EXECUTIVE SUMMARY

Motivation

Due to technological development, it is easier than ever to fake information and spread Fake News across social media. Especially in 2016, the term Fake News emerged and gained popularity during the U.S presidential election. Considering the impact of Fake News, e.g., weakening and threatening social order, innovative solutions need to be developed.

Literature Review

In general, the scientific literature to date emphasizes the proliferation of Fake News on social media. For instance, problems regarding reliable authentication need to be solved, as Fake News could be spread by anonymous or false identities (Theophilo et al., 2021). While opinions differ on the utility of algorithm-based solutions in combating authentication problems, some researchers seem to agree that blockchain technology can solve the problems stated above. Nevertheless, the scope of scientific literature in the field of innovative solutions to mitigate the creation and spread of Fake News across social media platforms, lacks high impact articles. Therefore, this thesis aims to explore innovative solutions as well as approaches to solve the problems in media and journalism that have arisen through technological development.

Theoretical Background

Technology impacts journalistic values, transparency, processes, and forms of news production as well as dissemination. The invention of the Web 2.0 especially, social media as a Web 2.0 innovation plays a significant role regarding to the resulting problems. The move to a more platform-dominated media environment leads to the emergence of new and innovative institutions (Luengo & Herrera-Damas, 2021). Also, the attention of people is increasingly shifting to platforms (Nielsen & Fletcher, 2020). The increasing reliance on and power of platforms results in an abundance of news, higher online competition, competition

for attention, and a greater power of platforms. This is problematic, since platforms and users fail as gatekeepers due to the lack of significant third-party filtering, fact-checking, or editorial judgement. Since attention is considered a source of value and a scarce resource in times of information abundance (Goldhaber, 1997), Fake News is published as it could increase readership and profit through clickbaits. This is threatening, since in times of poor truth discernment, linked to the lack of careful reasoning and relevant knowledge, people tend to fall for Fake News (Pennycook & Rand, 2021). Especially the non-transparency of social media platforms' algorithms (Hermida, 2020; Zamith, 2019) results in traceability and authentication problems. Consequently, consumers cannot properly judge the quality of news content. This leads to staging of competitions, which creates a market illusion, and in turn creates false incentives, that could result in the creation of Fake News. Ultimately, this leads to the deformation of media and journalism.

Research Question

Derived from the findings of the systematic literature review, the role of technology in media and journalism, as well as the aspects disrupting these fields, the research question reads as follows.

What are innovative solutions to current problems due to technological developments in media and journalism?

Since the goal of this thesis is to focus on one central phenomenon of interest, innovative solutions to problems arising from disruptive technological forces, the research question is of qualitative nature (Creswell, 2009). Due to little research done in this field to date, an exploratory research design is required (Creswell, 2009).

Methodology

First, profiles of U.S FCIs verified by the IFCN are examined using web content analysis based on Krippendorff (1989). The findings of the web content analysis are analyzed

with MAXQDA. Subsequently, a qualitative desk research, considering more types of sources and information is conducted to fill in the gaps of the web content analysis. Therefore, the methods considered in this thesis aim to mix qualitative and quantitative analysis in the web content analysis, and thus, also to combine different qualitative approaches, which increases the observation of innovative solutions.

Results

The quantitative results of the web content analysis show that 77,78% of U.S. FCIs use ‘Electronical sources’ as well as ‘People sources’. Among the ones using ‘Electronical sources’, 33,33% of the FCIs rely on social media as source of information. Furthermore, both ‘Person-centered’ and ‘Machine-based’ methods are used by 77,78% of the FCIs each for conducting their fact checks. The analysis of ‘Number of fact checks’ within one year revealed that one third did not state a number of checks. In average, the remaining two third conduct 443 checks within one year.

Based on the results of the web content analysis, the goals for the desk research are derived. The results reveal, that blockchain technologies, which are one of the most disruptive technologies in recent years, are being used as a relatively new field of research for the presented problems in media and journalism (Chen et al., 2020).

Discussion

The aspect, that one third of the FCIs use social media as a source for their fact checks can be regarded as disadvantageous, as they bear the risk of containing Fake News. The methods applied can be interpreted as inefficient, as the average number of 443 fact checks by 6 FCIs over a year is disproportionate to the number of Fake News disseminated over the same period.

The qualitative results of the category ‘Goals of fact-checking operation over the coming year’ do not clearly reveal, whether the use of innovative technologies or new

sources is planned by the FCIs. However, the intention to work with platforms, startups, and other media organizations may indicate a goal of widening audiences, expanding reach, and creating a broader fact-checking database as a source of facts and information. In addition, AP Fact Check's statement could be interpreted as an effort to consider new methods to improve their fact-checking process. FactCheck.org's intention to "debunk viral deceptions circulating online in social media" can be interpreted as a motivation to improve the scalability of their fact checking process.

The findings of the desk research show, that a blockchain system can be customized regarding the requirements and use cases. In general, a blockchain can mitigate problems concerning Fake News, as it has many advantages by design. Different components of a blockchain, their combination, as well as the combination with AI are introduced and discussed. Since blockchains can potentially store all kind of data, the approaches can be applied to a multitude of news types. Furthermore, as transactions are transparent and traceable, they can solve authentication and traceability problems of the news published on social media. This could combat the creation and spread of Fake News as it could become more difficult for bots or fake IDs to enter a network. The application of SCs increase the security about the accuracy of news within a network. The presented approach to combat clickbaits shows, that blockchains can be extended by algorithm-based networks, and thus, be tailored for specific applications. The startup ‘Ideamarket’, which is a Ethereum-based social media platform, applies a ranking system for news and publishers using upvotes. This practical use case not only enhances readers’ attention, as the cost per click increases with the number of upvotes. Further, news or accounts with low votes can be considered either as potential Fake News or undiscovered quality content. The upvote system can be used to enhance a fair ranking of quality content. Additionally, the blockchain-based fact checking platform Fact Protocol, as a revolutionary solution to foster fact checking, is presented.

Besides an incentive system to secure quality within the network, it is a Web 3.0 fact checking system with a workable scaling strategy based on globally distributed community contributions to combat the spread of Fake News[1]. Further startups disrupting media and journalism, as well as the potential of micropayments to recreate the news and media industry are presented as well.

CONCLUSION

This thesis highlights and discusses innovative solutions, from which the media industry, fact checkers and journalists may benefit. The findings are in line with existing literature concerning the fact, that the use of blockchain technology can foster fact checking and thus, the mitigation of creating and sharing Fake News (Qayyum et al., 2019). The results show possible combinations, and their usefulness in the fight against Fake News in social media. Furthermore, a practical component is added, as FCIs has been analyzed. Furthermore, an overview over media and journalism startups is provided. In combination with the conducted desk research a base of literature has been generated that is highly timely and does not lag scientifically. Moreover, the results of this thesis could serve an increased analysis and expansion of systems, which may be implemented in practice. For FCIs, the findings provide solutions, which may be integrated into their processes to facilitate fact checking. Further, the presented practical implications provide a basis for journalists and FCIs to rethink or change their methods and processes of news production and dissemination. Additionally, approaches are presented on how journalists or FCIs could increase the reach of facts and good news by creating new social networks and how they may profit from their news products.

[1] https://fact.technology/files/2022/05/Fact-Protocol-White-Paper-Q2-2022-signed.pdf, last visited 12.09.2022

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