Linking Consumer Innovativeness to the Cryptocurrency Intention: Moderating Effect of the LOHAS (Lifestyle of Health and Sustainability) Lifestyle

Sooyeon Choi1,2*, Richard A. Feinberg 2

1Assistant Professor, Marketing, Loras College, IA, 52001, U.S.
2Emeritus Professor, Consumer Sciences and Retailing, Purdue University, IN, 47907, U.S.
*Corresponding author: Sooyeon Choi, 1450 Alta Vista St, Dubuque, IA, sooyeon.choi@loras.edu, ORCID: 0000-0003-0892-9554

ABSTRACT: Cryptocurrency is gaining worldwide recognition. This research examines the role of personality and psychological factors in consumers’ cryptocurrency adoption behavior. 452 samples are collected from U.S consumers and the data are analyzed by PLS-SEM. The findings reveal that consumer innovativeness has a positive influence on the intention to use cryptocurrency and its impact is partially mediated by attitude. The LOHAS lifestyle moderated the influence of consumer innovativeness on the cryptocurrency intention as well as the relation of attitude with the intention. This research provides theoretical and practical implications for the cryptocurrency market.

KEYWORDS: Cryptocurrency, consumer innovativeness, LOHAS, Lifestyle of health and sustainability, attitude, intention

1. Introduction (Heading 1)

Cryptocurrency is an innovative and rapidly growing issue in today’s digital economy[1]. It is a decentralized digital currency that is based on blockchain technology that uses cryptography to secure and manage the circulation of digital coins [2][3]. Not only the celebrities like Elon Musk and Bill Gates began to support this but also the general population realized the promise of the cryptocurrency market and began to seek an alternative financial means because it can be used to buy tangible products rather than merely for trading and investing during the pandemic[4][5]. In 2022 the total value of cryptocurrency transactions will surpass $10 billion for the first time, which is an increase of more than 70% from 2021, and a double-digit increase in the U.S adults who possess and use cryptocurrency for payments is expected by 2023[6].

Furthermore, they are early adopters who are willing to try and adopt new products and technologies considerably more than any other segment [9]. In line with this, the author pointed out that virtual grocery stores, mobile shopping, and electric transportation as LOHAS technological trends, reflecting the LOHAS consumer’s technology-friendly disposition[10]. In 2022 the LOHAS consumers account for one-third of the entire U.S adult population, and the total U.S. LOHAS configurable market is estimated to reach $472.51 billion, being expected to grow at 10% each year.[11]

Whereas the majority of research on cryptocurrency has been conducted in technology, computer science, and engineering [12], the studies in marketing devoted to better understanding consumers’ inner mechanism that drives to use of cryptocurrency are rare despite its potential for strategic applications of the businesses. Although limited marketing literature revealed some psychological factors (e.g., self-efficacy, emotion) as a primary motive for cryptocurrency adoption within the theory of planned behavior (TPB), to our best knowledge no research emphasized the role of consumer innovativeness in conjunction with TPB despite its importance in predicting technology acceptance[13]. Furthermore, while distinctive behavioral characteristics of the LOHAS consumers in a wide range of market

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sectors such as personal health (e.g., organic food), natural lifestyle (e.g., apparel), alternative energy and transportation (e.g., electric vehicles), green building, and ecotourism are well studied[11], research on their technological behavior lacks empirical evidence despite conceptual inference on it.

Considering the academic’s call for more empirical studies in marketing on cryptocurrency behavior, a better understanding is needed of what drives consumers to use cryptocurrency. Furthermore, given the growing impact of LOHAS on a wide range of consumption patterns, the examination of the role of LOHAS in cryptocurrency usage behavior will provide rich insights into the technology context. Therefore, this research addresses the following two research questions: 1) What are the roles of consumer innovativeness and attitude toward cryptocurrency in the intention to use cryptocurrency? 2) How does the impact of consumer innovativeness and attitude on cryptocurrency intention differ depending on the level of the LOHAS lifestyle?

This research provides theoretical and practical implications in several ways. First, while past research focused on affective and cognitive factors as antecedents for cryptocurrency adoption, this research additionally incorporates consumer innovativeness as a personality trait, which has been proven to be relevant for technology adoption. Beyond that, LOHAS is introduced as a new important inferential factor for cryptocurrency utilization. Second, while past literature conceptually inferred the technology enthusiastic characteristic of the LOHAS consumers, this study contributes to the body of knowledge by providing empirical evidence on their nature. Finally, businesses in the well-being and sustainability market may consider utilizing cryptocurrency as an alternative transaction method to capture the attention of LOHAS consumers.

2. Literature Review and Hypothesis Development

2.1. Consumer Innovativeness and Cryptocurrency Intention

Consumer innovativeness refers to the willingness to adapt to changes and experience new things[14]. Innovative consumers are more likely to purchase new or different products more quickly and frequently, deriving pleasure from exploring different things and trying new experiences[15][16]. A psychological profile of innovative consumers has been described as ambiguity-tolerant, and risk-taking [17]. The importance of consumer innovativeness as a motive for technology usage has been emphasized in the literature[13]. For example, in [18], the authors found that those with a high level of IT innovativeness tend to adopt blockchain technology applications. In [19], the authors found that more innovative consumers have a significantly higher increase in satisfaction with cryptocurrency, compared to traditional compensation types. The result shows the technological savvy of innovative consumers given that crypto-compensation is digital currency-based, which entails the use of complicated algorithms [20].

H1: Consumer innovativeness positively influences the intention to adopt cryptocurrency.

2.2. Consumer Innovativeness and Attitude toward Cryptocurrency

Attitude is defined as “the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question” and it determines the way that consumers behave in a particular way toward an object[21]. Inherent innovativeness enables people to be open to new stimuli and ideas[22], and this in turn leads people to be more readily perceived the benefits and value of adopting innovation [23]. Concerning the relationship between consumer innovativeness and attitude toward the innovative product, the author in [24] argued that novelty-seeking consumers view technical products positively, and have a stronger intrinsic motivation to acquire such products [25] [16] because they are less concerned about whether new technologies are easy to use or trustworthy for their risk and uncertainty taking predispositions [26][27].

H2: Consumer innovativeness positively influences the attitude toward adopting cryptocurrency

2.3. Attitude and Intention to Cryptocurrency

Many scholars in the area of consumer behavior have discussed the importance of attitude in determining an individual’s decisions and behavior (e.g., [28][29]). For example, particularly in the technology utilization context, in [30] the authors found that the more one has a positive attitude toward Bitcoin, the one is more likely to intend to adopt Bitcoin. In [31] the authors also revealed that attitude has a strong positive influence on the customer’s behavioral intention to use blockchain-based cryptocurrency transactions. In a similar vein, the author in [32] also revealed that attitude toward digital theft is positively associated with that behavior.

H3: Consumer attitude positively influences the intention to use cryptocurrency.

2.4. Mediating Effect of Attitude in the Relationship between Consumer Innovativeness and Intention.

Innovators perceive a value created in the innovative products and adopt new products[23]. They tend to evaluate novelty, ease of use, and functional performance of the technologies differently than the majority of late consumers, which influences their behavioral intention.
[33], For example, in [34] the authors found that eight subdomains of consumer innovativeness positively affect the intention to use and pay a price premium for drone food delivery services through a positive attitude. In [35], the authors revealed that consumer innovativeness is positively associated with the perceived financial benefits of adopting electric vehicles (EV). Similarly, in [36] the authors discovered a positive influence of consumers' innovativeness on the intention to use smartwatches through the perceived utilitarian and hedonic values.

H4: Consumer attitude mediates the relationship between consumer innovativeness and the intentions of adopting cryptocurrency.

2.4. Moderating Role of LOHAS

The LOHAS literature extensively mentioned the innovative and technology savvy characteristics of the LOHAS consumers. As early adopters who seek out the latest information, formulas, and innovative technologies [37], LOHAS consumers usually adopt and try a new product earlier than their family members or others in their social circle[38]. They not only incorporate the new product into their lifestyles but also influence their families and friends to try it [39]. They are expected to possess higher innovativeness compared to others in the later stages of adoption [40], and this may positively influence their intention to adopt an innovative technology [41].

H5a: LOHAS moderates the effect of consumer innovativeness on intention to cryptocurrency.
H5b: LOHAS moderates the effect of consumer innovativeness on attitude.
H5c: LOHAS moderates the effect of attitude on intention to cryptocurrency. Figure 1 describes the research model.

3. Methodology

3.1. Participants and Data Collection

Amazon Mechanical Turk (MTurk) is employed to recruit subjects of the general U.S population aged between 18 and 65. Five hundred surveys were distributed, and four hundred fifty-two surveys were used after excluding incomplete and invalid responses. The demographic profiles of the respondents are provided in Table 3.

3.2. Measures

The constructs included in the theoretical model are consumer innovativeness, consumer attitude, cryptocurrency intention, and LOHAS. The questions for consumer innovativeness were adopted from [42] which measures the concept using a 5-point Likert scale (from 1, completely disagree, to 5, completely agree). The attitude measures were adopted from the study of [43]. The questions that measured cryptocurrency intention came from the study of [44]. The LOHAS questions were adopted from [4] which measures the level of individual well-being and sustainability orientation with 28 items.

3.3. Two Groups: LOHAS Lifestyle

We had two groups of LOHAS based on a quartile split (we dropped the two middle groups and focused on the 1st and 4th quartiles).[45]. The low LOHAS score in the 1st quartile of the LOHAS distribution and the high LOHAS score in the 4th quartile. The 1st quartile of the LOHAS distribution (i.e., low LOHAS group) consisted of 117 participants, and they showed a lower level of belief and attitudinal and behavioral patterns for personal health and well-being and sustainability (M=74.8, p<.001). On the other hand, the 4th quartile (i.e., high LOHAS group) was made up of 106 participants and they indicated not only a high level of personal well-being in diverse life domains but also a strong sense of sustainability (M=112.4, p<.001).

3.4. Data Analysis

Smart-PLS 3.0 was utilized to test the psychometric quality of the measurements and the path links between the latent constructs in the research model. The Smart-PLS gained popularity in marketing and management research for decades as a well-established method for the coefficient estimation of the structural model[46]. Convergent and discriminant validity were assessed, and for more rigorous validity tests composite reliability (CR) and average variance extract (AVE) were examined thereafter. Finally, the path coefficients of the structural model were estimated using PLS-SEM.

4. Results

4.1. Measurement Model Assessment

The measurement model was evaluated based on the criteria of internal consistency, convergent validity, and discriminant validity [47] [48]. The variables' reliability was assessed using Cronbach’s alpha and was found to be
satisfactory. The convergent validity of the variables was
tested using factor loadings, composite reliability (CR),
and average variance extracted (AVE) and the results
showed that factor loadings for the items on each
construct exceed the threshold of 0.70. CR values of each
construct are greater than 0.7, and AVEs for all constructs
are greater than the cut-off value of 0.5[49]. This
demonstrated that convergent validity is established in
the complete and split two samples. The discriminant
validity was evaluated based on the Heterotrait-
Monotrait (HTMT) ratio of correlation on the complete
and split data sets. The discriminant validity was
established given that HTMT ratios are under the cut-off
of 0.85 [49]. In addition, model fit was evaluated using
standardized root mean square residual (SRMR) and
values are less than the threshold of 0.8; 0.036 for complete
data, 0.039 for the low LOHAS group, and 0.08
for high LOHAS group, indicating the satisfaction of the
requirements for goodness-of-fit [50]. Table1 displays the
results.

4.2. Descriptive Statistics

The sample was comprised of 282 males (62.4%) and
170 females (37.6%). Consumers aged between 26 and 35
comprised 39.2% of the sample (n= 177), followed by people
aged between 36 and 45 (29.9%), and between 46
and 55 (13.3%). For education, 50% of the sample were
college graduates (n=226), followed by graduate school
graduates (26.8%), and high school (21.7%). Annual
income less than $29,999 made up 29.7% of the total
sample, followed by $30,000 - $49,999 (25.2 %), $50,000 -
$74,999 (21.9%). Concerning occupation, 73% were full-
time, followed by self-employed (9.3%), and part-time
(9.1%). For ethnic background, 57.1% were
White/European, followed by Asian (25.9%), and native
American (6.0%).

| Table 1. Discriminant Validity
| Heterotrait-Monotrait Ratio (HTMT) |
| Complete Data | Low LOHAS | High LOHAS |
| CI | ATT | IT | CI | ATT | IT | CI | ATT | IT |
| CI | 0.40 | 0.20 | 0.38 |
| ATT | 0.56 | 0.71 | 0.32 | 0.74 | 0.73 | 0.50 |

To examine the differences between the low and high
LOHAS group, a nonparametric Mann-Whitney test was
conducted because it does not require the normal
distribution of data. Overall, the results in table 2 indicate
that the values of consumer innovativeness, attitude
toward cryptocurrency, and the intention to adopt
cryptocurrency were significantly higher in the high
LOHAS group than those in the low LOHAS group. Hence,
the overall pattern showed that the high LOHAS
group is more innovative, has a more positive attitude
toward cryptocurrency, and is more intended to use
cryptocurrency.

| Table 3. Results of the Mann-Whitney Test |
| Construct | Low LOHAS | High LOHAS | p |
| | M | SD | M | SD |
| Consumer innovativeness | 2.74 | 0.95 | 4.19 | 0.76 | 0.00 |
| Attitude | 3.29 | 1.06 | 3.92 | 0.94 | 0.00 |
| Intention | 3.00 | 1.29 | 4.22 | 0.78 | 0.00 |

4.3. Structural Model Assessment (H1-H4)

The significance of the path coefficient was evaluated
by bootstrapping method with a re-sampling of 1000 [46].
The complete model (n=452) results indicated that the
effect of consumer innovativeness on the intention to
adopt cryptocurrencies was positive ($\beta = 0.303, t= 6.549, p
<.001), supporting H1. Additionally, consumer
innovativeness had positive influence on attitude toward
cryptocurrency adoption ($\beta = 0.374, t= 0.047, p <.001) and
the attitude was also positively related to the intention to
adopt cryptocurrency ($\beta = 0.553, t= 11.907, p <.001),
indicating the support of H2 and H3. Finally, an indirect
effect of the consumer innovativeness on the crypto
intention by way of the attitude was also established ($\beta =
0.207, t= 6.230, p <.001), accepting H4.

To test the predictive ability of individual constructs
in the model, the effect size was assessed [51]. The effect
size of each exogenous construct was found to be
statistically significant. Specifically, the effect of consumer
innovativeness on cryptocurrency intention
was medium ($\beta =0.166), the effect of consumer
innovativeness on attitude was medium ($\beta =0.162), and
the effect of attitude on crypto intention was large ($\beta
=0.553) [52]. The results are summarized in table 3.

| Table 3. Structural Model Evaluation |
| | $\beta$ | SE | t | P-Value | $f^2$ |
| CI→INT | 0.30 | 0.05 | 6.55 | 0.000 | 0.17 |
| CI→ATT | 0.37 | 0.05 | 7.87 | 0.000 | 0.16 |
| ATT→INT | 0.55 | 0.05 | 11.91 | 0.000 | 0.55 |
| CI→ATT | 0.21 | 0.03 | 6.23 | 0.000 | N/A |

4.4. Multi-Group Analysis (H5)

Two non-parametric approaches of the permutations
test and Henseler’s multi-group analysis (MGA) were
employed to find differences across the two groups of low
versus high LOHAS[53]. The MGA results indicated that
there is a significant difference in the path from consumer
innovativeness to cryptocurrency intention. The positive
effect of consumer innovativeness on cryptocurrency
intention was significant and stronger in the high LOHAS
group than in the low LOHAS group ($|\text{diff}| = 0.324, p
< .05), supporting H5(a). However, no significant difference in the path from consumer innovativeness to the attitude toward cryptocurrency was found (|diff| =0.148, p = .317), rejecting H5(b). Finally, the attitude toward cryptocurrency had a stronger positive effect on the intention to adopt cryptocurrency in the low LOHAS group than in the high LOHAS group (|diff| =0.315, p < .05), indicating H5(c) reversely supported. Table 4 shows the MGA results.

Table 4. Multi-Group Analysis Results

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Low LOHAS (N=117)</th>
<th>High LOHAS (N=106)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CI→INT</td>
<td>0.17</td>
<td>0.49</td>
<td>0.32</td>
</tr>
<tr>
<td>CI→ATT</td>
<td>0.19</td>
<td>0.34</td>
<td>0.15</td>
</tr>
<tr>
<td>ATT→INT</td>
<td>0.68</td>
<td>0.37</td>
<td>0.32</td>
</tr>
</tbody>
</table>

5. Discussion and Conclusion

The present study found psychological factors that influence consumer intention to adopt cryptocurrency. Our results showed that consumer innovativeness positively explained the intention to adopt cryptocurrency. This indicates that consumers with openness to new trials and a desire for early adoption of new items tend to have greater intention to use cryptocurrency. This is supported by other studies indicating consumer innovativeness as a significant driving factor for new technology acceptance (e.g., [11][12]). Second, we found that consumer innovativeness is positively associated with attitude toward cryptocurrency. This shows that highly innovative consumers tend to positively evaluate cryptocurrency and favor trying them. It aligns with past literature suggesting that consumer innovativeness is a significant driver of a positive attitude toward the use of technology-based services [54]. Third, we revealed that attitude has a positive relationship with intention to cryptocurrency, and this demonstrates that the more one has a positive attitude toward cryptocurrency, the more one is likely to intend to use it. This confirmed the predictive ability of attitude on intention in the cryptocurrency context. Fourth, the mediating effect of attitude in the relationship between consumer innovativeness and cryptocurrency intention was proven. This implies that a part of the total effect of consumer innovativeness on intention to cryptocurrency is due to mediation by attitude[55].

Finally, we found the moderating role of the LOHAS lifestyle in the relationship between consumer innovativeness and intention to adopt cryptocurrency. Specifically, a positive moderating effect was revealed, meaning that the impact of consumer innovativeness on the cryptocurrency intention is enhanced when the consumer lives the LOHAS lifestyle. This adds empirical evidence to other research that indicated that LOHAS consumers are innovative early adopters who tend to learn, try, and adopt new technology more than any other segment [39], [56]. However, there was no significant moderating effect on the impact of consumer innovativeness on attitude. This indicates that the impact of consumer innovativeness on attitude toward cryptocurrency does not differ depending on the level of LOHAS. Finally, while the moderating effect of LOHAS in the relationship between attitude and cryptocurrency intention was found, the effect of attitude on intention was greater in the low LOHAS group than in the high LOHAS group. The weaker influence of attitude on the intention to use cryptocurrency in the high level of LOHAS consumers may suggest that there might be some potential factors that mitigate the effect of the positive attitude of consumers high in LOHAS on the intention to use cryptocurrency. This encourages future research to examine any demographic, psychographic, or contextual factors that influence the impact of the LOHAS lifestyle on the intention to cryptocurrency.

6.1 Theoretical Implications

The findings of this study provide theoretical implications. First, we developed a theoretical model to understand the determining psychological factors of consumers’ cryptocurrency adoption intention. Employing consumer innovativeness as a personality trait with another antecedent of attitude, this study founds how and why consumers intend to adopt cryptocurrency. Although academics have examined the cryptocurrency behavior within the TPB, few studies considered incorporating other individual difference factors in conjunction with TPB to better understand the empirical relationship between psychological motives and cryptocurrency behavior. This bears theoretical implications for future scholarly attempts to examine the ongoing adoption of cryptocurrency among consumers. Second, while the majority of the literature has focused on the determinants of cryptocurrency adoption from a technological perspective (e.g., innovative products, the complexity of products, ease of use), this study helps to better understand the underlying mechanism of consumers’ cryptocurrency adoption. Third, our findings provide significant empirical evidence of the LOHAS consumers’ innovative predisposition to technology. While previous researchers conceptually inferred that the LOHAS consumers adopt technology-based products earlier than other segments, this study empirically tested it and supported the previous discussion.

6.2 Managerial Implications

This study has several managerial implications. First, we found that the effect of consumer innovativeness on intention to adopt cryptocurrency is partially mediated
by attitude. This provides businesses with insights into the need of appealing to the benefits of cryptocurrency (e.g., transaction transparency, fast transaction, security, and safety) as an alternative transaction/payment option to increase consumers' favorable attitude[57]. Second, our findings on the likelihood of innovative consumers adopting cryptocurrency indicate that a new demographic profile may have access the cryptocurrency. Given that cryptocurrency users often represent newer and more cutting-edge customers of the company, businesses would need to put themselves in a position for cryptocurrency transactions with significant stakeholders [58]. Third, as consumers high in the LOHAS lifestyle are more likely to intend to adopt cryptocurrency, businesses in health, well-being, or sustainability sectors may consider incorporating cryptocurrency into their business models as a payment, transaction, reward, or compensation method. Utilizing cryptocurrencies in day-to-day businesses may encourage the development of new and creative trade of healthy and sustainable goods and services, extending the market reach of the businesses.[59]

6.3 Limitations and Future Directions

The study has several limitations and suggestions for future research. First, this study only includes attitude as a mediating factor between consumer innovativeness and cryptocurrency intention. Even though the inclusion of attitude increases the empirical relationship between personality traits and behavior in a specific context [28], future research may consider incorporating other psychological and/or external factors such as perceived behavioral control and/or subjective norms that predict behavioral intention in a more systematic manner. Second, the present study found that the impact of attitude on intention is less in the high LOHAS group than in the low LOHAS group. The result encourages future research to identify potential influential factors that generate the attitude-intention gap, particularly in high LOHAS consumers. For example, LOHAS consumers' environmental consciousness might discourage them from actually using cryptocurrency for its negative environmental impact regardless of their positive evaluation of other aspects of cryptocurrency (e.g.,[60][61]). Finally, while this study measures consumer innovativeness based on a one-dimensional construct, future studies could use various subdimensions of consumer innovativeness as predictors of cryptocurrency intention to provide a more in-depth understanding of the role of consumer innovativeness on the intention to adopt cryptocurrency.

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