Proceedings of the
7th European Conference on Social Media

UCLan Cyprus
Larnaca, Cyprus
2-3 July 2020

Edited by
Dr Christos Karpasitis
Mrs Christiana Varda

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Proceedings of the

7th European Conference on Social Media

ECSM 2020

Hosted By

University of Central Lancashire - Cyprus

(UCLan Cyprus)

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Dr Christos Karpasitis

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ECSM Preface

These proceedings represent the work of contributors to the 7th European Conference on Social Media (ECSM 2020), supported by UCLan Cyprus, Larnaca on 2-3 July 2020. The Conference Chair is Dr Christos Karpasitis and the Programme Chair is Mrs Christiana Varda, from the University of Central Lancashire - Cyprus (UCLan Cyprus).

ECSM is a relatively new, but well-established event on the academic research calendar. Now, in its 7th year, the key aim remains the opportunity for participants to share ideas and meet. The conference was due to be held at UCLan Cyprus, but unfortunately, due to the global Covid-19 pandemic it was moved online to be held as a virtual event. The scope of papers will ensure an interesting conference. The subjects covered illustrate the wide range of topics that fall into this important and ever-growing area of research.

The opening keynote presentation is given by Adam Johnsson, CEO and Founder, Thèque Marketing, Stockholm, Sweden on the topic of *How-to engage and sell through social media.* On the second day, Pantelis Vladimirou, MD, Webarts, Cyprus will give a talk on the subject: *How Consumers are becoming influencers of a Brand*.

With an initial submission of 97 abstracts, after the double blind, peer review process there are 41 Academic research papers, 7 PhD research papers and 1 Masters Research paper published in these Conference Proceedings. These papers represent research from Botswana, Canada, Cyprus, Czech Republic, Egypt, Finland, Germany, India, Ireland, Italy, Lithuania, New Zealand, Norway, Poland, Portugal, Romania, Russia, Saudi Arabia, Serbia, Slovakia , South Africa, Turkey, UK, USA and Vietnam.

We hope you enjoy the conference.

Dr Christos Karpasitis

University of Central Lancashire - Cyprus (UCLan Cyprus)
Cyprus
July 2020

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Blockchain Technologies and Social Media: A Snapshot

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Abstract: Facebook has proposed to integrate the cryptocurrency 'Libra' into its services, a plan which has been heavily discussed in science, business and politics. On Steemit.com one receives a tradable-token namend Steem in return for writing popular articles or post comments while at Wildspark.me one is rewarded for discovering the next big YouTube video. This shows that Blockchain technologies have an undeniable influence on the development of today's Social Media Networks. On the one hand, we have the technology hype around Blockchain and what kind of new applications are made possible, and on the other hand, the speculation hype around digital tokens (cryptocurrencies) and new forms of investment (ICO, STO), which have in turn resulted in a large number of start-ups in the Social Media and Blockchain sector. Start-ups and products, which quite often disappear from the market in a relatively short time. This paper provides a Snapshot, how Blockchain technologies could influence established Social Networks and gives an overview of known start-ups and their platforms which facilitate Blockchain technologies (like Steemit, Social X, Obsidian, Indorse, Sola, HyperSpace, Ardor.rocks a.s.o.). Finally, a discussion on how Blockchain technologies can be used beyond speculation is provided.

Keywords: Blockchain, DLT, social media, utility tokens, cryptocurrencies, rewards

1. Introduction

In Blockchain jargon, a snapshot is a verified copy of a Blockchain database at a certain point in time (to assist in synchronizing new nodes[1], or to initiate a fork[2]), a specific timestamp[3] (to allow an airdrop[4]), or the ability to historically record the price development of traded tokens and cryptocurrencies. For the purpose of this paper, a snapshot is intended to be the capturing of the current status on the use of Blockchain technologies in Social Media; four years after Ned Scott and Dan Larimer founded Steemit Inc (www.steemit.com). Stemmit is currently the most popular social network based on token economics and a certain degree of decentralization[5]. In 2010 Kwon and Wen describe a Social Network Service (SNS[6]) as an individual webpage which enables online, human-relationship building by collection useful information and sharing it with specific or unspecific people, referring to platforms like Facebook (www.facebook.com), Hi5 (www.hi5.com), Cyworld (https://cy.cyworld.com/cyMain) or MySpace (www.myspace.com). While the definition still fits perfectly in 2020, from the top platforms listed 10 years ago, only Facebook remains to be of global relevance according to today's viewpoint. The ongoing change regarding which platform is considered relevant is similar to the current situation with new social networks using Blockchain technologies. But the 'coming and going' of these platforms is likely to be even faster than in the early days of traditional social networks.

[1] Generalized, a node is a computer that operates a mirrored copy of a Blockchain, synchronized and verified with all other computers on the network.
[2] A fork means if a Blockchain diverges into two potential paths forward.
[3] A timestamp is a sequence of characters or encoded information identifying when a certain event occurred, usually giving date and time of day
[4] An airdrop is a distribution of a cryptocurrency or token
[5] Decentralization is the process by which the activities of an organization are distributed or delegated away from a central, authoritative location or group
[6] Nowadays referred to as social media

2. Related work

Ciriello et. al. (2018) describe a Blockchain Social Network (BSN) as:

> *[…] a decentralized social media platform that provides a reward mechanism for online user behavior, such as the creation, curation, and consumption of user-generated online content, here understood as social networking practices. Through their contributions, users gain reputation and wealth in form of tokens. […]' (p2)*

This definition is limited to the use of blockchain tokens in the form of reward systems. Apart from using cryptocurrencies and tradeable to FIAT currency tokens as Incentive (Zhang, 2019; Ciriello et. al., 2019) there are some fundamental reasons to use Blockchain technology within the context of social networks. The following potential applications have been identified by the authors:

- The embedding of existing or self-initiated (cf. Facebook Libra[7]) cryptocurrencies as a means of payment within the Social Media platform. (Claim: Banking the unbanked) (Vivek, 2019)
- To establish decentralised name servers (Kalodner et. al, 2015)
- The use of Blockchain technologies to protect the ownership and/or author. (Cai et. al., 2018)
- Blockchain to prevent spreading rumours (Chen et. al 2018)
- Blockchain is used to prove that any media used it is a non-manipulated original (Bhowmik and Feng, 2017)
- Protect users from deep-fakes, due to Blockchain implementation. (Hasan and Salah, 2019) [3,4 and 5 can be summarized as Fake News prevention]
- Safeguarding freedom of speech through decentralised server infrastructure (Stjernfelt and Lauritzen, 2020)
- Improve and secure Online Advertising (Pärssinen, 2018)
- Providing control over the sharing preferences (Murimi, 2019)
- Secure and encrypt peer2peer messages (Unger et. al, 2015)
- Digital Identity/log in management using self-sovereign identity (SSI) (Sovrin Foundation, 2017)

The authors propose the term Blockchain Embedded Social Networks (BESN) for all social networks and social messenger services that have integrated blockchain technologies in one or more of the points mentioned above and use the existing term Blockchain Social Networks (BSN) for platforms, where tokens or cryptocurrencies only solve the purpose as reward for participation.

3. Blockchain technologies: Background

By definition, a Blockchain is a continuously growing chain of blocks, each of which contains a cryptographic hash of the previous block, a time-stamp, and its conveyed data (Nofer et. al, 2017). Grech and Camilleri (2017) describe (positive) effects of Blockchain technologies, like self-sovereignty, trust, transparency, immutability, disintermediation and collaboration. The concept of Blockchain, as we know it today, derives from Satashi Nakomoto's Whitepaper 'Bitcoin: A Peer-to-Peer Electronic Cash System', published in late 2008. Originally intended to create a non-manipulable account book to represent the possession of digital tokens, which in turn are traded for money on exchanges or over-the-counter (peer2peer), it is now about the technology behind it and what applications can possibly be developed using Blockchain technology to secure transactions. The idea of using the Bitcoin Blockchain for more than 'proof of payment transactions' arose from the fact that you can attach text messages to a transaction. To create an account book of any imaginable transaction, a fraction of Bitcoin (so-called Satoshis) was sent to an address and the text to be recorded was attached to it as a text message and thus stored forever on Blockchain. However, if such information is simply stored as a text message attached to the same kind of token, this strongly limits its possible applications. And since Bitcoin was not originally intended for other applications apart from payment, in early 2010, a network in which sub-tokens (metatokens) can be generated for a specific application was developed. The Blockchain systems NXT (https://www.jelurida.com/nxt) and Ethereum (https://ethereum.org) are particularly noteworthy in this context from a historical as well as current perspective. NXT was the first pure Proof of Stake (PoS) system, a different approach regarding consensus finding to Proof of Work (PoW), which is by the way considered environmentally friendly. The Blockchain Social Network Steem uses a Delegated Proof of Stake (DPoS)

[7] Fortune.com about Facebook Libra: https://fortune.com/longform/facebook-libra-stablecoin-digital-currency-crypto/

consensus mechanism, where users with a high stake have more power over the distribution of the tokens than users with a smaller stake (Ciriello et. al 2018). Dos Santos (2018) presents a detailed comparison of the two mining algorithms/consensus finding mechanisms. On the other hand, Ethereum is the second most important Blockchain system after Bitcoin, especially in terms of market capitalization. Both Blockchain systems mentioned also have another distinct feature - the possibility to develop smart contracts8. While Ethereum makes this possible with Solidity, a specially created programming language, NXT uses so-called lightweight smart contracts in Java. This offers less design freedom, but potentially a higher level of security. Blockchains can be classified into three major categories (cf. Wan et. al 2019):

- 1. Private Blockchain: basically, a closed system and exclusively operated within organizations, businesses or government structures. No information is disclosed to the outside world, except, where appropriate, evidence of a transaction that has taken place.
- 2. Consortium Blockchain: serves related parties that have a common goal and organizations can join the consortium Blockchain on common agreements. Again, no information is disclosed to the outside world, except, where appropriate, evidence of a transaction that has taken place.
- 3. Public Blockchain: has no restrictions regarding joining/or leaving Blockchain. All information is public, although it is possible to store some information in encrypted form.

Researchers like Konashevych (2018) argue that private and permissioned Blockchains are not to be considered as a Blockchain in its original form. *<Author removed for blind review>* (2018) created a comparison table to compare Blockchain systems on the sub-tokens/metatokens, often referred to as utility tokens (all meaning tokens with a specific purpose, possibly other than use as means of payment), that can be generated. Besides the already mentioned system NXT and Ethereum, there are (among others) worth mentioning systems, including Ardor (https://ardorplatform.org/), Cardano (https://www.cardano.org/en/home/), Ethereum Classic (https://ethereumclassic.org/), NEM (https://nem.io/), NEO (https://neo.org), Tron (https://tron.network/) and Waves (https://wavesplatform.com). Nevertheless, due to the decentralized development, the still short time (10 years) of the Blockchain idea itself and the interest of industry and society even more recently, there is still no satisfactory standardized "wording" or "definition" of the different types of tokens (follow discussion e.g. from Ballandies et. al. 2020) especially an urgently needed differentiation of various different utility tokens according to their use cases. This classification could ensure that a different legal perspective applies to different cases. Therefore, *<Author removed for blind review>* proposed a segmentation regarding Blockchain-based assets at the *<Conference not shown for peer review reasons (2019)>*. The proposed category system is a further iteration for the purpose of this paper:

- Cryptocurrencies: Tokens with the purpose to serve as currency supplement and to transfer monetary values. Traded on dedicated exchanges or over the counter [Like Bitcoin (BTC), Litecoin (LTC)]
- Stable-Coin: Tokens with the purpose to serve as currency supplement and to transfer monetary values, with a nearly fixed conversion rate to a FIAT reserve currency [Like Tether (USDT), USD Coin (USDC), AEUR (AEUR)]
- Tradeable network maintenance utility tokens: Tokens which serve as a reward to maintain the network and which are traded on exchanges. May also have aspects of other token categories, e.g. additionally serve as cryptocurrency [Like Ethereum (ETH), Ethereum Classic (ETC), NXT (NXT), Ardor (Ardr)]
- Non free-tradeable network maintenance utility tokens: Not traded on exchanges, but their distribution can determine the power within a consortium-based (or private) network [tokens that are not traded on exchanges but distributed from a smart contract or centralised authority, mostly with a fixed number of issued tokens from the beginning, like a typical PoS approach; this could be also a token that represents a right to vote for something (and its voting power)]
- Tradeable utility tokens: Tokens that have a specific purpose, e.g. to represent a digital or a real good. The value of this asset is determined by supply and demand on a token trading exchange [like Steem (Steem), Augur (REP), or 'historic' approaches like Amps (AMP), NEXIUM (NXC)]
- Fixed-price (including peer2peer price-negotiable) tradeable utility tokens: Tokens that have a specific purpose, e.g. to represent a digital or a real good. The value of the token is determined by the issuer; a third party that has a contract with the original publisher that allows them to set the prices, as a result of

[8] A smart contract is a self-executing contract with the terms of the agreement between buyer and seller being directly written into lines of code. The code and the agreements contained therein exist across a distributed, decentralized Blockchain network.

negotiations, or for example at a classic auction (as a restricted bargaining room) [any specific token that represents e.g. a digital art piece, or a real life item of value (indicating its ownership]

- A (tradeable or non-tradable) token representing a share of ownership or a share of contribution to something, leading e.g. a certain reward [Like KuCoin Shares (KCS), Huobi or Binance Coin (BNC)]
- Non-freely tradeable utility tokens: These tokens store data, such as certificates, grades, ownership of a piece; fine art prints (e.g. limited edition prints, each with a unique number), or a last will; they can be a unique (singleton) token per record or a message attached to a specific token when sending. A separate series of tokens is generated for each different use case. Each series has its own asset ID on the respective Blockchain. (the name of the series does not have to be unique, only the asset ID). This means: The moment a message is added to one of the tokens (from a series) and this token is sent, the connection of the token with the message and the rule that the token cannot be forwarded without the knowledge of the original sender becomes a unique process, which is identified by the unique transaction ID. Messages can be attached unencrypted or encrypted. This data is usually linked to a person or a property and is not (or only under specific circumstances) tradable. It is also linked to a specific wallet (e.g. of the recipient). The Singleton/Unique Token form of this category is similar to the concept of non-fungible tokens (NFTs).

4. Aim of the research

The aims of the research are:

- To show which social media networks utilizing Blockchain technologies are known within the community that has already heard of Blockchain per se and has encountered at least one BSN/BESN.
- Which of these applications are already in use (for reading and commenting or as content producer)?
- To identify which rewards are important to the people who know or use these networks.
- Discover how important privacy, data control and the location of the operator's headquarters are to the survey participants.
- To find out whether the possibility of setting up a fan page or company page is an important function.
- To find out the importance of the user experience and other aspects such as reaching friends and relatives.
- To get a general opinion on the current situation of Blockchain enabled social networks as well as an outlook for the near future.

5. Methods

Regarding the data collection a hybrid approach consisting of a qualitative and a quantitative method was used. After intensive desk-research, and an exploratory phase in which the already available products were tested an initial open interview was conducted with a social media specialist who has extensive experience with BSN/BESN. Based on this interview, items for a survey have been defined and consequently an online survey was made available between November 2019 and the first week of January 2020. A total of 105 respondents registered their answers and in mid-January, the survey was followed by a moderated focus group, (Mayring, 2010) to discuss the results of the online survey.

5.1 Initial expert interview

The initial interview was conducted with Bernd Pfeiffer, co-founder of Limesoda GmbH (www.limesoda.com), one of the leading Austrian Social Media agencies. Between January 2018 and January 2019, Limesoda operated the Steemit.com site https://steemit.com/@limesoda, where they set up various test campaigns. The interview truly assisted to set up the online questionnaire.

5.2 Online questionnaire

The online survey did not collect demographic data, instead the participants were asked to indicate from which perspective they fill in the questionnaire. To do so, the participants should at least know one BSN and/or BESN and the very basic principles of Blockchain technologies. No incentives were given to participate in the survey. 70 people from the private sector took part. 27 also have a professional background in social media and/or blockchain. Table 1 gives an overview about the classification/perspective of the interviewee classification/perspective.

Table 1: Interviewee perspective

Interviewee classification/perspective	Quantity	In Percent
A private user	70	66,67 %
Both private and corporate user	22	20,95 %
A person not using Blockchain-based/Blockchain-enabled Social-Media Platforms, interested in the topic	8	7,62 %
A corporate user (not running a private Social Media profile)	5	4,76 %
Miscellaneous	0	0,00 %
N=105		

5.3 Focus group

The results of the online survey were discussed with the six participants of the moderated focus group. The exact background of the six participants is described in Table 2.

Table 2: Participants of the focus group

Person ID	Gender	Backround
P1	female	Social Media user, running a successful fan page about her hobby, basic knowledge on the topic of Blockchain technologies.
P2	male	Social Media user, mostly posting for friends and family, interested in the topic of Blockchain technologies since 2016.
P3	queer	Content Manager for a small Social Media marketing company, experienced user of Social Media platforms, tested several platforms that offer already Blockchain integration.
P4	female	Content Manager for the marketing of a medium sized company, experienced Social Media user in both private and professional context, however rather limited knowledge on the topic of Blockchain.
P5	female	IT specialist and researcher, high level of Blockchain knowledge, is extremely sceptical about current social networks. Currently has no online profile.
P6	male	Passively using Social Media, mostly to see others profiles and read 'news'. Basic knowledge about Blockchain, mostly from reading tweets and blogs.

6. Findings

6.1 Which BSN and/or BESN are known to the community

Table 3 shows which BSN/BESN are known to the community. The 105 participants of the survey had the chance to make multiple entries. The total number of entries per network can be found in the right column. Steemit (by far) and the two discontinued networks by Synereo (HyperSpace and Wildspark) are the best-known BSN/BESN. The idea of those networks came up before the 2017 hype peak and that seems to be the reason why they are well known by the community. The platforms of Synereo are not the only discontinued ones, most of the platforms mentioned by the interviewees are either discontinued (or at least the underlying token without any trading volume and delisted from exchanges) or they stopped their efforts before the beta. P2, P3 and P4 explain, that those BSN (besides Steem) offering their own tradeable tokens have a high chance to be unsuccessful. It seems that those approaches are only speculative bubbles and they never reach critical mass in trading volume and user base. P5 commended ardor.rocks as an unimposing research prototype, that shows how tokens can be built into a social network with a purpose beyond speculation. In this sense, the PoS network Ardor might be worth looking at.

Table 2: Overview of BESN and BSN

Platform	Description	Token (Abbreviation)	Status	URL	#
Steemit	The original BSN Network, you can share posts in different categories and get rewarded in Steem. It has a gamification system, user can transfer Steem in the Steem power wallet. This gives them more power in	Steem (STEEM) Steem Dollars (SBD) Soon: Steem	Online (Public)	//steemit.com/	87

Platform	Description	Token (Abbreviation)	Status	URL	#
	the Network, but they can not sell it on exchanges. Website was already near Top 1000 in the worldwide Alexa Website ranking, currently 15000.	Media Token (SMT)			
Wildspark	Wildspark was a Platform by Synereo to bet on new content on youtube.com, tumblr.com or medium.com. User who discover quality content (or content getting an attention by other users) earned the cryptocurrency AMP, which is now without any value or purpose.	AMP (AMP) [no longer traded]	Discont.	//wildspark.me/ [text why it failed]	29
HyperSpace	HyperSpace was a Platform by Synereo where users could host their own channels, dedicated to specific topics. Same as Wildspark it is offline since late 2019. The Token AMP is now without any value or purpose.	AMP (AMP)# [no longer traded]	Discont.	//hyperspace.app/ [text why it failed]	23
Block.One (voice)	Voice is planned to be a BSN run by the company Block.one. It is possible to sign up for the early paper and read the whitepaper.	Voice Token (?) [not yet traded]	Beta Wait List	//voice.com/	8
Coil	Coil is a BESN where artists can receive small payments from their followers. The payments can be done via classic payment channels (FIAT) or with the Cryptocurrency Ripple.	Uses the Cryptocurrency Ripple (XRP)	Online (Public)	//coil.com/	8
Indorse	Indorse stopped their services as BSN, the founders are now offering different consulting services. The Token IND is now without any value or purpose.	Indorse Token (IND) [no longer traded / no trading volume]	Discont.	//indorse.io [no longer a Social Network]	7
Sola	The BSN stopped, the domain is for sale. The Token SOL is now without any value or purpose.	Sola (SOL) [no longer traded / no trading volume]	Discont.	//sola.ai/ [domain for sale]	7
Social X	The work on Social X appears to be discontinued, although the website is still online. The Token SOCX which was prerelased is no longer traded, it seems to have lost purpose and value.	Social X (SOCX) [no longer traded / no trading volume]	Appear Discont.	//socialx.network/	5
Obsidian	While Obsidian as peer2peer encrypted messenger is online available and working, the original ODN Token is no longer traded, has no purpose and now value.	Obsidian (ODN) [no longer traded]	Online (Public)	//obsidianplatform.com/	5
PROPS Project	PROPS it a Blockchain-based loyalty Program for Social Networks. It seems to receive approved by US Authorities. However, the current situation seems unclear. The token appears not to be tradeable on classic exchanges on purpose.	PROPS Token (PROPS) [not traded on crypto exchanges, on purpose]	Project Website Online	//www.propsproject.com/	5
Diaspora	Is a BESN, where users can pick or host their own POD, a POD is the server infrastructure where the posted data is finally stored and being accessed by the community.	/	Online (Public)	//diasporafoundation.org/	5
SooMe (ONG)	Mee.Social call themselves a Blockchain-powered dashboard. It is still accessible. However, the underlying token is traded which an extremely low volume and basically without any value.	SoMee.Social (ONG)	Online (Public)	//www.ongcoin.com/ //somee.social	3

Platform	Description	Token (Abbreviation)	Status	URL	#
All.me	All.me is a digital ecosystem (BESN) that combines a social network, trading platform and payment service. The platform is available. However, the company behind stopped updates on all relevant channels in October 2019. The token underlying the platform is traded on one exchange with low volume.	Me Token (ME) (traded on Coin.all exchanges, not listed on coinmarketcap.com)	Online (Public)	//all.me/ //token.all.me/	3
Minds	Minds is a BESN, content producers earn Minds and can upgrade with them their account. Minds can also be purchased directly on minds.com. Content producers can receive tips in major cryptocurrencies and through FIAT payment channels.	Minds (Online available on Minds.com Website)	Online (Public)	//www.minds.com/	3
Utopia	Utopia is a software that enables user to host their own client and be part of a decentralised communication network. The code behind is partly released on github. The purpose of CRN the underlying Blockchain-Token is not clear, nor seems it to be traded on exchanges.	Crypton (CRN) (not listed on coinmarketcap, not tradeable on exchanges)	Online (Public)	//u.is/en/	1
Whaleshares	Whaleshares is a BSN, the last posting from a user was in August 2019. The underlying token is not (no longer) tradeable on exchanges.	Whaleshares Token (WLS) (not listed on coinmarketcap,not tradeable on exchanges)	Online (Public)	//whaleshares.io/ //whaleshares.io/pod_list	1
Ardor.rocks	Ardor.rocks is a fully working tech demo, with a small community of less than 500 people. The aim of the project is to show the possibilities of the Ardor Blockchain to set up Social Media based on Token Economics easily implementing Lightweight Smart Contracts. The Token ROCKS can be traded on the Ignis (Childchain of Ardor) exchange for the purpose to show the proof of concept.	Rocks (ROCKS) [traded only on the IGNIS exchange for tech demo purposes]	Online (Public)	//ardor.rocks/	1
Breaker	BESN with the goal to distribute Art (Videos) from Content Producers to the Audience. It uses directly ETH and did not create a token on its own.	Uses Ethereum [ETH]	Online (Public)	//www.breaker.io/	1
Musiccoin	Musiccoin is BSN for musicians and music lovers. The service is still available, but the underlying token MUSIC has been delisted from exchanges and its basically without value.	Musicoin (MUSIC) [delisted on exchanges, inactive on coinmarketcap]	Online (Public)	//musicoin.org/	1
Pocketnet.app	Pocketnet.app is a BSN, with a token that is not traded public. It is still active with at least several postings per hour.	Token not traded public	Online (Public)	//pocketnet.app/	1
Podium	There is hardly any information available besides an announcement in summer 2019.	Not described	Not yet online	//www.podium-network.com/	1
Bittube	Bittube is a browser extension that enables according to the producers save browsing on the internet and a free VPN network. The extension enables the possibility to tip content producers with TUBE on several social networks.	BitTube (TUBE) (listed on coinmarketcap, extremely low trading volume)	Online (Public)	//bittubeapp.com/	1
Information as of January 2020					N=105

6.2 Participation/content contributions of BSN/BESN

Table 4 shows which BSN/BESN are actually used as recipients (left side) or as content producers (right side). Again, Steemit is the only relevant platform. HyperSpace and Wildspark have both suddenly been taken offline during the period of the questionnaire. The sudden discontinuation of these platforms was also commented by the participants of the online survey who filled in the questionnaire after the discontinuation with very strident comments in the open field. As with all platforms where you have to invest money in tokens and/or earn the tokens through hard work, it is understandably awful to suddenly lose this supposed wealth, commented P1 and P2.

Table 3: Usage of BSN/BESN

Participating as reader (passive)			**Participating as contributors (actively)**		
Platform	**Quantity** (Multiple Choices possible)	**In Percent**	**Platform**	**Quantity** (Multiple Choices possible)	**In Percent**
Steemit	52	86,67	Steemit	26	81,25
HyperSpace	10	16,67	HyperSpace	6	18,75
Wildspark	7	11,67	Wildspark	5	15,63
Diaspora	3	5,00	Coil	1	3,13
Social X	1	1,67	Whaleshares	1	3,13
Coil	1	1,67	Ardor.Rocks	1	3,13
Ardor.Rocks	1	1,67	Musiccoin	1	3,13
Breaker	1	1,67	Bittubers	1	3,13
N=60			N=32		

6.3 Which aspects are important to act as a reward

Hearts, likes and thumbs up have been rated far above average (which is 3) with (3.94) (see Table 5**)** . The reward with nice comments is still slightly above average (3.3), followed by the desire to be rewarded by good content with vouchers (3.28). Rewards with tokens that can be exchanged for money or with existing cryptocurrencies are both rated below average. Whereby the possibility of stable coins (2.7) is seen slightly more positive than an additional gamble with tokens, where the price is determined by supply and demand. P1, P2 and some of the online survey participants have also pointed out that comments are rewarded with an extra large number of tokens, so if they get a lot of likes (upvotes), they are obviously just empty positive phrases like 'I like it' or 'more of it' just to earn tokens. In other words, a culture of simply linking and commenting on things with neutral phrases has spread. The advantage, however, is that the idea of being rewarded with blockchain based vouchers was positively highlighted in the comments and also by the focus group participants. As such, it is important to prevent a black-market and peer2peer trade. P5 particularly emphasizes that this can help to avoid double-spending, make the forgery of vouchers (nearly) impossible, but also allows for automatic billing and more complex gamification and loyalty systems.

Table 4: What is perceived as rewarding

Categories related to receiving Rewards [very important (5) to not Important (1)]	**Importance**
Reward with likes, hearts or similar symbols	3,94
Show my success and be envied for it (get praise through comments)	3,3
Getting rewarded with vouchers or coupons for products (for my postings, likes and comments))	3,28
Getting rewarded with crytocurrencies or Blockchain-tokens that are convertible to leading cryptocurrencies like BTC, ETH, XRP, LTC, BCH or directly to FIAT currencies at a fixed price always measured in a leading FIAT currency like USD (for postings, likes, comments and sharing data)	2,7
Getting rewarded with cryptocurrencies or Blockchain-tokens that are convertible to leading cryptocurrencies or directly to FIAT currencies at a variable price (for postings, likes and comments)	2,61
N=105	

6.4 How important is privacy and ownership to the community?

Privacy settings (3,91) and ownership of the data is (3,9) is far above average (3), asking if those aspects are important. In the open field several participants mentioned that ‘the Cambridge Analytica’ scandal and recent hearings from Mark Zuckerberg, CEO of Facebook, helped to better understand privacy on the internet.

Furthermore, the mass media and documentaries on streaming networks are more and more picking on this topic in their coverage. On the other hand, where the headquarters are located only scored 3 (see Table 6). P2, P3 and P5, however, have emphasized the importance of precisely this aspect and have shown that those BSN/BESN which have failed, and which are also accused of fraudulent behaviour by the community were located in countries where a certain level of basic scepticism could possibly be expressed.

Table 5: Privacy and ownership

Privacy, Ownership and Location of Provider [very important (5) to not Important (1)]	Importance
General aspect of privacy and sophisticated privacy settings	3,91
Ownership of the data	3,9
Country the headquarter of the Social Media company behind is located	3,24
N=105	

6.5 Importance of certain functionalities and outreach

The user experience (3,92), an already existing large user group (3,79) and the possibility of open communication using comment fields (3,72) is perceived as important (see Table 7). Quite important is the making of new friendships (3,5) and easy connection with other social networks (3,45). The fact that family and close friends receive the content is only seen as relatively important (3,26). P4 supports this fact. It just has to look great on all the platforms you can use, and you have to understand the functions almost instantly and have fun scrolling through them. Therefore the user journey is very important.

Table 6: Functions and outreach

User Journey and Functions, Outreach, [very important (5) to not Important (1)]	Importance
the user-journey and user experience of the platform	3,92
a high total number of possible users I can reach out to	3,79
comment field or chat with users	3,72
getting to know new friends	3,5
easy sharing and interaction with other well-known Social-Media platforms	3,45
sharing my life with family and friends	3,26
N=105	

6.6 Hobby, fan pages and corporate sites

To set up a fan-, project-, hobby- or a company page is regarded by the participants as basically important (see Table 8). Whereby the possibility to do this without needing a personal profile is preferred (3.61 to 3.56). P5 commented this small difference with a giggle. She hasn't been using her real name in social media for several years and is extremely sceptical about the distribution of her data. P3 and P4 also think it's good to be able to be professional on many platforms without also being privately registered. This implies that self-sovereign identity approaches could also make things a lot easier in the future.

Table 7: Importance of fan- hobby and corporate pages

Fan page, Hobby-related page, Corporate Site [very important (5) to not Important (1)]	Importance
possibility to set up a fan-page or professional page without needing a personal page	3,61
possibility to set up a fan-page or professional page besides my personal page	3,56
N=105	

7. Future research

The potential applications of blockchain technologies for social media, as described in the related work section, must be considered in the future as a crosslinked and not as a separate concept. In this context, different technologies and especially Blockchain systems must be considered. Based on the aspects described here, the reasons for the failure of most networks must be discussed further and whether the freely tradable tokens, where each BSN uses its own token, is to blame for this. Furthermore, the aspect of digital Blockchain-based vouchers should be considered more closely as it seems that there is still an unused market. Here, the vouchers would have to be bound to a fixed wallet of the user and only serve the purpose of redeeming them at the respective company, i.e. a black market must be avoided (and that is exactly where Blockchain is an excellent tool).

8. Conclusion

Providers of BSN/BESN must respond more to the needs of users. After the many failures of recent years, the fancy marketing vocabulary no longer reaches the people who experienced the market crash in 2018-2020. After the hype and the many empty promises, it is important to build again solid working platforms with blockchain functionalities. Blockchain technologies have an incredible potential, not simply to reward users with almost worthless tokens, but to secure existing platforms against fake news, identity theft, deep-fake videos. Blockchain can also be used to protect any media from unwanted changes and to map the original source including the necessary metadata in a tamper-proof way. Finally, further research with larger target groups and changed methodologies is recommended, as the survey results presented in this paper are based on the self-assessment of the participants and therefore only cover the target group which, according to the participants themselves, have already encountered Blockchain technologies in the field of social media.

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