

Bridging the gap

Crypto users' sense-making of a historical market crisis

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Abstract

The conflict between cryptocurrencies' ideological promises and their practical reality has recently become a considerable topic of scholarly discussion. It has been framed in terms of the so-called 'promissory gap' of cryptocurrencies – a gap that is founded in the contrast between the promises of a 'trust-free' system and actual reality. Yet, while crypto's notion of 'trust-free' money has been heavily questioned, there is little research on how users seek to overcome cryptocurrencies' promissory gap. Contrary to the promises of being 'trust-free' by design, this paper demonstrates that struggles for trust and control represent a focal point of the community interactions surrounding crypto. By drawing upon Dervin's sense-making methodology to conduct interviews with 28 crypto investors, this study examines how social actors attempt to construct 'bridges' over a 'gap-filled' reality related to the moment of a historical crisis in crypto. The results reveal crypto's intricate social embeddedness: whilst unequal power dynamics, distrust, and conflicting interests represent primary elements of users' struggles in the crypto space, users attempt to restore a sense of control by recalling personal motivations and connecting with like-minded people. The paper provides insights into crypto users' strategies to construct meaning in a highly uncertain environment and contributes to the discussion of crypto as a socially structured phenomenon.

Keywords: Cryptocurrency, blockchain technology, promissory gap, crisis, sense-making

1. Introduction

In May 2022, Terra LUNA, one of blockchain technology's top 10 cryptocurrencies, crashed in a dramatic manner. Terra's collapse shocked cryptocurrency enthusiasts, as around US\$ 60 billion worth of the network's two asset offerings, TerraUSD (UST) and Luna (LUNA), fell in value to practically zero in the span of a week (Q.ai, 2022). Ironically, at the time of its collapse, UST was classified as the most popular "algorithmic" stablecoin — a cryptocurrency designed to support price stability of a specific asset. By concurrently pledging to a decentralised, secure store of value in UST and presenting a highly profitable suite of applications, the Terra network had attracted investors of all sizes and rose to global standing after LUNA's market worth soared from less than \$1 in early 2021 to \$116 in April 2022 (Q.ai, 2022). Unexpectedly and shortly after LUNA's peak, on May 7 2022, during a time of already high volatility, over \$2 billion worth of UST were liquidated, bringing down the price of UST and causing a chain

reaction: the stablecoin started to de-peg, meaning that its value fell below its intended fixed price, and, in a panic, more people sold off more UST. LUNA was eventually abandoned, as it became worthless. This sudden collapse of LUNA and its associated stablecoin UST caused the global crypto market value to plummet by US\$ 1 trillion (Evans, 2022). The scale of the crash was so immense that many have compared it to the bankruptcy of the Lehman Brothers investment bank in 2008 (Sanchez, 2022).

The LUNA crash brings to the forefront the intricate and enigmatic nature of cryptocurrencies. Guided by ideological aspirations, the promises of blockchain and cryptocurrency technologies are high, and yet, profound inconsistencies appear in reality. One of crypto's most apparent inconsistencies concerns the "promissory gap" (Vidan & Lehdonvirta, 2019), — the gap between crypto's premise as a 'trust-free' economic system and its practical reality that is intricately tied to social dynamics of trust. In the case of LUNA, this meant that despite LUNA's public image as a decentralised and 'trust-free' crypto network, in the moment of breakdown, the entire crypto community turned to a single actor for a resolution of what had become an existential crisis: Do Kwon, the co-founder of Terra LUNA, emerged as the focal point of trust, with people eagerly awaiting his next tweet for a solution. These contradicting attributes in crypto's nature raise the question: How do individual users make sense of crypto as an inherently 'gap-filled' and uncertain reality?

Despite the relevance of understanding the human dynamics behind cryptocurrencies, researchers have only recently started to examine crypto through the lens of social science. Scholars frame crypto as a complex digital social reality (Dodd, 2018; Hayes, 2019). Nonetheless, the predominantly theoretical discussion of crypto as a social phenomenon lacks an engagement with the human experience, particularly the motivations behind the use of crypto and users' interpretations of this new reality and its pitfalls. The present study fills this gap in research by applying empirical 'sense-making' methodology which addresses users' underlying personal beliefs, motives, inner conflicts, and interpretations. By exploring how users navigate through a highly uncertain environment in crypto, including what conflicts they are experiencing and how they are trying to overcome struggles, this study discloses users' perceived 'cognitive gaps', and the strategies they employ to bridge them. Users' process of sense-making is investigated in the immediate aftermath of the LUNA crash during a time of perceived crisis, demanding an intense sense-making effort and bringing to light the contradictions and social structures that are fundamental to crypto's nature.

2. Theoretical background

2.1 *Crypto's ideological roots: The 'trust issue'*

Much of the public interest in cryptocurrencies such as Bitcoin revolves around their nature as digital currencies that first emerged at a time of global financial crisis and distrust in banks in 2008. Yet, cryptocurrencies are more than just a new form of money. Their origins can be traced back to the crypto anarchy movement (May, 1992, 1996; Swartz, 2018). Crypto anarchy's vision was straightforward: social and political change by empowering individuals and weakening the power of established institutions. Guided by the ideological belief that a truly free market society could only be achieved through untethering the money systems from the governments (May, 1996), crypto anarchy advocates for a complete replacement of governments and political authorities with technological solutions to ensure individual freedom, prosperity, and — above all — privacy (Hayes, 2019). Accordingly, at the core of cryptocurrencies stands the belief that technology can provide a solution to a social problem, with 'trust' being at the root of this problem.

'In code we trust', a maxim of crypto ideologists, reflects the ethos of replacing social trust with trust in computer programming. As suggested by this guiding belief, social trust — in this case, faith in banks, governments, and other intermediaries — entails uncertainties and dependencies that are beyond individuals' control. As an alternative, a system of cryptography and economic incentives was developed

to make digital money ‘secure’ (Nakamoto, 2009). Such a system would not require trust to function, referred to as ‘trust-free’ (or ‘trustless’, as often called in current crypto communities). Satoshi Nakamoto, a pseudonym for the author(s) of the Bitcoin whitepaper, thereby followed a radical vision of replacing human agency with machine code. The need for trust was not something to be secured by technical means (Nissenbaum, 2001), but eliminated altogether. This should be achieved by enabling purely digital and encrypted peer-to-peer transactions, which rely on the consensus of a distributed and decentralised digital network of users and can be verified by anyone. The ‘trust in code’ ethos stands on the belief that automated processes of decision-making are less fallible than humans. With regards to crypto, this ethos primarily refers to the idea of impenetrability, and code as incorruptible and impartial as opposed to the subjectivity of human institutions and the individuals that inhabit them (Vidan & Lehdonvirta, 2019). Code is considered to be impervious to greed and fear (Woodall & Ringel, 2019). In theory, consequently, the code functions as a ruler and regulator of trust and social relationships between actors in the network.

Such a notion, however, ignores that cryptocurrencies and their underlying blockchains are more than their features alone. As a peer-production technology, crypto is a means of interaction. Rather than being mere objects following a prescribed logic, technologies are co-shaped by the social practices around them and, at the same time, shape social relations through interaction (Bijker et al., 1999; Verbeek, 2016). Crypto is a socio-technological assemblage that consists not only of code, but also of a large variety of human actors (Hayes, 2019; Mallard et al., 2014; Nickel, 2015), including miners, programmers, token holders, and traders. Having trust in the system ultimately means trusting the whole assemblage of human actors that operate both within and outside that network (Lustig & Nardi, 2015). Thus, what matters is not so much the technology itself, but the social environment and network of people in which the technology is embedded.

2.2 Crypto as a social phenomenon

Since Bitcoin’s launch in 2009, crypto has grown into a network of millions of users (Howard, 2023) with thriving communities. With a diversity of interests among its members — ranging from libertarians and anarchists to monetarist economists and computer geeks —, the self-organising network of people surrounding crypto can be considered primarily a digital community (Maddox et al., 2016). At the core of the community is a collective vision of resistance and experimentation. As a digital community that typically assembles on interactive online platforms, primarily Discord and Twitter, the crypto user base is formed through loosely connected social circles of technical discussion and sentiment expression. Unlike traditional banking or investing, the crypto culture is typically described as community-centred (Leising, 2021), aiming to distribute power and decision-making across the network rather than concentrating it in a central authority. This fosters a sense of ownership and participation among community members. As its own cultural microcosm, crypto is full of technical jargon, acronyms, and symbolic meaning. Market sentiments are often signalled in memes and emphasised by vernacular, for example, “HODL!” — crypto-jargon for a call to “hold” tokens, in hopes of summoning the next bull market (Schneider, 2022). As part of the culture, much of users’ interaction within the network forms around identification with different projects/protocols and their communities. Along with crypto users’ pseudonymity, these characteristics represent essential features of the broader crypto network.

As a digital network, instead of replacing social relations, machine code creates new social ties that seem remarkably robust. In fact, by facilitating true peer-to-peer interactions, crypto and its underlying blockchains may promote even more direct personal connections (Hayes, 2019). In the case of LUNA, a noteworthy characteristic was its powerful community of supporters, proudly identifying themselves as “Lunatics” as an expression of their sense of collective identity. Similarly, crypto protocols typically maintain channels on the platform Discord that afford meaningful social interactions between users and developers and among users themselves, not even necessarily pertaining to crypto-related topics, but furthering group bonding. Such channels include, for example, ‘book club’ groups, ‘off topic’

conversations, and informal hangout places. Thus, the notion that trust has simply been transferred into machine code and severed all social relations, is misplaced. On the contrary, trust seems particularly relevant in socio-technical systems, exactly because these systems allow for direct interactions between individuals (Nickel, 2015). The importance of trust is further underscored by the prevalence of fraudulent projects in crypto: As an unregulated space, the ever-present risk of hacks and rug pulls¹ (O’Driscoll, 2023) makes it seem that, ironically, the proposed solution of a secure and ‘trust-free’ system has become a problem.

Exploring how users make sense of the inherently contradictory crypto system in the immediate aftermath of the LUNA crash, offers several advantages: According to socio-technical studies, breakdowns bring taken-for-granted assumptions under scrutiny (Star, 1999) and make inconsistencies between premise and reality appear more clearly (Vidan & Lehdonvirta, 2019). Moreover, and as mentioned earlier, major breakdowns are common in crypto’s practical reality (e.g., FTX fraud in 2022, Mt. Gox hack in 2014; see O’Driscoll, 2023). The collapse of the LUNA network is considered as one of the most impactful crypto crises that decimated the market. With LUNA representing an epitome of cryptocurrencies and its strong community of investors, this context proves ideal for exploring the promissory gap and complex social dynamics within crypto from a user-centric viewpoint.

3. Methodology

3.1 *The sense-making methodology*

Crises are constitutive elements of a complex reality and the human experiences made in it, serving as reminders of the pervasive interconnectedness of life events, knowledge, and actions (Picione & Lozzi, 2021). Guided by the aim to study users’ interpretation of crypto generally, and the LUNA crash specifically, Brenda Dervin’s sense-making methodology (SMM) (Dervin, 1992; Dervin & Foreman-Wernet, 2013) was selected as mode of inquiry. The goal was to identify themes and patterns in the participants’ experiences and perspectives related to a time of perceived crisis within the crypto market. Previous studies demonstrate SMM’s unique suitability particularly for crises, as extreme and uncertain situations require a high degree of rationalisation (Day, 2019; Stieglitz et al., 2017; Turner et al., 2023).

As a methodology, sense-making refers to studying how humans construct their pictures of reality and use these pictures to guide their behaviour (Dervin, 1983). This involves studying how humans make and unmake sense and construct, resist, destroy, and change meanings tied to the experience (Dervin, 2003). In the most general sense, sense-making is defined as behaviour, both internal, i.e., cognitive, and external, i.e., procedural, which allows the individual to construct their movement through time and space in a way that feels rational and purposeful. Although it recognises that much of human understanding is tacit and unarticulated, the method assumes that there are multiple ways in which people engage in making sense and that research can assist in bringing the unarticulated into articulation (Naumer et al., 2008). One of the hallmarks of SMM is its attempt at reconciling apparent polarities in people’s worldviews without wishing them away (Agarwal, 2012).

SMM assumes that reality is inherently ‘gappy’ as it changes across time and space (Dervin, 2003). From the individual’s perspective, a gap refers to a discontinuity in the perceived reality. Gaps therefore not only emerge between differences in understanding amongst individuals, but also within the same individual at different times. This is particularly relevant to crises, as individuals attempt to move from chaos (crisis) to order (post-crisis), while also navigating different organisational and relational structures. Disclosing crypto users’ cognitive gaps is informative regarding the contradictions and gaps inherent to crypto’s nature and users’ interpretations of them.

¹ A ‘rug pull’ is a type of crypto fraud where a crypto developer or team hypes a project to attract investor money with the only purpose of abandoning the project, leaving their investors with a valueless asset.

In order to explore people’s cognitive process, SMM uses a simple operational metaphor of bridging gaps, as illustrated in Fig. 1. People are seen as embedded in a context-laden situation. The person pictured as metaphorically constructing and crossing a bridge represents the way humans are naturally required to overcome chasms and ruptures in an always evolving and contradictory reality (Naumer et al., 2008). Through the process of bridging these gaps, people seek inputs from different sources and engage in meaning-construction activities that lead to particular outcomes. As an interviewing technique, and by applying the operational metaphor, the interview guideline follows the main, pre-specified SMM elements including Situation, Gap, Bridge, and Outcome. The Outcome further contains Helps and Hindrances in its achievement. Guided by the idea of bridging gaps, the Gap and Bridge thereby represent the core elements of sense-making. The interview participants were asked to verbally express and interpret actions and events in the form of personal thoughts and feelings. Fig. 1 includes typical interview questions for each SMM element, except for the Context, which does not necessarily require explicit interview questions in SMM, but is incorporated in the interview data whenever participants refer to the general background and its norms, values, and social meanings.

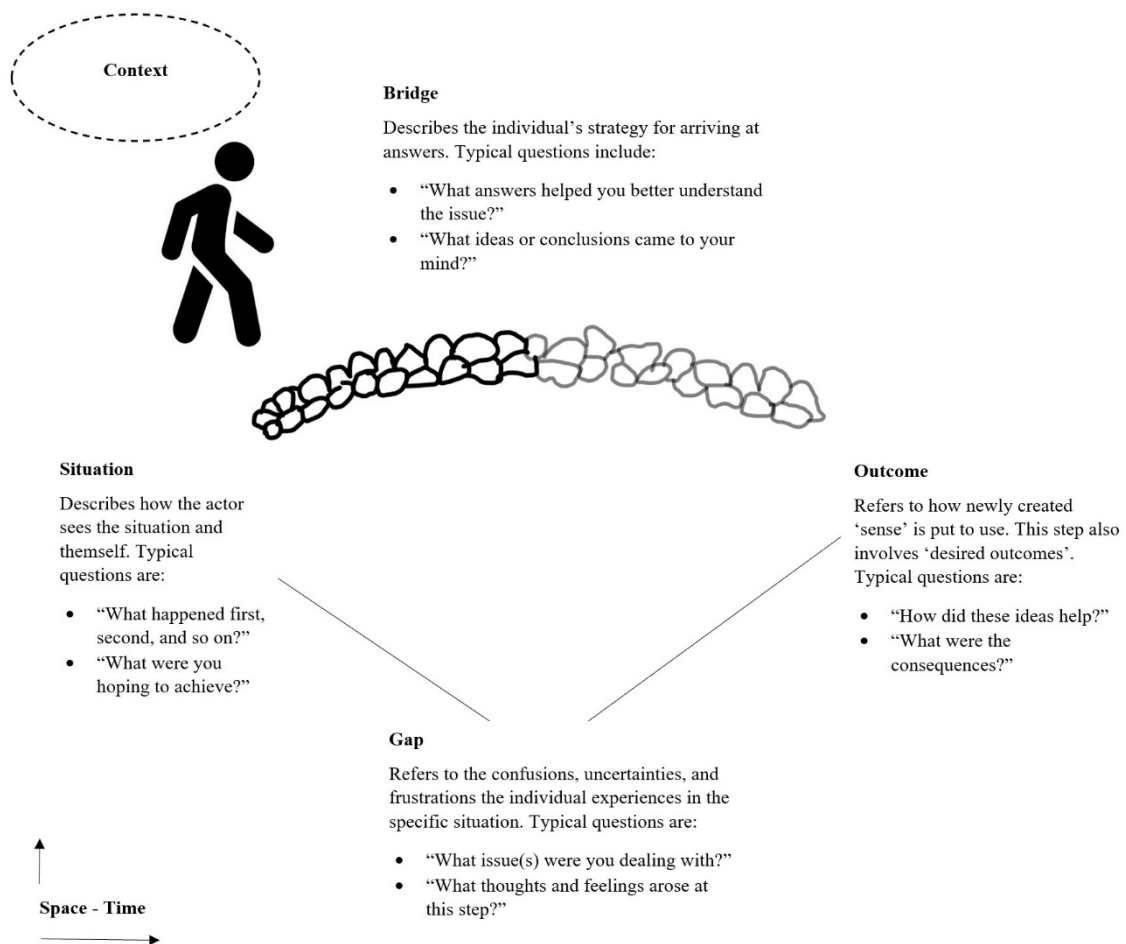


Figure 1. Central metaphor of SMM including its predefined concepts Situation, Gap, Bridge, and Outcome (own illustration based on Dervin, 1999).

3.2 Steps of inquiry

Participants were recruited within the Beethoven X Discord channel. Beethoven X is a decentralised crypto exchange and investment platform. Apart from being a platform for trading different tokens, Beethoven X has its own token, called BEETS. The primary researcher conducted in-depth qualitative interviews with two different participant groups, all of which were at least 18 years old: community participants and team member participants. The primary investigator informed members of the channel through multiple posts in a dedicated sub-channel, named “social science lab” and installed for this purpose, to explain the aim and scope of the study. Participants were selected based on the criteria of being either directly or tangentially affected by the LUNA crash. 19 interviews were undertaken with community participants, who are anonymous participants of Beethoven X’s Discord channel not involved with the project team nor necessarily involved with Beethoven X in a monetary way. Another 9 interviews were conducted with members of the project team behind Beethoven X. The final number of participants thus amounted to 28.

Both participant groups were experienced crypto users (2-3 years of experience on average), i.e., financially invested in crypto and actively trading cryptocurrencies, and deeply embedded in the ecosystem at the time of the crash. In line with the overarching aim to study users’ process of sense-making, the rationale for choosing two distinct user groups was to inquire whether there are any salient differences in the process of sense-making between ‘ordinary’ crypto users who are primarily impacted financially by the crash, and users who were additionally involved operationally as members of a crypto project team. As for the team member participants, the Beethoven X team was selected because, like many other protocols, Beethoven X was indirectly impacted by the crash due to the high level of interconnectedness of crypto projects. It also exemplifies a typical crypto project team, including mainly software developers, but also marketing staff, and a graphic designer. The entire Beethoven X team was interviewed. All interview participants (community participants and team member participants) were affected by the LUNA crash to varying degrees — if not directly by investments in LUNA, then at least due to the general market downturn — and grouped in three main categories: ranging from slightly (14 participants), moderately (4 participants), to highly affected (10 participants) (see Appendix A). All 28 interviews were conducted between May, 28 and June, 29 2022 and held on Google Meet, with both researcher and participant using pseudonyms, as is common in crypto spaces. The interviews were audio-recorded and transcribed verbatim for analysis. On average, the interviews lasted 54 minutes.

Since personal, potentially negative experiences can be challenging to articulate, the interviews were designed to leverage a visual method: Participants were asked to collect five to six images ahead of the interview that represent their thoughts and feelings related to the events around the crash. These could be personal photos, stock photos, screenshots, circulating memes, and so on. The interview guideline was structured around these visual conversation prompts, along with the aforementioned typical SMM questions to learn about participants’ backgrounds, future outlooks, and personal interpretations related to crypto and the crash as summarised in their own words. A corresponding interview question was, for example, “How does this image reflect your thoughts and feelings related to the crash?”.

3.3 Data analysis

Alongside the criteria of the SMM, the analysis of the interview data followed an inductive approach, using thematic analysis (Braun & Clarke, 2006) to identify patterns and themes in the participants’ responses. The collected images, while serving as prompts during the interviews, were not subjected to analysis. The analytical process consisted of two steps: First, participants’ responses underwent open coding assisted by the qualitative data analysis software MAXQDA. The inductively developed categories were then allocated to the respective dimension, namely the Situation, Gap, Bridge, and Outcome, of the SMM triangle metaphor (Fig. 1). To assist with validity, and ensure reliability of the results (Guba & Lincoln, 1982), both researchers undertook separate initial coding; around 30% of the dataset were double-coded in such a way. Through frequent intercoder discussions, code evaluation and

harmonisation, codes were refined and collated with data from the remaining transcripts, and eventually grouped into overarching themes through repeated reading of the dataset. In a second step, all interviews were mapped according to the SMM triangle metaphor to visualise ‘sense-making’ both as journeys experienced by each participant and as shared narratives across the network.

Overall, results show no major differences in the process of sense-making between the two participant groups. For this reason, we have chosen not to present the results divided into the two participant groups in the subsequent sections.

3.4 Ethical considerations

This study had an unusual genesis, which requires additional elaboration. When the LUNA crash hit crypto enthusiasts and retail investors in spring 2022, the primary researcher felt urged to conduct a prompt study to record the shifts in the community she observed. Being employed by Beethoven X as an in-house social scientist throughout the process, she considered the implications of this role with her identity as a researcher. From the start, the study was conceived with academic rigour. At that point, it had a twofold goal: to provide users with a confidential space to share their affective experiences related to the crash in order to inform the Beethoven X team on present attitudes and future policies, and to uncover users’ cognitive gaps with regard to the crypto space generally, and the crash specifically, as an academic inquiry.

As any online participant research, we grappled with the complexities of ethical research practice. Sharing Markham’s ethos that “every method decision is an ethics decision” (2005, p. 796), each research step was reflected in terms of its ethical implications and carefully weighed against matters of practicability. In the absence of universally accepted regulations on online research (AOIR Ethics Guidelines, 2019), a participant-centred approach sensitive to different levels of impact was followed, using Markham’s model as an assessment tool (see Markham, 2020). Participants were informed about the study and the conditions of their participation in writing in the Discord channel and again at the start of the interview. Informed consent was collected, and confidentiality and anonymity were maintained throughout the study. The data were securely stored and only accessible to the research team. No monetary compensation or any other advantages were offered to participants that may have influenced their behaviour or willingness to participate. The interviewed team members already knew the primary researcher, although only from occasional pseudonymous online meetings. The primary researcher’s position meant unique access to a community, pre-established ties to the team and their support in recruiting community participants. This meant fast-tracking many of the processes essential in time-sensitive research such as crisis narratives, compared to other studies on crypto communities where much effort and sometimes months are spent on gaining access (e.g., Maddox et al., 2017). Our research design decisions allowed capturing experiences and sentiments as they were unfolding and otherwise may have been lost due to the time elapsed. In a similar vein, the primary researchers’ position as an affiliate of the Beethoven X team may have fostered trust in the community participants and motivated them to be more forthcoming with information they believed to benefit the whole community.

4. Results

4.1 Narrativising ‘gaps’ and ‘bridges’

The results of the interview coding can be arranged on the SMM triangle map for each participant, which may then be turned into narrative form. To start with, the statements coded as Gaps and Bridges of two community participants with contrasting motivational drivers are presented in such a way, in order to illustrate the idiosyncrasies in the sense-making process. The original wording used by the interview participants was retained as much as possible.

Figure 2 illustrates the triangle map and collected images of participant 19, a community participant.

Participant 19 perceives the crash as a reminder of the self-interest driven behaviour that is ubiquitous in crypto. On top of the fragility of the space, he realises that self-interest driven behaviour is particularly present in ‘whales’².

The recent happenings and particularly the LUNA crash made him pull back and question the whole crypto space. He was wondering whether any of ‘this stuff’ really matters or whether it is just some ‘bullshit’ that people think makes a difference. He started questioning himself. He realised that so much in the space is beyond his control. One big player after another is dumping and most people are just not smart enough or fast enough to protect their own funds. They are just left sitting there. There are other similar examples crossing his mind. Based on past experiences, he recalls how difficult it can be to figure out whether projects and their founders are actually trustworthy. He was kind of getting lost and started debating things in his head.

He explains that he tried to work his way through and find himself again. He tried to get back to the stage where he wanted to be. He restarted ‘doing stuff’ that got him interested in the first place; ‘stuff’ that he was excited about when he started looking into crypto. So he resumed working with people with similar interests, trying to recreate some type of meaning. He describes it as a ‘lifestyle’ group, consisting of legal engineers, lawyers, and web3 developers. As a lawyer himself, working with like-minded people gives him the feeling of playing more of an infinite game — as opposed to the finite game, characterised by the ‘pump and dump’ mentality. It gives him a sense of community.

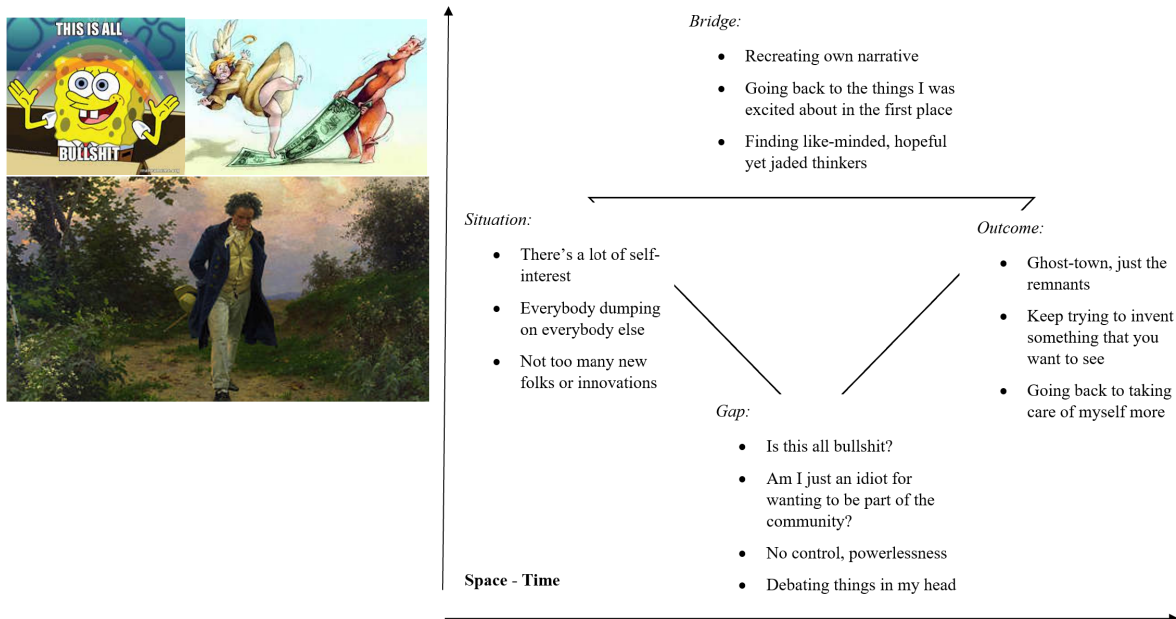


Figure 2. Triangle map and excerpt of collected images, participant 19.

Figure 3 illustrates the triangle map and collected images of participant 8, a community participant.

² Individuals or entities that own large quantities of a specific cryptocurrency.

Participant 8 describes the last few days as a bit of a blur. She truly believed that she was going to be a crypto millionaire and recalls thinking that LUNA would go up forever. She describes getting very cocky and excited. Then, all her positions were obliterated in the most spectacular fashion.

Ever since the de-pegging, she felt like there was a perpetual cloud above her. She felt devastated, felt like a failure. She remembers having so many questions: Were they rugs? Did she rug herself? Will she recognise it next time? She recalls the struggle between looking for anyone to blame and taking responsibility for her own behaviour. She felt like a victim, felt like these things were completely out of her control. But then again, she pondered: Didn't she put herself into this position in the first place? She isolated herself. After losing so much of her savings, it felt like an insurmountable task to build herself back up again. She had no motivation for anything.

She started reading about the difference between a victim versus a warrior. She realised that it was her own choice. She couldn't pity herself anymore, she had to step up her game in order to feel better. She started becoming more mindful of her own attitude and beliefs. Guided by her desire to be a warrior instead of a victim, she started to take responsibility. She started to take action. Moving forward, she will be more humble and educate herself better. Whenever she feels euphoric about a project, she will try to control her emotions and search for counter arguments.

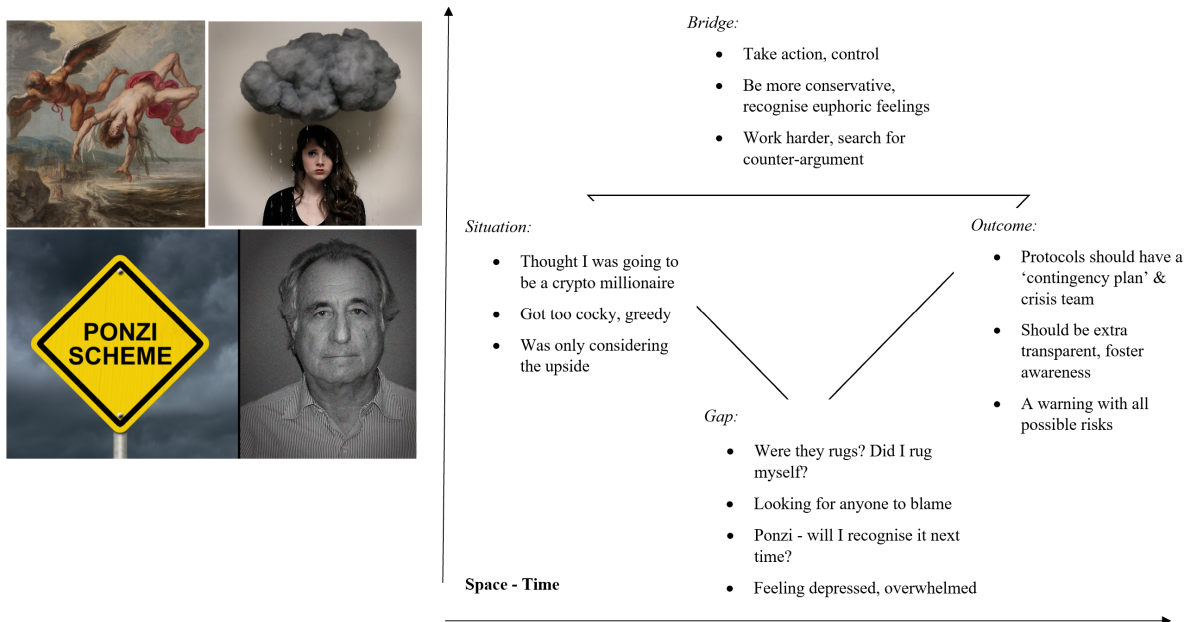


Figure 3. Triangle map and excerpt of collected images, participant 8.

The interview results and all 28 mapped sense-making journeys in combination revealed several major themes. Fig. 4 illustrates the main categories mapped onto the SMM triangle.

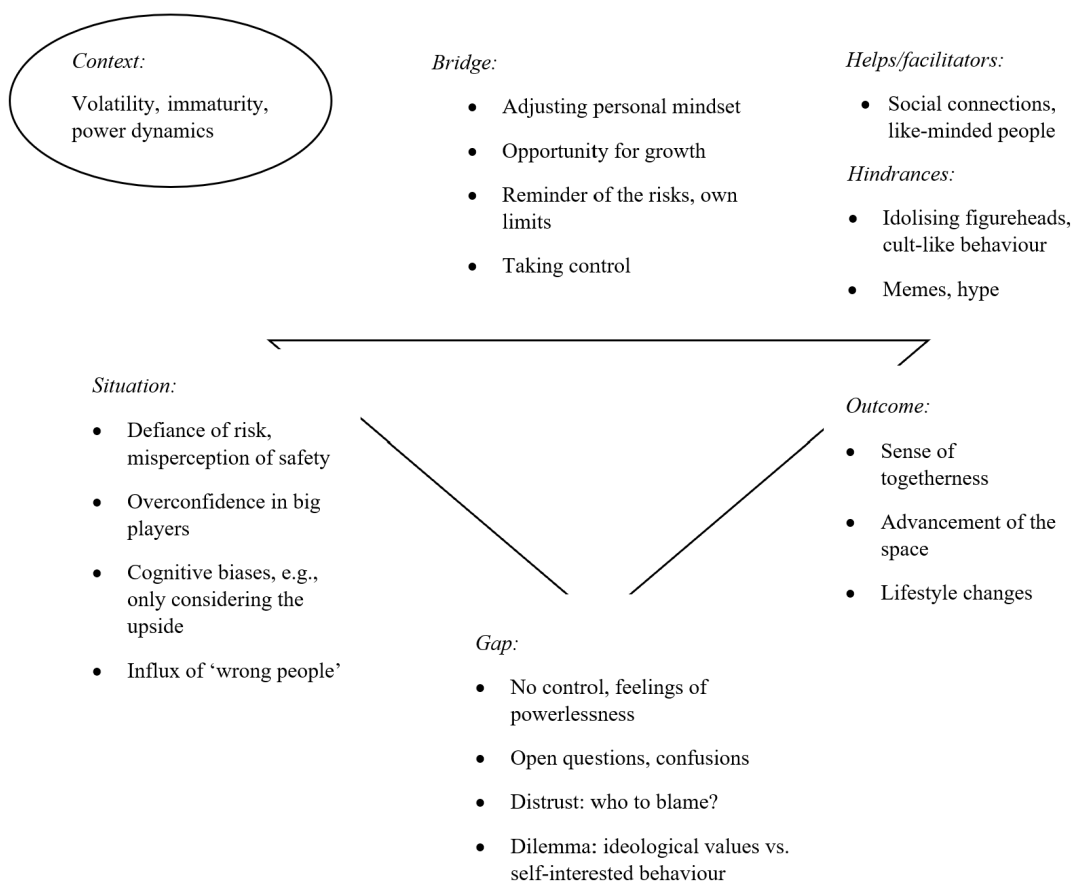


Figure 4. Extracted main categories from all 28 interviews, mapped onto the SMM triangle.

4.2 Context: Power and instability

The Context of the LUNA crash is often described with reference to crypto’s very nature and the power dynamics at work. Participants mainly point to an inherent volatility and immaturity of the system, which is exacerbated by the interconnectedness of its components, including protocols and value tokens. Crypto’s system was referred to as highly fragile, as participants emphasised, for example, how quickly liquidity can disappear: “it’s like water evaporating” (p-15). Due to the high uncertainty and interdependence, participants stress the feeling of constant anxiety related to the space: “You feel scared, feel nervous in such an environment” (p-12).

Moreover, participants highlighted unequal power distributions between big players — i.e. ‘whales’ — and retail investors within crypto. Interestingly, several participants explain that the ‘dysfunctional’ capitalistic system in traditional finance and today’s society was a main reason for them to get involved in crypto in the first place. By dysfunctional, they meant a misalignment of interest and power, typically with a few dominant players dictating the market. Several participants describe how they came to realise that exactly these power structures dominate the crypto market as well. One participant stressed: “When I got more engaged in the space, I saw that, in fact, [...] many practices are like in traditional finance. [...] yes, things are governed by the smart contract. But there are many things that [...] a powerful entity or whales with a lot of money can impact easily” (p-15).

4.3 Situation: Flawed assessments

Many participants reported a wish to challenge the crypto system by experimenting with different investment strategies, defying the risks involved. One user expressed: “Like Icarus, I was drunk with the power of my profits. I got cocky. I flew too close to the sun. I drowned, I failed” (p-8) (see image 1, Appendix B). This daring attitude is closely connected to the perceived safety described in interviews, suggesting that many participants were simultaneously aware of their investments’ riskiness and filled with conviction of their success. With regards to LUNA generally, and the stable coin mechanism of UST specifically, several participants declared to have overestimated its safety: “I got a false sense of security, [...] it seemed like a safer investment than it really was” (p-17). The wrong sense of safety along with previous positive experiences, a tendency to only consider the upside, and overconfidence in the ‘big players’ are prevalent themes across the interviews. Interestingly, both community and team members reported having had too much trust in big players and dominant leaders in the space, independent of their personal experience or knowledge. One community participant reflected: “It’s actually quite scary how much we just trust what people say without actually knowing what the code is doing” (p-9).

Another dominant theme pertained to a sudden spike of ‘wrong people’ turning to crypto during its previous market upturn, such as users who lack education, are unwilling to learn and only interested in the financial side of crypto, as expressed by one participant: “The latest influx of people [...], they’re here just for the money. They don’t really know how it works” (p-10). This is contrasted with ‘crypto ideologists’ who claim to be primarily interested in crypto’s underlying ideological values and its technology. This points at two ideologies opposing each other, whereby the ‘ideologists’ act as gatekeepers and discredit users primarily interested in crypto as a profit-making tool. Driven by high volatility and enticing gains, crypto attracts speculators and generates enormous hype bubbles, fuelling users’ excitement and encouraging risky actions from users hoping for ever increasing profits. While this type of user is perceived as detrimental to the crypto space, several participants exposed themselves as having fallen victim to the hype. Comparing it to gambling, participants, independent of their initial motivation, reported strong contrasting emotions including fear, excitement, and euphoria around speculation as the primary behavioural drivers in the space.

4.4 Gaps: Dilemmas and distrust

Upon the implosion of LUNA, many participants struggled with feelings of powerlessness, distrust, and inner conflicts related to the crash, as well as crypto in general. Participants often described a lack of agency: “It was kind of out of my control. [...] There’s nothing you can really do [...]. You just watch and hope” (p-17). Interestingly, while both participant groups described feelings of panic and despair, the team members — mainly software developers — additionally experienced a sense of guilt: “I feel bad that these things cannot really be avoided, and also, Beethoven is [...] indirectly part of this, even though we never asked people to invest in UST [...]. We knew the risk, but maybe we didn’t convey that enough to the users. [...] You’re trying to take care of the users and then it’s a much worse feeling to see users getting wrecked.” (p-21) In fact, the sense of responsibility toward ordinary cryptocurrency users, which consequently led to feelings of guilt stemming from their inability to manage the situation or provide assistance, was the only salient difference between the two participant groups. This observation is interesting, particularly when considering the attributes of crypto as a ‘trust-free’ domain that aims to make the need for human mitigation obsolete.

Another dominant theme was distrust. Interestingly, there are two discernible connotations of distrust in participants’ statements: a lack of trust in oneself, and distrust in others. The former describes participants’ perception of personal failure, as stated by one participant: “Because I fell for this Ponzi scheme, I don’t trust myself” (p-8). Distrust in others mainly stems from the event of the crash itself. The crash and similar previous events seem to have created distrust particularly between teams and their community: “If I’m not wrong, the founders [of LUNA] were not hurt in this process at all” (p-12),

participants suspected, or “maybe some seed investor dumps on [the investors]. Maybe the team dumps on them” (p-1). The theme of distrust was often referred to as reminiscent of traditional finance and political institutions.

While for some, the crash evoked an internal belief struggle, for others it intensified already existing inner conflicts, leading them to question the whole crypto system. Those participants felt torn between crypto’s ostensible ideological values and the prevalent self-interested, incentive-driven behaviour in the space described as ‘player versus player mentality’. One participant explained the situation as “everybody dumping on everybody else. [...] It was basically playing a carousel game or like ‘duck, duck, goose’, in a bad way, though, [...] you want to be one of the first to get out” (p-19). As indicated by the results, this hostile mentality mainly manifested in the form of a perceived ‘pump and dump attitude’, self-serving behaviour, and taking advantage of others, as observed even between teams and their communities: “Some teams and their community are like [...] family. But on chain, you see that the team dumps on its community” (p-1) (see image 2, Appendix B). This led to a central dilemma between ideology and revenue users faced in this exceptional situation. They struggled with the discrepancy between their belief in the community and in crypto to be successful in the long term, and their desire to realise short-term gains. This conflict typically resulted in questioning the endeavour of the whole space, as emphasised by several participants: “I was questioning myself [...]. What are we even doing here?” (p-9), and “does any of this stuff really matter? Or are we just idiots for thinking that it’s important?” (p-19).

4.5 Bridge: New mindsets and future preparation

Participants chose different ways to overcome the negative feelings, confusions, distrust, and inner conflicts associated with their Gaps. Primarily, they sought ways to search for higher meanings in the crash and re-establish a sense of control. As many found their framework of meaning shattered in the crash, they reacted by adjusting their personal mindset in order to re-establish a sense of meaning and trust. Being stuck in a mindset of questioning the space due to contradictory values and beliefs was described as mentally exhausting. To correct this, participants tried to restore a sense of equilibrium by searching for a higher purpose (see image 3, Appendix B). Users mainly did so by reminding themselves of their initial motivation for participating in crypto and adjusting their viewpoint: “I’ve just been purely looking at it from the perspective of not thinking about money” (p-5). This strategy helped participants to put the crash into a holistic perspective and reclaim confidence. Despite the enormous distress and financial loss that the crash had caused, both participant groups equally reported perceiving it as an opportunity for personal growth. This is specifically pertinent to users who believe in a higher vision of crypto.

Two more dominant narratives were equally future-oriented: The viewing of the event as a necessary reminder of the risks in crypto investing, and of the participants’ own limits in knowledge and foresight. As a reaction to this reframing, many strove to regain a sense of control through minimising risks by choosing more conservative investment strategies, taking action, such as improving their skillset through targeted education, and mentally preparing themselves for similar events. This mental work was also visible in participants’ intent to better control their emotions in the future and practise mental resilience to potential shocks. By recognising euphoric feelings and correcting their behaviour accordingly, participants hoped to draw wisdom out of their experiences that would serve them henceforth: “Next time when I feel that euphoric feeling, I’ll know it’s time to be more conservative and take profits” (p-8).

4.6 Helps in bridging the Gap: Social relationships

Interestingly, participants primarily emphasise social aspects in terms of facilitators for bridging their Gaps. Participants reported that connecting with like-minded people, supporting and reassuring each other contributed to resolving their inner conflicts and uncertainties related to the crash. According to the informants, sharing the experience and connecting with others made them feel better: “I’m in a bunch of

groups like [...] crypto friends, [...] people I have never met in real life [...]. We bounce ideas and just speak about everything and nothing. We are all going through the same difficult experience together” (p-3). This social support seems to have contributed to re-establishing a sense of purpose, regaining trust in the space, and coping with the experienced stress.

4.7 Hindrances in bridging the Gap: Crypto culture

Despite its merits, participants perceived certain elements of the ‘crypto culture’ as hindering in achieving certain goals. This culture involves language that uses identity markers, memes, and signalling, i.e., conveying information to instruct someone to behave in a certain way, as a means of communication. Idolisation especially was brought up by both community and team members. Participants emphasised that there exists an almost cult-like behaviour in crypto communities, mainly driven by powerful leaders. According to the participants, Do Kwon was one such figurehead that people trusted and admired. Adopting a cultish behaviour was perceived to be detrimental to the progress of both users’ personal development and the space itself, as it, often unconsciously, discourages taking a critical stance towards decision-making and behaviour. Accordingly, one user pointed out: “Hopefully people will stop idolising huge figureheads [...]. Just everyone building together would be nice” (p-5). Similarly, participants stressed the underlying risk of memes. Memes are a fast way to disseminate a message and typically used to express emotions or a certain narrative. However, some users described this typical communication tool as a way of deferring responsibility and misleading people through an illusion of community. They point to crypto’s ostensible community-centeredness, “the illusion of ‘we’re all going to make it’, ‘we’re all a community’” (p-18), as a fallacy. Image 4 (Appendix B) represents a circulating meme in crypto to convey a false sense of “we’re all going to make it” — referred to as “WAGMI” in crypto vernacular — by enduring stressful situations.

Moreover, the hype around crypto — mainly constructed by mass media, influencers and celebrities, according to the participants — created attention that hindered the organic development of crypto. One user pointed out: “The LUNA UST thing raises much attention [...] from mass media, [...] even the normies, ordinary people, are talking about it” (p-1). This Hindrance ties back to the perceived influx of ‘wrong people’, identified as an issue as part of the Situation.

4.8 Outcome: Standing together and focus on health

Prevalent Outcomes refer back to the social relationships emphasised as Helps in the form of a sense of togetherness, to the readjustment of one’s mindset, and the growth and maturing within the community. According to the data, watching an entire market including one’s personal funds collapse caused a traumatic experience for many users, providing a deep connection between them. It seems that the importance of community has become evident particularly due to the crisis, as expressed by one participant: “It has actually brought the community together a lot more [...], people are looking for that humanistic connection now because everyone is kind of reeling from the shock” (p-5) (see image 5, Appendix B).

Additionally, crypto exists largely detached from the ‘outside world’. Even from a user perspective, the crypto space can be hard to grasp. This creates an isolating environment with dynamics and experiences that are difficult to relate to from an outside perspective, as voiced by a participant: “My family and friends [...], they really don’t have a sense of what’s going on. So I ended up not trying to explain it, you know, [...] in some ways I silo it” (p-4). Amongst users, the shared experience related to the crash created the sensation of an inner circle of those affected. After the crash, a significant number of people remained inactive or left the crypto space: “It is like a ghost town of a blockchain. [...] Everything is actually still working. It’s just that the community has been decimated” (p-17) (see image 6, Appendix B). However, those who remained and will continue to remain in the space were seen as particularly valuable, as they ostensibly have a more earnest interest in the sustainable development of

crypto, as opposed to users who participate solely for quick financial gains. This category is seen as a counteraction to the perceived ‘immaturity’ and ‘wrong people’ entering the community, highlighted as issues in the Context and Situation.

Lastly, across the interviews, the need for lifestyle changes was an important realisation for study participants after the crash. This primarily refers to being more considerate of one’s mental and physical health. One team member stated: “It’s been pretty taxing on body and mind” (p-22). In contrast to the other Outcomes, this refers to participants’ personal life goals. In a fast-paced and highly volatile market, demonstrating an ‘always on’ mentality was described as inherently stressful. Intensified by the experience of the crash, participants described having become more mindful of their own health. For some, this involved less time spent in crypto spaces, for others less screen time in general, as they felt in need of “taking a break from it at all, you know, because this space can be so consuming” (p-4), “I will be less active in crypto for sure [...], so less time behind the computer and more time out in the sun” (p-10).

5. Discussion

Overall, the results reveal several conflicts and contradictions that appear to be inherent to crypto’s nature, providing evidence of the promissory gap manifested in practice. A major category derived from users’ narratives concerns the power imbalances between actors in crypto, which is connected to feelings of distrust and a lack of control. As suggested by the results, unequal power dynamics primarily stem from a technocratic order within the blockchain system, whereby technological experts and large crypto projects or protocols dominate the market, implicitly requiring trust, as observed in the case of LUNA. This provides evidence for a re-centralisation of power and thus, required trust in crypto’s social infrastructure, i.e., between participants who are actually transacting and interacting with each other, as discussed by other scholars (e.g., Rehak, 2019; Vidan & Lehdonvirta, 2019). The trust users invest in such self-appointed authorities within the network entails dependencies and risks, limiting users’ sense of agency and ability to act. Ironically, however, this is exactly what crypto’s guiding ideological maxim originally sought to make obsolete.

Due to the high distress and distrust caused by the crash, users pursued different strategies to construct new meanings and restore a sense of control related to the space. Social relations including connecting with like-minded people appeared as a primary facilitator in doing so. Compensating for a perceived lack of personal control by engaging in meaningful and (more) predictable social relationships is in line with the compensatory control theory. As humans exhibit an innate need for control over their (social) environment, compensatory control helps people reduce the perceived chaos of social life (Kay et al., 2009). Especially in the face of uncertainty, compensatory strategies can increase the sense of personal agency and re-establish meaning structures (Picione & Lozzi, 2021). Many study participants refer to the relevance of connecting with other affected users to process what happened and re-establish trust, leading to strong feelings of togetherness in the crash’s aftermath. This aligns with previous studies on the positive effects of shared negative experiences or trauma for fostering social bonds and providing an attachment between people (Schwarzer et al, 1994). Moreover, it generally points to the importance of social support as a protective effect against stress (Cohen & McKay, 1984). Even though the significance of the network of users is seemingly integral to crypto’s ethos, the word community is used in a manner within crypto that typically lacks seriousness. However, the value of meaningful social relations, especially for regaining control and trust, seems to have become more pronounced during the crisis. In a scenario where trust in central players and experts is breached, users appear to primarily seek trust in like-minded users. For better or for worse, therefore, crypto investors tend to look for trust in other people, not code.

A further major category pertains to questioning the economic system in crypto, and questioning oneself as a participant in it. The results demonstrate that participants’ primary motivational drivers for participating in crypto determines their sense-making: driven by distinct motives, users experienced

different inner conflicts and employed contrasting strategies to move past their (self-)doubts. Those who primarily participated for ideological reasons tended to re-establishing meaning by reminding themselves of the fundamental appeal of crypto and its potential positive impact on the world. These participants framed the crash as a necessary ‘cleansing’ of detrimental developments and people undermining the ideological vision. Meanwhile, those who engaged primarily for financial reasons seemed to be more bothered by their personal and others’ behaviour during the crisis, directing blame at others as much as at themselves. They explained the crash through other people’s viciousness or greediness rather than a multifactorial situation, pointing to a fundamental attribution error (Jones & Harris, 1967) where observers overemphasise dispositional or personality-based factors for behaviours observed in others while underemphasising situational factors. Notably, participants simultaneously acknowledged their personal failures in the process. They gave meaning to their financial losses by framing them as valuable learning opportunities regarding the risks of cryptocurrencies and their own personal limitations in knowledge and susceptibility to emotional manipulation.

The distinct sense-making strategies of the two user groups, namely the ideologists and the revenue seekers, shaped by their initial interest in crypto, corresponds to discussions of incompatible values (Swartz, 2018) and Lehdonvirta’s (2022) argumentation that crypto attracts ideologists versus ‘deal-makers’. The mismatch of fundamental values and goals between these two interest groups further becomes visible in users’ shared dilemma of whether to realise short-term gains or adhere to long-term beliefs in crypto. This conflict seems to be primarily rooted in crypto’s incentive-driven economic design that encourages self-interested behaviour through profit maximisation, even at other participants’ expense. Accordingly, crypto’s underlying competing money principles undermine the promise of ‘trust-free’ money (Dodd, 2018). This insight is consistent with the notion that crypto’s ethos denies the social nature of money³ (DeFilippi et al., 2020; Dodd, 2014, 2018), and particularly Dodd’s (2018) argumentation that crypto will succeed as money to the extent that it fails as an ideology.

6. Conclusion

6.1 Theoretical implications

This study is one of the first empirical investigations to provide an in-depth understanding of crypto users’ perspectives on and interpretations of the space. By documenting how crypto investors make sense of a market crisis, it provides insights into the human aspects driving developments in cryptocurrency adoption. The results demonstrate a distinct social embeddedness of the crypto system despite its technological promises of not relying on social structures. Generally, in contrast to conventional currency collapses where investors predominantly show responses in the form of negative emotions including anger and remorse (Griffith et al., 2020; Hoffman et al., 2007), this study unveils more complex responses, reflecting crypto’s ideological nature. Some investors appear to undergo an identity crisis related to the space. This points to crypto as a technology charged with promises of a completely new digital market system, as opposed to simply a financial service provider.

The theoretical contribution of this study is threefold: First, it adds a participant-oriented perspective to the discussion of the promissory gap, especially crypto’s assurance of not requiring trust in third parties and its practical reality of (re-)centralisation of power (Rehak, 2019; Vidan & Lehdonvirta, 2019). Spearheaded by technological experts and authoritarian crypto projects, these new structures shift the original problem of trust from powerful actors in the non-digital space to new, uncontrolled, or even uncontrollable power centres within the crypto network. So far, as argued by Rehak (2019), the aspiration to solve social and societal issues through neutral technology has remained unattainable, even with blockchain code. Although (blockchain) technology in itself may reduce the need for trust, new dynamics

³ The relationship between money and trust has been analysed by Simmel (1978).

of trust in people, rather than code, are introduced by the promotion of social interactions within the community. Second, and linked to the promissory gap, this study provides evidence of crypto's embeddedness in complex social structures. Money as a form of value exchange depends upon social relations, especially when a completely new currency is tried to be established. Thus, any form of money supposes more complex social processes than the mere inscription of trust in automated code or 'digital metal'. Third, the findings of this study add to the discussion of crypto's incompatible ideological values between ideologists and deal-makers (Swartz, 2018). It is not simply that investors justify crypto's *raison d'être* in different ways; rather, various motivational drivers for engaging with this assemblage bring to light different uses and behaviours. Thereby, it seems that crypto's underlying competing money principles, by driving economic value maximisation, suppress the ethos of decentralised power structures for a more liberal, autonomous, and fairer society. Crypto's success as an ideology seems to conflict with its real-world application as a form of money.

6.2 Limitations

Studying a community that is innately digital and pseudonymous comes with some limitations. Previous academic studies highlight the challenges involved with researching crypto communities (Karlström, 2014; Maddox et al., 2017). While entering the field posed no obstacle in our case, we do not have a clear image of demographic parameters in the sample. Having decided against collecting identifying information so as to not violate the normative anonymity in crypto communities, targeted sampling for the purpose of diversifying the participant pool across identity categories was not possible. Collecting identifying data in a space that actively advocates for anonymity would raise ethical concerns. Relatedly, conducting research in partly anonymous online spaces brings limitations in terms of self-report data and potential selection bias. These limitations, however, apply to various forms of online research in general (Janssens & Kraft, 2012) and are not exclusive to crypto spaces. Further, this study was case-specific, as it exclusively referred to the LUNA crash and was conducted with participants from a single protocol that is not directly related to LUNA, representing merely a snapshot in time of a fleeting, ever-changing community.

6.3 Future directions

The results show tendencies that may apply more broadly to crises in crypto. During the course of the interviews, participants often referred to similar events, providing evidence of recurring patterns around crypto crashes and in crypto markets more generally. This is a relevant insight since crises are commonplace in crypto. Nonetheless, it would be interesting to compare crypto users' process of sense-making across multiple cases and over time, for example immediately after a crash and several weeks and months later.

Moreover, some of the insights generated by the sense-making process include actions and behaviours that seem characteristic of crises in general. This particularly refers to social support and social bonding through shared negative experiences (Schwarzer et al., 1994). Yet, since crises are omnipresent in crypto, this insight is significant in that it emphasises the relevance of strengthening social connections. Future studies could explore the role of social bonding that may be particularly relevant, but also arduous, in a digital, pseudonymous space with little in-person interaction. Additionally, future studies may investigate the correlations of users' personality traits with their attitudes towards crypto. These factors may influence risk perceptions and decision-making as part of the sense-making.

Finally, as crypto continues to gain popularity as a digital network of users on a global scale, more multidisciplinary research will be needed for an in-depth understanding of its communities, user behaviour, and social dynamics. With a need for trust and control prevalent in crypto's social infrastructure, as demonstrated by the study, in-depth ethnographic, but also psychological research on

the establishment of trust in a decentralised, anonymous space is needed. Ultimately, such insights into user behaviour will allow better comprehension of underlying drivers and of crypto's future prospects.

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Appendix A

Participant list – ordinary crypto investors

Participant	Gender	Months/years of experience with crypto at the time of the interview	Role in crypto at the time of the interview and profession outside of crypto	Degree of impact LUNA crash (low-medium-high)
1	Female	4 years	Full-time crypto trader and investor	high
2	Male	7 months	Active crypto trader; electrician	medium
3	Male	6 years	Full-time trader, investor, and mentor for first-time crypto traders; former manager in traditional finance	high
4	Male	6 months	Active trader, investor; economics student	medium
5	Male	6 months	Active trader, investor; aerospace engineering student	high
6	Male	9 months	Active investor	low
7	Male	5 years	Full-time trader and investor	high
8	Female	4 years	Active trader; salesperson	high
9	Male	5 years	Full-time investor and crypto community manager; former lawyer	low
10	Male	5 years	Full-time trader and investor; former human resources manager	high
11	Male	5 years	Active trader and investor	low
12	Male	1 year	Active trader; business analytics student	high
13	Male	1 year	Active trader; psychologist	medium
14	Male	8 years	Active trader and investor; software developer	low
15	Female	1 year	Active trader and investor; financial manager	low
16	Male	9 months	Active trader and investor; salesperson	high
17	Male	2 years	Active trader and investor; PhD student	medium
18	Male	2 years	Full-time trader and investor	high

19	Male	1 year	Active trader and investor; lawyer	high
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Participant list – team members Beethoven X

Participant	Gender	Months/years of experience with crypto at the time of the interview	Role in crypto at the time of the interview and profession outside of crypto	Degree of impact LUNA crash (low-medium-high)
20	Male	9 months	Full-time software developer at Beethoven X	low
21	Male	2 years	Part-time software developer and advisor at Beethoven X; active investor	low
22	Male	5 years	Part-time marketing manager at Beethoven X; CEO of a company	low
23	Male	5 years	Part-time marketing manager at Beethoven X; partner and marketing manager	low
24	Male	5 months	Full-time software developer at Beethoven X	low
25	Male	7 months	Full-time marketing manager at Beethoven X	medium
26	Male	9 months	Part-time graphic designer at Beethoven X; graphic designer	low
27	Male	5 months	Part-time software developer at Beethoven X; software developer	low
28	Male	1.5 years	Full-time software developer at Beethoven X	low

Appendix B



Image 1: 'Defiance of risk' reflected by 'Icarus flying too close to the sun'; same image collected by several participants.



Image 2: 'Team and community: friends or enemies?'; image collected by a participant.



Image 3: 'Finding meaning'; image collected by a participant.



Image 4: 'Crypto culture as a Hindrance'; same image collected by several participants.



Image 5: 'Sense of togetherness'; image collected by a participant.

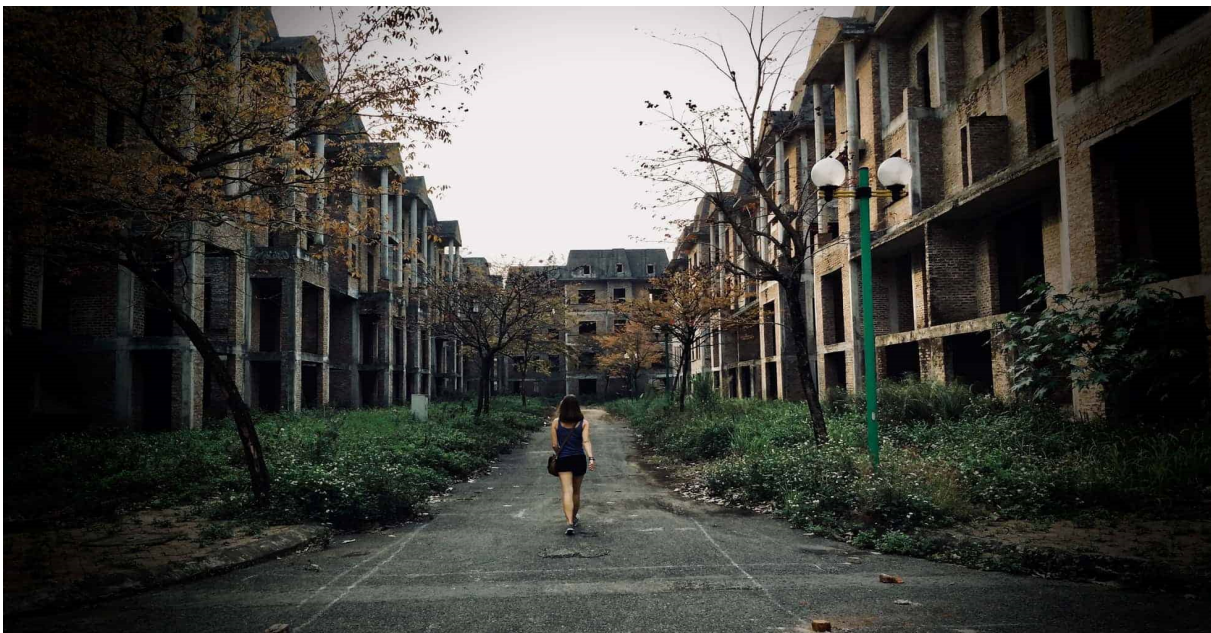


Image 6: 'Ghost town'; image collected by a participant.