Perceived and Actual Use of Cryptocurrencies Germany Q1 2019

Results of a representative survey among German Internet users

Report No. 2

July 3rd, 2019

Executive Summary

Based on a representative survey among 3,864 German adult Internet users, this report presents reliable insights on the respondents' faith in, and the challenges associated with cryptocurrencies, as well as on their perceived vs. actual use. Most respondents were introduced to cryptocurrencies by their private and professional environment (57%), followed by media news (27%) and advertising (14%). General faith in cryptocurrencies is rather low, with an average score of 3.62 on a scale of 0 to 10, though there are large differences across various subgroups. Respondents who have at some point owned cryptocurrencies and people who consider themselves knowledgeable about cryptocurrencies have a higher level of trust. For current and former owners, there is a positive correlation between the level of trust and the level of self-reported knowledge about cryptocurrencies, whereas the correlation is reversed for non-owners.

Regarding the challenges for the adoption of cryptocurrencies, the highest rating was found for less knowledgeable respondents with respect to price fluctuations (6.9 on a scale of 0 to 10); more knowledgeable respondents considered the risk of manipulation to be the greatest challenge (6.7). Among the perceived use cases for cryptocurrencies, short-term speculation is rated the highest, whereas voting received the lowest scores. However, we find differences between current owners, former owners, and non-owners of cryptocurrencies. Cryptocurrencies are actually used most frequently for investment purposes (on 3.5 days per month), access to services (on 2.8 days) and payment transactions (on 2.7 days).

About us

The *Blockchain Research Lab* (*BRL*) was founded in April 2018 as a non-profit organization. Our focus lies on independent and interdisciplinary academic research on blockchain technology and its socioeconomic impact. We award scholarships to high-potential, motivated and committed scientists. The scholarships enable the recipients to work on their projects independently and autonomously.

Introduction

Even though cryptocurrencies have existed for more than a decade, research on the population's awareness of them is still scarce. We do not know, for example, through which channels people are introduced to cryptocurrencies. Despite increasing media coverage, it remains unclear whether cryptocurrencies have reached a broader audience and to what extent they are accepted and integrated in everyday life. We address this research gap by publishing the results of a representative survey in a series of reports (see also our Report No. 1).

To date we do not know by which channels awareness for cryptocurrencies spreads. Is it the media? Or are people first introduced to cryptocurrencies via friends and family? A related question concerns the general perception of the trustworthiness of cryptocurrencies, which may be affected by advertising or biased media coverage aiming to create a certain image of cryptocurrencies – be it positive or negative. The respondents' attitudes towards cryptocurrencies will depend on the sources of information they consumed and how they were introduced to the topic. Especially against the background of increased media coverage of cryptocurrencies in 2017 during and following a period of massive price volatility, our survey addresses these questions and investigates differences between the subgroups of current, former and non-owners of cryptocurrencies.

Closely connected to the adoption of cryptocurrencies is the question as to the challenges and obstacles that must be overcome for the technology to continue its growth. We asked the respondents what they considered to be the most relevant challenges. The results again differ by subgroups, this time depending in particular on the level of knowledge about cryptocurrencies that the respondents ascribed to themselves.

A key indicator for adoption is the actual use of cryptocurrencies. We contrast the respondents' actual use cases for cryptocurrencies with those that the respondents perceived to be most relevant, finding significant deviations. Some of these differences reflect the negative image that cryptocurrencies continue to have, for example when it comes to supposedly serving as a tool for criminal activity. Overall, we provide a comprehensive picture of the attitudes towards and the actual use of cryptocurrencies among German Internet users.

Methodology

The sample comprised 3,864 German Internet users (persons who had been online at least once during the last quarter) aged 18 and above, and it is representative of this group with regard to age and gender. The survey was conducted online between February 8 and March 28, 2019, by the panel provider *mo'web research*. The company maintains a panel of more than 150,000 individuals in Germany for online surveys on various topics. For the present study, 34,440 panelists were contacted to achieve at least 3,000 respondents. 276 of the respondents were rejected because their IP address, browser cookies or browser fingerprints would not have allowed us to prevent multiple participation. To ensure high data quality, another 184 participants who sped through the survey, i.e. answered too quickly for their answers to carry much meaning, were dropped manually. Finally, two more participants were removed manually because their response behavior was deemed irrational.

The survey proceeded as follows: The panelists were invited by e-mail, while initially no indication was given as to the topic of the survey to prevent any bias from self-selection. Monetary rewards for participation were offered. The questionnaire itself filtered the participants twice: once according to their familiarity with cryptocurrencies and then, at a later stage, according to whether they had at any point possessed cryptocurrencies. Participants who met neither criterion were forwarded to a set of mandatory socioeconomic questions about their personal status including, for example, income and education.

Channels of awareness

In the context of exploring the trustworthiness and the assumed and actual use, the question arises how the respondents first became aware of cryptocurrencies. This mode of introduction can already influence the perception of these forms of payment and thus shape the reputation of cryptocurrencies within the population.

### How did you first become aware of cryptocurrencies?
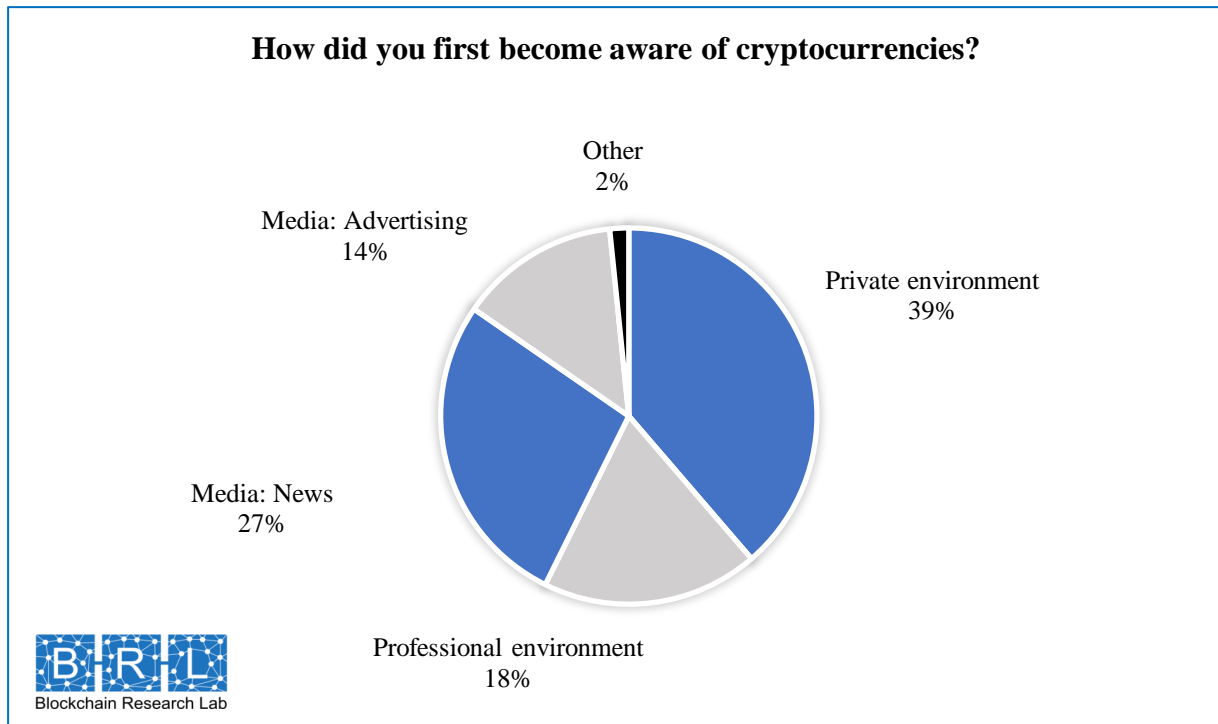
We find that the majority of respondents were introduced to cryptocurrencies through personal contacts in their private and professional environment. These two areas jointly account for 57% of respondents. Another 27% of respondents learned of cryptocurrencies through media news, and 14% through media advertising. Thus, awareness of cryptocurrencies was raised almost exclusively by word-of-mouth and professional media.

Trustworthiness

We asked the respondents, "Do you rate cryptocurrencies as trustworthy?", with 0 meaning "not at all trustworthy" and 10 "very trustworthy". The question intentionally left room for interpretation as to what trustworthiness might mean in the context of cryptocurrencies – be it the underlying blockchain technology, market prices or regulatory protection. We simply sought to elicit the general attitude towards cryptocurrencies, whose development we can monitor over time in future surveys.

The results generally show somewhat low scores for trustworthiness, with 75.3% of the responses indicating values below 6. Less than 10% of the respondents awarded values of 8 or above. We thus see a great deal of skepticism regarding the general trustworthiness of cryptocurrencies.

Level of trust in cryptocurrencies
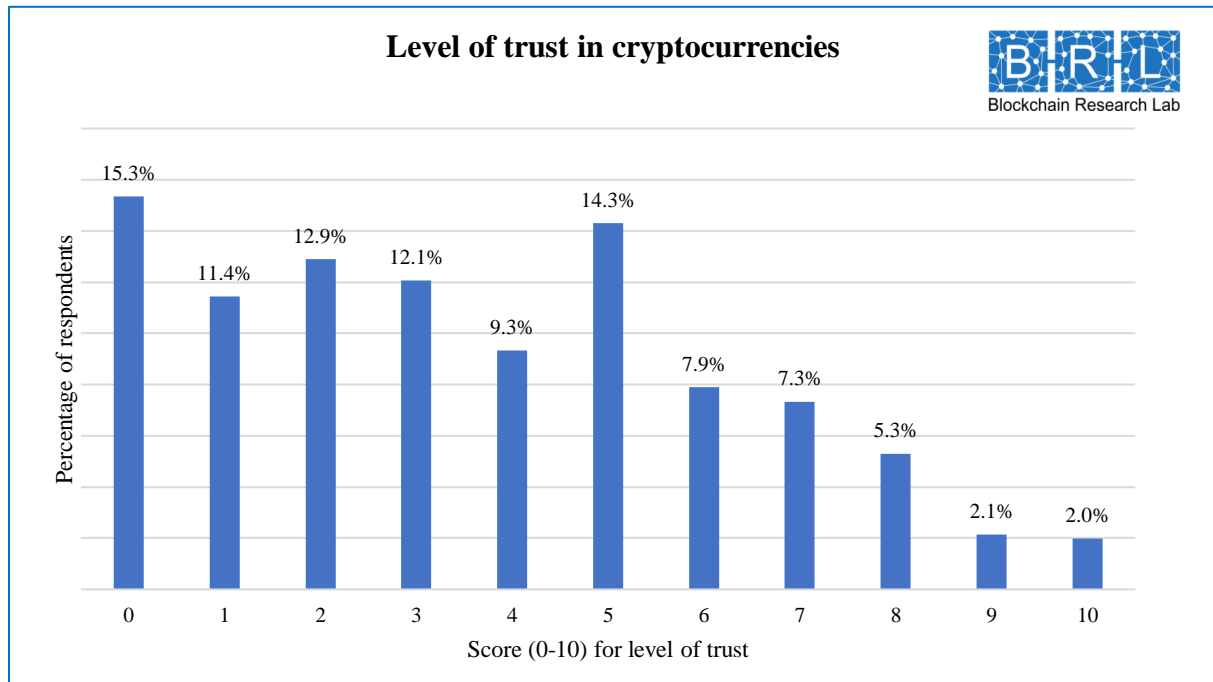
For a deeper assessment of trust in cryptocurrencies, we divided the sample, first, into three groups according to the respondents' self-assigned level of knowledge about cryptocurrencies and, second, into current and former cryptocurrency owners, as well as non-owners. The figure below shows the average scores for the level of trust for these different subsamples, as compared to the overall average of 3.62 out of 10, a generally quite low level. The average trust levels by ownership status are 6.73 for current owners (n = 357), 5.10 for former owners (n = 351), and 3.01 for non-owners (n = 3,156). This result is intuitive in that someone who distrusts cryptocurrencies is less likely to own any. Secondly, we find that individuals who

Average level of trust in cryptocurrencies for different subsamples
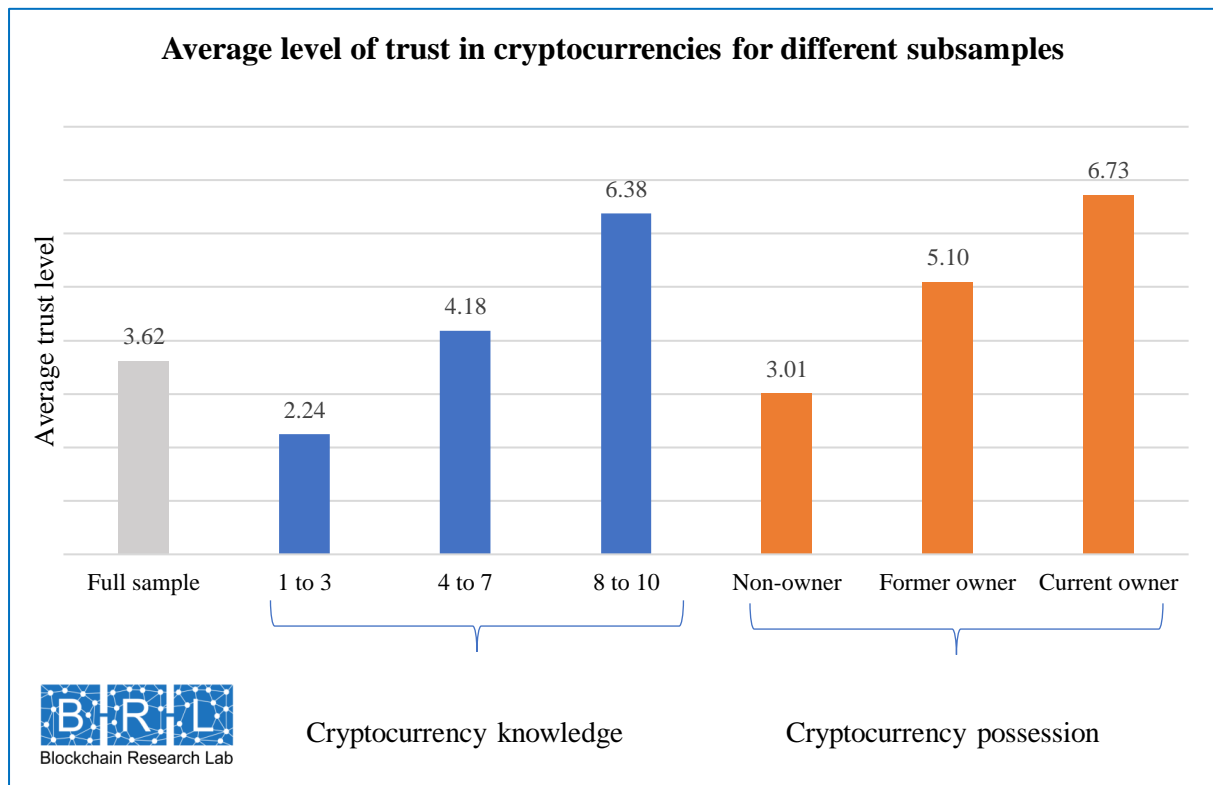
think they know more about cryptocurrencies also have more trust in them. The average trust score was 6.38 for respondents who rated their knowledge between 8 and 10 (n = 466), 4.18 for those between 4 and 7 (n = 1397), and 2.24 for those with the least knowledge about cryptocurrencies (between 1 and 3; n = 2,001).

Correlations between use, knowledge, and trust

Given the strong positive effects of cryptocurrency ownership and knowledge on the rating of trustworthiness, we tested for correlations between these three variables. Confirming the above results, we found a positive correlation between knowledge and the level of trust in cryptocurrencies (0.57). Furthermore, current (0.40) and past (0.19) owners of cryptocurrencies have more trust in them, while non-owners have less (-0.44). Just as interestingly, we find strong correlations between knowledge about cryptocurrencies and ownership status: Current (0.41) and past (0.26) owners consider themselves much more knowledgeable than non-owners (-0.50). All correlations are statistically significant at the 0.01% level.

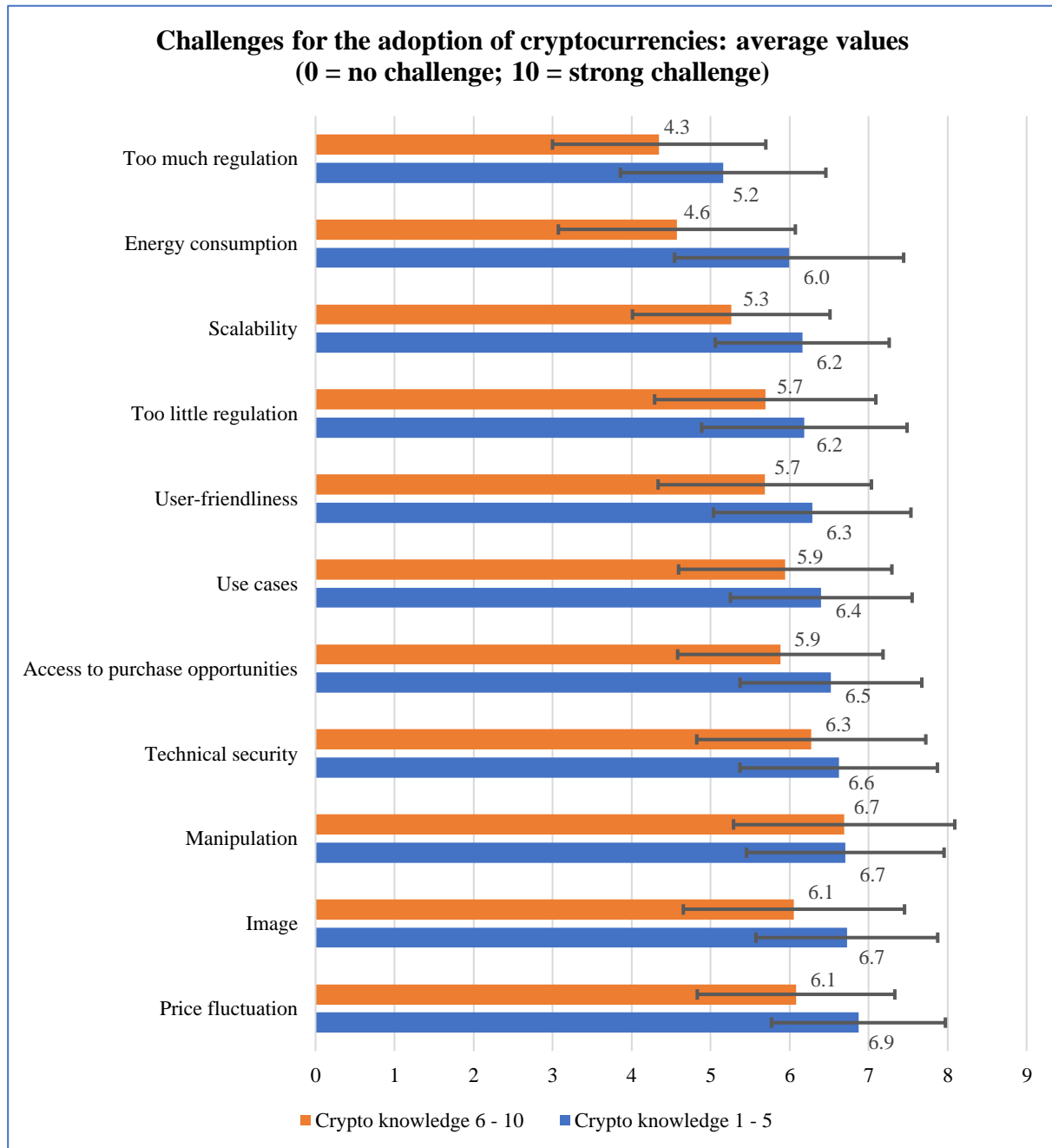| Correlations between cryptocurrency knowledge, ownership, and trust		
	Level of trust	**Knowledge**
Knowledge	0.5684*	-
Current owner	0.3986*	0.4081*
Former owner	0.1875*	0.2582*
Non-owner	-0.4419*	-0.4973*

* Statistically significant at the 0.01% level

Challenges for adoption

Respondents with less knowledge of cryptocurrencies (knowledge levels 1 to 5) consider price fluctuations (6.9), image (6.7), manipulation (6.7) and technical security (6.6) to be major obstacles to the wider adoption of cryptocurrencies. Too much regulation (5.2) and energy consumption (6.0) are considered less important. More knowledgeable respondents (levels 6 to 10) also mention manipulation (6.7) and technical security (6.3) as important obstacles, while price fluctuations (6.1) and image (6.1) are deemed less relevant. Both groups consider too much regulation (5.2; 4,3) the least challenging, whereas too little regulation is seen as a larger challenge (5.7; 6.2).

Respondents with less knowledge clearly tend to regard the potential challenges as more severe than their more knowledgeable peers – the former group assigned an average total score of 69.6 across all challenges, as opposed to only 62.5 for the latter group. This suggests that knowledge about cryptocurrencies reduces skepticism and fosters optimism.

Note also that all challenges were rated in the intermediate range of 4.3 to 6.9 on average, suggesting fairly homogenous opinions, as supported by the rather low standard deviations (between 2.2 and 3.0 per challenge). Notably, the standard deviations are larger for the group with higher self-ascribed crypto knowledge – most likely, respondents with little knowledge tend to have weak opinions and therefore prefer to answer near the center of the scale.

**Challenges for the adoption of cryptocurrencies: average values
(0 = no challenge; 10 = strong challenge)**

Challenge	Crypto knowledge 6 - 10	Crypto knowledge 1 - 5
Too much regulation	4.3	5.2
Energy consumption	4.6	6.0
Scalability	5.3	6.2
Too little regulation	5.7	6.2
User-friendliness	5.7	6.3
Use cases	5.9	6.4
Access to purchase opportunities	5.9	6.5
Technical security	6.3	6.6
Manipulation	6.7	6.7
Image	6.1	6.7
Price fluctuation	6.1	6.9

Crypto knowledge 6 - 10   Crypto knowledge 1 - 5

Perceived use cases

In terms of perceived purposes for the use of cryptocurrencies, we again find differences between current owners, former owners and non-owners. We first asked what the respondents think cryptocurrencies are used for in general and then contrasted the results with a question on the actual use that was only posed to current users of cryptocurrencies and to which we will return below.

The three most important perceived use cases are short term speculation, crime, and the disguise of activities. Voting (4.7; 4.4; 3.5) is considered the least important by all three groups of respondents, followed by corporate & startup financing (4.0; 5.2; 5.3). Current owners on average assign much greater perceived importance to the different use cases than non-owners.

**Perceived use of cryptocurrencies
(0 = not important, 10 = very important)**
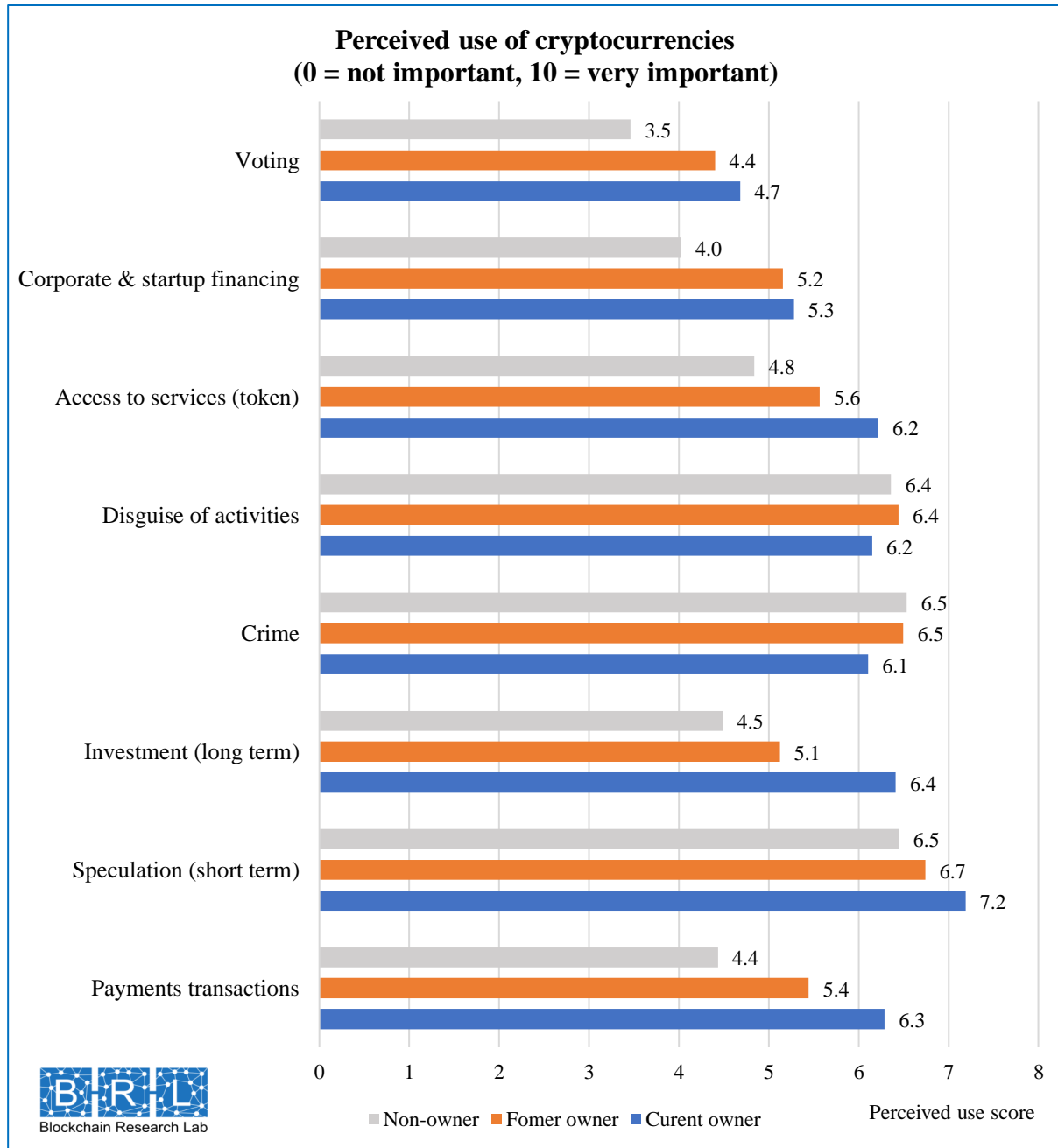
The differences between the answers of the groups are of some interest. Among the current owners of cryptocurrencies, speculation (7.2), investment (6.4) and payment transactions (6.3) are perceived to be the most common uses; they are less important for the other two groups. Substantial differences also emerge regarding access to services, which is deemed more important by current cryptocurrency owners (6.2) than by former (5.6) and non-owners (4.8).

Perceived vs. actual use

Next, we asked current owners how often they used cryptocurrencies for specific purposes, from which we infer the importance of the respective use cases.
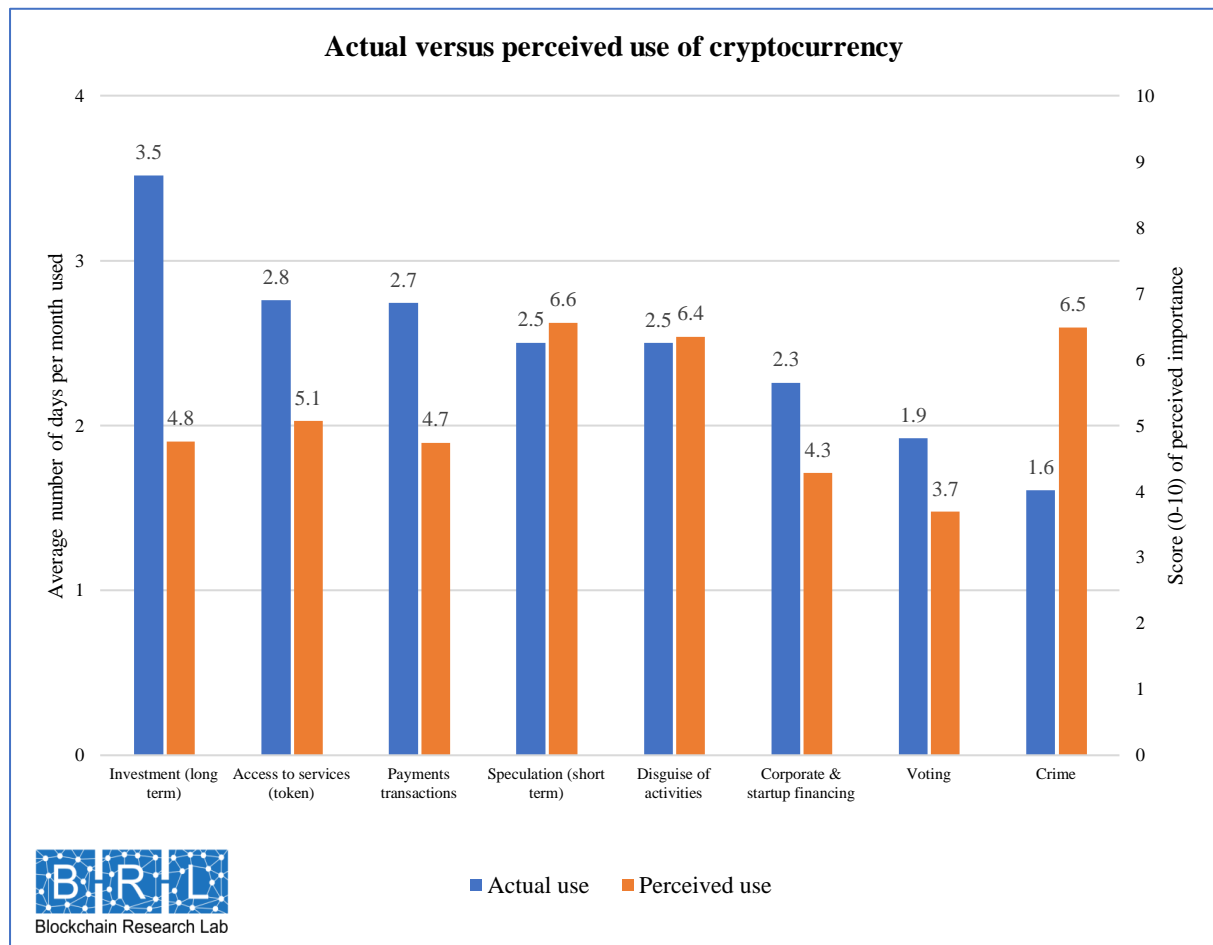
Long-term investment represents by far the most prominent use case for cryptocurrencies today, at 3.5 days of use per month on average. Runner-up is access to services (on 2.8 days), such as DApps or services in the ecosystem of the respective cryptocurrency. Cryptocurrencies are used somewhat less often for payment transactions (on 2.7 days), short-term speculation (on 2.5 days) and disguise of activities (on 2.5 days). Voting (on 1.9 days) and crime (on 1.6 days) are least important. The latter result, however, probably also reflects a degree of underreporting, even in an anonymous online questionnaire, and should therefore be interpreted with care.

Comparing the actual use of cryptocurrencies (the average number of days per month) to the assumed use (the scores from 0 to 10), we find clear discrepancies for several use cases. The use of cryptocurrencies for crime is widely overestimated (or underreported), whereas cryptocurrencies experience more use in practice for long-term investment and payment transactions than the respondents think.

The comparison of the actual versus assumed frequencies of use for cryptocurrencies shows a misconception in the eyes of the general public about what cryptocurrencies are actually used for. It remains to be seen whether this will change in the course of further adoption, knowledge, education, and research.

Discussion

Awareness of cryptocurrencies is largely disseminated through the personal transmission of information in the private and professional environment. Thus, the impact of word-of-mouth should not be underestimated: The opinions of peers or colleagues can significantly influence individual attitudes towards cryptocurrencies, which makes the reputation of cryptocurrencies with a person's immediate environment highly relevant.

Overall, the level of trust towards cryptocurrencies is relatively low. We also saw that trust in cryptocurrencies is strongly and positively correlated with how much the respondents say they know about the topic. Unsurprisingly, people who use cryptocurrencies have more faith in them and know more about them. We may thus expect trust to grow over time as the number of users increases. Barring unforeseen upheavals or a disclosure of massive illegal activities based on cryptocurrencies, confidence is likely to increase along with the number of (past) users. Increasing knowledge about cryptocurrencies and its underlying blockchain technology is also likely to promote this development resulting in the public having a more realistic picture of cryptocurrencies.

The respondents perceived a number of obstacles to the wider adoption of cryptocurrencies, ranging from too much or too little regulation, technical security issues, to image and price fluctuations. However, there are some differences between owners and non-owners of cryptocurrencies as to how severe the individual challenges are. Owners and non-owners also differed with respect to the perceived use cases of cryptocurrencies. For example, current owners mention crime less often than the two other groups do. Instead, they consider short-term speculation, long-term investments and payment transactions to be more important use cases. These circumstances indicate that people who are more familiar with cryptocurrencies consider the potential risks to be lower. So it seems that, as elsewhere in life, unfamiliarity breeds suspicion, thus further research on this is needed.

The most prominent difference between the assumed and actual use of cryptocurrencies appears with respect to crime, which is thought more important than it actually is. Here, however, caution in interpretation is warranted because the respondents may have understated relevant activities – or because criminals are underrepresented in the sample.

Outlook

The actual use of cryptocurrencies in some respects differs substantially from the assumed use. This indicates a pronounced information deficit within the population and shows the need for objective information on cryptocurrencies. Furthermore, the finding illustrates that cryptocurrencies are not yet widely accepted by the broad population. The general public's knowledge about cryptocurrencies currently lags behind the rapid evolution in this field. Besides more information about cryptocurrencies in general, the population would also benefit from more wide-spread interaction with the subject in order to reduce prejudices. Their listing on established platforms such as the Stuttgart stock exchange helps to make cryptocurrencies appear gradually less exotic and to attract new users. Further research activities could compare the trust levels and trading of cryptocurrencies to those of traditional securities in order to verify the importance of cryptocurrencies in comparison with other asset classes.