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# The Digital Frontier of Research Ethics

## A Digital and Face-to-face Ethnographic Study of Cryptocurrency Use and Financial Inclusion

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**Abstract**

This paper presents the ethical challenges for conducting a digital and face-to-face ethnography into cryptocurrency use and financial inclusion. Cryptocurrencies are decentralised, digital payment systems that operate outside of the fiat economy. We faced several concerns relating to ethical issues for this study. Firstly, conducting a multi-modal study across physical and digital locations required greater clarification regarding informed consent and participant anonymity across the digital and place-based locations where the community is active. Secondly, cryptocurrency use has been associated with illegal transactions. This association required explicit statements excluding these from the research data collection. The third ethical issue was not covered in the national ethics standards. It was the challenge of obtaining a letter of organisational support, as is usual when working in partnership with a government, business or community organisation. The cryptocurrency community is a decentralised, leaderless and often fractured community. Nobody was able to speak for it. The National Statement on the Ethical Conduct for research needs to have guidelines in place so that such communities can be studied while protecting the participants and the researchers.

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## **The digital frontier of research ethics**

**Digital ethnography:** multi-sited and multi-modal approach provoked a quest for the dimensions of voluntary consent, organizational support and participant anonymity.

**Considerations for researchers:** Engaging a community in the ethics approval process, prior to the conduct of the research, instigates a community response that affects the course and uptake of the project upon its launch.

**Considerations for university ethics committee:** Conducting research with a digital community operating on the edges of social norms raises considerations for how new and traditional ethnographic methods can address research ethics considerations.

## **Author Keywords**

Research ethics; cryptocurrencies; digital community; digital ethnography; e-commerce; financial technology; financial inclusion

## **ACM Classification Keywords**

K.7.4 Professional Ethics  
K.4.1 Public Policy Issues  
K.4.4 Electronic Commerce

## **Introduction**

The study of cryptocurrency use involves an innovative socio-technical space where people can experiment with the possibility of creating user-produced or peer-to-peer (P2P) payment systems that operate outside of the fiat economy. Bitcoin and other cryptocurrencies hold the potential to facilitate cost effective transfer of funds across borders for remittances. Some of the remittances going to developing countries could be going to unbanked households and facilitating financial inclusion.

However, conducting a digital and face-to-face ethnography in this new socio-technical frontier raises distinctive ethical considerations, both for the researcher and ethics guidelines and standards. This paper unpacks the experience of working with and responding to a university ethics committee during the approval process. Initially we will present the research methodology to contextualise how the ethical considerations related to the multi-modal approach of the research methodology, the nature of cryptocurrencies and the social structures of the community itself. We will then discuss the key ethical considerations raised by the research methodology including: participant recruitment practices across

place-based and online contexts; gaining informed consent through the provision of context-specific information; and participant anonymity within data collection practices. We will then move to the new ethical issue that emerged relating to documenting approval of research access to the decentralised community consisting of creators, users and promoters of cryptocurrencies.

## **Research methodology**

In this section, we will outline how the research methodology relating to the study of cryptocurrency use had to be more detailed and clear before it was approved by the university ethics committee.

The research methodology proposed a multi-modal, multi-sited ethnographic approach that framed the participant population as a community. This community, the cryptocurrency community, is digital in its DNA. This genetic metaphor refers to a community that is constituted through decentralised, nodal and networked social structures that harness the connectivity of digitally networked technologies. The innovation in financial technology, which is a core collaborative focus of the community, is based around a purely digital payments system. Transactions are peer-to-peer and logged on a transparent digital ledger, the blockchain, which is regularly updated. The community itself draws people from a diverse array of backgrounds as described by Maurer et al [6]. The social composition of the community includes early internet cultures from hackers to open source communities, and more particularly the cryptographic community. The cryptographic community generally see cryptocurrencies as a way to subvert and disrupt the current financial system. Other members have financial

backgrounds and are interested in emerging financial technologies and investment opportunities. A third cohort includes entrepreneurs who are interested in accessing new markets and business start-up opportunities opened through cryptocurrencies in digital spaces. Consequently, our research methodology is designed to support ethnographic activity across the online and physical locations where the diverse networks of the community are active.

In practice, ethnographic data collection included participant observation at cryptocurrency-related events and socially active digital locations. Alongside participant observation, we proposed the conduct of fifty (50) depth interviews with community members who have used cryptocurrencies and key stakeholders involved in promoting cryptocurrency uptake and use. For social context and community event documentation, it also included monitoring online discussion across relevant blogs, websites, social networking sites and digital media.

In order to raise the research profile and presence across the diverse community networks, we incorporated engagement and recruitment activities within relevant public-access social media locations such as Facebook groups and Twitter in addition to discussion forums and Reddit. This range of digital locations constitutes the digital space of community activity. This digital approach was complemented by a more traditional recruitment strategy of engaging relevant community organisations, associations and social networks.

The associated methods require differentiated data collection approaches and participant engagement

strategies. These methods for monitoring, engaging and opening the research space within the community also raise the complexity of what constitutes ethical research practice across online and physical locations.

There are standards in place for such multi-modal research. However, because this research proposed using a diversity of methods and channels for observation and recruitment, the researchers followed the guidance of the ethics committee to provide more details as to how we would achieve transparency about our research presence online and in the community. This led us to clearly articulate the activities we would undertake in these spaces. We also developed differentiated approach materials to inform online cohorts (digitally active participants and online moderators) and place based cohorts (event organisers and event attendees). For example, we developed separate Participant Information and Consent Forms for online and face-to-face ethnography and recruitment posters for event attendance. These differentiated approach materials aimed to address voluntary consent across the spaces where community members were likely to be active.

### **Conducting a multi-modal study**

As observed previously in the discussion of the research methodology, we are conducting a multi-modal study across physical and digital locations which included online monitoring. Our proposal for monitoring and engaging with people in relevant forums, Reddit and social media spaces such as public access Facebook pages and Twitter raised further considerations for the committee. They requested further clarification for how we would ensure participant anonymity. They asked

'How will you protect participants' identity in an online environment?'

As this request highlights, engaging and monitoring social spaces in the online environment raises considerations for data collection practices in terms of the traceability of authors through their textual contributions that are associated with their online avatar [2]. These are different conditions from those encountered in place-based scenarios where what is said in a social space is rarely archived or retrievable through a search engine. As highlighted by the committee there are some excellent resources available to researchers for how to navigate ethical considerations in digital spaces. The guidelines for the ethical use of digital data they referenced is one [1] as are the ethics guidelines provided by the Association of Internet Researchers [5].

The request by the committee to ensure participant anonymity in the online environment raised for the research team the question as to what constituted reportable research data. We addressed this consideration by proposing the use of field notes (summaries), rather than direct quotation, to document community dialogue and to trace events as they arose in discussion within digital spaces. In this way, we would not be using direct quotes or traceable content from public access online spaces. This is also the method we were using for recording participant observation in physical spaces. Using this more traditional approach means that reportable data for the project is somewhat comparable in nature between online and place-based environments.

### **Cryptocurrencies and illicit activities**

Cryptocurrency use has been associated with payments for ransomware, purchase of illicit products and blackmarket money laundering. The pseudonymity of cryptocurrencies facilitates anonymous transactions. Cryptocurrencies also hold the capacity to circumvent state regulation, which can support their use in an unregulated manner or within legally grey zones. For example, an early use case for cryptocurrencies such as Bitcoin was as a payment system within cryptomarkets, illicit drug markets in the dark web [3].

However, our research agenda focuses on how cryptocurrencies can facilitate financial inclusion. As we have argued in our article outlining a future research agenda [4], the study of cryptocurrency use will provide insight into whether they can disrupt the international remittance industry to be more affordable by removing mediators to the process, such as banks. Additionally, our study of cryptocurrency use seeks to reflect on the utility and oversights of current financial regulatory practices through the study of user practices and experiences. Through this approach, we also aim to articulate the ways in which people resolve consumer risk in an alternative economy.

The ethics committee responded to the illicit stigma surrounding cryptocurrencies and requested more explicit and clear statements to participants that they should not describe illegal activities. In essence, this agenda seeks to protect participants from implicating themselves through describing any illegal activities around Bitcoin and other cryptocurrencies. This request prompted the research team to deeply consider the need to distinguish between the commitment of crimes using cryptocurrencies, which we are not researching,

and the use of bitcoin for example as currency that is not as yet regulated. This situation is likely to be the case for those managing a Bitcoin business or organisation. We argue that rather than being considered illegal activities, these innovative and entrepreneurial start-ups are operating in ways that have not yet been thought about within a legislative context.

### **Community engagement**

The last ethical dimension became a challenge for the research team and is an issue that requires guidance from the National Standards. The ethics application requires a letter of organisational support when working with a community group. Within conventional groups, this involves access to a membership base that is coordinated by a representative executive. When attempting to do this with community representatives of a decentralised, leaderless and fractured community that is organised by nodes rather than through hierarchy, this simple task becomes a challenge.

It took the research team three months to approach a range of related organisations before a letter of organisational support was obtained. We observe that it was indicative of the limited representative voice that any one organisation can hold in the cryptocurrency space by what they do and do not say in their letter. The organisation was able to state their goals, note the alignment of the project with these goals and indicate their support through project information dissemination and facilitation of contacts within their membership base. According to the ethics guidelines, we needed such a letter, and yet our research community was one that did not have a single representative group.

The letter of organisational consent we obtained facilitated the approval of the project to begin data collection. However, the issue of organisational consent is one that assumes we are going into partnership or requesting access from a hierarchical organisation rather than a fractured community structured through nodes. Indeed, addressing an expectation of representation within a community group that did not match the social reality we proposed to study is what held us up the most. We argue that this assumption creates an unresolved tension for ethics committees when applying the national Standards.

The activities we undertook in approaching the diverse range of groups to appraise them of our intended research revealed that there were many keen individual participants ready to share their experiences with us. However, the three-month activity gap that emerged between the research promotion to engage an organisation and the start of data collection upon ethics approval meant that we lost the impetus of initial interest from within the community.

### **Conclusion**

In this paper, we have provided an account of the ethical considerations and criteria that our study needed to address in order to gain ethics approval from our university committee. The researchers and the committee had prior experience with online studies. However, the multi-modal study of cryptocurrency use requires more detailed considerations of participant anonymity and research transparency across the digital and place-based loci. In addition to addressing these methodologically related practices, we also needed to address the perception that discussing cryptocurrency use would generate data on illicit practices. In requesting these details and amendments, the ethics

committee ensured that both participants and researchers are protected and that the research is conducted ethically.

The approval process took six months with three rounds of amendment. This included the need for gaining organisational consent. Combining this with a long lead-in time to design the study created challenges in maintaining community engagement and research momentum. This process also exhausted its short funding period. At the time of writing the research is now live and the tendrils of engagement with the community have begun, albeit at a slower pace than originally anticipated in the research design. Community responses to the research have highlighted the differing expectations of project timeframes between industry and research practice. The slower pace of research however is allowing the fuller picture of community dynamics to be observed over time.

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### **References**

1. Karin Clark, Matt Duckham, Marilyns Guillemin, Assunter Hunter, Jodi McVernon, Christine O'Keefe, Cathy Pitkin, Steven Prawer, Richard Sinnott, Deborah Warr, and Jenny Waycott. 2015. *Guidelines for the Ethical use of Digital Data in*

*Human Research*. The University of Melbourne, Melbourne.

2. Michael Henderson, Nicola F. Johnson, and Glenn Auld. 2013. Silences of ethical practice: dilemmas for researchers using social media. *Educational Research and Evaluation* 19, 6: 546-560.
3. Alexia Maddox, Monica Barratt, Matthew Allen and Simon Lenton. 2016. Constructive activism in the dark web: cryptomarkets and illicit drugs in the digital 'demimonde'. *Information, Communication & Society*. 19, 1: 1-16.
4. Alexia Maddox, Supriya Singh, Heather Horst, and Greg Adamson. 2016. An ethnography of Bitcoin: Towards a future research agenda. *Australian Journal of Telecommunications and the Digital Economy*. 4,1: 14 (Article 49).
5. Annette Markham and Elizabeth Buchanan. 2012. *Ethical Decision-Making and Internet Research: Recommendations from the AoIR Ethics Working Committee (Version 2.0)*. Association of Internet Researchers, USA.
6. Bill Maurer, Taylor C. Nelms, and Lana Swartz. 2013. "When perhaps the real problem is money itself!": the practical materiality of Bitcoin. *Social Semiotics* 23, 2: 261-277.