A Qualitative Study on the Behavioral Impact of TikTok's Platform Mechanics on Economically Driven Content Creators

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Abstract—The aim of this paper is to analyze the behavioral impact of TikTok's platform mechanics and actions on economically driven, thus objective oriented content creators on the platform. Since almost all social media platforms monetize user content, platform objectives were related to exhibited platform mechanics to propose a conceptual model for the behavioral altercation potential of TikTok. The underlying data and insights were collected via qualitative interviews of economically driven content creators. Gained insights were contrasted against intrinsically motivated content creators on the basis of a behavioral change model.

Index Terms—TikTok, behavior modification, algorithm, persuasion technology

I. INTRODUCTION

TikTok is one of the most notable Social Media platforms of 2020 and ranks amongst the fastest growing platforms over the last two years [1]. The platform has received a lot of media attention for its fast user growth, its popularity amongst teens, but also its censorship allegations and privacy issues [2]. The latter got TikTok even in the political discussion and resulted in the platform's repetitive ban in India and the current discussion of a ban in the United States [3]. At the time of writing this paper, TikTok has reported a global user base of almost 700 million users [4]. Important to note is, that only a fraction of TikTok's user base, the so-called content creators, actively posts content, whereas the majority of users can be classified as content consumers.

Content consumers, as well as content creators are impacted by persuasion technologies alike; these are technologies or design principles, which stimulate user engagement [5] and result in the widely reported addictive nature of TikTok, likewise to many other social media platforms [6]. Examples of persuasive technologies are notifications to draw the user back into the app, or trigger events, such as reminders.

Content creators are further affected by the platform in two major ways. The first are changes to the platform's algorithm, that affect how content spreads and thus how much reach content creators can gain organically. The second relates to TikTok's community guidelines, which seek to regulate user and content interaction on the platform. Its enforcement has however been critiqued to lack much transparency in application, platform responsiveness with regards to enforcement issues, as well as equal treatment of content creators. These two mechanisms, which are in sole control of the platform, can have severe impacts on content creators once the casual posting threshold, thus posting content for personal pleasure, has been crossed [7]. This assumes that content creators no longer engage in arbitrary content creation and posting but assume an underlying motive. The later can be of intrinsic or extrinsic nature, such as following commercial interests to post brand sponsored content, or to support own transactional interests with the gained followership.

The focus of this paper is to explore, if the described platform mechanisms lead to behavioral modifications of content creators. Most if not all research on TikTok focuses on user adoption [8], [9], commercialization potentials of brand deals [10], [11], or user behavior [12]. Only few studies focus on content creators [7], no research was identified that focuses on behavioral modifications of content creators by platform mechanics.

This paper fills this gap by the means of a qualitative research study with selected TikTok content creators to explore any potential impact the described mechanics have on those content creators. Further, this paper suggests a model to relate the above mechanisms to platform intrinsic objectives, in order to stimulate further research around the area of users' behavioral modification of social media platforms, TikTok in particular.

II. METHODOLOGY

This paper follows a multitiered structure, starting with a literature review on the topic, the extraction of a behavioral change model to assess the impact of platform mechanics on content creators. Finally, a conceptual model is proposed to guide further research on the topic.

A. Literature Review

Persuasive design and technologies are nothing new and have emerged to be core design principles of modern technology [13]. Much research has however focused on positive behavioral changes of persuasive design, thus changes to the benefit of the user [14]. Other research streams centered around the addictive nature of social media sites on users [15], [16], [17], often citing persuasive design principles as addictive stimulants [18]. Since Facebook's Cambridge Analytica scandal, another stream of research formed, which tries to understand and dissect if and how social media impacts opinion forming of its users, both through social effects of its users, but also through the impact of its very algorithms pushing content to increase user engagement on the site [19]. The most present research in this area is currently related to political opinion forming and thus the manipulation potential social media has on political decision making, such as voting behavior [20]. The recently released Netflix documentary "the Social Dilemma"

has sparked a new level of interest in the impact persuasive design and technology has on user behavior [21]. Based on the conducted literature review, it is astonishing to note how little academic research has yet focused on the behavioral influence of these platforms, particularly with a focus on content creators. Content creators are a key ingredient to provide content consumers the relevant stimuli and thus attractiveness to spend any time on a given platform [22]. It is therefore vital for any social media platform to aggregate a healthy ratio of content creators to content consumers. In this regard, TikTok is no exception, but follows the very growth strategies of previous platforms. Research on the monetization of user generated content is existent [23] and thus links the above findings to the economic interests of a platform. No research was however found, which links this intrinsic motivation of a social media platform to the

behavioral impact it excerpts on its content creators.

To take this notion further, a literature review was conducted to identify behavioral change models and frameworks. This resulted in the identification of various alternative models, such as the transtheoretical model of change [24], the theory of planned behavior [25], or the social cognitive behavioral model [26]. However, for the purpose of this research paper, the TAPESTRY model [27] was selected for its comprehensive nature. The model found application in various transformational and change oriented research projects, which justifies its selection [28]. The TAPESTRY model is comprised of seven distinct phases, which served to create the interview guide for the qualitative interview phase of this project. The seven phases of the TAPESTRY model, as well as a contextual description are presented in Table I.

TABLE I: THE TAPESTRY MODEL

#	Phase name	Contextual description
1	Awareness of key issues	Did the TikTok account growth (followers or views) change? Did a temporary ban get issued?
2	Accepting responsibility	Where community guidelines followed? Has the algorithm changed?
3	Perception of options	What could be done differently?
4	Evaluation of options	Is there a viable alternative to support personal platform objectives?
5	Making a choice	Intension to change behavior or content strategy?
6	Experimental behavior	Does a modification of behavior or content lead to wanted results?
7	Habitual behavior	Long term adjustment of behavior.

TABLE II: RECRUITED TIKTOK CREATORS

#	Account focus	Account size (# follower)	Account age	# Uploads
1	Comedy & entertainment	>1.5 Mio	<06 months	>250
2	Comedy & entertainment	>500 K	>12 months	>500
3	News & entertainment	<250 K	>06 months	>500
4	Dancing & music	>500 K	<06 months	>250
5	Dancing & music	>2 Mio	>12 months	>750
6	Dancing & music	>250 K	>12 months	>500
7	Dancing & music	>250 K	>06 months	>250
8	Dancing & music	>500 K	>12 months	>500
9	Dancing & music	>1 Mio	>06 months	>500
10	Cars & Entertainment	<500 K	>06 months	>250
11	Education	>500 K	>06 months	>500
12	Education	>250 K	<06 months	<250

B. Qualitative Interviews

To understand if the above hypothesis of TikTok influencing content creators holds weight and to assess forces at work, 12 semi-structured interviews were conducted with active TikTok content creators. To assure these content creators pursued a motive with their TikTok engagement, only content creators with an active commercial interest, evident through existing brand sponsored content, to post on the platform and a followership of more than 100.000 followers, were considered as interview partners. These two criteria were set to assure a proven and transparent platform objective, as well as an account size that is not easily achievable. Interview partners were recruited through LinkedIn and Reddit discussion forums and verified through manual TikTok account checks. 14 TikTok creators were recruited in total, yet only 12 passed the account verification for

sponsored content and account size. Table II provides an overview of recruited TikTok creators' account structures. It is important to note, that all data has been displayed in range groups to protect account holders' anonymity.

As can be seen in table II, the majority of recruited TikTok creators had accounts aged 6 to 12 months and on average between 500 and 750 content uploads. All selected interview participants had publicly visible brand sponsored engagements on the platform and stated ambitions to increase their expected monetary returns through the platform. All but 3 interview partners were located in the United States. Creators located in the United States tend to have a higher number of sponsored engagements than those in Europe. All but one interview partner were over the age of 18. Average interview duration was about 55 minutes with 100% of all interviews being conducted via Zoom videoconferencing.

To contrast the findings from this group, another 12

interviews were conducted, with content creators without any existing sponsored brand deal, or without any voiced commercial interests, thus content creators with a purely intrinsic motivation to create and share content on the platform. This was done to examine if an economic motive changes the influence of a platform and its mechanics can have on the behavior of a content creator. Contrast interviews were conducted with creators mirroring the demographic, as shown in table II, in as much detail as possible. These interviews were much shorter in duration and focused on the impact of an extrinsic objective on the behavior altering impact of platform mechanics.

III. DISCUSSION

The following discussion of findings relates to the economic objective driven interview group, the findings from the intrinsically motivated control group are contrasted to only the relevant stages of the TAPESTRY model.

A. Discussion of Findings

40% of interview participants stated to have been affected by a TikTok intervention in the form of a community guideline violation, while over 80% were notably affected by changes of the TikTok algorithm. The latter relates to existing consumer focused research [18]. In every instance, thus 100% of interview participants, did note a deviation from the norm based on an abnormal decrease in upload views of up to 100%. The latter, thus a 100% decrease in views, is classified as a shadow ban, therefore the complete suppression of a piece of content from appearing on the public TikTok feed (FYP). Shadow bans are not communicated from the platform to the user, whereas community guideline violations or copyright infringements, such as the use of copyrighted video or sound, resulted in an additional account notification through TikTok. In all instances but copyright infringements, the received account notification was classified as ambiguous and non-transparent by the TikTok creator. Thus, in summary and to follow the TAPESTRY model, the awareness of key issues was identified in 100% of cases through a noticeable decrease in received views.

Although 100% of the received ban account holders explicitly voiced the intransparency and ambiguity of issued bans, both officially communicated bans and shadow bans, all interview participants exhibited a very homogenous approach to stage two of the TAPESTRY model by seeking to understand where and how their account or account related uploads have resulted in a reduction in views. Since account views are amongst the primary determinants of monetization potentials, interview participants exhibited a high sense of urgency to understand potential causes to quickly identify and develop corrective actions. In roughly 50% of all cases, creators have approached TikTok but failed to receive a personal communication in return. In 100% of all cases, creators assumed that no power can be exerted against the platform, thus the only viable alternative was to accept a wrongdoing, through either an unknown or known violation, or the missed understanding of algorithm changes that require further attention. The latter has been proven to be an effective instrument in the user to platform interaction [29], [30].

The next two phases of the TAPESTRY model seemed continuous and somewhat interlinked. Unless copyright infringement notices were present, that allowed the derivation of very transparent and causal implications, such as avoiding copyright infringements, interview participants homogenously followed a very similar path of problem solving. After attempting to contact TikTok, the exchange with other creators seemed the primary venue to identify alternative options and evaluate their likelihood to success. Success being defined through an increase of account view to the pre-event account average or higher. It is important to note, that this stage already vividly revealed the acceptance and willingness to adapt content forms, content style or posting habits by all but one interview partner. The focus on the monetization objective of the account served as the primary driver to accept any need for change in order to continue the previously experienced account performance. This thus includes the next stage of the TAPESTRY model, to make the conscious choice to change personal behavior. Examples of this included to increase posting frequencies from one time per day to three to five times per day; to include trending music, assure better lit videos, post in certain time intervals or in certain time zones, increase engagements with followers' comments and more. The main impact on the choice of option made seemed to be contingent upon the expected effect this choice had on account growth metrics, as previously discussed.

Stages six and seven of the TAPESTRY model were exemplified through the monitoring of account metrics and thus the continuation of any behavior that resulted in an increase in account relevant metrics and the avoidance of any behavior that resulted in a decrease of relevant account metrics. It is very important to note, that subtle behavioral changes were experienced by all interview partners, upon reflection, based on the platform's continuous algorithm changes. The changes started to emerge as an apparent behavioral change throughout the interview process. Bans and shadow bans by the platform resulted in grave, abrupt and directly influenced behavioral changes. Based on the qualitative interview conducted, all interview participants noted subtle behavioral changes. A common denominator amongst all participants was an increasing frequency of postings over the last 3-4 months. Likewise, all creators that experiences a show ban or platform communicated ban noted a more cautious selecting of potential content to post to avoid further disciplinary actions. Although no creator could point towards the root-cause for the original disciplinary actions received by the platform.

To contrast, the non-economically or intrinsically motivated interview group revealed very similar experiences with regards to the perception of the problem, however differed much in the acceptance of responsibility. Whereas the economically motivated group displayed a rapid acceptance of responsibility to move on to find potential alternatives; the intrinsically motivated group displayed a higher resistance to accept the ambiguity of community guideline violations. This resulted in a little over 50% of the cases to a resistance to adapt the content, or platform behavior overall. In one particular case, it even resulted in the deletion of the account in favor of a competitive

platform, which was received to be less ambiguous. This finding gives weight to the assumption, that an economic, or extrinsically motivated account objective increases the adoption likelihood of new behavioral patterns, as favored by the platform.

The synopsis of all interviews and the effect earlier described platform mechanics had on interviewed content creators is summarized in the following conceptual model to stimulate further research on the behavioral impact platform mechanics have on its content creators.
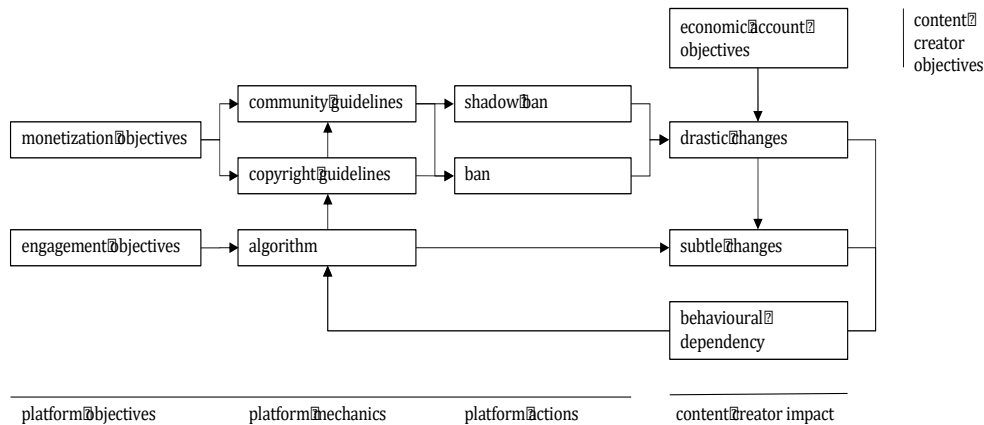

Fig. 1. Conceptual Model of TikTok's behavioral impact on content creators.

B. Proposed Behavioral Impact Model

Fig. 1 shows the conceptual model of behavioral impact as a result of the qualitative interviews and research conducted. The model ignores however persuasive design & technology and focuses exclusively on TikTok's objectives, mechanics and actions, as well as their causal impact on objective driven content creators. The model is based on the conducted creator interviews and stimulates further research on the longitudinal effects of platform mechanics and actions on content creators. Conducted interviews give reason to believe, that the higher the objective driven nature of a content creator, the more prone a content creator becomes to develop a behavioral dependency on platform mechanics. This in turn creates a vicious and morally or ethically questionable cycle of platforms impacting the content and consumption side through behaviorally altering technologies or mechanics to support platform intrinsic objectives [31].

IV. CONCLUSION

This paper aimed to examine the behavioral impact TikTok platform mechanics and actions have on content creators. It contributes therefore to the established literature on the impact of persuasive technology on users [18], by extending the field of research to content creators. For this, it did isolate content creators with economic platform objectives to contrast against creators with intrinsic platform motivators. Assessing the impact of the above-mentioned platform impacts on creators revealed, through a series of semi-structured interviews, that economically motivated content creators were very prone to adopt platform induced behavioral changes. Depending on the platform mechanics at work, behavioral changes were either consciously made, such as in the case of ban, or subconscious over a prolonged period of time, such as in the case of perceived algorithm impacts. The sub-conscious nature of algorithm induced changes was particularly revealing throughout the interview process. Intrinsically motivated content creators showcased

overall a much lower likelihood to adapt their existing platform behavior. The synopsis of the research created a hypothesized relationship of potential platform objectives to platform mechanics and actions, thus assuming how a platform like TikTok can stimulate behavioral altercations of its content creators in support of the platform's objectives. This model is meant to stimulate further research in the field of social media platform behavioral impact on content creators to spark further discourse on the topic.

V. LIMITATIONS AND FURTHER RESEARCH

This paper and its underlying research have to note various limitations. First of all, the sample selection for the qualitative interview-based research, although conducted in a multi-selection process, has to assume a self-selection sampling bias. Further and although the researcher of this paper attempted to avoid any bias throughout the interview process, an interview bias during the semi-structured interview process cannot be excluded. Language and communication barriers have to be further stated, as interviews were conducted using ZOOM videoconferencing, due to the social distancing requirement of COVID-19. A test interview wearing face masks proved very unreliable.

Despite stated limitations, this paper suggests that a behavioral impact of TikTok's mechanics and actions on its very content creators exists, which can be linked to the platform's core objectives of engagement and monetization. This calls for further research in various areas, such as the need for platform monitoring and regulation, particularly for platforms reaching a de facto utility status in a society. With TikTok's self-reported user numbers [32], this utility status has been reached in various geographical areas, such as India, China, the US and partly Europe.

Furthermore, platform monetization impacts, such as through the TikTok Creator Fund, as a non-direct advertising related form of content incentive, need to be considered for further research. This introduces both negative and positive stimuli to the notion of content creator

conditioning. Contrasting findings to other platforms is relevant to identify a behavioral impact score per platform for benchmarking purposes.

CONFLICT OF INTEREST

The author declares no conflict of interest.

REFERENCES

[1] K. E. Anderson, "Getting acquainted with social networks and apps: It is time to talk about TikTok," *Library Hi Tech News*, 2020.

[2] Revealed: How TikTok censors videos that do not please Beijing. (2019, September 25). The Guardian. [Online]. Available: https://www.theguardian.com/technology/2019/sep/25/revealed-how-tiktok-censors-videos-that-do-not-please-beijing

[3] Politics surrounding TikTok's future in the U.S. pollute valid data security concerns, expert says. (2020, September 17). CNBC. [Online]. Available: https://www.cnbc.com/2020/09/17/politics-of-tiktok-deal-pollutes-intent-of-data-security-expert-says.html

[4] Trump approves deal between oracle and TikTok. [Online]. Available: https://www.nytimes.com/2020/09/19/technology/trump-oracle-and-tiktok.html

[5] U. Reviglio and C. Agosti, "Thinking outside the black-box: The case for "algorithmic sovereignty" in Social media," *Social Media+ Society*, vol. 6, no. 2, 2020.

[6] B. Hoanca, "The human connection drug: Should addiction to social media be legislated out?" *IEEE Technology and Society Magazine*, vol. 39, no. 1, pp. 61-68, 2020.

[7] D. M. Veirman, S. D. Jans, E. V. D. Abeele, and L. Hudders, "Unravelling the power of social media influencers: A qualitative study on teenage influencers as commercial content creators on social media," *In The Regulation of Social Media Influencers*, Edward Elgar Publishing, 2000.

[8] Y. Wang, "Humor and camera view on mobile short-form video apps influence user experience and technology-adoption intent, an example of TikTok (DouYin)," *Computers in Human Behavior*, vol. 110, 2020.

[9] M. Kennedy, 'If the rise of the TikTok dance and e-girl aesthetic has taught us anything, it's that teenage girls rule the internet right now': TikTok celebrity, girls and the Coronavirus crisis," *European Journal of Cultural Studies*, 2020.

[10] Y. Su, B. J. Baker, J. P. Doyle, and M. Yan, "Fan engagement in 15 seconds: Athletes' relationship marketing during a pandemic via TikTok," *International Journal of Sport Communication*, vol. 13, no. 3, pp. 436-446, 2020.

[11] L. M. Cuevas, S. M. Chong, and H. Lim, "Influencer marketing: Social media influencers as human brands attaching to followers and yielding positive marketing results by fulfilling needs," *Journal of Retailing and Consumer Services*, vol. 55, 2020.

[12] X. Zhang, Y. Wu, and S. Liu, "Exploring short-form video application addiction: Socio-technical and attachment perspectives," *Telematics and Informatics*, vol. 42, 2019.

[13] B. J. Fogg, "Persuasive technology: Using computers to change what we think and do. Ubiquity," 2002.

[14] R. Orji and K. Moffatt, "Persuasive technology for health and wellness: State-of-the-art and emerging trends," *Health Informatics Journal*, vol. 24, no. 1, pp. 66-91, 2018.

[15] L. Y. Leong, T. S. Hew, K. B. Ooi, V. H. Lee, and J. J. Hew, "A hybrid SEM-neural network analysis of social media addiction," *Expert Systems with Applications*, vol. 133, pp. 296-316, 2019.

[16] A. K. Purohit, L. Barclay, and A. Holzer, "Designing for digital detox: Making social media less addictive with digital nudges," in *Proc. Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems*, pp. 1-9, 2020.

[17] C. Montag, B. Lachmann, M. Herrlich, and K. Zweig, "Addictive features of social media/messenger platforms and freemium games against the background of psychological and economic theories," *International Journal of Environmental Research and Public Health*, vol. 16, no. 14, 2019.

[18] W. H. Weiger, M. Hammerschmidt, and H. A. Wetzel, "Don't you dare push me: how persuasive social media tactics shape customer engagement," *Journal of the Association for Consumer Research*, vol. 3, no. 3, pp. 364-378, 2018.

[19] M. A. Wood, "Policing's 'meme strategy': understanding the rise of police social media engagement work," *Current Issues in Criminal Justice*, vol. 32, no. 1, pp. 40-58, 2000.

[20] F. Marozzo and A. Bessi, "Analyzing polarization of social media users and news sites during political campaigns," *Social Network Analysis and Mining*, vol. 8, no. 1, 2018.

[21] 'The social dilemma' review: Sharing a sense of dismay. [Online]. Available: https://www.wsj.com/articles/the-social-dilemma-review-sharing-a-sense-of-dismay-11599768651

[22] D. Y. Jin and A. Feenberg, "Commodity and community in social networking: Marx and the monetization of user-generated content," *The Information Society*, vol. 31, no. 1, pp. 52-60, 2015.

[23] D. Y. Jin and A. Feenberg, "Commodity and community in social networking: Marx and the monetization of user-generated content," *The Information Society*, vol. 31, no. 1, pp. 52-60, 2015.

[24] J. O. Prochaska, C. A. Redding, and K. E. Evers, "The transtheoretical model and stages of change. Health behavior: Theory, research, and practice," vol. 97, 2015.

[25] I. Ajzen, "The theory of planned behavior," *Organizational Behavior and Human Decision Processes*, vol. 50, no. 2, pp. 179-211, 1991.

[26] L. S. Wallace, J. Buckworth, T. E. Kirby, and W. M. Sherman, "Characteristics of exercise behavior among college students: application of social cognitive theory to predicting stage of change," *Preventive Medicine*, vol. 31, no. 5, pp. 494-505, 2000.

[27] S. Rankin and R. Reason, "Transformational tapestry model: A comprehensive approach to transforming campus climate," *Journal of Diversity in Higher Education*, vol. 1, no. 4, 2008.

[28] P. Jones and L. Sloman, "Encouraging behavioural change through marketing and management: what can be achieved," in *Proc. 10th international conference on travel behaviour research, Lucerne*, pp. 10-15, Switzerland, 2003.

[29] S. J. Min, "From algorithmic disengagement to algorithmic activism: Charting social media users' responses to news filtering algorithms," *Telematics and Informatics*, vol. 43, 2019.

[30] A. Bhandari and S. Bimo, "Tiktok and the "algorithmized self": A new model of online interaction," AOIR Selected Papers of Internet Research, 2020.

[31] M. Jiang and K. W. Fu, «Chinese social media and big data: big data, big brother, big profit?" *Policy and Internet*, vol. 10, no. 4, pp. 372-392, 2018.

[32] *TikTok Reveals Detailed User Numbers for the First Time*, CNBC. Retrieved September 22, 2020

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