The Influence of Miss Anxiety and Extroversion Personality on Enterprises' Information Push by Artificial Intelligence Under the Background of Internet Economy is Explored

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Abstract. With the development of Internet technology, social media emerge endlessly. Under the background of information economy, the user of the fragmentation of time by the social media of information and electronic business platform of advertising information, but the enterprise mechanism of artificial intelligent information push and no classification for these users, this leads to user pressure processing information every day, and even affect the user's mood, then forcing users to exit the use of these applications. In the context of the Internet economy, the push mechanism and big data algorithm of enterprises indirectly affect users' willingness to use. How to use artificial intelligence to carry out more accurate marketing and information promotion has become a key issue that enterprises need to solve at present. This paper will explore the moderating effect and internal mechanism of FOMO anxiety and extroversion personality among the big five personality types on social burnout and users' persistent use, and explore the situation that users still use social media in the context of social burnout. Through the conclusion of the exploration, enterprises can classify and batch users, and artificial intelligence can better judge the current social burnout of users, and then moderately push information to users. Combined with the dual concepts of Internet economy and information economy, it provides reference for enterprises to better manage themselves and conduct precision marketing, so that information push can match users' needs and information processing ability.

Keywords: Artificial intelligence · Social burnout · FOMO · Extroverted personality · Persistent use

1 Introduction

According to the report on the Impact of Social Media in China 2017, wechat's coverage of young Internet users aged 18–24 has decreased by 7.5% from 94.1% to 86.6%. Among the post-90s generation, 34% believe that social media makes them less focused. Twelve percent said they would be annoyed if others were doing better on their moments, and nearly 40 percent said they would turn off notifications on social media, indicating that the amount of information in their lives has caused some degree of interference.

In terms of advertising information push, 21% of users said that most of the advertisements pushed are not relevant to users, indicating that they hope to improve the relevance of advertising push.

When users receive information, they need to spend a certain amount of time and energy to process information. When users are exposed to information beyond their processing capacity in a short period of time, information overload will cause a certain amount of pressure and negative emotions to users [2]. In order to eliminate the stress or improve the negative mood, users will ignore the message when they receive it again, and then gradually become numb to the message reminders or temporarily withdraw from the use of the message. This phenomenon of users deliberately avoiding or not using continuously, or even temporarily leaving, is known as social media burnout in academic circles [1]. Numerous studies have shown that social media will burnout affects the user does not continue to use social media, and also expounds the social media in the study burnout mechanism of the impact on the user does not continue to use, at the same time also set out to explore factors will cause the negative effect of the continuous use for users, but not in all cases the social burnout will let users do not continue to use social media, This is because there are certain differences in people's personality characteristics. Previous studies only focused on negative emotions, which resulted in temporary withdrawal or transfer behavior, but did not consider the user's personality characteristics or specific situations that could weaken such negative emotions.

In order to study the impact of social burnout on users' continuous use more comprehensively, this paper will use SSO theory as the general framework of analysis, combined with the theory of missing out anxiety and the extraversion personality in the Big Five, to explore the relationship between the two in social burnout and users' continuous use regulation between.

2   Theoretical Background and Hypothesis

2.1   The Definition of Social Burnout

Lewis and Wesely understood burnout as individual mental fatigue [5], which would reduce people's work efficiency and require them to withdraw from such a negative environment to improve their mood. Lee et al. mentioned that in the process of using social media, users' behavior of responding to a large number of information flows will consume their energy and make them feel tired, thus entering the situation of social burnout [6].

2.2   The Causes of Social Burnout

Lee et al. found and tested three types of overload that causes social burnout, including system feature overload, information overload and social overload [6]. Maier et al. explained that social overload means that with the increase of users' social friends, the number of messages received from friends will also increase, and users need to spend more time and energy to deal with it, which will cause trouble to users' normal life [4]. Larose are put forward such as close to social overload overload phenomenon - the

connection of overload, understandable for users in social media will involuntarily with some friends from demand, to maintain the relationship with friends, but as the user number increasing, this forced social will be more than the degree of users are willing to pay, the user fatigue [7].

2.3 The Effect of Social Burnout on User Disengagement

Users will temporarily withdraw from social media, or even stop using social media or transfer to other platforms to relieve their negative emotions and regulate their pressure. Zhang et al. connected perceptual overload, social burnout, dissatisfied emotional attitude, and users' intention to discontinue using the cognition-emotion-action framework, and then studied the influence of perceptual overload on users' discontinuous use [8].

2.4 FOMO

Miss out anxiety, also known as "Fear of Missing Out," or FOMO, refers specifically to the constant fear of losing or missing out. Also known as outsider's dilemma. In this paper, it is understood that users are anxious about missing other people's messages or important things, and users' continuous participation in social activities or understanding of friends' dynamic messages on social media are external behavioral manifestations of miss anxiety.

2.5 Big Five Model of Personality

Goldberg (1992) [3] called the Big Five model of personality a revolution in personality psychology, these included openness, conscientiousness, extraversion, agreeableness, neuroticism.

Extroversion is assess the extent to which individuals like to appear together with others, this paper mainly focused on the extroversion personality in social regulation between burnout and users continue to use, combined with characteristics of theory, the user more sociable with extroversion personality, handling of information ability is stronger, when the social is tired, easy to adjust their emotions, To reduce their own stress and regulate negative emotions caused by information overload and social overload.

3 Research Model Building

See Fig. 1.

3.1 Put Forward the Hypothesis

Users need certain information processing ability when processing information, and when the information flow exceeds the user's processing ability, this phenomenon is called information overload. Excessive information will surround users, gradually blur and weaken the initial purpose of users using social media, and make users feel tired. The research of Lee et al. shows that there is a significant positive correlation between
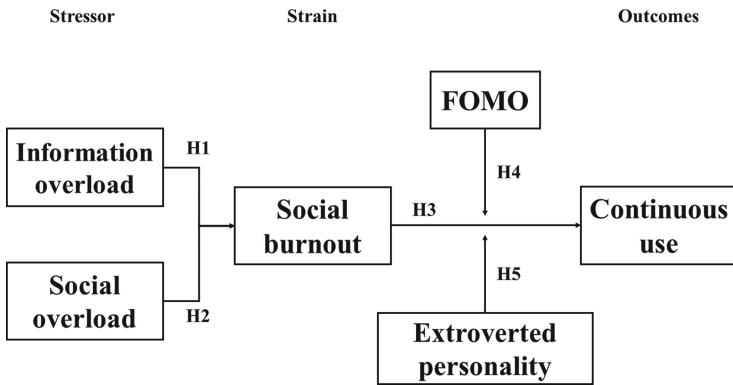
Fig. 1. Research model (Figure by author WeiJiaLiu)

information overload in social media and social burnout of users. When users are immersed in frequent communication, their cognitive ability will be unbalanced. Frequent communication on social media makes users feel tired, which leads to social burnout. Make assumptions:

H1: Information overload has a positive effect on social burnout.
H2: Social overload has a positive effect on social burnout.

The SSO model framework states that when users are stressed, they tend to take appropriate actions or measures to minimize negative outcomes and emotions. In social media, when the overload phenomenon is serious, users will feel tired and choose to quit the scene causing fatigue. Karr-Wisniewski et al. proposed the concept of user discontinuous use, including taking a short rest or directly stopping the current activity. These actions are tailored to the duration of fatigue and negative emotions, with the goal of reducing fatigue. Based on this, the hypothesis is proposed:

H3: Social burnout has a negative effect on users' continuous use.

Many users from prior to the effective information acquisition, into the fear of missing out on key information, combining the theory of miss anxiety, this phenomenon has created the user's anxiety, but users still need to pick out from a lot of information or key information effectively, which requires the user needs to have to improve their ability of information processing, and continue to use social media software. This indicates that users still use social media in the condition of social burnout, while miss anxiety promotes users' continued use in this process, and increases the negative degree of social burnout on users' continued use. Therefore, the hypothesis is proposed:

H4: FOMO plays a positive moderating role between social burnout and user persistent use.

Can learn by studying the big five personality theory, users with extroversion personality will show the decisive, emotion, good at communication, etc., such a user in the face of a large number of information flow, has the characteristics of process information faster, and the messages are often received in time order, the user process information and time dealing with the emotions coming time is much faster than the information, To some extent, the user feel information overload and the phenomenon of social overload, short leave social media software that does not lead to users, but continue to use social media, namely extroversion personality to enhance the social burnout continues to use the degree of negative effect for the users, so under the situation of the social is tired still use social media. Make assumptions:

H5: Extroverted personality plays a positive moderating role between social burnout and user persistence.

3.2 The Research Methods

This paper published at least 400 questionnaires online to investigate whether netizens have social burnout, and whether miss anxiety and big five personality affect users' continuous use of social media. Among them, social overload, information overload, social burnout and users' willingness to use refer to the mature scale of Cao and Zhang to ensure the reliability and validity of the data, and make some modifications based on the research content of this paper. In the collected questionnaire data, male accounted for 51.4%, female accounted for 48.6%; 85.9% of the users are 17–24 years old.

3.3 The Data Analysis

Spss26 was used for data analysis in this paper. According to the reliability analysis results, the Kronbach coefficients of each item were all higher than 0.7, indicating good reliability of the scale. Exploratory factor analysis was used to test the validity, and KMO value and significance P value were used to illustrate the validity results of the scale. As can be seen from Table 1, KMO value is 0.901, greater than 0.8, and significance P value is less than 0.01, indicating good data validity.

Table 1. Exploratory Factor Analysis Results

KMO		.901
Bartlett's Test of Sphericity	Approximate chi-square	4724.685
	df	276
	P value	.000

In this paper, process (Model 16) will be used for data analysis and the following data will be obtained.

Table 2. Analysis of the regression results of the output M

	Coeff	Se	T	P	LLCI	ULCI
Constant	−3.2457	0.1420	−22.8504	0.0000	−3.5254	−2.9660
X	0.9531	0.0405	23.5379	0.0000	0.8734	1.0329

Table 3. Output Y regression result analysis

	Coeff	Se	T	P	LLCI	ULCI
Constant	3.8032	0.4348	8.7463	0.0000	2.9468	6.6596
X	−1.699	0.1267	−1.3417	0.1809	−0.4194	0.0795
M	−0.2947	0.1010	−2.9180	0.0038	−0.4937	−0.0958
W	0.3082	0.0788	3.9108	0.0001	0.1530	0.4634
Int_1	0.0956	0.0580	1.6478	0.1007	−0.0187	0.2100
Z	0.1607	0.0998	1.6104	0.1086	−0.0358	0.3573
Int_2	0.1673	0.0748	2.2355	0.0263	0.0199	0.3147

In this paper, process (Model 16) will be used for data analysis and the following data will be obtained.

Where, X is the independent variable, representing the average combined term of information overload and social overload. M is the mediating variable, indicating social burnout; W is the moderator variable 1, indicating the regulation of miss anxiety; Z is the moderating variable 2, indicating an extraverted personality; Y is the dependent variable, indicating the user's willingness to use.

Int_1: M (Social burnout) × W (FOMO)
Int_2: M (Social burnout) × Z (Extroverted personality)

According to the data in Table 3, the structural equation path model of this model can be obtained by analysis, as shown in Fig. 2 (* means P < 0.05, ** means P < 0.01, *** means P < 0.001).

By Table 2 the result shows that the independent variable and the mediation has a very significant relationship between variables (P < 0.001), and combined with the Table 3 shows that between independent variable and dependent variable is not significant (P > 0.05), the relationship between the intermediary variable and the dependent variable has a significant relationship between (P < 0.01), then you can show that the existence of intermediary role. And miss anxiety has significant role in the continuous use for the users (P < 0.001), but after adjust the intermediary variable, for users continue to use the effect was not significant (P > 0.05), indicating that users in a lot of information because of the fear of missing out on key information, and will continue to use social media, then the user's information processing ability and information flow are matching,
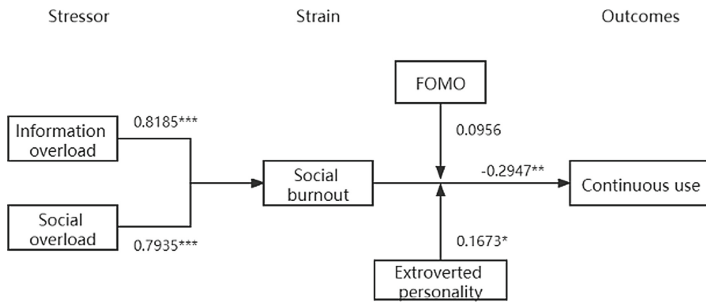
Fig. 2. Structural equation path model.

But users in a social burnout, when a great deal of information flow to a temporary, users due to missing the anxiety will further strengthen social burnout, the impact of the user emotional breakdown, need short leave this kind of environment, therefore, under the influence of the social is tired miss anxiety doesn't let users continue to use social media.

Extroversion of personality in a separate impact on users continue to use is not significant (P > 0.05), it is because the extroversion personality, though a passionate and outgoing, but mostly embodied in the daily social life scenes, and extroversion personality of users, in the face of the normal amount of information will not be in a social tired, has no significant influence on users intention, Is simple for the continued use of social media, there is no direct impact, but when a user due to information overload and social overload situation enters social burnout, extroversion personality adjustment is significant (P < 0.05), which can adjust the mood of the user, allow the user to the negative emotions not obviously, against social burnout phenomenon, In other words, extroverted people have a significant moderating effect on the relationship between social burnout and user persistence.

3.4 Research and Analysis

3.4.1 Research Hypothesis Testing

According to the above data analysis results, the verification of the hypotheses in this paper can be obtained, as shown in Table 4.

3.4.2 Model Improvement and Analysis

Based on the above analysis results, this paper improved the model, as shown in Fig. 3.

3.4.3 Data Analysis

It can be seen from Table 5 that the moderating effect of MISS anxiety is removed, that is, after the dual pressure of social burnout and miss anxiety is removed, extroverted personality (Z) has a significant impact on users' persistent use (Y) (P < 0.001). This indirectly verifies the view that fOMO anxiety has a stronger moderating effect on the relationship between social burnout and user persistence than extroversion personality.

Table 4. Hypothesis Test Results

Assumption	Content	result
H1	Information overload has a positive effect on social burnout	support
H2	Social overload has a positive effect on social burnout	support
H3	Social burnout has a negative effect on users' continued use	support
H4	FOMO plays a positive moderating role between social burnout and user persistent use	not support
H5	Extroverted personality plays a positive moderating role between social burnout and user persistence	support
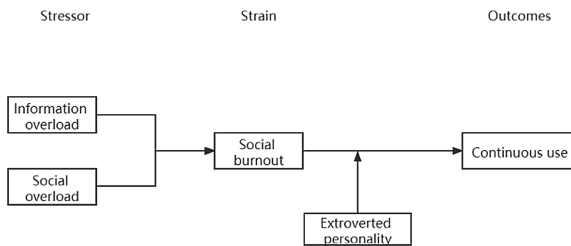
Fig. 3. Improved model

Table 5. The output of Y (after improving the model)

	Coeff	Se	T	P	LLCI	ULCI
Constant	3.6166	0.4361	8.2928	0.0000	2.7577	4.4755
X	−0.1100	0.1274	−0.8630	0.3890	−0.3610	0.1410
M	−0.2799	0.1038	−2.6961	0.0075	−0.4843	−0.0754
Z	0.3489	0.0911	3.8285	0.0002	0.1694	0.5283
Int_1	0.2502	0.0604	4.1435	0.0000	0.1313	0.3692

In the context of social burnout, users with extroverted personality are good at talking and socializing, which is consistent with the characteristics of extroverted personality, which can well improve users' emotions in the face of a large amount of information and reduce the pressure brought by information drowning environment. Therefore, the influence of extroversion personality on users' continuous use can be seen from the data in the table, and the result is very significant ($P < 0.001$).

4   Conclusion and Prospect

4.1   Research Conclusion

Research based on the framework of SSO, overload phenomenon can cause users under the condition of social burnout, combining the theory of miss anxiety and extroversion personality in the big five personality theory, explores the miss anxiety and extroversion personality in social regulation between burnout and users continue to use, and for the enterprise users more accurate tags provide reference. In this paper, we draw the following conclusions: (1) For users, overload phenomenon can reduce their intention to continue using social media to some extent, but not directly, but through positive influence of social burnout as a mediator variable, and then affect users' intention to continue using social media; (2) Social burnout has a negative impact on users' continuous use of social media. When users enter the situation of social burnout, the environment will bring users a certain degree of pressure, and users themselves will also have negative emotions. Therefore, users need to quit using social media to reduce their pressure and recover their normal emotions. (3) the extroversion personality between social burnout and users continue to use positive adjustment, enhances the social burnout of users continue to use negative effect, namely with extroversion of personality users can alleviate social burnout caused by stress and negative emotions, under the impact of the large amounts of information, users will be able to better fight caused by its social burnout phenomenon, And continue to use social media. In the context of the Internet economy, these conclusions also recommend the main information of the enterprise or social media some revelation: (1) the enterprise can make use of artificial intelligence for the user to establish personality traits, users with extroversion personality, can be extended appropriately recommended information, both neither can improve user turnover rate, can also will push the new information to the users; (2) The push mechanism intelligently determines users with weak information processing ability, so as to reduce the push of information and only push the information that users want, so as to achieve more accurate push and improve user retention rate.

4.2   Future Prospects

This paper makes up for the gap of previous studies, that is, it explores the user's continued use of social media in the case of social burnout, but there are still some limitations in this study: First, the samples are not universal and mainly focus on users who are younger and have a bachelor's degree, which is different from current Chinese social media users to a certain extent. Future studies can use more representative sample data. Secondly, this paper studies the moderating effect of extraversion personality on social burnout and user persistence, without paying attention to whether other factors also play a similar role. Future studies can further consider the influence of more factors.

References

1. Bright LF, Kleiser SB, Grau SL (2015) Too much Facebook? An exploratory examination of social media fatigue. Comput Hum Behav 44(3):148–155
2. Cao X, Sun J (2018) Exploring the effect of overload on the discontinuous intention of social media users: an SO-R perspective. Comput Hum Behav 81(4):10–18
3. Goldberg LR (1992) The development of markers for the Big-Five factor structure. Psychol Assess 4(1):26–42
4. Maier C, Laumer S, Eckhardt A, Weitzel T (2015) Giving too much social support: social overload on social networking sites. Eur J Inf Syst 24(5):447–464
5. Lewis G, Wesely S (1992) The epidemiology of fatigue: more questions than answers. J Epidemol Commun Health 46(2):92–97
6. Lee AR, Son SM, Kim K (2016) Information and communication technology overload and social networking service fatigue: a stress perspective. Comput Hum Behav 55:51–61
7. LaRose R, Connolly R, Lee H, Li K, Hales KD (2014) Connection overload? A cross cultural study of the consequences of social media connection. Inf Syst Manag 31(1):59–73
8. Zhang S, Zhao L, Lu Y et al (2016) Do you get tired of socializing? An empirical explanation of discontinuous usage behaviour in social network services. Inf Manage 53(7):904–914
9. 2017 China Social Media Impact Report. Sohu, 13 July 2018. https://www.sohu.com/a/146588745_742234. Accessed 06 Jun 2018