

Information Forwarding User Behavior on Social Networking Services: A Comparative Study in India and Japan

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ABSTRACT

Social media provides an effective way to share information, preferences, and life stories with others. The power of social media lies in its ability to rapidly disseminate information to a wide audience via information forwarding. Various researchers have studied user motivations behind the use of social media; however, there hasn't been much research in the past on understanding the user motivations behind information forwarding on SNS sites. This research is focused on understanding the reasons behind the information forwarding on SNS through a comparative study of users in India and Japan. For this research, quantitative analysis is conducted on the data collected from SNS users in India and Japan. The scope of the research extends beyond the sentiments and emotions sparked by the information contents and proposes a research framework with a broader scope that includes other important factors too, such as social contribution, self-benefits, and organizational propaganda. It is found that positive emotions, negative emotions, and social contribution are the significant predictors of information forwarding on SNS in Japan, however for India, the organizational propaganda construct is also found to be a significant predictor. The relative importance of the various predictors was also found to be different. Based on the comparative analysis, it could be concluded that the relative importance of these factors varies depending on the geographical region due to the differences in their social and cultural environment.

1. Introduction

The world has witnessed a rapid increase of internet users in the recent couple of decades for work and personal use. In the evolution of the Internet, Web 1.0 is considered to be an era when the role of the Internet was limited to only providing information to the customers. This mainly was based on a one-way communication from the organizations to customers, which later evolved into Web 2.0, which facilitated two-way communication and active interaction between the users and the organizations (Singh, 2022). There are various Web 2.0 business models, in which user participation and co-creation of value with the users is critical. Some of these business models are based on social media, which generally includes social networking services (SNS).

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Social networking services are web-based communities that enable users to connect and interact with other users online based on some common interests (Murray & Waller, 2007). SNS generally enables users to create their profile, upload, and share content such as photos, videos, thoughts, feelings etc. with their connections or other users. SNS are online services that enable users to create a public or semi-public profile based on the template provided, give access to other users to connect, and allow direct or indirect access to the connections of other users within the network (Boyd & Ellison, 2008).

There are various reasons for users to use SNS. According to McQuail (1994), people use SNS for mainly four reasons and these are information, entertainment, social interaction, and personal identity. According to Statista (2023), internet users mainly use social media for keeping in touch with their friends and family, finding useful content (e.g., articles, videos, news), using spare time, checking what is being talked about, finding inspiration for things to do, searching products to purchase, watching live streams, sharing and discussing opinions with others, making new contacts, seeing contents of the favorite brand etc. SNS provides social connections, emotional support and is a source of information. Generally, the members of the SNS sites, can directly communicate with their connections by sending messages to them, or they can forward the information and contents received or posted by other members on the SNS site to their connections. Overall functionalities, features, and design of SNS sites vary from site to site. These could be broadly classified into public social networks and private social networks. Information on public social networks is open to other users of the SNS site with an option to restrict the user access to the contents, however, information on private social networks is limited to the intended recipients of the information and contents. Examples of public SNS sites are Facebook, Twitter, and Instagram, while examples of private SNS are Line, WhatsApp, WeChat, Facebook Messenger etc.

According to OOSGA (2023), in 2021 there were 4.26B social media users which is forecasted to increase to 5.85B by 2027. For this study, India and Japan are selected as both are Asian countries but have significant differences in the user demographics and the types of SNS being used in these countries. As of 2022, Line, Twitter, and Instagram are the top 3 SNS sites in Japan and WhatsApp, Instagram, and Facebook are the top 3 in India. According to Internet World Stats (2023), Japan has a very high internet penetration rate of 93% compared to around 60% in India, as of mid-2022. There were around 118M internet users in Japan, which has reached almost the saturation point, however, there were around 833M users in India and this number is expected to grow in the future too. The objective of this research is to understand the reasons behind the information forwarding on SNS sites in India and Japan.

2. Research Motivation

Social media provides an effective way to share information, preferences, and life stories with others. It provides access to a large audience of message recipients. Various researchers have already conducted numerous studies on understanding the reasons why people use social media, however not much research has been conducted so far to understand the reasons behind the information forwarding on SNS sites.

Stone et al. (2022) conducted a study to understand the reasons why users post their personal experiences on social media and the results indicated that the users post their personal memories on social media mainly for social reasons. Researchers found that the users who were lonely and who had lower self-esteem were more likely to post their personal experiences for therapeutic reasons. Similarly, according to Brandtzaeg & Heim (2009), the main reasons to use SNS are to connect with new people, keep in touch with friends and family, and socialize.

Whiting & Williams (2013) used gratifications theory to understand why people use social media. This study found ten sources of gratifications in using social media, and these are to interact with others, find information, use spare time, relax, communicate, convenience, express opinions, share information, know others, and derive entertainment.

While these studies focused on understanding the reasons why people use social media, Van Koningsbruggen et al. (2017), conducted a study to understand the reasons why people are not able to resist the desire to use social media. The research found that some users possibly have strong and spontaneous hedonic motivations for social media, which creates difficulty in resisting the temptations to use social media. Hedonic motivation is the sense of fun or pleasure received by using a new technology. It sometimes plays an important role in the acceptance and use of new technology (Brown & Venkatesh, 2005). According to Singh & Matsui (2017), using technology-based new services is an exciting and entertaining experience for users and it might influence the motivation to use technology-based innovative services. Some users even develop an addiction to social media, which might affect user health and adversely impact their quality of life. Chegeni et al. (2021) found that weaknesses in life skills such as, lack of socializing, resilience, and problem-solving skills result in people's addiction to social media and then consequently health-threatening conditions.

Information on SNS spreads very quickly but there are no dependable means to validate the information of its integrity and reliability. Very quick information diffusion without any validation is a point of concern regarding the SNS. It is observed that generally fake and sensational information spreads very quickly on SNS. To understand the reasons for the spread of misinformation, Chen et al. (2015) conducted research and found that the main reasons are the ability of the SNS to spark conversations and its catchiness among users. Some additional reasons are self-expression and socializing with other users.

While conducting the literature review it was found that although there are various prior studies conducted on understanding the reasons why people use social media, however, not much attention has been given to understanding the reasons why people forward the information to other users on SNS sites. A relevant study by Tsugawa & Ohsaki (2015) tried to study the relationship between the sentiment of a message on social media and its virality using Twitter data and found that negative messages are more prone to spread rapidly than positive and neutral messages.

This research is conducted to go beyond the sentiments as the reason for information forwarding and propose a more comprehensive framework including the other possible important factors to analyze the user motivations behind the information forwarding on SNS. This research is quantitative research that envisages various constructs to formulate a research framework that could facilitate holistic future research in an organized manner. Below are the research questions for this study,

- Q1. What are the triggers for the users to forward the information on the SNS sites?
- Q2. What kind of information contents are more prone to information forwarding on the SNS sites?
- Q3. How the information forwarding user behavior on SNS sites is different in India and Japan?

3. Literature Review

There are a few researchers who studied the effect of the message sentiments on its diffusion and virality on social media. Emotions are characterized as multicomponent response tendencies that uncover for a short period and involve cognitive processing, physiological response, and related experiences.

Arousal and valence are commonly understood to be the two dimensions of emotions. Arousal is the strength of the emotion, while valence is the particular emotional content, which is classified into positive, negative, and neutral feelings (Kim et al., 2013; Bailen et al., 2019).

Emotions are the different valence, ranging from positive (happiness, excitement, satisfaction, curiosity) to negative (sadness, anger, anxiety, disgust). Positive emotions are subjectively perceived by individuals as feelings that indicate a pleasant level of interaction with their surroundings. Generally, negative emotions manifest in a feeling of distress (King, 2020). Emotions are an important part of human life as they reflect the current mental and physical state and have a substantial impact on cognition, communication, and decision-making.

Stieglitz & Dang-Xuan (2013), conducted a study to examine whether the sentiment associated with social media content has any effect on information forwarding behavior and found that Twitter messages that contain strong emotions are more prone to get retweeted and are more quickly forwarded in comparison to neutral messages.

Another study looked at how the two emotional response constructs i.e. arousal and valence affect video-sharing behavior on social media. It was found that high arousal emotions were the main reason for video sharing, and although valence also played a role, but only to a certain extent (Nelson-Field et al., 2013).

Similarly, Berger (2012) analyzed the selected online content such as news, videos, and advertisements to understand why they are more viral than other pieces of content. For this research, New York Times articles data was collected for 3 months, and the effect of emotions on the virality of the content was studied. This study found that the positive contents were more viral than the negative contents however the relation between emotions and transmission was more complicated than the valence alone. The study indicated that physiological arousal influences the virality of the information. Content that induces higher arousal, whether it is positive (awe) or negative (anger or anxiety) emotions, is more viral.

Below are the hypotheses related to positive and negative emotions of the forwarded information content,

H1. Information content with positive emotions such as happiness, fun, contentment, and hopefulness are prone to information forwarding on SNS.

H2. Information content with negative emotions such as sadness, anger, jealousy, and fear are prone to information forwarding on SNS.

Many organizations leverage SNS message forwarding to invite the contribution and donations for socially responsible activities related to the environment, poverty, gender gap etc. In this form of cause-related marketing campaigns, organizations encourage users to forward promotional content with a promise to contribute to a charity with a social cause for each message forwarded on the SNS (Wen et al., 2023).

By forwarding such messages and contents, SNS users might get a feeling of satisfaction and accomplishment of being a socially responsible person. Below is the hypothesis related to information forwarding for the social contribution,

H3. Information forwarding that supports a social contribution is prone to information forwarding on SNS.

Information forwarding provides some self-benefits to the users. Ho & Dempsey (2010) identified four potential self-benefit motivations. These are the need to be part of a group, the need to be individualistic, the need to be altruistic, and the need for personal growth. It was found that individualistic and altruistic social media users tend to forward the contents more than the ones who do not. Sometimes, organizations run promotional campaigns to give monetary incentives or points to the users for forwarding the information. The self-benefit reasons to forward the information on SNS could be due to reasons such as self-influence, monetary benefits, or any other tangible or intangible benefit to the user. Below is the hypothesis related to information forwarding for self-benefits,

H4. If there are some self-benefits associated, then the users are prone to information forwarding on SNS.

According to Encyclopedia Britannica, propaganda is the systematic effort to manipulate other people's beliefs, attitudes, or actions through symbols, words, gestures, banners, monuments, music, clothing, insignia, hairstyles, designs on coins, postage stamps, and so forth. According to Smith (2023), propaganda is a type of communication mainly used to convince or influence others to spread an agenda, which generally is not objective and often selectively picks up the facts to create an intended synthesis. In addition, it uses loaded language to induce an emotional response rather than a rational response. There are various types of propaganda content, such as political, religious, self-propaganda etc.

International leaders now realize that participating in social media platforms is essential for communicating with their electorates since social media is playing a bigger role in bringing about changes in social and political issues. SNS contains enormous content related to news from around the world, information about global incidents, current affairs, and political propaganda movements (Pillai et al., 2015). SNS became very popular among adolescents and young adults and then consequently politicians started to leverage it for their political campaigns.

Utz (2009) studied the effect of personalized soft campaigning in the 2006 Dutch elections and the effect of interaction with potential voters through SNS on the perception of the candidates. It was found that the SNS was able to approach the people who were not so interested in politics and the politicians who reacted to the people's comments were perceived to be more favorable.

Quick dissemination of fake news and information has been a challenge with SNS sites. Users can create and disseminate fake information and rumors very quickly and SNS enables them to spread the information very quickly to a very large audience. This might result in a negative impact on society, business, and politics (Meinert et al., 2018). Generally, the users forward such information when the information content is aligned with their values and beliefs. In such cases, since the information content is aligned with their values and beliefs, they might forward the information even when they have not verified whether the information is factual or fake. Below is the hypothesis related to information forwarding for organizational propaganda reasons,

H5. When the information content of the organizational propaganda is aligned with the values and beliefs of the users, then the users are prone to information forwarding on SNS.

Based on the identified 5 constructs i.e., positive emotions, negative emotions, social contribution, self-benefits, and organizational propaganda, this research would like to propose the below PNSSO research model for studying the user motivations for information forwarding on SNS.

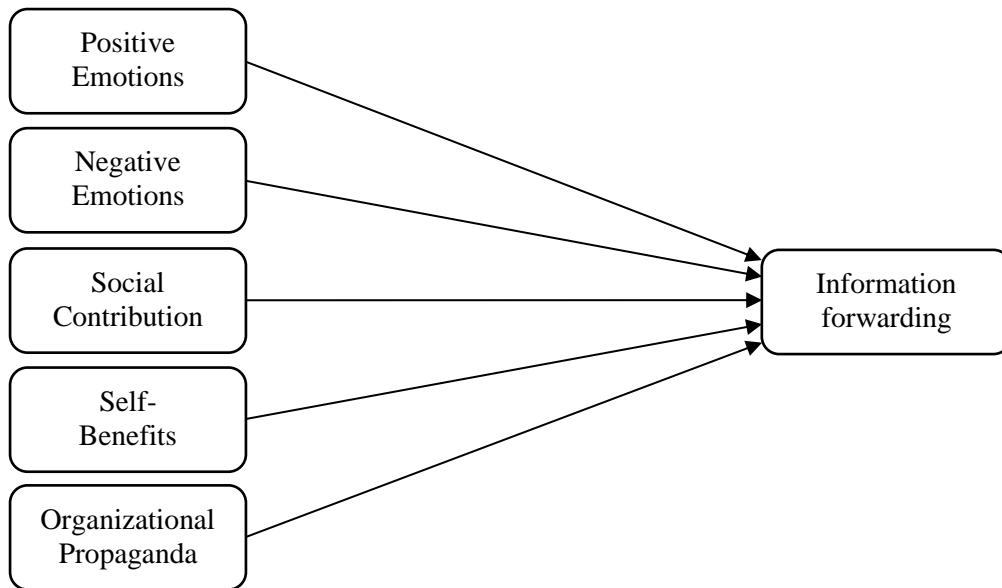


Figure 1. PNSSO Research Model

4. Data Collection

For conducting the quantitative research, a questionnaire was created to collect user data about the triggers for forwarding the information on SNS sites. Data was collected from the users in India and Japan for conducting the comparative study. A questionnaire was created with a total of 20 questions, 2 questions related to respondent demographics, 3 questions related to the positive emotions construct, 3 questions related to the negative emotions construct, 3 questions related to the social contribution construct, 3 questions related to the self-benefits construct, 3 questions related to the organizational propaganda construct, and 3 questions related to the information forwarding action.

After compiling the measurement items in an English questionnaire, a Japanese version of the questionnaire was created, which was reviewed by 3 native Japanese academic professionals. To ensure consistency between the English and Japanese versions of the questionnaire, it was translated back into English, and it was ensured that there were not any major discrepancies. All the questions in the questionnaire, except a few demographic questions were based on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Data was collected through an online questionnaire and face-to-face paper-based questionnaire in Japan and India during two months in June and July 2023. There were 116 valid respondents from India and 119 from Japan. There were 8 invalid responses and those are excluded from the data analysis.

Table 1.
Respondent Demographics

		India		Japan	
Gender	Male	59	52%	58	49%
	Female	57	48%	61	51%
	Total	116	100%	119	100%
Age	10-19	20	17%	23	19%
	20-29	45	39%	44	37%
	30-39	30	26%	32	27%
	40-49	16	14%	13	11%
	>50	5	4%	7	6%
	Total	116	100%	135	100%

5. Analysis & Results

A factor analysis is conducted in the social sciences research area to explore the patterns and relationships among the variables. It enables the validity test and reliability test of the data collected through the research instruments to conduct a deeper analysis and reach meaningful conclusions. According to Hair et al. (2009), a factor analysis determines the underlying structure among the constructs in the analysis. Factor loadings in the range of ± 0.30 to ± 0.40 at minimum are appropriate for interpretation of structure, while ± 0.50 or higher are practically significant (Hair et al., 2009). In this research, a factor analysis was conducted on the 6 constructs of the model to check the convergent validity, discriminant validity, and reliability of the constructs. Convergent validity is the test to examine how a measurement variable is related to a particular construct and discriminant validity is the test to examine how a measurement variable is different than the other constructs.

For conducting the factor analysis, the principal components extraction method and promax rotation were used to create a pattern matrix with a constraint to show values higher than 0.2 only. In the pattern matrix, factor loadings and cross-loadings of the measurement variables on the respective constructs were observed. None of the items were found to have factor loadings of less than 0.7 and cross-loading higher than 0.20, thus passing the convergent validity test.

According to Hair et al. (2009), validity is to check how well the concept is defined by the measures while reliability is about the consistency of the measures. Cronbach alpha for each factor was computed to test the reliability. Generally, the minimum acceptable value for Cronbach's alpha is 0.70 although it is acceptable up to 0.60 in the case of exploratory research (MacCallum et al., 1994). In this study, Cronbach's alpha for each construct was higher than 0.7 and passed the reliability test. Below are the reliability and convergent validity test results for both the India and Japan data sets.

Table 2.
Measurement Model

	India			Japan		
Construct	Scale Item	Cronbach's Alpha	Factor Loading	Scale Item	Cronbach's Alpha	Factor Loading
Positive Emotions	PE1-I	0.962	0.964	PE1-J	0.961	0.978
	PE2-I		0.926	PE2-J		0.930
	PE3-I		0.980	PE3-J		0.949
Negative Emotions	NE1-I	0.953	0.912	NE1-J	0.957	0.999
	NE2-I		0.983	NE2-J		0.926
	NE3-I		0.956	NE3-J		0.941
Social Contribution	SC1-I	0.990	0.994	SC1-J	0.973	0.978
	SC2-I		0.971	SC2-J		0.965
	SC3-I		0.994	SC3-J		0.942
Self- Benefits	SB1-I	0.953	0.963	SB1-J	0.908	0.892
	SB2-I		0.967	SB2-J		0.903
	SB3-I		0.939	SB3-J		0.960
Organizational Propaganda	OP1-I	0.981	0.994	OP1-J	0.965	0.961
	OP2-I		0.992	OP2-J		0.950
	OP3-I		0.948	OP3-J		0.983
Information Forwarding	IF1-I	0.985	0.851	IF1-J	0.988	0.951
	IF2-I		0.833	IF2-J		0.937
	IF3-I		0.888	IF3-J		0.939

Discriminant validity is conducted to check to what extent, factors are distinct and uncorrelated. It is conducted by analyzing the correlations between the factors. If the correlations are high

(more than 0.9), then it is a sign of collinearity. In this research all the correlation coefficients were found to be less than 0.7, hence passing the discriminant validity test and multicollinearity test. Below is the factor correlation matrix for both India and Japan datasets,

Table 3.

Factor Correlation Matrix (India)

	PE-I	NE-I	SC-I	SB-I	OP-I	IF-I
PE-I	1.000					
NE-I	0.444	1.000				
SC-I	0.299	0.406	1.000			
SB-I	-0.151	-0.224	0.046	1.000		
OP-I	0.334	0.400	0.402	-0.086	1.000	
IF-I	0.654	0.699	0.556	-0.161	0.552	1.000

Table 4.

Factor Correlation Matrix (Japan)

	PE-J	NE-J	SC-J	SB-J	OP-J	IF-J
PE-J	1.000					
NE-J	0.279	1.000				
SC-J	0.507	0.469	1.000			
SB-J	-0.295	0.076	-0.086	1.000		
OP-J	-0.173	-0.243	-0.333	0.116	1.000	
IF-J	0.678	0.482	0.642	-0.244	-0.304	1.000

Regression analysis is generally conducted to understand the effect of independent variables on a dependent variable. In this research, the dependent variable is the action of information forwarding and the independent variables are the positive emotions, negative emotions, social contribution, self-benefits, and organizational propaganda constructs. In this research, regression analysis of positive emotions, negative emotions, social contribution, self-benefits, and organizational propaganda constructs was conducted on the information forwarding construct for both India and Japan data. To ensure that the regression model is meaningful, the R-squared value of the model was calculated to check the goodness of fit of the model. For the India data, the R-squared value was found to be 0.793 and for the Japan data, it was found to be 0.666. In the area of social sciences, an R-squared value of 0.5 is considered to be relatively strong. If the R-squared value is between 0.10 and 0.50 it is considered to be conditionally acceptable when some or most of the explanatory variables are statistically significant (Ozili, 2023). In this study, the goodness of fit for both the India and Japan data was found to be acceptable.

For interpreting the results, first, it is important to recognize the independent variables that are significant and have an impact on the dependent variable. After that observing the regression weights and t-values will help in understanding the relative influencing strengths of the independent variables on the dependent variable. A positive regression weight of the significant variable indicates that as the value of the independent variable increases, the value of the dependent variable also increases and vice-versa.

Below are the regression analysis results for both India and Japan data. It could be observed from the below tables that positive emotions, negative emotions, and social contribution are the significant predictors of information forwarding on SNS for both India and Japan data. However, organizational propaganda was also found to be a significant predictor of information forwarding on SNS for India data.

Table 5.

Regression Analysis (India)

Airline	Regression Weight	t-value	Significance
PE-I → IF-I	0.385	7.715	<.001
NE-I → IF-I	0.408	7.596	<.001
SC-I → IF-I	0.212	4.180	<.001
SB-I → IF-I	-0.016	-0.348	0.729
OP-I → IF-I	0.176	3.496	<.001

Table 6.

Regression Analysis (Japan)

Airline	Regression Weight	t-value	Significance
PE-J → IF-J	0.449	6.694	<.001
NE-J → IF-J	0.216	3.420	<.001
SC-J → IF-J	0.299	4.173	<.001
SB-J → IF-J	-0.093	-1.600	0.112
OP-J → IF-J	-0.062	-1.059	0.292

6. Discussion and Conclusion

In this research, various reasons for the information forwarding on SNS sites are studied in India and Japan, and the PNSSO research framework is proposed for conducting such studies. Based on the analysis it is found that positive emotions, negative emotions, and social contribution are the significant predictors of information forwarding on SNS in Japan. For India, organizational propaganda was also found to be a significant predictor of information forwarding on SNS, in addition to positive emotions, negative emotions, and social contribution. This indicates that the information that creates positive emotions or negative emotions in the SNS users, and the information contents that creates some social contributions are prone to forwarding in Japan. However, in addition to these 3 constructs, information contents that have organizational propaganda aligned with the values and beliefs of the users are also prone to forwarding on the SNS in India.

Based on the regression weights, it is possible to observe that the order of importance for the Japan data is positive emotions, social contribution, and then negative emotions for the significant predictors. However, for the India data, the order of importance is negative emotions, positive emotions, social contribution, and organizational propaganda.

In Japan, “honne” (本音) indicates the true feelings and desires of a person, while “tatemae” (建前) indicates the behavior and opinions one displays in public (Doi, 1985). Generally, the people in Japan display the external “tatemae” behavior based on social expectations and the external environment. This “tatemae” behavior is to maintain harmony with the external social environment and to keep a positive image of the self. However, “honne” is the person’s inner personality, driven by personal preferences and real feelings. When the interaction is in an open social environment, behavior is mainly driven by the “tatemae”, and the people are expected to showcase the behavior that maintains harmony, as the behavior is being observed by the others. This explains the possible reasons for the higher possibility of information forwarding on SNS in Japan, that invokes positive emotions or information that has some social contribution value as this behavior is in an open social environment.

However, India is the biggest democracy in the world, with a high level of diversity, and freedom of expression. People in India express their true opinions, values, and beliefs with

relatively fewer inhibitions. They forward the information even when it invokes negative emotions or when the information is an organizational propaganda aligned with their values and beliefs, to increase the consciousness towards the issues highlighted through the information contents. Additionally, users in India too tend to forward information that invokes positive emotions and information that has a certain social contribution value.

A prior study conducted by Tsugawa & Ohsaki (2015), mainly studied the motivations behind the information forwarding based on the emotions generated by the information contents such as positive emotions, negative emotions, and neutral emotions. However, this research extends the scope of understanding the user motivations behind information forwarding from just the emotions generated by the information contents to other possible factors too such as social contribution, self-benefits, and organizational propaganda. It is found that the relative importance of these constructs varies depending on the geographical region, culture, and social environment of the region.

7. Future Research

In this study, user motivations for information forwarding on SNS are analyzed for users in India and Japan and some differences in the user behavior are observed. Similarly, there is a scope for future research to study the differences in various other geographical regions of the world. There is also a possibility that the user behavior might change depending on the type of SNS, such as open SNS or private SNS. There is a scope for future research to understand the differences in user motivations behind information forwarding on different types of SNS.

Also, this research found that the relative importance of the various user motivations to forward information on SNS depends on the geographical region and the culture of that region. This provides a direction for future researchers to explore the differences in the SNS user behavior in various other parts of the world.

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Appendix (Questionnaire)

Positive emotions:

PE1: When you come across some information on SNS that makes you happy, you are prone to forwarding such information.

PE2: When you come across some funny information on SNS, you are prone to forwarding such information.

PE3: When you come across some information on SNS that gives you hope, you are prone to forwarding such information.

Negative emotions:

NE1: When you come across some information on SNS that makes you sad, you are prone to forwarding such information.

NE2: When you come across some information on SNS that makes you angry, you are prone to forwarding such information.

NE3: When you come across some information on SNS that makes you fearful, you are prone to forwarding such information.

Social contribution:

SC1: When you come across some information on SNS that contributes to environmental consciousness, you are prone to forwarding such information.

SC2: When you come across some information on SNS that contributes to poverty reduction, you are prone to forwarding such information.

SC3: When you come across some information on SNS that contributes to gender equality, you are prone to forwarding such information.

Self-benefits:

SB1: When you come across some information on SNS that gives you some monetary incentives, you are prone to forwarding such information.

SB2: When you come across some information on SNS that enhances your influence, you are prone to forwarding such information.

SB3: When you come across some information on SNS that supports your personal growth, you are prone to forwarding such information.

Organizational propaganda:

OP1: When you come across some information on SNS that has a political agenda aligned with your values and beliefs, you are prone to forwarding such information.

OP2: When you come across some information on SNS that promotes religious beliefs aligned with your values and beliefs, you are prone to forwarding such information.

OP3: When you come across some information on SNS aligned with your values and beliefs, you are prone to forwarding such information without checking whether it is true or fake.

Information forwarding:

IF1: Do you forward the information on SNS, when you think it is worth forwarding.

IF2: Do you forward the information on SNS, when you think it is the right thing to do.

IF3: Do you forward the information on SNS, when you think it is the appropriate thing to do.