

# Information Acquisition, Persuasion, and Group Conformity of Online Tribalism: Does User Activeness Matter?

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## ABSTRACT

Though empirically some research suggests the linkage of better communication effect with active users' presence, no existing clues are found on the user activeness at the micro level to contribute to the virtual community's aggregate-level health and vitality. This paper models the interpersonal communication process via a multi-agent, self-reasoning model. It considers each agent's information value and conformity value, two key constructs adopted in this paper. This paper adopts simulated experiments to identify active users based on individuals' behavioural characteristics, screen out typical users of different activeness levels, and reveal causalities among the outcomes. The findings show that users' activeness determines the information vitality and influence of information dissemination and substantially impacts the dynamics of user-groups. The author concludes with a discussion of the theoretical and methodological contributions and pinpoints these findings for marketers to improve online customer relationship management.

## KEYWORDS

Activeness, Conformity, Influencer, Information Value, Online Tribalism

## INTRODUCTION

The fast-growing virtual platform has witnessed lots of myths in business. Virtual community incubates extensive customer communications where consumers demonstrate some tribal behaviors in an informal network based on a common interest and affiliation to a topic, a belief, a figure, a ritual, or a culture (Helmuth, Gouhier, Scyphers, & Mocarski, 2016; Kacprzak–Choiska, 2011). Typical examples include major question-and-answer platforms such as Quora with 300 million monthly unique visitors (Smith, 2019a) and Zhihu featured by 600 million monthly unique visitors (Smith, 2019b). However, research suggests that 1% of active users have contributed up to 70% of the total posts and deeply engaged with various online actions (G. Wang, Gill, Mohanlal, Zheng, & Zhao, 2013). A very similar statistic is also inferable from Zhihu Statistics (Smith, 2019b). Tribal behaviors enable forum users to influence each other by initiating, spreading, appraising, receiving, and internalizing beliefs via a social network. Undoubtedly, behind the nodes of the group network, some drives and consequences are interwoven, such as information exchange, self-esteem development, group attitude shaping, and social status development (Feliciani, Flache, & Tolsma, 2017; Sierra, Badrinarayanan, & Taute, 2016; D. Wang, Li, & Xiao, 2019).

Literature more or less casts partial lights on the presence of active users in various online activities (Araujo, Neijens, & Vliegenthart, 2017; De Veirman, Cauberghe, & Hudders, 2017), yet little systematic investigation has even been into the vision as “what features do those critical

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influencers own” and “how to identify them.” Some research has spotted that consumers attached different credence to information sources in terms of expertise, identity, or reputation (Harrigan et al., 2021), motivation (Mandel, Rucker, Levav, & Galinsky, 2017), testimony (Packard & Berger, 2017; Vithayathil, Dadgar, & Osiri, 2020). Influencers who attain a geometric growth in the number of followers and evolve as opinion-leaders due to their expertise or devotion to a conversation have a more significant influence on other users’ product adoption (Asamoah & Sharda, 2021; Casalo, Flavián, & Ibáñez-Sánchez, 2018). Notably, from vast literature, the incredible power of influencers is evident but attributed only to external intervention such as advertising, sponsored opinion leaders. At the same time, opposite to these emerging opinion leaders (e.g., “cewebrity”), the other type of influencer is cosponsored influencers (e.g., celebrity) who receive a reward to promote their brands by their extraordinary persuasiveness on millennials. Rare theories and empirical studies explain how peer-to-peer impacts grow as an endogenous outcome from virtual information exchange.

Despite various explanations of the influence of an online advisor, literature is scant about the emergence of “organic” influencers and understand their “activeness” with impacts on others and how influencers impact other members’ attitudinal shaping and decisions. These questions necessitate a comprehensive study to address research gaps as to how influencers and influence interact and evolve in action at an aggregate level. In view of so, this research has three research objectives.

First, this research tries to identify who acted as influencers to influence implicitly or explicitly the mass users by opinions and to screen them out by their online action’s activeness. Second, this paper aims to provide an explanatory vision for how the motives drive one user to become active (or inactive) via information acquisition or conformity-seeking motives and consequently achieve one’s information-based and conformity-based fulfillment. Furthermore, this paper shows the accumulated consequence, mainly as how the activeness affects users’ propensity to voice and the prosperity of the knowledge in the system. The author adopts a systematic approach to model how online influencers impact other individuals by weaving up the opinion’s evolution with information exchanges. The paper takes the perspective of information circulation. It models the inter-personal interaction process by agents’ inputs (information demands), actions (match of prior knowledge and attitude, interpersonal connection, and information exchange), and outputs (value acquisition and social influence) of online interpersonal communication.

The contributions of this study are as follows. *Theoretically*, this paper develops an integrated framework, provides a direct answer to the research questions, and highlights two personal drives - information circulation and social influences to model the micro motives of social interactions. The individual’s infotainment- and conformity-seeking motivation can explain how individuals impose influence on each other. This paper adopts a self-inferring approach in the method that all the attitudinal or behavioral changes become the endogenous outcomes of the information dissemination process to represent the complicated social learning procedure (Mawer, 2016). *Methodologically*, with the simulation method, experimentation can show an online community’s overall effect by adopting a simplified simulation approach to assemble the individual drives and speculate the changes of information value and attitudinal changes. *Practically* identifying critical influencers on virtual platforms and individualistic and group mechanisms of influencer-recipient interactions will facilitate screening out critical opinion leaders and optimize peer-to-peer communication in terms of reach and persuasiveness.

In the next part, the author reviews related literature, including how user motives establish individual user’s learning outcomes, group value development, and user activeness. The author simulates an open-ended online tribe with a rich diversity of message carriers in research design and execution and maps how users’ self-identity and social identity interact and form the dynamics of online influence via information exchange to shape the group attitude, primarily, how these indicators change by user’s activeness level. Finally, the analytical results before the conclusions and discussion are presented.

## Online Tribalism and Influencer

The online tribes appear in discussions of brand management and influencer marketing (Hamari, 2017; Thomas, 2018). Typical online user tribes establish themselves based on the concentration of opinion and closeness of interest or missions, including massively multiplayer online role-playing games (MMORPGs), brand community, social media, social networking sites (SNS), and other customer communication platforms. During the procedure, information acquisition and attitudinal shaping both get featured. Online tribalism describes a phenomenon that individuals prefer allegiant tribes bonded by ideological position, attitude, or interest, which democratize information and belief sharing. Various online communities, including social media and fans, have provided tools to facilitate individual communication and user conversion (Fu, Hong, Wang, & Fan, 2018). Behind the opinions of online tribal concentration are the diversified positions, attitudes, and beliefs that could cause profound social outcomes such as detachment from the group, extremity in attitude, the polarization of political positions, segregation of social classes, and even rupture of social structure (Helmuth et al., 2016).

The increase in reference groups and opinion leaders contribute to the booming virtual tribes. Opinion leaders are regular consumers or experts that have a specific role in a community or reference group (Niu, Terken, & Eggen, 2018; Praetorius & Görlich, 2020). They include the “early adopters” who start to use a new product and can influence others based on their unique features, inclusive of attractions. Unlike celebrities, these user influencers are more intimate, believable, and easy to relate, since they share personal aspects of their life with their follower audience (Fu et al., 2018; Xin & Wu, 2020). This type of relationship can generate para-social interaction, in which consumers identify the influencer as a friend. As a result, he or she is more susceptible to the influencer’s opinions and behaviors.

The significance of online tribalism suggests two superior outcomes in the media landscape, i.e., impact direction and social structure (including the emergence of influencers) originated from information sharing (Seemann, 2017). For example, consumers participate in the online tribe via message sharing and exchanges (P. Wang, Huang, & Davison, 2020), where various reviews are sourced by search and travel interpersonally to reach destinations (Brodie, Ilic, Juric, & Hollebeek, 2013; Woodroof, Howie, Syrdal, & VanMeter, 2020). Due to the profound influence on customer groups, firms are highly aware of engaging with the rising opinion leaders in order to generate interest, drive actions and create a relationship with their online stakeholders via imposing an electronic word of mouth (Atikah Zainal, Harun, & Lily, 2017) through virtual network (Akar & Dalgic, 2018; Kim, Kwon, & Kim, 2018) on social media or other platforms. For example, bloggers and vloggers become online opinion leaders. Therefore, brands want to engage with them to amplify their presence and influence amongst consumers (Uzunoğlu & Kip, 2014). Therefore, opinion leaders or influencers are more reliable and credible than celebrities and are therefore assumed to engage more with their audience.

## Group Conformity and Identity Reinforcement

### *Information Acquisition and Group Value Formation*

While taking tribalism as a group phenomenon, the current research uses a dyadic perspective to model an individual’s information searching (L. Chen, Lyu, Xu, Long, & Chen, 2020; Chung, Han, & Koo, 2015). Online users initiate their actions out of the motivation of gaining new information to receive informative utility (Asamoah & Sharda, 2021). Some literature addresses the patterns of message transition, focusing on the characteristics of information sources such as information’s depth and width (Jianxiong Huang, Boh, & Goh, 2017), initiatives of senders and recipients (Ahrens, Coyle, & Strahilevitz, 2013).

Some factors affect online interaction outcomes. The first factor is the network structure. Information nodes that disseminate the content through the tribal network alter the information

exchange. The size of a network node is represented visually by how often the contents flow through various online network structures. For example, the information online was evaluated and matched by the relative credibility, e.g., measured by the sources' social status (experts vs. peers) (Jianxiong Huang et al., 2017). More recent research has tended to support that messages travel more straightforward from trustworthy sources and among recognized interpersonal networks (Asamoah & Sharda, 2021).

The second factor comes from the consumer's psychological status. The direction of attitude and pre-held proposition moderates if individuals would like to accept opinions from the surrounding. The information has an inherent characteristic, i.e., valence, which means its influence on others inserts in two dimensions, strength and direction. The strength of information is strongly associated with the personal experience intertwined with effect. However, the direction is a non-neglectable fact which usually determines how the opinions with different positions conflict, collude, differentiate, integrate, and merge (D. Wang et al., 2019). Notably, positive and negative opinions have a different power of convincing effect to shape the group attitude (Hennig-Thurau, Wiertz, & Feldhaus, 2015).

The gains of online opinion transfers and exchanges generate multi-folded results. Opinions' valence (Ahmad & Laroche, 2017; Jianxiong Huang et al., 2017) describes the strength of information with an attitudinal direction (positive vs. negative). Negative opinions have different influential impacts than positive ones (Hennig-Thurau et al., 2015). The learning of individual information recipients includes acquiring problem-solving content (Chung et al., 2015; Ho & Dempsey, 2010) and personal growth (Ho & Dempsey, 2010). To the aggregate level, the opinion exchanges will lead to informational affluence, e.g., information prosperity and relational reinforcement, such as shared and boosted trust and goodwill (Shih, Lai, & Cheng, 2013; Thomas, 2018).

Beyond the information, an exchange has some other outcomes, for example, group value formation. Studies conducted in the context of MMORPGs (Badrinarayanan, Sierra, & Taute, 2014), movie review (Li, Xie, & Zhang, 2020), and political election (Chan, 2020) show that the opinion generated by customers based on their own experiences have a significant impact on the overall attitude and product adoption. Driven by individually-driven interests, the group opinions evolve to form a collective level of moral and ethical values that individuals agree on and conform to, to guide their actions. However, the explanations regarding what drives the value enculturation varied in literature. Some viewpoints include: seeking for homophily (Gilly, Graham, Wolfinbarger, & Yale, 1998; Steffes & Burgee, 2009), conformity or accordance (Ratan, Beyea, Li, & Graciano, 2020), group affinity (R. W. Hamilton, Schlosser, & Chen, 2017), rapport or reciprocity (Cheung & Lee, 2012), inclusion or belonging (Ho & Dempsey, 2010), sense of community building (Mamonov, Koufaris, & Benbunan-Fich, 2016), and desire of socialization.

### ***Self-Identity and Social Identity***

The changes in individuals' identity accompany the interplay of humans and information. Communication is, first of all, an information exchange process. Early literature believes the ultimate results can reflect personal achievement and self-accomplishment (Schutz, 1966). Some research recently attributes the transmission to the message sender's perspective, self-fulfillment, and self-esteem (Sierra et al., 2016) due to self-expression. Moreover, from the recipient's perspective, this fulfillment is understood as attaining information self-efficacy and confirming prior belief (Asamoah & Sharda, 2021).

Online communication presents an invisible social network (D. Lee, Kim, & Kim, 2012; Mamonov et al., 2016; McPherson, Smith-Lovin, & Cook, 2001). Online communication's outcomes should be understood from the social dimension. Behind the massive interpersonal interactions are psychological and sociological rewards to the online community members such as enjoyment of helping (Cheung & Lee, 2012) and sharing (Brodie et al., 2013), the fulfillment of virtue or obligation subjective norm (Cheung & Thadani, 2012; Luarn, Yang, & Chiu, 2015), altruism or empathy (Ho & Dempsey, 2010), social reputation (Cheung & Lee, 2012) and social desirability (Goldsmith & Horowitz, 2006).

## User Activeness as Outcome

In an interconnected world, consumers influence each other by initiating, spreading, appraising, receiving, and internalizing beliefs via social networks and shape self-attitude and information status as the outcome of a learning process. At the aggregate level, user activeness has a connection with group vitality and information prosperity. The current knowledge of online tribalism, especially its activeness, is almost sparse, except for the internal motivations such as earning peer's recognition and influence (Ho & Dempsey, 2010) and the external incentives such as herding (Jen-Hung Huang & Chen, 2006; Jiang, Xu, Zhang, Li, & Yang, 2018). It is unclear how the within-group connections endogenously evolve out the activeness based on their distinct interests and the dialectical dynamics between self-solicited individuals.

From a microscope, the drives of user activities may include a highlight of expressiveness (Barger, Peltier, & Schultz, 2016; Luarn et al., 2015), the intention of co-developing group belief (Sun, Law, & Schuckert, 2020), content forwarding (Chung et al., 2015), advising and customer voicing (Bronner & De Hoog, 2010; Kucuk, 2008). While inactiveness, at the other end, can be the consequences of many aspects of user inefficiency, such as learning dissonance, incapability of, or irrelevance to the learning process. For example, from the recipient's perspective, some hurdles may include a selective acceptance of information in Accordance to prior knowledge (Park & Lee, 2009), skepticism (M. Lee & Youn, 2009; Sher & Lee, 2009), and risk aversion (Casaló, Flavián, Guinalú, & Ekinci, 2015).

It can be summarized that two existing anchors segment information users based on their influences on others as the facilitator of information transferral and as the reference of attitudinal position. However, individuals are not the same; for example, Kling (1993) categorized users into promoters, neutrals, and detractors or saboteurs. In this research, "activeness" is a concept for investigation with both the role and attitude combined. In this paper, activeness is an emerged phenomenon generated endogenously by interpersonal interactions. There needs to be a methodologically holistic view to integrating individual interests with high-level outcomes to explain how different social settings establish the outcomes. In the next part, the author builds a conceptual model and hypotheses and specifies the simulation model's inputs and outcomes to speculate the behavioural and social consequences by different levels of user activeness.

## Research Design

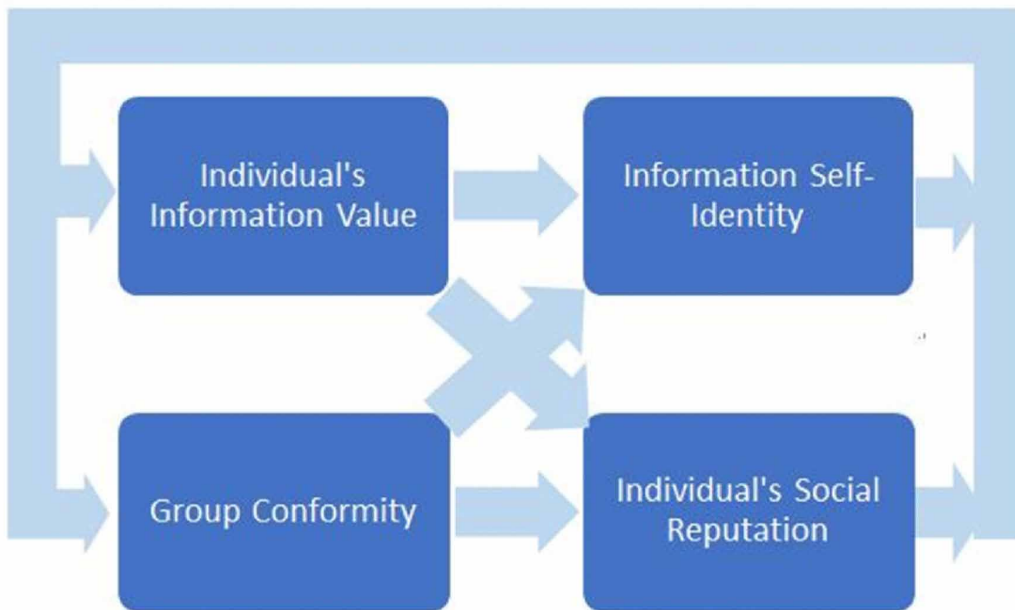
Following the framework of interpersonal communication (Berger, 2014), which covers impressions, emotion, information acquisition, social bondage, and persuasion, this paper captures both informative and social inter-personal communication outcomes with a certain simplification. This paper models a multi-stage information match procedure that occurred to impose information exchange and social influence. Some computational economics and market research adopt simulation methods for experimental purposes (Burlando & Guala, 2005; Duffly, 2001; Imai, Keele, Tingley, & Yamamoto, 2011).

This method enables context-based reasoning by adopting the sequential Monte Carlo method and stochastic method (e.g., Gaussian distribution). This simulation approach is not likely to manipulate in any empirical studies, in reality, e.g., individual's decisive rule (S.-H. Chen, Du, & Yang, 2014; Grosskopf, Sarin, & Watson, 2015) and communication network (Belhaj & Deroian, 2010). The outcomes monitor online community dynamics (Brodie et al., 2013; Cheung & Thadani, 2012) and belief framing (Goldsmith & Horowitz, 2006; Kozinets, 2002; Luarn et al., 2015). However, a general framework should combine the driving factors from recipients and senders with various motives and constraints, subjectivity, and objectivity.

The author assembles four key critical constructs to model a virtual community evolved with tribal communication. The information-based value represents the level of information ownership. The accordance-based value represents a psychological delight gained from receiving a new message which fits one's pre-held expectation, getting the attitude reinforced, and reaching an agreement with others. The self-identity depicts the self-perceived status of efficacy, which is induced by the

fulfillment of searching quest and information exchange. Last, the social reputation is adopted to show the relativity of social identity in the online tribe imposed by influencing others. Assuming that “the learning process leads to an enhanced status,” the conceptual model is shown in Figure 1 and use for execution. The model assumes a search-match-evaluate framework in the simulation model and assumes that information seekers intend to locate and build a connection with the most suitable source based on availability and accessibility under the information search task. Through an organic interaction process, group members develop their information or social influence based on their prior expertise, attitude, position, and networking. Consequently, information exchanges benefit the seekers and reinforce the group affiliation of senders. Each player also receives a boost of self-identity and social reputation out of interactions.

Figure 1.



### Initial Assignment

The initial setting consists of heterogeneous “individuals” with distinct interests, preferences, and random values behaviors when they are physically scattered but virtually connected. Everyone has two roles simultaneously, a source and a recipient. Each “recipient” is assigned with the randomized initial scores of initial information score and attitudinal proposition, as well as an instant information search-demand subject to the Poisson distribution. To fulfill the demand, each member search around based on their preference, which simplifies to a decisive linear model, consist of a relative coefficient of weight in a decision on socialization ( $\alpha$ ) and credibility ( $1 - \alpha$ ), to locate the ideal information source for exchange. This is followed by a formal connection that updates information value and self-identity of all the recipients, as well as attitudinal adjustment and social identity updates. These incremental changes are all subject to a randomized value.

Next, “Individuals” in the experiment are depicted of their evolution by four micro-level parameters, i.e., information value, group accordance value, self-identity, and social status. These

parameters are growing with a randomly varied rate from information exchange and matching the attitudinal difference. They are updated and reported in each round of simulation for both the information receiver and sender. Consequently, dispersing information will not increase the source's information value and self-identity but will boost the sender's social status. For recipients, contacts will acquire information from a source while enhancing self-efficacy, information value, and accordance value, but remain unchanged in social status.

### Model Specification

This research states that a prospect connection between information sender and receiver must meet the following conditions: First, the prospect information sender must have a spill-over willingness to influence the rest, defined by the state of self-identity sender higher than the social identity. Second, the prospect information source should have a non-zero information value surplus over the recipient's level to actualize sharing and influence others. Third, the information acquisition cost must be within the affordability range for the information receiver, including the cost of building up a connection to overcome the virtual barrier and searching costs (closeness in the network).

Information imposing consists of two steps, information matching, and transferal. The first step is the information matching step. To initiate a communication process, individuals look around for the best source which maximizes their value (by a function combining information ownership and searching cost) wherever this is a need for information searching. Information source match condition is met only when an information seeker identifies an information source  $(x^*, y^*)$  wherever the searcher can identify the source which provides the immense overall value with the most restricted cost:

$$(x^*, y^*) = \underset{(x', y')}{\text{Max}} \left\{ \alpha * (SE_i - SR_i) + (1 - \alpha) * \frac{\mu}{\text{Distance}(x_i, y_i) \text{ to } (x', y')} \right\} \mid SE(x_i, y_i) > SR(x_i, y_i)$$

where the  $\mu$  is constant.

After filtering the ideal information source by evaluating all sources' levels in the first step, the next step is to compare the information weights of the ideal sender and the recipient. The message exchange occurs between a "more knowledgeable source" and a less informed recipient. That is, the second step to trigger a transferal of information is when the seeker's current information weight is no more significant than the source's information value:

$$IV_t(x_i, y_i) \leq IV_t(x^*, y^*)$$

This research simulates ten rounds of online tribal communication among 100 delegating online community members with various searching interests and decisions. The reported outputs consist of micro-level outputs and aggregate level outputs. The micro-level indicators include the four variables of Table 1, i.e., information value, group accordance, self-identity, and each tribal member's social status. Some behavioral counts are recorded, e.g., the activeness, which means imposing influence as an information source. At the macro level, the system reports the overall growth of information of the online tribe, namely, the information prosperity and the vitality of the tribal communication as the inclination to spread messages spreading around and influencing others in the tribe, a.k.a., the system's propensity.

Table 1. Summary of reported outputs

	Name	Calculation	Meaning
Micro-Level Output t	Information Value	$IV(x_i, y_i) \sim \text{Poisson}(\lambda)$	Represent the affluence of information acquired and remained.
		$\Delta IV_{recipient_{t+1}} = \begin{cases} -\text{random} \sim (0,1), IV_{recipient_t} \times IV_{sender_t} < 0 \\ \text{random} \sim (0,1), IV_{recipient_t} \times IV_{sender_t} > 0 \end{cases}$	
	Group Conformity	$GC_0(x_i, y_i) \sim \text{Poisson}(\lambda)$	Represent the delight gained from staying consistent with the information source
		$\Delta GC_t(x_i, y_i) \sim \text{Random}(0,1)$	
Self-Identity		$SI_0(x_i, y_i) \sim \text{Poisson}(\lambda)$	Self-efficacy, the relative position of the focal information agent among the group indicating the self-esteem and importance
		$\Delta SI_t(x_i, y_i) \sim \text{Random}(0,1)$	
Social Status		$SS_0(x_i, y_i) \sim \text{Poisson}(\lambda)$	Social recognition gained from information transmission and social influence
		$\Delta SS_t(x_i, y_i) \sim \text{Random}(0,1)$	
Macro-Level Output t	Tribal Info Growth	$\sum \Delta Information Value_n$	The overall growth in information quantity over the observational period, as the information adequacy in the society, defined by the incremental magnitude of information, receiver's information utility (t-1, t)
Tribal Influence Propensity		$\sum (Self\ fulfillment - Social\ Recognition)_n$	The overall online tribal vitality of communication, defined by the incremental discrepancy of each sender's self-fulfilment and social recognition (t-1, t) if this number is positive; or "zero" if the discrepancy is negative

**Analytical Results**

*Comparison of Inactive Cases vs. Active Cases*

The communication times range from 0 to 84 among 100 participants, with the mean 0.92 and the SD 6.527. Three sets of agents form the base for between-group comparison: the inactive group  $[0,0]$ , the sticky group  $\left( \overline{0Activeness} + 1SD \right)$ , and the active group  $\left( \overline{Activeness} + 1SD \text{ } Max_{Activeness} \right)$ .



Figure 2.

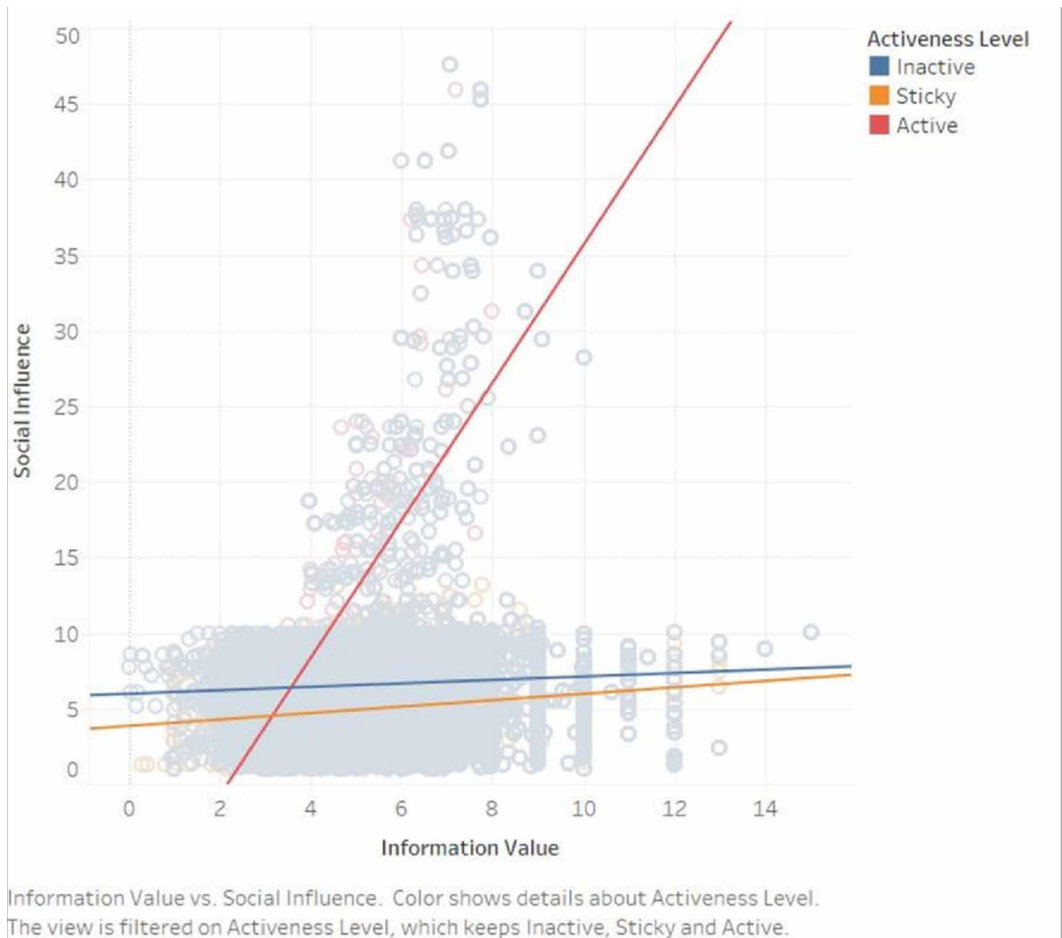


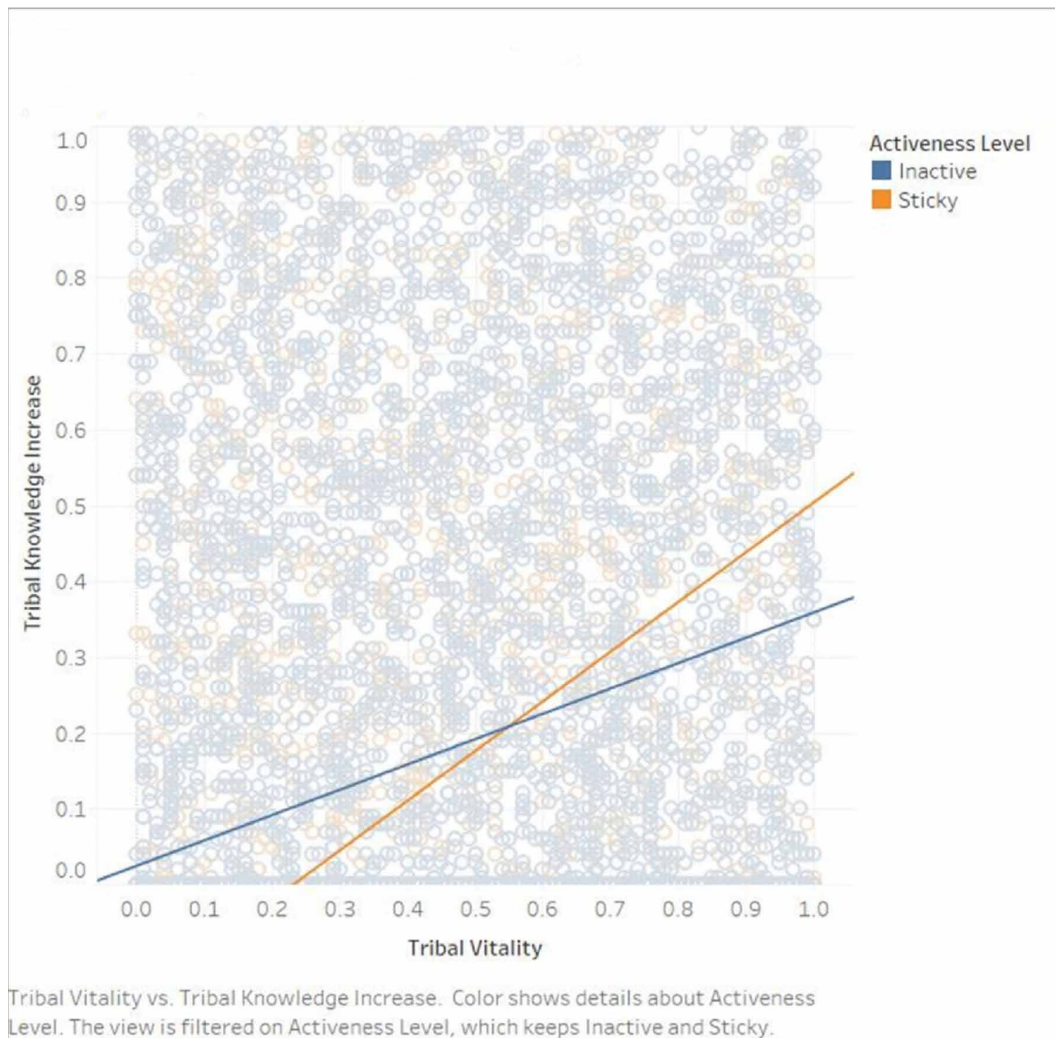
Figure 2 displays the three groups, where the percentage of the active users almost stays in line with the proportion of active users in Quora and Zhihu. The findings report that the active members have an average of 60.62 exchange message times out of all the potential interactions. On average, the sticky group has 1.7 times of interactions of all observations, while the inactive group is featured as zero interaction with others.

## Findings

### *Above Information Sharing*

User activeness has impacted the evolution of information value over time. Figure 3 describes a pattern of how active players perform, contrasting those inactive ones in terms of their attitudinal Accordance. As the reward of imposing influences, active users (green line) own a far-above-average group conformity value for their information feeding to others. Figure 4 shows that active opinion sources are featured by their prominent self-fulfillment as a helping hand out of altruism over time. The low activeness (blue) and inactiveness (red) groups rank after in user self-fulfillment. In Figure 5, the completely inactive agents are not involved in the message exchange due to the ruleset. This research sets the increase of social influence score as a relatively fixed rate only, which does not show the social influence's change imposed by interactions. When showing the group comparison,

Figure 3.



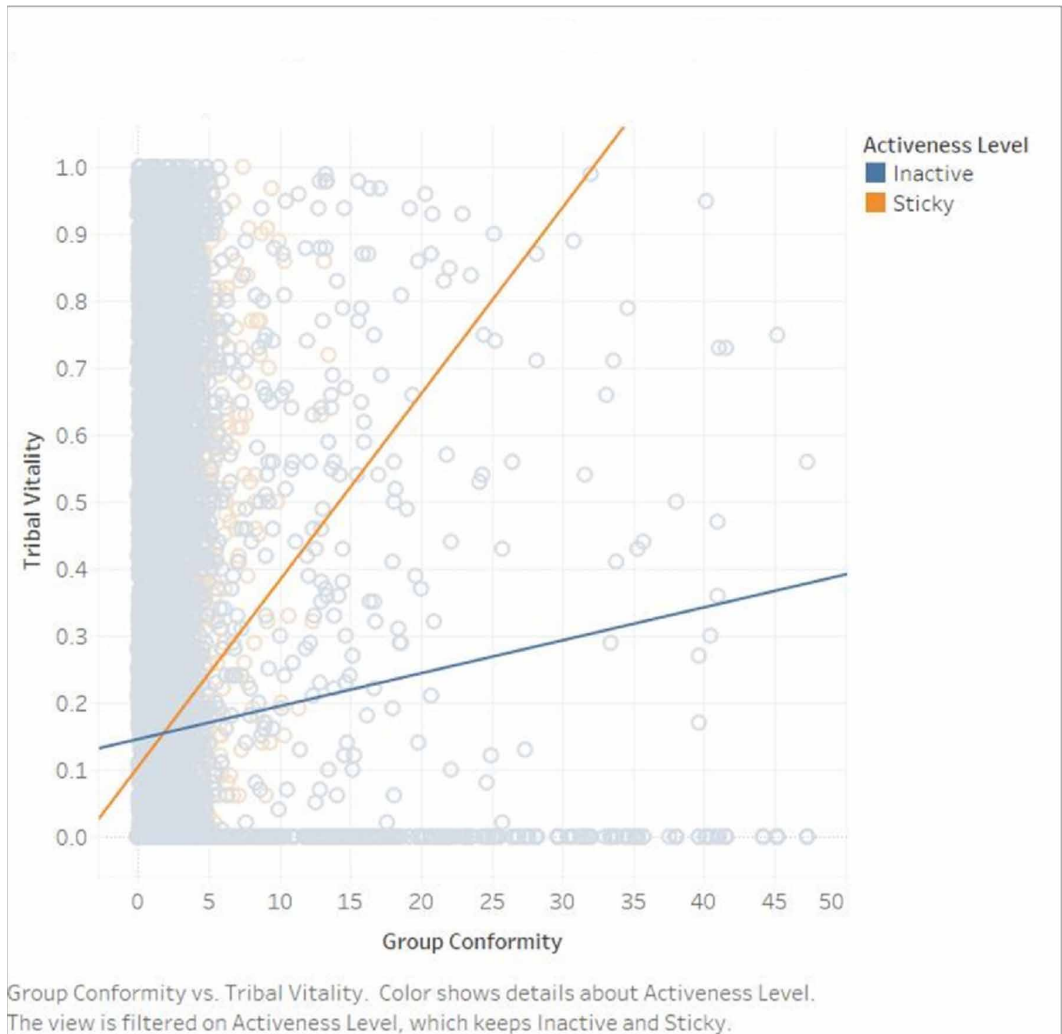
the isolated (completely inactive) group is temporarily removed to show the contrast clearly. By mapping the active and less active groups, the author shows that the highly active members have a significantly higher social reputation due to the engagement with the transferral.

The propensity is an indicator of simulated consequence to show how an online interaction will bring a dynamic to each simulated consumer in likelihood and capability to be an information source. Figure 6 shows that cross-circle stability and continuity of staying activeness by capacity and opportunity for some influential “voices.” High activeness users relatively consequently have higher marginal information ownership and therefore a more substantial potential to be contacted as the source to impose influence on others.

### *Between-Variable Relations*

From the left Figure 7, the gaining of information has a significant improvement ( $\beta = 4.534$ ,  $R^2 = 0.390$ ,  $P < 0.0001$ ) on group conformity on active influencers (red) contrasting the sticky (yellow) and inactive (blue) users. Figure 8 indicates that the active influencers have an insignificantly higher

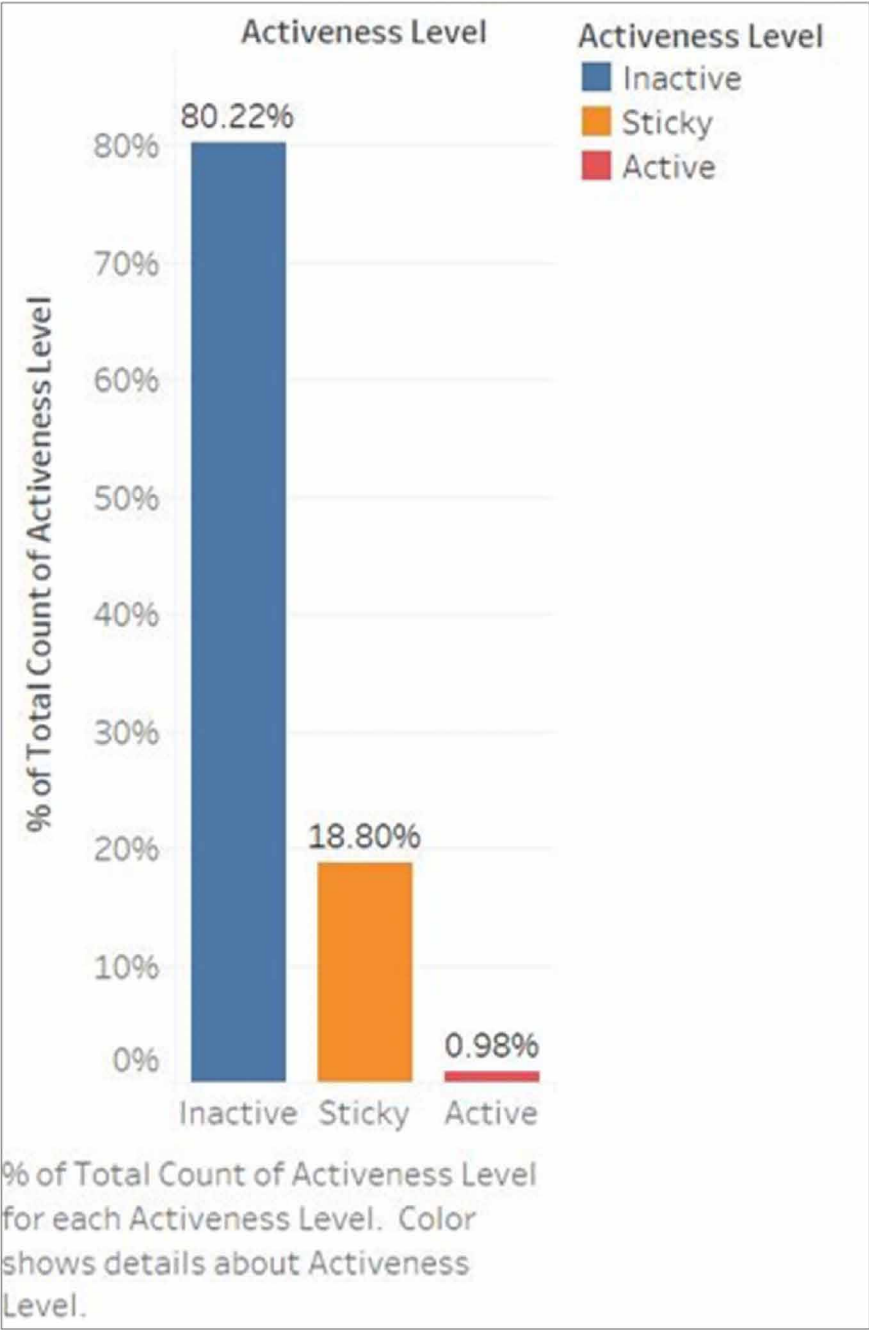
Figure 4.



social reputation with the same level of demand for information satisfied ( $\beta = 0.231$ ,  $R^2 = 0.002$ ,  $P$  insig). Though this relation on the active group is insignificant, when comparing the too inactive (blue) and the sticky group (orange), it may conclude that the lower the prior knowledge level is, the higher the social recognition is attached.

Figure 9 shows that compared with the pure information recipients (inactive, blue) and strong influencers (active, red), the sticky individuals work as senders and recipients occasionally and therefore quench the information demand when their knowledge level enhances ( $\beta = 0.087$ ,  $R^2 = 0.004$ ,  $P < 0.0001$ ). In contrast, active influencers mainly influence others and barely get the chance to strengthen their information efficacy. Figure 10 shows that relations between one's learning and social recognition are very different between active influencers and sticky influencers. Due to the role of feeding news to the mass population, active individuals receive rewards with a much higher recognition ( $\beta = 4.552$ ,  $R^2 = 0.389$ ,  $P < 0.0001$ ) than sticky and inactive members' source of the message.

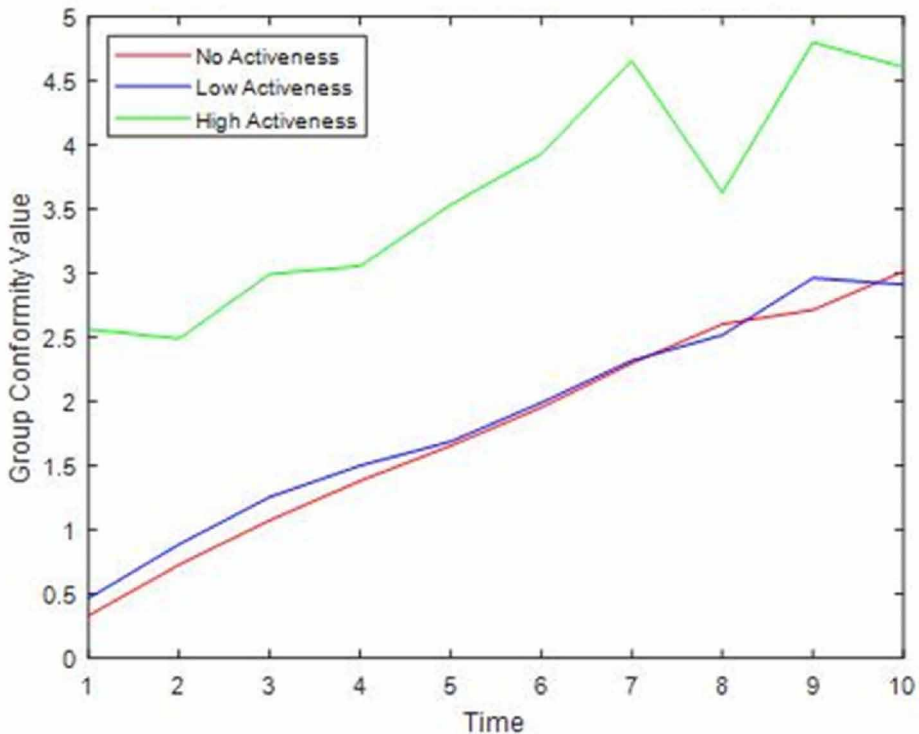
Figure 5.



### Impact on Tribal Users

The group communication’s overall learning effect to the mass recipients (reflected by pure recipients – blue, and occasionally influencers- sticky). Both curves are with a positive ascending tendency, with the inactive group ( $\beta = 0.334$ ,  $R^2 = 0.115$ ,  $P < 0.0001$ ) and sticky group ( $\beta = 0.654$ ,  $R^2 = 0.145$ ,

Figure 6.



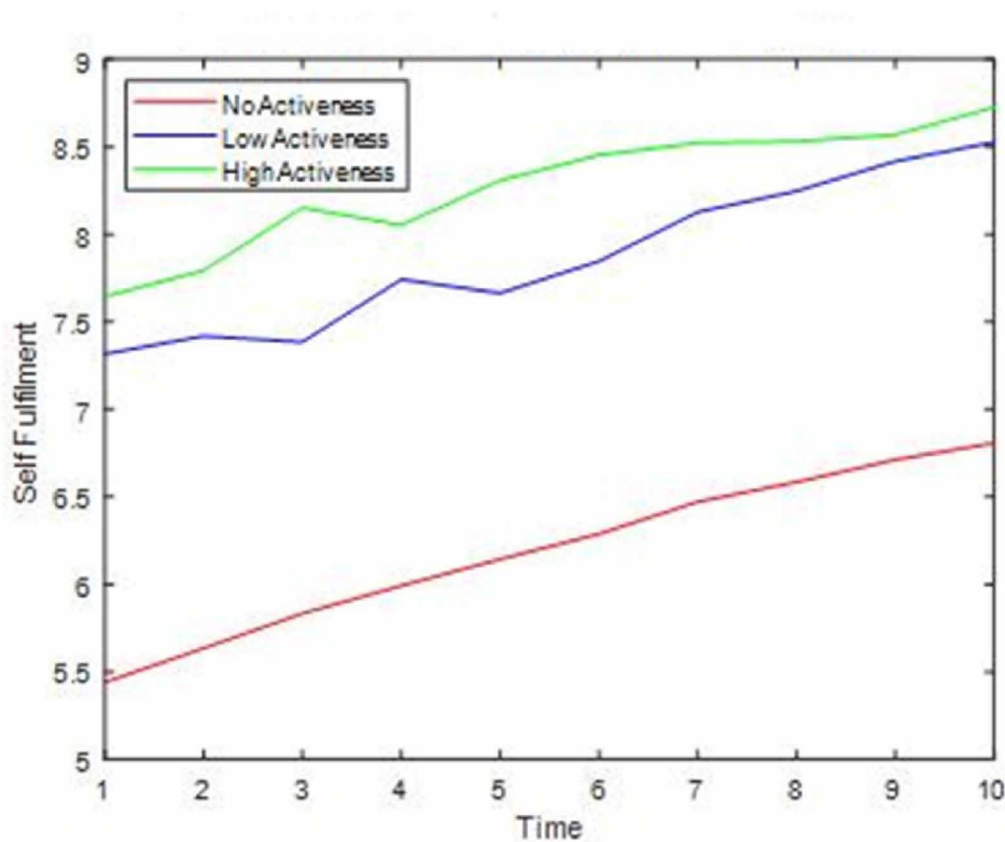
$P < 0.0001$ ). The bigger ratio  $\beta$  on the sticky group implies that these members will continue contributing more to the community's gains, characterized by a higher ratio.

Figure 11 furthermore contrasts the pure recipient group with the medium-activeness level group for the drive of exchange in the future when the group is turning towards an agreement. The graph concludes that the group opinion accordance will powerfully drive the skyrocketing growth of the influencing power.

## CONCLUSION AND DISCUSSIONS

This research simulates the general information sender-recipient interactive process where all the parameters are assigned with random values to minimize possible pre-assumption generated bias and suggests that the status of activeness is an organic outcome of interpersonal communication due to prior knowledge and attitude. The results answer the research questions by showing that active individuals evolve from a natural process of human communications over time via the interplay of individual's informative and psychological value over the information and social activities. Active players exist in a social group as the information hubs to dismiss the information and share a higher learning level. Consequently, a broader connection with and influence on active members' mass audience usually leads to a higher confirmation of attitudinal accordance than less active and isolated ones. Active influencers will gain a higher psychological value for consensus, self-efficacy, and social influence via interactions than passive or inactive ones—the more active, the more self-pleasant, the more socially recognized.

Figure 7.



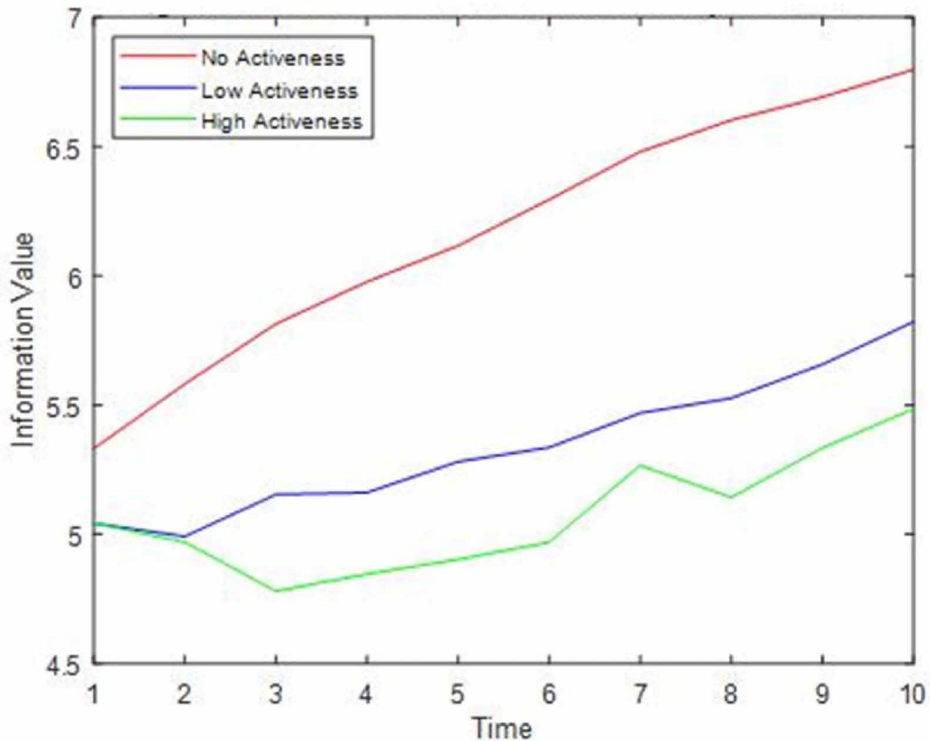
Secondly, at the individual level, the author found that online activeness results in a higher level of both self-recognition and social fame on average. Furthermore, the relations between the activeness level and the self- and the social-recognition level are positive. The simulation experiment also indicated a few contextual relations between variables, e.g., information-based and accordance-based delights, self-recognition, social influence, information prosperity, and transmission propensity, moderated by the member activeness. The findings report that extreme active individuals have a much higher marginal increase in “accordance,” benefitting from the growing information volume owned in influencing society. Not coincidentally, their overall social influence and attitudinal accordance from the group are significantly higher by personal information growth.

The third question is about how will information activeness impact the prosperity and propensity of online tribalism? At the aggregate level, active individuals generally have a stronger inclination to continue this activeness, evidenced by a stronger propensity to spread the message and generate messages further to impact others more profoundly than less active ones. It implies a snowball effect of the vitality in spreading opinions to apply the influence. The more the influencers can do it, the more willing they are to do it and gain more power from doing it.

### Managerial Implications, Research Limit, and Future Research

Active influencers exist on various virtual platforms, causing this paper’s finding to primarily relate to online marketing practices in both content construction and personal network structure. From the content validity’s perspective, nowadays, peer-to-peer communication with a large volume of user-

Figure 8.



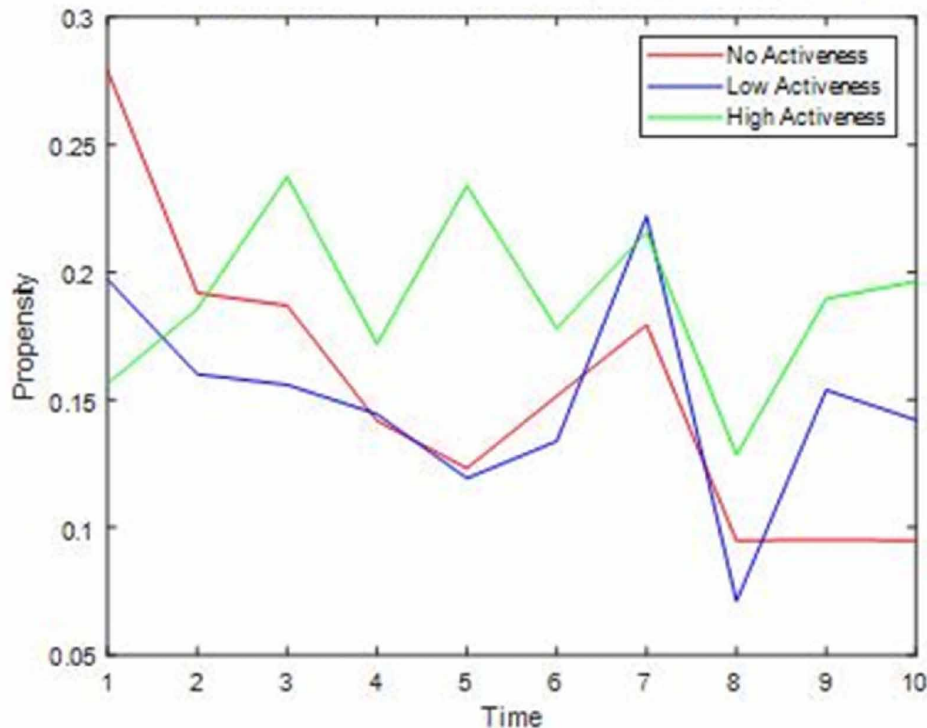
generated content has taken over a substantial percent of brand content and compresses commercial information's action scope, for example, advertising (Asamoah & Sharda, 2021). The other side is the sociality of the interpersonal network. A typical observation is that consumer's tribal behaviors go far beyond the ordinary forms of information transmission, regardless of MMORPGs, brand communities, or SNS sites. Instead, it demonstrates a high level of congruence and stickiness in information transition (K. Hamilton & Hewer, 2010; Helmuth et al., 2016) as well as the power of trust boost and close-loop prosperity. In this sense, the existence of consumer tribes will boost message generation, transmission, and flow with substantial homogeneity and solidarity.

Coming to the implications in communication management, the author believes the micro-and macro- outcomes bear a significant practical meaning to rationalize the communication strategies of leveraging online influencers to maximize favorite outcomes. To optimize the communication mechanism, managers need to leverage all the manipulatable variables to develop a full awareness of influencers' heterogeneity and audience by their social influence and effectively manage the media resource and online forum. This article's findings can cast a light on brand community management regarding how to collaborate with influencers who align with brand values and personality to affect their audience and lead a positive result.

This research bears some limitations, such as a limited external validity due to the data collection and modeling. The entire socioeconomic system is built on more sophisticated decisive rules, while this paper spotlights the most important findings, and this model engages the simplified interaction



Figure 9.



rules. The test difference gets mixed with the endogeneity of the self-reasoning change yet remained unknown until a further test. Therefore, different online communities can be spotted by working with simulation models whose parameters have different values. Whereas one experiment can only explore a single-track path on the online community's evolution, the findings should be understood as experimental results for foresight, all but barely sufficient for forecasts. As a foreshadowed direction for future research, this paper is considered as the first piece of a simulation study to develop further theoretical development and empirical examination of the causality of how individualistic online activeness may impose interpersonal influences on others via halo effect (from influencer) and bandwagon effect (from other audience).

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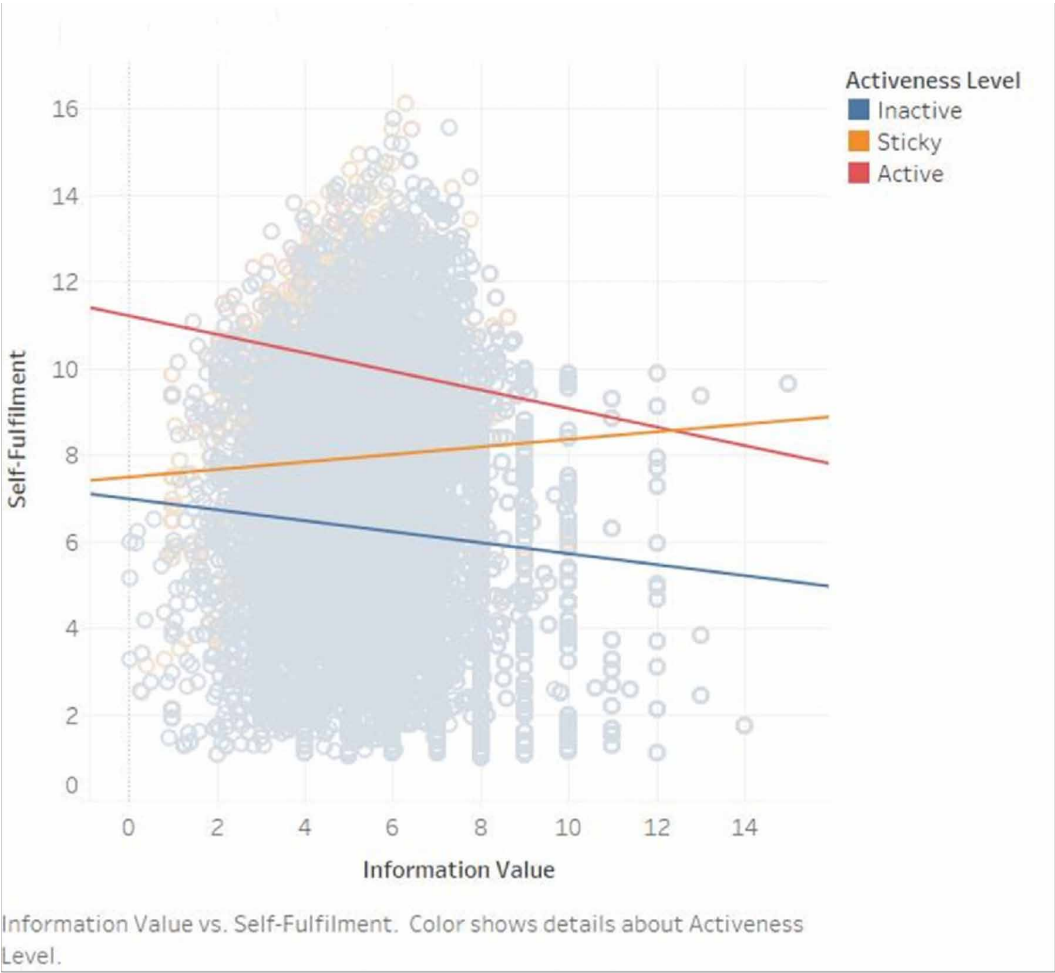
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Figure 10.



Figure 11.



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