

ORIGINAL ARTICLE

## Personality and Psychographic Factor Influence Towards Intention to Use Social Recommender System

Ahmad Subhi Zolkafly<sup>1</sup>, Rahayu Ahmad<sup>2</sup>, Azizi Ab. Aziz<sup>3</sup>

School of Computing, Universiti Utara Malaysia, Sintok, Kedah<sup>1,2,3</sup>

subhizolkafly@icloud.com<sup>1</sup>

*Abstract: The Recommender System (RS) has become an important area of research in recent years, not only because it allows people to find related products and services, but because it has also expanded the research area on recommending human relationships, known as the Social Recommender System (SRS). Successful application of recommended system algorithms requires a critical mass of users. The recommendation system will not be valuable or accurate if it has few users and little data. This study examines the variables affecting a person's decision to use a social recommendation system. The factors examined were Big 5 personality and Values and Lifestyles psychographic factors. Questionnaires were distributed using a snowball approach. The respondents were 832 Malaysian citizens, and the Results were analyzed using the Statistical Package for the Social Sciences (SPSS). The results demonstrate several personality styles were more inclined towards the intention of using SRS. People with neurotic personalities have a negative attitude toward intention. In addition, this paper also recommends the researcher to highlight the intention to use a recommender system from different generations of the respondents. Future studies can use SRS to compare the preferences of different Malaysian generations, from baby boomers to millennials.*

**Keywords: Social recommender system; Personality factor; Psychographic factor; Recommender system; Technology acceptance.**

### 1.0 INTRODUCTION

Based on historical data and demographic characteristics, a recommender system (RS) might encourage social support through its potential interest [1]. Since RS was established and been enhanced, it has become a crucial class of systems for pushing goods, services, or information in response to user interest expressions [2]. Finding goods and services is made possible through this system, which is crucial in many applications. Numerous apps on the market, like Spotify, Foursquare, and Amazon [3], employ RS to recommend goods and services to their consumers [2], [4].

Recommender system technology [5] plays an essential part in smart city implementation. For example, RS can help to search for the best services for community residents, recommend tourist attractions, match friends through social networks, etc. However, the majority of traditional

recommendation systems only focus on the interaction between a user and items (known as "macro interactions"), such as customer purchase history [6]. The research now focuses more on time, interfaces, and location of other contextual features of recommendations [7]. The current recommendation system, on the other hand, improves on the traditional by taking social interest and user trust into account [8].

Successful implementation of the RS algorithm requires a critical mass of users. If the system has few users and data, the recommendations will most likely not be valuable or accurate. The factors impacting the intention to utilise RS are therefore specifically investigated in this article. A popular theory that examines people's intentions to use technology is the Technology Acceptance Model (TAM) [9], which emphasises psychological and environmental factors. The key factors, according to TAM, are perceived utility (PU), perceived ease of use (PEOU), attitude toward (AT), behavioral intention to use (BI), and actual usage (U) [9].

Generally, the intention to utilise the social recommendation system is often influenced by three psychological factors: trust, reputation, and shared values [10]. In addition, shared common values can foster better interactions and relationships with other users. Therefore, in recommendation systems, user interactions are vital for better recommendation accuracy. Not only do the factors mentioned above matter, but other factors, such as personality traits, may hinder or facilitate technology adoption [10]. For example, the 'extroversion-introversion' of personality relates to human-computer interaction. This concept investigates the precise relationship between internet usage and the person [11].

Apart from that, another factor that possibly influences the intention to adopt technology is psychographics. A psychographic factor combines psychological (psycho) and a user's lifestyle aspects. This factor is also known as Value and Lifestyle (VALS) [12]. Psychographic factors are often helpful for forecasting future behaviour [13]. Psychographic factors like VALS encompass analysis based on consumer behaviours, media exposure, and life perception based on interests, values, opinions, and attitudes [14]. These behaviours are regarded as lifestyles [13].

Therefore, it is crucial to look at how values and way of life, in addition to personalities, affect the desire to use social recommendation systems. Based on the research, the goals of this article are to examine the connections between personality traits and the desire to utilise social recommendation systems, as well as the connections between psychographic traits and the same intention. This article includes an introduction, related works and methodology, analysis and findings, discussion, conclusion, and recommendations for the future. It also includes acknowledgements and references.

## **2.0 RELATED WORKS AND METHODOLOGY**

The Five Factor Model has long been used to describe personality [15]. Conscientiousness, extraversion, openness to new experiences, agreeableness and neuroticism are the five personality traits [16]. It is believed that this model is suitable as a cross-cultural psychological factor [15]. However, this research only focuses on extraversion, openness, and neuroticism. Extraversion is related to the personality trait of seeking fulfilment from sources outside oneself or their community. In contrast, neuroticism is related to having emotional distress and having a tendency to negatively experience things. Additionally, openness is a quality of someone who is intellectually curious, has a propensity to discover innovative ideas, and seeks out new experiences. Agreeableness refers to people who express fewer negative emotions than positive ones. Meanwhile, conscientiousness involves practicality, competence, and responsibility [17]-[19].

### **2.1 Big Five Personalities and Intention to Adopt Social Recommender Systems**

According to the Big Five, extraversion personalities tend to be dominant, active, self-confident, and excitement seekers [18]. Additional attributes of extraversion include being energetic, social, talkative, assertive, and enthusiastic [19], [20]. In addition, extraversion dominant traits include social, outgoing, and value interpersonal relationships [21]. Based on these traits, we expect extraversion personalities to be positively related to adopting social recommender systems. Since extraverts seek relationships, they are prone to using social recommenders to establish new social connections. Therefore,

*P1: Extraversion has a positive correlation with the intention to use a social recommender system*

Meanwhile, openness personalities tend to learn something new. They value the experiences related to curiosity and intelligence that result in positive outcomes and personal growth in life [18]. A study on openness also showed that this personality is more inclined to adopt online learning programmes [22]. In this study, we argue the curiosity of openness may influence them to adopt the SRS [23]. Therefore,

*P2: Openness has a positive correlation with the intention to use a social recommender system*

Neurotic personalities tend to experience low self-esteem, irritability, fearfulness, poor inhibition, and helplessness, known as neuroticism [18]. In addition, neuroticism reflects hostility, emotional instability, and anxiety [20]. Individuals with a high score of neuroticism also tend to experience depression, vulnerability, embarrassment, anger, worry, and hostility [19]. The neurotic individual tends to avoid situations with uncertain outcomes. Some studies found neurotic individuals refused to use virtual technology because of anxiety about online communication [21]. Based on the anxiety traits of neuroticism, we suspect they will be less likely to adopt SRS. Therefore,

*P3: Neuroticism has a negative correlation with the intention to use a social recommender system*

## **2.2 Psychographic factors (VALS) and Intention to Adopt Social Recommender Systems**

Several constructs deemed influential in using the social recommender system are selected based on VALS. This study examined modern believers, excitement seekers, adventayle, and solo sustainers' lifestyles towards the intention to use social recommendation.

As stated in the literature, modern believers refer to the importance of fashion to a person's life. Therefore, all aspects regarding styles and fashionable characteristics, and the desire to show off, make them be called modern believers [13]. Furthermore, their craving for showing off means they will love the visibility and the outreach of their lifestyles to a bigger audience. Hence, modern believers are more likely to adopt SRS, which enables them to expand their network. Therefore:

*P4: Modern believers have a positive correlation with the intention to use a social recommender system*

Excitement seekers always look for excitement [13]. Besides, excitement seekers also have high factor scores on social enjoyment [24]. This type of person loves to have fun and excitement in daily

life because they seem easy to be friends with others. In related studies, enjoyment is a significant factor for people using technology, such as web-based learning systems [21]. Therefore:

*P5: Excitement seekers have a positive correlation with the intention to use a social recommender system*

Based on VALS, people with an adventurous lifestyle are called aventayle. They like to attempt new and exciting challenges for self-fulfilment [13]. A study by Glasper and Sherman [25] stated that millennials with aventayle characteristics tend to show off during their outings in their cities. In addition, young people have a higher sensitivity and an adventurous lifestyle, which engages them in having an intense social life [26]. Therefore:

*P6: Aventayle has a positive correlation with the intention to use a social recommender system*

An online survey was used for this investigation. Social media is used to disseminate the survey link. In order to distribute this survey, the random snowball sampling method was used. Snowball sampling is a non-random sampling method that uses a small number of participants to encourage more individuals to take part in the study, thereby increasing the sample size [27].

As a starting point, we wish to explore the values and lifestyles of part-time students who pursued their education while holding down a job using standard questionnaires. In other words, they are the limited target demographic who shared the questionnaire link and urged their coworkers to take part in the study. By examining the reserve-score questions from the disseminated questionnaire, it was determined that 3.05% (26) of the 858 respondents who finished the survey had their answers rejected because they were invalid.

A multilingual associate translated the study's questionnaire from English into Malay by language scholar. The target respondents are non-native English speakers from Malaysia, hence the translation is necessary. The first section of the survey asks for demographic and background information, including sexual identity, the date of birth, ethnicity, relationship status, race, education level, monthly salary, and job title.

Thirty-five (35) items that were taken from Rohaizat *et al.* [13] psychographic's dimensions are included in the second section of this survey. Modified Likert scale questions ranged from "1" (Mostly

disagree) to "4" (Mostly agree) on a four-point scale . Additionally, the Big Five Inventory [28], which consists of 44 questions and is assessed on a Likert scale from "1" (Strongly Disagree), to "5"(Agree strongly), also included in the second part of this study. Before the data being analyzed, both of the data were normalized and transformed into [0,1] format to avoid the error while doing an analysis. The third section of this study included a questionnaire about intention to use social recommender system. The data was performed using the Statistical Package for the Social Sciences (SPSS).

### 3.0 RESULTS AND DISCUSSION

There are 832 (n = 832) samples of the respondents, separated by gender. Male respondents made up 338 (40.6%) and female respondents made up 494 (59.4%) of the total respondents. About 444 (53.4%) of the respondents are married, compared to 359 (43.2%) who are single and 29 (3.9%) who are divorced. Additionally, the respondents were a multiethnic group in Malaysia. Malay made up 683 (82.5%) of the responders from the population, followed by Chinese (42), Indians (62), and the other 42 (5.0%). Table 1 lists the respondents' gender distribution, while Table 2 lists their ethnic backgrounds in Malaysia.

Table 1. Gender of respondents

Gender	Frequency	Percent	Cumulative Percent
Male	338	40.625	40.625
Female	494	59.375	100.0
<b>Total</b>	<b>832</b>	<b>100.0</b>	

Table 2. Ethnicity of respondents

Ethnic	Frequency	Percent	Cumulative Percent
Malay	683	82.091	82.091
Chinese	42	5.048	87.139
Indian	62	7.452	94.591
Others	45	5.409	100.0
<b>Total</b>	<b>832</b>	<b>100.0</b>	

To guarantee that the assumptions of linearity and homoscedasticity were not violated, preliminary investigations were conducted. The correlation between all the factors and the intention to use the social recommender system was analysed using the Pearson coefficient. In this study, only

extraversion, openness and neuroticism was reported from Big 5 personality traits and only modern believers, excitement seekers and adventayle was reported from Values and Lifestyles (VALS) questionnaires. Table 3 summarizes and displays the Pearson Correlations in this study's psychological and psychographic factors and the finding was reported as follows:

Table 3. Pearson Correlations in psychological and psychographic factors

Factors	Extraversion	Openness	Neuroticism	Modern believers	Excitement seekers	Aventayle	
Intention to use	Pearson Corr.	.110**	.199**	-.011	.237**	.168**	.179**
	Sig.(2 tailed)	.002	.000	.759	.000	.000	.000
	N	832	832	832	832	832	832

\*\* . Correlation is significant at the .01 level (2-tailed).

\* . Correlation is significant at the .05 level (2-tailed).

### *Extraversion*

From the table above, we observe the correlation coefficient ( $r$ ) is 0.110, which is interpreted as a small positive coefficient. This indicates that extraversion personality significantly correlates with the intention to use the social recommender system ( $r = .110, p < .002$ ). Hence, P1 is supported. The result indicates that extraversion people are more inclined to use the social recommender system.

### *Openness*

From the table above, we observe that the correlation coefficient ( $r$ ) is 0.199, which is interpreted as a small positive coefficient. This indicates that openness personality also significantly correlates to the use of social recommender system ( $r = .199, p < .01$ ). Hence, P2 is supported. As hypothesized, an openness personality will have a tendency to use the social recommender system.

### *Neuroticism*

From the table above, we observe that the correlation coefficient ( $r$ ) is -0.011, which is interpreted as a small negative coefficient. This indicates that the relationship between neuroticism and intention to use the social recommender system was not statistically insignificant ( $r = -.011, p > .759$ ). Hence, P3 was not supported. This result depicts that neuroticism personality unlikely using social recommender system.

### *Modern Believers*

From the table above, we observe that the correlation coefficient ( $r$ ) is 0.237, which interpreted as small positive coefficient. This indicates that the relationship between modern believers significantly correlate with the intention to use social recommender system ( $r = .237, p < .01$ ). Hence, P4 is supported. This result suggests that modern believers, one of the psychographic factors is associated with the intention to use the social recommender system.

### *Excitement Seekers*

From the table above, we observe that the correlation coefficient ( $r$ ) is 0.168, which interpreted as a small positive coefficient. This indicates that, excitement seekers, also significantly correlates with the intention to use the social recommender system ( $r = .168, p < .01$ ). Hence, P5 is supported. This result indicate that another psychographic factor, excitement seekers, is associated with the intention to use social recommender system.

### *Aventayle*

From the table above, we observe that the correlation coefficient ( $r$ ) is 0.178, which interpreted as a small positive coefficient. This indicates that, aventayle was also found to be positively correlated with the intention to use social recommender system ( $r = .178, p < .01$ ). Hence, P6 is supported. This result suggest that another psychographic factors that is aventayle is associated with the intention to use social recommender system.

In summary, extraversion, openness, modern believers, excitement seekers, and aventayle factors have positive relationships with the intention of using the social recommender system. As predicted, people with these characteristics tend to be more accepting of establishing new social connections. Furthermore, they are more open to opportunities and more flexible in adapting to new surroundings. As a result, they hardly have problems being paired with other people [29].

In contrast, neuroticism shows a negative relationship with the intent to use the recommender system. As stated in the literature, neurotic people tend to have anxiety and helplessness [13]. They feel that, with technology, they need to adapt to new things, resulting in higher stress. Therefore, more

awareness of the benefits may influence their acceptability toward SRS. Furthermore, having SRS with trust-embedded metrics may persuade neurotics to explore SRS further since they are more particular about the reliability of the system.

#### **4.0 CONCLUSION AND RECOMMENDATION**

The results of the current study suggested that personality and psychographic traits affect one's inclination to use the social recommendation system. The factors of personality such as extraversion, neuroticism, and openness, as well as the factors of psychographic dimensions (modern believers, excitement seekers, and adventayle) were developed to study Malaysian society's intention to use the social recommender system. From the study, we know that several factors lead to a positive intention to use the social recommender system. Nevertheless, depending on the individual, one aspect may have a negative impact on the intention to use the social recommendation system. This study compromises two different fields (i.e., personality and psychographic) that have been merged to study their intention towards the usage of social recommender system. Finally, it is proved that the characteristics of people also affected their martyrdom to use social recommender system.

We would like to suggest that the researcher expand to other personality models, such as Self-Determination Theory, in the future. This theory may lead to a different influence on the intention to use social recommender system. In addition, the intention to use social recommender system also be affected by the different generations of the respondents. The future, research may focus on other Malaysian generations, from baby boomers to the millennial generation.

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