



Article

# **Cryptocurrencies as a Financial Tool: Acceptance Factors**

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Abstract: Cryptocurrencies are a new form of digital asset that operate through blockchain technology and whose purpose is to be used as a means of exchange. Some, such as bitcoin, have become globally recognized in recent years, but the uncertainty surrounding cryptocurrencies raises questions about their intended use. This study has the task of investigating the different factors that affect the intention behind the use of cryptocurrencies by developing a new research model and using Partial Least Squares (PLS) to assess it. The results show that all the constructs proposed have significative influence, either directly or indirectly, on the intention behind the use of cryptocurrencies. The findings provide value and utility for companies' and cryptocurrencies' intermediaries to formulate their business strategies.

Keywords: cryptocurrencies; intention to use; e-Wom; trust; web quality; perceived risk

# 1. Introduction

Virtual money has become popular at different times in the history of contemporary human beings [1]. The number of people using cryptocurrencies today has experienced significant growth and is comparable to the populations of some small countries [2]. In its simplest form, a cryptocurrency can be considered as a digital asset built to function as a medium of exchange based on cryptographic technology to ensure the transactional flow, as well as to control the creation of additional monetary units [3].

This growth has translated into an aggregate daily trade volume of cryptocurrency exchanges of more than USD 391 billion [4]. Within these exchanges, the most popular cryptocurrency is bitcoin. However, the world of cryptocurrencies does not end here because there are almost 3750 alternative cryptocurrencies [4]. If we proceed to a comparison, in May 2013 there were only 13 cryptocurrencies [5], so this exponential growth shows the great interest in virtual currencies [6].

However, what are the main factors of intention to use cryptocurrencies? If we take into account the main uses of cryptocurrencies: digital asset/investment for speculative purposes, online exchange medium, payment line and non-monetary use cases on the net [2], we determine that most uses are established in the online environment where trust is a key factor for the adoption and acceptance of new technologies [7,8] included in cryptocurrencies [9–11].

In this online environment, electronic word of mouth or e-Wom refers to, "any positive or negative statement made by potential, actual or former customers about a product or company, which is made available to a multitude of people and institutions through the Internet" [12]. Furthermore, in this sense, numerous articles establish that in these online environments, the e-Wom is a fundamental piece as an antecedent to trust [13–16]. However, few researchers have given importance to the term e-Wom as a background for trust in cryptocurrencies [17], and none have contributed to the mediating

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effects of it. Similarly, although e-Wom is positive, users should acquire cryptocurrencies in different websites. It is significant in the literature review the importance of web quality for the blockchain environment [18] but has a total lack of research regarding cryptocurrencies.

Finally, most researchers agree that perceived risk plays a key role in cryptocurrencies [19,20], as well as performance expectancy as a background for the intention of use [19,21,22] being essential to take them into account for a research model.

Therefore, based on the above, our main objective is to determine the main factors of cryptocurrency use by providing a model where trust plays a fundamental role. This work is very useful because cryptocurrencies can be successful, either as a speculative good, as a payment method or giving it a more global use, all depending on the knowledge of the population in these currencies and the support they receive from governments and people in general [23]. For this reason, it is of great interest to know the intention of use in order to know if we will be able to take advantage of all the benefits that this "currency of the future" offers us. Specifically, it is very useful for those companies that are hesitant to implement/accept payments with cryptocurrencies in their activity.

# 2. Proposed Model and Hypothesis Development

Different factors have been studied in the use of cryptocurrencies and their environment [10,24–27], trust being one of the main ones [24,28–31]; however, it is necessary to take into account other variables that affect trust as an antecedent and to have a record in the literature review such as e-Wom and Perceived Risk [13,32]. In this sense, we will propose to include these variables in our research model with the web quality as an antecedent of the Trust.

To develop the model, we have taken as a reference the Technology Acceptance Model [33], a model very contrasted in the adoption of new technologies. In this model, the Behavioral Intention of use has as a precedent the Perceived Utility and the Perceived Ease of Use together with the Attitude towards this new technology. In this context, Perceived Utility and Performance Expectancy are equivalent and determine constructs as precedents of the Behavioral Intention of use, and that is why we have also decided to include that variable in our research model.

## 2.1. Proposed Model

The model that we have proposed for the realization of this research is represented in Figure 1.

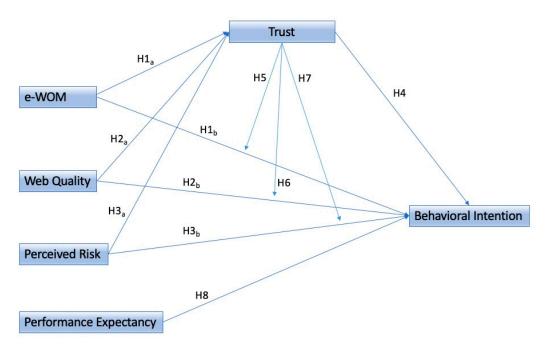


Figure 1. Proposed model.

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#### 2.2. *e*-Wom

As previously defined, electronic word of mouth or e-Wom refers to, "any positive or negative statement made by potential, actual or former customers about a product or company, which is made available to a multitude of people and institutions through the Internet" [12].

The Internet allows customers to share their opinions and experiences about goods and services with other customers [12]. An example of a suitable platform for e-Wom is social networks [34–36]. Its users can share their impressions through comments, photos, videos or even applications and it is because of these very visual contents that e-Wom is more enjoyable and attractive [37].

However, as we can deduct from the above, in e-Wom the recommendations are usually from strangers with whom there is no connection or trust, so consumers have difficulty determining the credibility of the information [38]. Studies by Mangold and Faulds [39] suggested that consumers perceive social media as a more reliable source of brand information than the seller-generated content itself, communicated through the traditional promotional mix comprising advertising, sales promotion and public relations [39]. Therefore, the H1a hypothesis will be established to measure the relationship between e-Wom and consumer trust.

On the other hand, online consumer reviews (e-Wom) include experiences, evaluations and opinions on products of previous consumers, which all play a fundamental role in the behavioral intention [40], in line with academic literature [41–45]. The e-Wom plays a fundamental role in all emerging technologies [46] such as cryptocurrencies, so we will establish the H1b hypothesis:

**Hypothesis 1a (H1a).** *e-Wom positively influences the trust in cryptocurrencies.* 

Hypothesis 1b (H1b). e-Wom positively influences the Behavioral Intention to use cryptocurrencies.

#### 2.3. Quality of the Website

We define web quality as the users' evaluation of the features of a website that meet their needs and reflect the overall excellence of the website [47].

One of the most difficult assumptions for consumers to make in e-commerce is good salesmanship and the assumption that it complies with commercial standards in order to have confidence in it (Liao et al., 2006). Trust reduces the uncertainty associated with the seller, giving the consumer the perception of some control over a transaction [48], which encourages future transactions [49,50], and helps establish long-term relationships [49].

As we can deduct from the above, trust is becoming a key element of success in the online environment [51]. McKnight [52] stated that in a website, the consumer goes through a previous exploratory stage before being ready to carry out commercial transactions. As the consumer has no experience with the website, trust is based on aspects such as reputation. Once this first phase is overcome, the consumer will decide to carry out higher risk operations (for example, placing an order) [52]. In this context, we can perceive a certain relationship between trust and the quality of the website and this in turn will be decisive to increase the behavioral intention, since this will be one of the main objectives of cryptocurrencies [20,24,53], so we consider the following hypothesis:

**Hypothesis 2a (H2a).** The quality of the website has a positive influence on trust in cryptocurrencies.

**Hypothesis 2b (H2b).** *The quality of the website influences the Behavioral Intention to use cryptocurrencies.* 

#### 2.4. Perceived Risk

Bauer was the first author to use the term perceived risk, indicating that consumer behavior involves risks. In this sense, any action taken will produce consequences that cannot be anticipated with certainty, some of which may be undesirable [54]. Thus, perceived risk refers to possible losses resulting from the decisions that the consumer has to make in uncertain contexts [55].

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From the perspective of cryptocurrencies, there are two points of view. The first is that most of them are frauds and speculative bubbles [56]. This is due to the complexity of the way in which they operate and the need to have a relatively advanced knowledge of cryptography and computer science in order to understand their real behavior. Therefore, for these authors, the cryptomarket is the perfect place for speculation and disinformation [57].

The second is that the blockchain technology will have relevance in the future and that perhaps some coins do have real utility [56], but these new payment methods are still unknown to many people. This leads to uncertainty.

Perceived risk can be a determining factor in the decision to trust each other [58], i.e., if a consumer associates a high level of risk with an online transaction, then the level of trust in the seller decreases, and the need to control the transaction increases [59].

In fact, several studies have empirically validated the negative effect of trust on perceived risk [60]. For example, Pavlou [50] and Jarvenpaa [61] reported that increased consumer trust in an online seller can reduce risk perception [48,61]. Similarly, if we reduce the perceived risk, it is possible that the behavioral intention of the users with the cryptocurrencies will improve [10,19]. This leads us to think about a possible relationship and we propose the following hypothesis:

**Hypothesis 3a (H3a).** *Perceived risk adversely affects trust in cryptocurrencies.* 

**Hypothesis 3b (H3b).** *Perceived risk adversely influences the Behavioral Intention to use cryptocurrencies.* 

#### 2.5. Trust

Lewicki and Wiethoff [62] described trust as "the belief and willingness of an individual to act on the words, actions and decisions of another" [62], i.e., that an individual is willing to rely, or intends to rely, on another party with a sense of relative security, despite the lack of control over that party, and although negative consequences are likely [52].

It is known that bitcoin offers opportunities for fraud and tax evasion [63] thus becoming the preferred route for money laundering and for cybercriminals [64]. This means that the use of cryptosystems in illegal activities [30] has become the main concern for cryptocurrencies users [65], with the direct consequence that consumers are reluctant to buy them [48].

However, this confidence can be generated by the credulity in the technology behind cryptocurrencies [30]. In this sense, cryptocurrencies are not easy to forge [66] as they use cryptographic methods that guarantee confidentiality while providing a transparent method of verification without intermediaries [67]. Based on the above, cryptocurrencies record the transactions made in the blockchain, which is a public registry and therefore offers a level of transparency that avoids trusting a central authority, as is the case with the multinational PayPal [68,69].

Therefore, in this system, in addition to reducing transactions and costs, it maintains credibility and motivates its use [67], which leads us to the following hypothesis:

**Hypothesis 4 (H4).** *Trust positively influences the intention to use cryptocurrencies.* 

## **Moderating Effects of Trust**

As we have seen previously, trust is a very important construct in behavioral intention [70], with special influence in online environments [71–73], being in agreement with the literature in which it is fulfilled in the same way in cryptocurrencies [10,53], but not being considered as a variable that can have a moderating effect between e-Wom and behavioral intention, despite the fact that the literature advises us to study the moderating effects that confidence may have on e-Wom [74]. Similarly, confidence in its multiple variables has been studied as a moderating effect of perceived risk [75] both in offline and online environments, being studied as a moderating effect in online environments between

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perceived risk and behavioral intention [76], but not being analyzed within this online environment for cryptocurrencies.

Finally, although web quality has been widely studied in the literature [47,77] and used in conjunction with trust [78–82] we find a gap in the literature when used to see its direct effects on cryptocurrencies, despite being bought and negotiated almost entirely by the web, to which we must add the total absence of moderating effects of trust on web quality to increase behavioral intention. For all the above reasons we formulate the following hypotheses as moderating effects.

**Hypothesis 5 (H5).** Trust will moderate the effects of e-Wom on use behavior in such a way that it will be stronger with high Trust.

**Hypothesis 6 (H6).** Trust will moderate the effects of web quality on use behavior in such a way that it will be stronger with high Trust.

**Hypothesis 7 (H7).** Trust will moderate the effects of perceived risk on use behavior in such a way that it will be weaker with high Trust.

## 2.6. Performance Expectancy

Performance Expectancy is defined as the degree to which an individual believes that using a specific technology would be useful in improving his or her performance in certain activities [83].

Firstly, due to the absence of intrinsic value, the value of cryptocurrency depends mainly on the number of users, i.e., an increase in the number of bitcoin buyers. Therefore, and based on the law of supply and demand [84], which indicates that supply is directly proportional, with positive proportionality constant, to price [85], this will cause an increase in its overall value [84].

Its usefulness, however, does not go hand in hand with increased value [84]. Recent studies have shown that, despite the growth in the number of shoppers, this growth is not balanced by the number of establishments accepting payment with cryptocurrencies [2]. Nowadays, cryptocurrencies are used for buying goods or services.

Based on the findings of Venkatesh [83], it is perceived that, in this research, people will adopt the blockchain technology if they believe it will have positive results. Therefore, it is expected that performance expectancy will have a positive influence on behavioral intention.

With all this information, we can highlight the following hypothesis:

**Hypothesis 8 (H8).** *Performance Expectancy positively influences the intention of use of cryptocurrencies.* 

# 3. Methodology

## 3.1. Sampling and Data Collection

In order to test the previously defined hypotheses, a form was developed. The questions included in this questionnaire were validated by the opinion of different authors.

The population selected to carry out this research were individuals residing in Spain aged 18 or older who had some previous notions about what cryptocurrencies were since our target population consists only of potential early adopters [86].

Convenience sampling was used [87]. The form was completed between December 2019 and March 2020 and was an anonymous online form. A total of 411 forms were obtained, 84 forms being eliminated because they did not have a record of the previous cryptocurrencies' experience.

Table 1 contains the demographic data of the sample used in this research:

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	Feature	Frequency	%
	Man	226	69%
Gender	Woman	97	30%
3011401	Other	4	1%
	Total	327	100%
	18-24	8	2%
	25-34	177	54%
Age	35-44	65	20%
8-	45-44	45	14%
	≥55	32	10%
	Total	327	100%

Table 1. Sample features Men/Women/Other.

# 3.2. Measurement of Variables

Likert scales have been used to measure the items of each variable, from 1 (strongly disagree) to 7 (strongly agree). The variables used in this research were adapted from previous studies to the context of this research [88–92]. All scales are shown in Appendix A.

### 3.3. Data Analysis

For the validation of the model we used PLS in order to specify the reliability and validity of the measurement scales and to evaluate the structural model [93,94]. Specifically, we have used the software package Smart-PLS 3 [95] with a bootstrapping of 5000 samples to estimate the significance of the parameters. PLS is appropriate when the objective of the analysis is to predict and identify determinants of consumer behavior [94].

#### 4. Results

Prior to the analysis of the model, we have carried out an analysis of the reliability of the constructions and their measurement scales in order to evaluate the model itself a posteriori.

To analyze the reliability and validity of the measurement model, we have considered a minimum factorial load of 0.7 on its own latent variables to be acceptable for constructs measured in mode B as recommended in the literature [96,97]. We found that all indicators met this criterion except for the CW3 variable. For this reason, we decided to eliminate this indicator from the analysis, keeping the others constant. These results are shown in Table 2.

	Trust	Web Quality	Performance Expectancy	e-Wom	Behavioral Intention	Perceived Risk
C1	0.911					
C2	0.935					
C3	0.880					
C4	0.778					
C5	0.880					
C6	0.823					

Table 2. Individual reliability of measurement scales (factorial loads).

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Table 2. Cont.

	Trust	Web Quality	Performance Expectancy	e-Wom	Behavioral Intention	Perceived Risk
CW1		0.979				
CW2		0.979				
ER1			0.893			
ER2			0.939			
ER3			0.893			
ER4			0.915			
EW1				0.922		
EW2				0.874		
EW3				0.907		
EW4				0.936		
EW5				0.886		
IU1					0.901	
IU2					0.868	
IU3					0.907	
IU4					0.727	
PR1						0.834
PR2						0.915
PR3						0.797
PR4						0.833

Then, using Cronbach's composite and alpha reliability indicators, we proceeded to analyze the reliability of the constructions. In all the cases, our indicators were higher than the 0.7 suggested by Nunnally [98]. Furthermore, by analyzing the average variance extracted (AVE), convergent validity has been guaranteed.

In our case, all the indicators offered levels higher than the 0.5 proposed by Bagozzi and Yi [99,100]. These indicators appear in Table 3, in which we can check that all the constructions meet all the requirements.

Table 3. Composite reliability and convergent validity.

	Cronbach's Alpha	Rho_A	Composite Reliability	Average Extracted Variance (AVE)
Web Quality	0.956	0.956	0.978	0.958
Trust	0.935	0.939	0.949	0.756
e-Wom	0.945	0.947	0.958	0.819
Performance Expectancy	0.931	0.933	0.951	0.828
Behavioral Intention	0.874	0.890	0.914	0.729
Perceived Risk	0.868	0.912	0.909	0.715

As a second step, we analyzed the discriminant validity. To do this, we used the Fornell and Larcker test where the square root of the AVE of each latent variable is compared with the correlations of this variable with the rest [101]. We can see the results of this test in Table 4 and with them we can check that we ensure the discriminant validity of all the latent variables used in this analysis.

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	Web Quality	Trust	E-Wom	Performance Expectancy	Behavioral Intention	Perceived Risk
Web Quality	0.979					
Trust	0.701	0.869				
e-Wom	0.769	0.859	0.905			
Performance Expectancy	0.591	0.639	0.713	0.910		
Behavioral Intention	0.659	0.782	0.811	0.711	0.854	
Perceived Risk	-0.190	-0.289	-0.220	-0.131	-0.216	0.846

Table 4. Discriminant validity (Fornell-Larcker Test).

Besides, we checked the R-square of the second order constructs: Trust and Behavioral Intention in Table 5. As we can observe, our model has an average explanatory power of 68.5%, well above the minimum level of 10% recommended by Falk and Miller (1992).

**Table 5.** R-squared of the model.

	R <sup>2</sup>	Adjusted R <sup>2</sup>
Trust	0.753	0.750
Behavioral Intention	0.687	0.685

Therefore, to evaluate the structural model, the values of the path coefficients and the explained variance of the endogenous variables (R-squared) are analyzed. The path coefficients indicate the intensity of the relationship between the dependent and independent variables. We have used the sampling technique called bootstrapping with 5000 samples to calculate the reliability of the path coefficients in the previously hypothesized relationships.

We detail it in Table 6.

**Table 6.** Contrast of the structural model (Path Coefficients).

	Path	<i>p</i> -Values
Web Quality → Trust	0.095 *	0.040
Trust → Behavioral Intention	0.555 ***	0.000
$\text{e-Wom} \rightarrow \text{Trust}$	0.764 ***	0.000
Performance Expectancy → Behavioral Intention	0.356 ***	0.000
Perceived Risk → Trust	-0.103 ***	0.000

<sup>\*\*\*</sup> p < 0.001, \*\* p < 0.01, \* p < 0.05. (based on 1 tail and bootstrap test with 5000 samples).

Additionally, we have calculated the Standardized Root Mean-Square (SRMR) coefficient for the entire sample. SRMR is a measure of the overall model fit that is especially suitable for PLS. In our study the value of this coefficient is 0.053, thus ensuring the fit of the model according to the proposed limitation of obtaining levels lower than 0.08 [96].

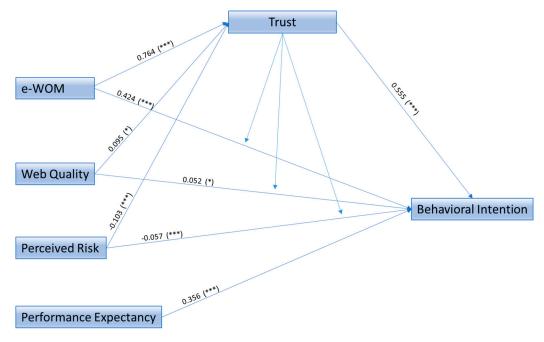
We have also found moderating effects as Trust moderates the relationships between Web Quality, e-Wom and Perceived Risk with Behavioral Intention as shown in Table 7.

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	Path	<i>p</i> -Values
Web Quality $\rightarrow$ Trust -> Behavioral Intention	0.052 *	0.043
e-Wom → Trust -> Behavioral Intention	0.424 ***	0.000
Perceived Risk $\rightarrow$ Trust -> Behavioral Intention	-0.057 ***	0.000

Table 7. Indirect effects of Web Quality, e-Wom and Perceived Risk in Behavioral Intention.

The complete results of the model are shown in Figure 2.



**Figure 2.** Results of the Proposed model. \*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05. (based on 1 tail and bootstrap test with 5000 samples).

## 5. Discussion, Conclusions and Future Research

#### 5.1. Discussion

When analyzing these results, we have to emphasize that all the variables are well measured and have discriminating validity as well as that all the proposed hypotheses are fulfilled.

We must emphasize that both Trust and Performance Expectancy have a significant load on the Behavioral Intention to use and are highly significant. Likewise, both the Web Quality, e-Wom and Perceived Risk are significant antecedents of Trust, with e-Wom providing the greatest weight.

In analyzing these results, we note that we accept all the proposed hypotheses with a high level of significance. Thus, in order of influence, the variable that contributes most to the Behavioral Intention is Trust. As for the latter, the variable that contributes most is e-Wom.

What is also noteworthy is the high explanatory capacity of the model with an adjusted R squared of 0.75 for Trust and 0.685 for Behavioral Intention.

On the other hand, although e-Wom, Web Quality and Perceived Risk are antecedents of Trust, indirectly they also affected the Intention of Use, or what is the same, there was a mediating effect of Trust in the relationships between e-Wom, Web Quality and Perceived Risk with Behavioral Intention.

In this sense, the more Trust the e-Wom will positively affect the intention of use, the Web Quality will also positively affect the intention of use and the Perceived Risk will be lower in the Behavioral Intention of use.

<sup>\*\*\*</sup> p < 0.001, \*\* p < 0.01, \* p < 0.05. (based on 1 tail and bootstrap test with 5000 samples).

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### 5.2. Conclusions

The main novelties of this research are both the model developed for cryptocurrencies and the mediations between variables found. A new model has been developed and a very high explanatory capacity has been accomplished as the major achievement.

In this research we have set as our main objective the empirical study of the Behavioral Intention of crypto currencies. So once the study model has been established, and after the analysis of the results, we observe that the variable that has the greatest influence on consumer Behavioral Intention is Trust, above Performance Expectancy. We, therefore, recommend that companies and organizations that issue and intermediate cryptocurrencies place special emphasis on generating Trust in the consumer. Due to the above, in our study we have included a series of variables that, once our results are obtained, effectively influence this trust. These variables are e-Wom, Perceived Risk and Web Quality, in this sense, e-Wom is the construct that has more weight on trust. Taking into account the above and the studies developed by Mangold and Faulds [39], we recommend that intermediaries and creators of cryptocurrencies take into consideration the importance of consumer satisfaction to increase Trust. Hence, it is necessary to know the criticisms in the online world and to pay attention to negative comments, since these opinions of consumers are perceived as a more reliable source of information about brands than the content generated by the seller [39].

On the other hand, Perceived Risk has a negative effect on Trust; that is, the more Perceived Risk, the less Trust is generated in cryptocurrencies. Therefore, it is recommended that companies offer users the possibility of having all their transactions under control, and that these are clear and secure, even with perfect traceability: if customers do not trust that their personal data will be kept with the maximum confidentiality and that the payment is secure, the purchase will not be carried out [102–104]. This series of measures will lead to a reduction in the consumer's Perceived Risk and therefore an increase in his/her Trust, according to the indirect relationship between these two variables that our study has shown.

Although its influence is much less on Trust compared to the two previous constructs, it is important that both companies and users take into account Web Quality, in this sense it is possible for the low quality of the web to be due to the multitude of existing websites with little design and more oriented to expert consumers in cryptocurrencies and which, therefore, do not take into account the non-expert consumers that have proliferated as a result of the expansion of bitcoin. In this regard, based on our results and the studies of Morgan and Hunt, we recommend that the creators and intermediaries of cryptocurrencies try to increase the quality of the website as much as possible, since the generation of a high degree of trust would lead to a high level of commitment [105] which would conduce clients to carry out a repurchase behavior [106] on the same website. In addition to the above, it would be advisable for users to make sure and inform themselves of the characteristics of the website from which they are going to operate. We advise this in what McKnight [52] calls the exploratory phase, so that the consumer of cryptocurrencies acquires trust with the website before making any purchase.

Finally, in our research, although to a lesser extent than Trust, Performance Expectancy and Behavioral Intention also have an influence. In this sense, the recommendations we make are, on the one hand, to organizations and/or companies that interact with cryptocurrencies, to encourage them to increase their Performance Expectancy by taking cryptocurrencies into account for their commercial transactions since these represent great cost savings, as the cost of a bitcoin (BTC) transaction [107] is less than BTC 0.00077 [108] which is less than 1% of the transaction amount [109]. Furthermore, on the other hand, they should consider consumers as such, being an alternative to traditional transfers since the immediacy, transparency and globality of cryptocurrencies make them a better option than standard transfers offered by banks or other financial services. To conclude, we would like to make a final recommendation at a national level, so that the final users and intermediaries of cryptocurrencies use our study to improve Behavioral Intention, since one of the possible future scenarios for cryptocurrencies is that they may become national currencies, given that some authors

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such as Lansky [110] advance this statement and show the benefits of adopting cryptocurrencies as national currencies.

### 5.3. Future Research and Limitations

Despite the fact that in this study we have covered variables that, after analyzing the results, do indeed influence cryptocurrencies, it would be interesting to check whether this same fact is true of a sample at an international level, since the sample studied is at a national level and mostly of people between the ages of 18 and 44. Likewise, it would be interesting to include other relevant variables to study the way in which they affect cryptocurrencies, such as volatility, ease of use or facilitating conditions.

Another interesting aspect to study is regularization. As we have previously commented, authors such as Lansky [110] see the feasibility of states accepting cryptocurrencies as one more financial instrument. Some others, such as Jacobs [23], go further and think that cryptocurrencies can become a world currency, since factors such as their globality and immediacy favor them in this aspect.

Probably, the greatest limitation of this research has been to obtain a sociodemographically unbalanced sample (although they are the users of cryptomoney in Spain), and it would be interesting to obtain a larger sample that is as balanced as possible and carry out multi-group analyses to see if the behavior is homogeneous or if, on the contrary, there are heterogeneities and different behaviors.

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# Appendix A. Measurement Scales

Construct	Items	Reference
Performance Expectancy (PE)	PE1. I find the use of cryptocurrencies useful in my daily life. PE2. The use of cryptocurrencies increases my chances of achieving tasks that are important to me. PE3. The use of cryptocurrencies and related services (wallets, exchanges) helps me accomplish tasks more quickly. PE4. The use of cryptocurrencies increases my productivity.	Mahomed, (2018)
Behavioral Intention (BI)	IU1. I intend to use cryptocurrencies instead of traditional money.  UI2. I plan to use cryptocurrencies in the next 6-12 months.  UI3. I prefer to use cryptocurrencies in payment.  IU4. If payment with cryptocurrencies is not available as a payment method in a purchase, I would request it.	Ross (2016)
Trust (T)	C1. I believe that cryptocurrencies are trustworthy. C2. I have confidence in cryptocurrencies. C3. I do not doubt the veracity of cryptocurrencies, their systems, and related services. C4. I am confident that the legal and technological structures protect me from problems with cryptocurrencies. C5. Even if they were not regulated, I would still trust cryptocurrencies. C6. Cryptocurrencies are capable of doing their job.	Mahomed, (2018)
e-Wom (EW)	EW1. I would recommend the use of cryptocurrencies to other potential consumers.  EW2. I will point out the positive aspects of cryptocurrencies if someone exposes them to criticism.  EW3. I share the positive aspects of cryptocurrencies.  EW4. I recommend the use of cryptocurrencies to people who ask my advice on such matters.  EW5. I encourage family and friends to use cryptocurrencies.	Shaikh and Karjaluoto (2016)
Web Quality (WQ)	CW1.The Web of the cryptocurrencies is of high quality. CW2. The expected quality of the cryptocurrency's website is extremely high. CW3. The Web of Cryptocurrencies seems to be of very poor quality.	Everard and Galletta (2006)
Perceived Risk (PR)	RP1.I think that the use of cryptocurrencies puts my privacy at risk.  RP2.The mere use of cryptocurrencies exposes me to a general risk.  RP3. Using cryptocurrencies puts my financial activities at risk.  RP4. I think hackers can control my transaction history if I use cryptocurrencies.  Although Perceived Risk is a multilevel construct, we have used the scale of Overall Risk that includes all Risks	Featherman and Pavlou (2003)

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