is 100 or more respondents. The questionnaire was distributed on a web-based basis using the Google Form service, and the filling was done online at the address of the site. The advantages of the web-based questionnaire include being faster and more cost-effective [19].

3.3 Data Processing and Analysis Method

According to [42], data analysis in qualitative research is the process of systematically searching and compiling data by organizing data into categories, describing it into units, synthesizing, compiling into patterns, choosing which ones are important and what will be studied, and making conclusions that are easy to understand.

Data analysis was preceded by the researcher making a transcript of the recording of the interviews. Then the researcher conducted an inventory of important statements that were relevant to the topic. After that, the researcher detailed the statements into meaning and grouped them into certain themes in the coding process. Researchers used NVivo software to organize and synthesize the collected data to generate variables. NVivo is a qualitative data analysis software that allows researchers to collect, organize, analyze,

and visualize unstructured or semi-structured data. After that, the researcher builds a comprehensive description of the meaning and essence of the informant's experience and draws conclusions.

Meanwhile, quantitative analysis was carried out on the data obtained from the questionnaire. Before being distributed to respondents, the questionnaire instrument first went through the validation stage. Validation aims to ensure the validity of the measurements from the specified scale of the variables used in determining the relationship of an event or phenomenon [19]. Testing the validity of the initial questionnaire in this study used face validity, which is an examination of whether the experts validated the instrument correctly measuring what was to be measured [41]. To perform quantitative analysis, the researcher used SPSS (Statistical Package for the Social Science) software, which is a computer program used for statistical analysis.

A normality test was carried out to find out whether the data comes from a normally distributed population, which is a symmetrical distribution with the mode, mean, and median being centered [34]. The normality test that is widely used is the Kolmogorov-Smirnov test. Decision-making guidelines on Kolmogorov Smirnov are as follows:

1. Value of Sig. or significance or probability value < 0.05 then the distribution is not normal.
2. Value of Sig. or significance or probability value > 0.05 then the distribution is normal.

The reliability test was carried out to indicate the extent to which the instrument is error-free and ensures consistent measurement over time and across various items in the instrument [41]. A questionnaire instrument is considered reliable if its repeated application produces a consistent score [18]. In this study, the level of instrument reliability was measured by the value of Cronbach's alpha, which is a measure of the reliability of a scale that helps researchers assess how well several items together measure a construct.

The dimensions of the factors can be found by reducing the overall items of these factors through factor analysis. Factor analysis is a multivariate technique that will confirm the operationally defined dimensions of the concept, as well as indicate which item is the most appropriate for each dimension [41]. Factor analysis aims to determine the underlying structure among the variables in the analysis [17]. The factor analysis used in this research is exploratory factor analysis (EFA).

In determining the feasibility of data for factor analysis, aspects that need to be considered are Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity [16]. In the KMO index, the data considered suitable for factor analysis has a value greater than 0.50 while in Bartlett's Test of Sphericity the significance is less than 0.05 [17].

In factor analysis, variables in one group will have a high correlation while variables in different groups will have a low correlation. The correlation between the original variables and these factors is explained by a measure called factor loading, so when the factor loading value of a factor is greater than one particular factor, then the factor can be grouped into the same dimension. Meanwhile, factors that have cross-loading and which have factor loading below the threshold will be eliminated (Table 3).

Table 3. Interview Result

Category	Definition	Selected Quotes
Reliability	Ability to perform the promised service reliably and accurately.	"…some crypto platforms in Indonesia still have network problems." "… the main thing that distinguishes this is the quality and quantity of crypto listed."
Responsiveness	Willingness to help customers and includes responsiveness to feedback.	"24-h customer service." "…helping user who have made the wrong transaction."
Ease of Use	Ease of use is how easy, fast, and efficient a service can be accessed and used.	"It should be as simple as possible." "Yes, it's easy to use, the signs are clear…"
Security	Security is freedom from danger, risk, and doubt.	"If it is quality, I will still prioritize safety." "…the quality of security from the exchange, so that people who invest can be comfortable…."
Credibility	Involves trustworthiness, believability, honesty.	"Well, in Indonesia, I always advise people to use regulated ones too." "It's the biggest company for crypto trading in the world, and I'm sure it's safe."
Appearance	The use of colors, graphics, images, and animations that are appropriate and attractive to users	"The first consideration is the appearance of the application." "The designer of the UI UX seems good, it's nice to look at, doesn't make you dizzy."

Source: The results of the author's study

4   Result and Discussion

4.1   Interview Results

The semi-structured interviews conducted with several informants including questions aimed at exploring customer experiences using the crypto asset platform. Several questions were asked about the experience, assessment, and expectations of the platform that the resource person used. The data from the interview is processed so that it can produce information that refers to the service quality variables of the crypto asset platform.

The results of the interview resulted in several keywords. The researcher grouped these keywords into categories by comparing them to existing theories. Based on this, it was found that according to users, the aspects and attributes that affect the service quality of the crypto asset platform can be categorized into 6 dimensions: reliability, responsiveness, ease of use, security, credibility, and appearance.

4.1.1 Reliability

The most common complaints about platforms not working well are accessibility and scalability issues. Another very important aspect of trading crypto assets that have high volatility is the accuracy of information. Then, users also demand that the platform has high liquidity, both in buying and selling assets and disbursing funds to fiat. Another criterion is the completeness of the assets offered on the platform. A crypto asset platform as a reliable marketplace or exchange is certainly a platform that can serve the trading of certain assets that users want. Users are generally more likely to choose platforms that have a complete asset listing, but still consider the quality.

4.1.2 Responsiveness

Users expect service providers to differentiate by providing prompt assistance with goodwill to help. Users also expect service providers to be able to communicate service progress. Resource persons hope that service providers will be willing to understand user needs by listening to suggestions and even making improvements based on these suggestions. The resource person also mentioned another aspect related to responsiveness, namely the speed of service providers in conveying information. Then the user hopes that the service provider can communicate the progress of the service. Resource persons hope that service providers will be willing to understand user needs by listening to suggestions and even making improvements based on these suggestions.

4.1.3 Ease of Use

As a new investment instrument or a new trading market, users of the crypto asset platform are still dominated by new users who prioritize ease of use. Even so, not only for new users but even old users also still prioritize ease of use in the form of application simplicity. In explaining the ease, the informants also related it to how clear and easy to understand the layout, instructions, and graphics in the application. In addition, the informant also said that the ease of conducting transactions is also something that is highly expected. Informants also said that the features contained in the application can support efficiency and ease of carrying out activities on the platform.

4.1.4 Security

The main fear of users of digital platforms is vulnerability to hacking. The informant also mentioned that one of the security concerns is the security of assets stored in exchange wallets. In addition, system security related to user privacy is also a concern. Some users do not have the confidence to keep assets on the exchange for too long, but instead immediately move them to a decentralized wallet. The impenetrable security of the application will give users a sense of security and comfort to use and store assets in the wallet contained in the platform. In addition, system security related to user privacy is also a concern. Even large companies still have the risk of data leakage. Companies that have a history of failing to withstand cyber-attacks are considered to have poor security quality.

4.1.5 Credibility

Several sources stated that they prioritized the legality of the platform. Legality is an indicator that can be considered a company to be trusted. By using a legal platform, users feel more secure and comfortable. Several interviewees also judged the service provider from the reputation of the company. The size and popularity of the company will increase user confidence in using the service. This can also be supported by information about the parties involved with the company.

4.1.6 Appearance

Several sources stated that display is an important factor in crypto asset platforms. Appearance and design have to do with how good the user interface and user experience are. Platforms that have an unattractive and pleasing appearance and design will greatly affect the user experience in using the service. In addition to aesthetic factors, users also expect a simple platform display that does not tire the eyes. Views that are too complicated will easily be boring to look at for a long time.

4.2 Questionnaire Data Analysis Results

Based on the qualitative analysis in the previous stage, the researcher developed an instrument in the form of a questionnaire. In the process of preparing the questionnaire, face validity was carried out by two experts and finally resulted in 32 statement items representing 6 variables. Before being distributed to get a minimum of 100 respondents, a pre-test was first carried out to 30 respondents.

  Initial reliability analysis was carried out on pre-test data with a sample of 30 respondents and showed 5 of 6 variables had Cronbach's Alpha values above 0.7 can be seen in Table 4. The variable that has a low Cronbach's Alpha value is the credibility variable. Further analysis was carried out on the four items on the variable credibility, and it was found that the value of Cronbach's alpha increased significantly when the CR3 item was removed. Even so, the researcher retained the item to be tested with more respondents.

  The normality test was carried out on the data using the One-Sample Kolmogorov-Smirnov Test analysis which showed that each variable was not normally distributed.

Table 4. Initial Reliability Analysis of the Questionnaire (Pre-Test)

No	Variable	Number of Item	Cronbach's Alpha
1	Reliability	7	0.774
3	Responsiveness	5	0.891
3	Ease of Use	7	0.895
4	Security	5	0.894
5	Credibility	4	0.553
6	Appearance	4	0.894

Source: The results of the author's study

Multivariate non-normality can also be tested by examining the univariate frequency distribution, namely skewness and kurtosis [23, 43]. Based on [23], an absolute value of skewness greater than 3.0 indicates that the data is highly asymmetrical, while an absolute value of kurtosis of more than 10.0 indicates that there is a problem. The parameter cannot conclude that the data is normally distributed but only says that the data is not classified as non-normal severely.

From the results of the skewness and kurtosis analysis, there is no data that exceeds the threshold previously mentioned. So, it can be concluded that the data is not normal but does not include severe non-normality. The normality test above is not carried out based on assumptions in factor analysis but can be used as a consideration in choosing a factor analysis method. Assumptions regarding the distribution of variables do not apply to principal component analysis and factor analysis [43], while data that do not have a normal distribution should not be selected for maximum likelihood [35]. In this study, factor reduction was carried out using the Principal Component Analysis (PCA) extraction method with varimax rotation.

From Table 5, the test results produce a KMO value of 0.883, which is greater than 0.5, which is the value of the requirements for the factor analysis process. From the results obtained in Bartlett's Test of Sphericity test, the value of sig is 0.000, smaller than 0.05, which means that the variables used are correlated. Based on this, the factor analysis process can be continued.

From Table 6 and 7 factors or dimensions are formed, but on some factors, there are still several items that have low factor loadings. In addition, several items fall into different dimensions from the previously defined categories. Based on this, it is necessary to eliminate some of these items to produce a good grouping.

Elimination of variables with low factor loadings was carried out, and the results in Table 7 can be seen that the factors formed now are as many as 6 factors. EZ7 items that originally came from the ease-of-use factor, entered a dimension that contained appearance items. The essence of the statement item E27 ("XYZ platform has an easy-to-read chart") is still related to the appearance aspect, so the researcher concludes that the item can better explain the appearance factor. Meanwhile, the RL5 item, which originally came from the reliability factor, is included in the dimension containing the ease-of-use items. Considering the statement of item RL5 ("XYZ platform can fulfill withdrawal requests well (high liquidity)") which has no relation to ease of use and low factor loadings (0.509), the researcher decided to discard the item.

Table 5. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.883
Bartlett's Test of Sphericity	Approx. Chi-Square	2205.413
	Df	406
	Sig.	0

Source: The results of the author's study

Table 6. Initial Pattern Matrix

	Component						
	1	2	3	4	5	6	7
EZ3	0.773						
EZ2	0.750						
EZ1	0.737						
EZ4	0.719						
EZ6	0.707						
EZ5	0.521						
RL5	0.505						
RS5		0.787					
RS3		0.742					
RS4		0.703					
RS1		0.691					
RS2		0.620					
RL4							
SE2			0.830				
SE1			0.782				
SE3			0.705				
SE4			0.673				
SE5			0.642				
AP3				0.840			
AP2				0.807			
AP1				0.761			
AP4				0.690			
EZ7				0.570			
CR1					0.767		
CR2					0.668		
CR4					0.646		
RL1						0.725	
RL3						0.719	
RL7						0.589	
RL2							
RL6							0.612
CR3							

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
A Rotation converged in 8 iterations.
Source: The results of the author's study

Table 7. Final Pattern Matrix

	Component					
	1	2	3	4	5	6
EZ3	0.763					
EZ2	0.761					
EZ1	0.736					
EZ4	0.724					
EZ6	0.716					
EZ5	0.531					
RL5	0.509					
RS5		0.774				
RS1		0.734				
RS3		0.727				
RS4		0.665				
RS2		0.653				
AP3			0.850			
AP2			0.822			
AP1			0.770			
AP4			0.684			
EZ7			0.560			
SE2				0.814		
SE1				0.789		
SE3				0.728		
SE4				0.693		
SE5				0.667		
CR1					0.790	
CR2					0.724	
CR4					0.620	
RL1						0.852
RL3						0.636
RL7						0.550
RL6						0.501

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
A Rotation converged in 7 iterations.
Source: The results of the author's study

4.3   Discussion

Based on the description of user expectations and perceptions of the service quality of crypto-asset trading platforms in Indonesia, it was found that the dimensions of quality in crypto-asset platform services are ease of use, responsiveness, security, appearance, credibility, and reliability.

According to [12], ease of use is defined as the extent to which user interface functionality facilitates customers in obtaining services. In addition, ease of use relates to how much effort needs to be put in, in other words, the fewer actions that need to be performed, the easier it is to use. [38], in their research on E-Service Quality mentions a quality factor that has a very similar definition to ease of use, namely the ease and speed of accessing and using the site but calls it efficiency. The researcher concludes that ease of use can be associated with efficiency in a dimension that measures how easy, fast, and efficient service can be accessed and used.

Responsiveness is the willingness to help customers and provide prompt service [37], the effectiveness of the site's problem-handling process and return policy [21], and responsiveness to customer feedback [15]. Responsiveness also includes timely responses to email requests or complaints, order confirmations, and so on [39].

Security is freedom from danger, risk, and doubt [36] which involves the extent to which customers believe that the service provider is safe from intrusion and protection of personal information [50]. Security is critical in e-services, especially in services that handle users' finances and assets. Users feel that the possibility of misuse of financial and personal data is a risk that becomes an essential barrier for customers to use the service [30].

Appearance is the use of appropriate colors, graphics, images, and animations and the appropriate size of Web pages [40]. In traditional services, tangible elements refer to physical facilities, equipment, and staff appearance, while in the scope of e-services, tangible elements refer to appearance or design. Design can affect the perceived company image of customers and attract customers to make online purchases easily with good navigation and useful information on the website [29]. On the other hand, a lack of design can create a negative impression on the quality of the website to customers, and customers can move away from the service process.

Credibility involves trustworthiness, believability, and honesty [36]. This involves having the customer's best interests at heart. Meanwhile, credibility attributes include the company's reputation and trust. Therefore, credibility on a crypto asset platform is related to a good reputation and image and having clear company information (offices and contacts).

Reliability is the ability to perform the promised service reliably and accurately [37] which involves correct technical functioning and accuracy of service promises (having goods in stock, delivery when promised), billing, and product information [50]. Making customers believe that the organization will do what it promises to do is very important in electronic services [30]. Reliability reflects the company's ability to provide accurate information about its services which includes accurate orders, updated content, and keeping promises [39].

5   Conclusion

As a relatively new phenomenon, especially in Indonesia, users of crypto assets in Indonesia can be said to be increasing rapidly. Crypto platforms compete to provide the best service to win the competition against these users. Knowing the dimensions of quality contained in service is an important thing to be able to do it. Based on the results and discussion of the research presented in the previous chapter, it can be concluded that there are 6 dimensions of service quality for crypto-asset platforms in Indonesia, namely ease of use, responsiveness, security, appearance, credibility, and reliability.

The main limitation of this research is data collection. The ability of researchers only allows data collection by conducting individual interviews with the informants one by one because researchers do not have access to larger data collection. This also concerns the credibility of the sources. Although its users have increased rapidly, as a new phenomenon, crypto assets are still foreign to most people, so it becomes a challenge for researchers to find suitable sources.

This is because, firstly, generally, crypto-asset users who understand well about crypto-assets and their trading are people who have broad knowledge and usually come from groups that are more difficult to reach. Secondly, on the other hand, users of crypto assets that are easily accessible tend not to have enough experience with trading crypto assets, so extracting information will be less than optimal. In addition, the sincerity of the sources in providing information in the data collection process is beyond the reach of researchers to control it. In addition, there are difficulties in obtaining data with a balanced ratio of male and female sexes. This is because cryptocurrency is still dominated by men [14], making it difficult for researchers to collect more female respondents.

Appendix

Items of Service Quality Dimensions of Crypto-asset Platform in Indonesia

Ease of Use	
EZ1	The XYZ platform is a user-friendly application
EZ2	The XYZ platform has an easy deposit/withdrawal selling process
EZ3	The XYZ platform has easy-to-use navigation
EZ4	The XYZ platform has an easy buying and selling process
EZ5	The XYZ platform provides clear and easy-to-understand instructions
EZ6	XYZ platform is easy to access

(continued)

(*continued*)

Responsiveness	
RS1	XYZ platform always strives to understand user needs
RS2	The XYZ platform actively provides notifications and information updates
RS3	The XYZ platform provides assistance with problems faced by users
RS4	XYZ platform always likes feedback by making improvements
RS5	XYZ platform gives you fast service
Appearance	
AP1	The XYZ platform has an attractive and easy-to-read graphical display
AP2	XYZ platform interface structure and layout looks neat
AP3	XYZ platform interface has an attractive appearance (aesthetic)
AP4	XYZ's visual platform display is not tiring for the eyes to look at for a long time
AP5	The XYZ platform has an easy-to-read chart display
Security	
SE1	You feel that the system owned by the XYZ platform is immune to hacking
SE2	You feel your assets are safely stored on the XYZ platform (wallet)
SE3	You feel safe making transactions (deposits & withdrawals) on the XYZ platform
SE4	You feel that your application and account on the XYZ platform are safe from the access of other parties
SE5	You feel that the XYZ platform can compensate for losses due to company negligence
Credibility	
CR1	XYZ platform has a good reputation
CR2	XYZ platform has a good image
CR3	XYZ platform has clear company information (office and contact)
Reliability	
RL1	XYZ platform has quite complete assets
RL2	XYZ platform can run well while there is still access/transaction (high scalability)
RL3	The XYZ platform is capable of performing functions without errors
RL4	The XYZ platform is able to provide the latest price information quickly and accurately

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