PERSONALITY AS A PREDICTOR OF BUSINESS SOCIAL MEDIA USAGE: AN EMPIRICAL INVESTIGATION OF XING USAGE PATTERNS

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Abstract
Referring to recent research calls regarding the role of individual differences on technology adoption and use, this paper reports on an empirical investigation of the influence of a user's personality on the usage of the European career-oriented social network XING and its usage intensity (n = 760). Using structural equation modeling, a significant influence of personality on the intensity of XING usage was found ($R^2 = 12.4\%$, $\alpha = 0.758$). More specifically, results indicated the major role played by the personality traits Extraversion, Emotional Stability and Openness to Experience as proper predictors for XING usage. Contrary to prior research on private-oriented social media, I discovered a significant positive Emotional Stability–XING usage intensity relationship instead of a negative relationship which is explained by Goffman's Self Presentation Theory.

Keywords: Personality, Five Factor Model, Big Five, Extraversion, Emotional Stability, Openness to Experience, Conscientiousness, Agreeableness, XING, Social Media, Online Social Networks.
1 INTRODUCTION

Since the establishment of the first proper theory models explaining the acceptance and use of technology (e.g., TAM (Davis, 1989), UTAUT(2) (Venkatesh, Morris, et al., 2003; Venkatesh, Thong, and Xu, 2012)) the information systems (IS) community has worked hard to enhance our understanding in this field and to explore new technology usage factors/predictors. Besides a research stream on including non-individual environmental factors into technology acceptance research (e.g., cultural values (Srite and Karahanna, 2006), general external factors (Bhattacherjee and Sanford, 2006), and environment-based voluntariness (Wu and Lederer, 2009)), a broad spectrum of individual factors has been researched including user resistance (Kim and Kankanhalli, 2009), emotions (Beaudry and Pinsonneault, 2010), or habit (Polites and Karahanna, 2012).

Despite the insight of psychology researchers concerning the major impact of personality on behavior (e.g., Barrick and Mount, 1991), IS research has for a long time largely ignored this factor. However, recent IS research unfolded the significant impact of human personality on using IS (Devaraj, Easley, and Crant, 2008; Junglas, N. A. Johnson, and Spitzmüller, 2008; Maier, 2012; McElroy et al., 2007; Venkatesh and Windeler, 2012). Consequently there is a need for research that includes personality as an individual factor in technology acceptance research (e.g., Venkatesh and Windeler, 2012).

In order to enhance our understanding of the role of personality in IT usage, analyzing social media usage is very promising as social media has become very popular and now permeates all spheres of our contemporary lives. Today we can observe an intensive interaction between society and social media – resulting in data-rich footprints of social behavior. Researchers have begun to investigate these footprints on private-oriented social media and have subsequently revealed substantial and coherent relationships between user personality and private-oriented social media usage (cf. section 2.4).

However, in contrast to private-oriented social media, personality-related research on business-oriented social media is rare. This is problematic for two reasons. First – from a legislative point of view – private-oriented social media are often inappropriate for data-mining purposes. Second – from a sociological point of view – the specific characteristics of the personality–social media usage relationship, derived from private-oriented social media, is highly questionable since humans adjust their behavior to different social settings and role expectations determined by the desired impression they wish to make on others (Goffman, 1959). However it is exactly on this point that business- and private-oriented social media significantly differ since they have different purposes (e.g., leisure and hedonic activities versus job search, cf. section 2.3).

That is why in this paper I empirically study the influence of user’s personality on XING usage intensity, as XING is an important business-oriented online social network in Europe. To the best of my knowledge, this is the first study which examines the personality–social media usage specifically for XING in particular or, from a holistic personality point of view, for business-oriented social media overall. Furthermore, with this investigation I respond to recent and general IS research calls to investigate individual differences and their role in technology adoption and research (Beaudry and Pinsonneault, 2010; Devaraj, Easley, and Crant, 2008; McElroy et al., 2007; Venkatesh, Thong, and Xu, 2012; Venkatesh and Windeler, 2012).

The paper is organized as follows: Section 2 covers the research background from theories of personality and role behavior (2.1) via personality-related and role-oriented IS research (2.2) and the differences between private- and business-oriented social media (2.3) to personality-related and role-oriented research on social media (2.4) – pinpointing the specific research needs. In section 3 the research methodology including research model and hypothesizing (3.1), as well as sampling and measurement (3.2), is presented. Results are shown in section 4 and discussed in section 5. Finally, the conclusion including research limitations and future research needs is given in section 6.

2 RESEARCH BACKGROUND

2.1 Theories on personality and role behavior

Human personality is characterized and measured through personality traits, which are defined as “endogenous, stable, hierarchically structured basic dispositions governed by biological factors such as genes and brain structures” (Romero et al., 2009). These traits remain quite stable over an entire lifetime and through varying situations (Costa and McCrae, 1992; Romero et al., 2009). Personality significantly influences the way people think, feel and, especially, behave (Barrick and Mount, 1991; Judge et al., 1999, e.g.).

Because of its significant impact on behavior, there are several models for capturing personality, the most important theories relating to which are the psychoanalytical personality theory of Sigmund Freud, the personality theory of C. G. Jung, the personality theory of Carl Rogers and the Three Factor Theory of Hans J. Eysenck. The model most often used to describe personality is the Five Factor Model (FFM) of Goldberg (1990) and Costa and McCrae (1992), which is also seen as a state-of-the-art measuring...
model for personality (Barrick and Mount, 1991; Gosling, Rentfrow, and Swann Jr., 2003; Judge et al., 1999; McCrae and Costa, 1999; Romero et al., 2009). The FFM states and measures human personality as a result of mainly biological-determined “basic tendencies”; Extraversion (E), Emotional Stability (S), Openness to Experience (O), Conscientiousness (C) and Agreeableness (A), commonly known as the Big Five (Costa and McCrae, 1992). The corresponding “Five Factor Theory on Personality” (FFT) uses the Big Five to explain a significant part of human behavior (Costa and McCrae, 1992) and was successfully applied to various research domains, Barrick and Mount (1991), for example in predicting job performance by means of the Big Five and by Judge et al. (1999) to explain career success with reference to the Big Five.

Although personality is quite stable over time, human behavior also depends on the situation and the social context. According to Goffman’s Self Presentation Theory (SPT) (Goffman, 1959), behavior is therefore adjusted to different social settings and role expectations and determined through a person's interaction with others and by the desired impression that they wish to give to others.

2.2 Personality-related and role-behavior oriented IS research

Despite the insights by psychology researchers concerning the significant impact of personality on behavior (e.g. Barrick and Mount, 1991), IS research has neglected this aspect. However, recent IS research has turned towards personality as a potential predictor of IT usage patterns (Devaraj, Easley, and Crant, 2008; Junglas, N. A. Johnson, and Spitzmüller, 2008; Maier, 2012; McElroy et al., 2007; Venkatesh and Windeler, 2012). McElroy et al. (2007) directly tested the effect of personality on Internet use in general. The results supported the use of personality as an explanatory factor by finding that a meaningful part of the variance in IS use can be explained by the Big Five personality traits. Devaraj, Easley, and Crant (2008) demonstrated the potential utility of incorporating personality into IS research in the context of technology acceptance and use. Junglas, N. A. Johnson, and Spitzmüller (2008) revealed the important role of personality traits in perceptions of privacy to explain behavioral intentions towards adopting location based IS-services. Venkatesh and Windeler (2012) analyzed the impact of the FFM on team technology use and found a positive influence of Agreeableness, Conscientiousness, Extraversion, and Openness to Experience on technology use. Maier (2012) summarized IS research discussing personality issues within the six plus two journals of the AIS Senior Basket (MISQ, ISR, JMIS, JAIS, EJIS, ISJ, JIT), and the review shows a prior research focus on IS technology adoption and on computer personnel research. Beside this, a demonstration was given of the fact that the Five Factor Model by McCrae and Costa (1999) is the dominant personality model in psychological research and is the one used the most in IS research.

Just like the FFT, Goffman’s SPT was also picked up and adopted by various IS researchers (e.g. Kreps, 2010; Lamb and Kling, 2003; Schultzze, 2014; Stahl, 2014; S. J. Winter, Saunders, and Hart, 2003). For example, Kreps (2010) examined how self perception might be reflected through engagement with information systems, especially social networking sites. Schultzze (2014) investigated how embodied identity, in other words self presentation, is performed in virtual worlds, especially in Second Life. In summary, IS-related research (Kreps, 2010; Lamb and Kling, 2003; Schultzze, 2014; Stahl, 2014; S. J. Winter, Saunders, and Hart, 2003) that adopted Goffman’s SPT, largely confirmed the differentiation of roles depending on situation and context.

2.3 On the indication of role differentiation in business and private oriented social media

Despite the fact that both business- as well as private-oriented social media cover a mixture of acquaintances, friends and work colleagues (e.g., Schaefer, 2008) and share the user’s common interest of making impressions (e.g., Gosling, Gaddis, and Vazire, 2007; Jackson and Lilleker, 2011; Krämer and S. Winter, 2008; Rosenberg and Egbert, 2011), a clear differentiation of roles between business- and private-oriented social media was consistently found: Private-oriented social media are used to share private information (e.g. pictures, hobbies, interests or political beliefs) with friends, communicate with others and use games or utility applications, whereas business-oriented social media contain online Curriculum Vitae, job titles and professional experience and serve to connect experts, share information on business topics, exchange job related information and refer each other (Papacharissi, 2009; Rienties et al., 2010). Schrammel, Köffel, and Tscheligi (2009) found significant differences concerning the information disclosure behavior between business-oriented social media (XING, LinkedIn, etc.) and private-oriented social media (such as Facebook). Richter and Koch (2008) revealed different user motives between the business-oriented XING and the private-oriented StudiVZ. Skeels and Grudin (2009) found systematic differences in user motives and user behavior between LinkedIn and Facebook. Benevenuto et al. (2009) found differences between the most popular user activities on LinkedIn and the private-oriented social media Orkut, MySpace and
Hi5. Kietzmann et al. (2011) reported differences in the functionalities of private-oriented (Facebook, Foursquare and Youtube) and business-oriented (LinkedIn) social media. Sørensen (2009) showed differences between how private-oriented (Facebook and MySpace) and business-oriented social media (LinkedIn) address the issue of trust. In summary, we can point to empirical indications of the differentiation of roles (in the sense of Goffman’s SPT (Goffman, 1959)) when using business- or private-oriented social media.

2.4 Personality-related research on social media

The early work by Rosengren (1974) had perviously referred to the relationship between individual and social characteristics and the use of mass media. As events have turned out, his paradigm was also widely confirmed for modern social (mass) media. Besides the strong focus on a user’s personality, a lot of research concerning other personality-related constructs in a broader sense, such as user preferences and attitudes, exists (e.g., research on self-disclosure in online social networks (Krasnova, Spiekermann, et al., 2010; Krasnova, Veltri, and Günther, 2012)).

However, focusing on personality in its narrower definition, the relevant research on social media dates from the last three years: As several scholars have examined the influence of personality on the use of online social media, personality is deemed to be a predictor of the social media use of a person. There are many papers which cover the relationship between social media and different personality traits (e.g. the Big Five, narcissism, and self-esteem), but almost exclusively they focus on private-oriented social media.

2.4.1 Private-oriented social media

Along with the broad usage of social media in recent years, research on the relationship between personality traits and social media usage has increased drastically. Because of the immense scope of the topic, I will concentrate on the relationship between the Big Five personality traits and social media usage in the following. Most of these studies covered private-oriented social networks such as Facebook (Aharony, 2013; Amichai-Hamburger and Vinitzky, 2010; Back et al., 2010; Caers and Castelyns, 2011), MySpace (Chen, 2013; Muscanell and Guadagno, 2012; Wilson, Fornasier, and White, 2010), StudiVZ (Back et al., 2010; Krämer and S. Winter, 2008), Renren (Wang et al., 2012) or SchülerVZ (Back et al., 2010). Other studies mostly focused on private-oriented communication services such as Twitter (Hughes et al., 2012; Kuss et al., 2013; Qiu et al., 2012), Yahoo! Groups (Templeton et al., 2012) or instant messaging (Dolev-Cohen and Barak, 2013). Further research articles concentrated on private exchange portals such as Youtube (Courtois, Mechant, and De Marez, 2012) or virtual worlds such as Second Life (Bélisle and Bodur, 2010). All of these studies highlighted quite stable relationships between the Big Five personality traits and social media usage for private-oriented social media, e.g. extraversion is frequently correlated with a high number of friends or contacts (Amichai-Hamburger and Vinitzky, 2010; Gosling, Augustine, et al., 2011; Ivcevic and Ambady, 2012; Moore and McElroy, 2012).

2.4.2 Business-oriented social media

The relationship between business-oriented social media and personality is much less widely investigated. Even though Caers and Castelyns (2011) compared the use of Facebook and LinkedIn for the recruitment and selection of employees, a potential relationship between personality traits and social network usage is only investigated for Facebook. The article by Faliagka, Tsakalidis, and Tzimas (2012) is the only one which has examined the relationship between personality traits and business-oriented social media usage. It used web mining techniques and text analysis programs to estimate the trait of extraversion, compared the results to the rating of an expert recruiter and found a high consistency between both. So far, to the best of my knowledge, no research has explored the relationship between the remaining four Big Five personality traits and business-oriented social media. Furthermore, the relationship between personality traits and XING usage has not been researched at all.

3 RESEARCH METHODOLOGY

The research question (RQ) is formulated as follows:

RQ: Does human personality influence business social media usage and usage intensity?

On the basis of the Five Factory Theory of Personality (FFT) I applied the research model as shown in figure 1.

3.1 Hypotheses

Literature relating to the correlation of personality and social media usage suggests (a) Extraversion, (b) Emotional Stability and (c) Openness to Experience as the most promising factors within the FFM of personality predicting social media usage, e.g. Correa, Hinsley, and Zúñiga, 2010. These three factors are deemed to be predictors of social media use overall as well as the intensity of usage (Correa, Hinsley, and Zúñiga, 2010). Nevertheless, all five FFM personality traits were examined in order to be able to detect possible differences for business-oriented social media. The following hypotheses are derived from literature covering the FFM in general and from personality-related research on private-oriented social media in particular, because of the lack of research on business-oriented social media. However, possible differences between the usage of private-oriented social media and business-oriented social media originating from Goffman’s Self Presentation Theory (Goffman, 1959) have been kept in mind.

Extraverted people have a higher need for social affiliation/personal communication (Costa and McCrae, 1992), for strategic self-presentation (Krämer and S. Winter, 2008; Seidman, 2013) and as a result they have more satisfying/stable friendships (McCrae and Costa, 1999) than introverts. Extraverts are more likely to use social media in general (Correa, Hinsley, and Zúñiga, 2010) and Facebook in particular (Gosling, Augustine, et al., 2011; Hughes et al., 2012; Lin et al., 2012; Ryan and Xenos, 2011). But findings on relationships between Extraversion and usage intensity on different social media are contradictory. Whereas some researchers observe a positive correlation between Extraversion and social media usage intensity (e.g., number of friends or usage of communication features) (Aharon, 2013; Amichai-Hamburger and Vinitzky, 2010; Gosling, Augustine, et al., 2011; Hall and Pennington, 2013; Ivcevic and Ambady, 2012; Martin et al., 2012; Moore and McElroy, 2012; Tazghini and Siedlecki, 2013; Wang et al., 2012), others do not find significant correlations (Ross et al., 2009) or even negative correlations (Skues, Williams, and Wise, 2012). Against this background, I hypothesize that:

\[ H1: \text{Extraversion will be positively associated with XING usage overall.} \]

\[ H2: \text{Extraversion will be positively associated with XING usage intensity.} \]

People who are more emotionally stable are high in self-esteem and have less pessimistic attitudes than those who are emotionally unstable (McCrae and Costa, 1999). Because they feel less isolated and experience less psychological distress (Costa and McCrae, 1992), emotionally stable individuals are less likely to use social media at all (Correa, Hinsley, and Zúñiga, 2010; Hughes et al., 2012). The usage intensity is also found to be negatively correlated with Emotional Stability. Emotionally stable individuals spend less time on social media (Moore and McElroy, 2012; Ryan and Xenos, 2011), update their status less often (Wang et al., 2012), belong to fewer groups (Skues, Williams, and Wise, 2012) and are less addicted to social media usage (Karl, Peluchette, and Schlaegel, 2010). That is why most recent research suggests Emotional Stability largely to be a negative predictive factor for social media usage and intensity (Amichai-Hamburger and Vinitzky, 2010; Correa, Hinsley, and Zúñiga, 2010; Hughes et al., 2012). To enhance our understanding of the role of Emotional Stability in technology acceptance and use research I hypothesize:

\[ H3: \text{Emotional Stability will be negatively associated with XING usage overall.} \]

\[ H4: \text{Emotional Stability will be negatively associated with XING usage intensity.} \]

People who are high in Openness to Experience have broad interests and seek novelty (McCrae and Costa, 1999). Therefore, Openness to Experience is regarded as correlating positively with social media use (Amichai-Hamburger and Vinitzky, 2010; Correa, Hinsley, and Zúñiga, 2010; Hughes et al., 2012). Individuals who score high on Openness to Experience also show higher social media usage intensity. They spend more time on social media (Skues, Williams, and Wise, 2012), have more friends (Gosling, 2011);
Augustine, et al., 2011; Skues, Williams, and Wise, 2012), play more games (Wang et al., 2012) and are more active (Ross et al., 2009) than individuals low on Openness to Experience. Against this background, I hypothesize:

**H5**: Openness to Experiences will be positively associated with XING usage overall.

**H6**: Openness to Experiences will be positively associated with XING usage intensity.

Conscientious people make long-term plans, are diligent and have organized support networks (McCrae and Costa, 1999). Social media could be seen as a sort of distraction for conscientious people (Hughes et al., 2012), but there are contradictory findings on the relationship between Conscientiousness and social media usage. Conscientious individuals are less likely to use social media (Ryan and Xenos, 2011) and also spend less time on social media (Gosling, Augustine, et al., 2011; Ryan and Xenos, 2011; Wilson, Fornasier, and White, 2010). In addition, (Amichai-Hamburger and Vinitzky, 2010) found that conscientious people upload significantly fewer pictures. Thus I hypothesize:

**H7**: Conscientiousness will be negatively associated with XING usage overall.

**H8**: Conscientiousness will be negatively associated with XING usage intensity.

Agreeable people are friendly, kind, sympathetic and warm (Costa and McCrae, 1992) and have a tendency to be trusting, sympathetic, and cooperative (Amichai-Hamburger and Vinitzky, 2010). Individuals high on Agreeableness have more pictures on their social media profile (Ivcevic and Ambady, 2012), give more information about their activities and interests (Ivcevic and Ambady, 2012), view their own and other’s pages more often (Gosling, Augustine, et al., 2011), have more posts from their friends on their wall (Ivcevic and Ambady, 2012) and often comment on social networking sites (Wang et al., 2012). On the other hand, individuals high on Agreeableness use fewer page features (Amichai-Hamburger and Vinitzky, 2010), have fewer back-and-forth conversations (Ivcevic and Ambady, 2013) and are less likely to become addicted to social media (Karl, Peluchette, and Schlaegel, 2010). To enhance our understanding of the role of Agreeableness in technology acceptance and usage research I hypothesize:

**H9**: Agreeableness will be positively associated with XING usage overall.

**H10**: Agreeableness will be positively associated with XING usage intensity.

Figure 2 summarizes the hypotheses on the Big Five personality traits and XING Usage (Intensity).

### 3.2 Sampling and measurement

People were asked electronically to take part in a survey concerning social media. The call for participation was sent out using a link to an online questionnaire via a Germany-wide university to extra-occupational MBA and Bachelor students. The following measurements were used:

According to Correa, Hinsley, and Zúñiga (2010) I define social media usage as “the particular consumption of digital media” in order to “connect, communicate, and interact” with others. Based on Correa, Hinsley, and Zúñiga (2010), Jenkins-Guarnieri, Wright, and Hudiburgh (2012), Lin et al. (2012), and Ross et al. (2009) the XING Usage Intensity (XUI) was conceptualized using the following 10 indicators: ($I_1$) general usage intensity [never/few times a month/weekly/several times a week/daily]; ($I_2$) profile usage intensity [sum of yes/no flags concerning use of educational background, work experience, organizations, interests, awards, language skills, haves, wants, about me, picture]; feature usage intensity [never/several times a year/...a month/...a week/daily] for ($I_3$) jobsearch, ($I_4$) blogging, ($I_5$) messaging, ($I_6$) event organization, ($I_7$) event participation, and ($I_8$) advantageous offers; feature usage intensity [yes/no] for ($I_9$)

premium-membership; and \((I_{10})\) number of established contacts \((r_{XUI} = 0.751)\). XUI was only asked if a personal XING profile existed (“Do you have a personal XING profile?” [yes/no]). FFM personality traits were captured with the Ten Item Personality Inventory (TIPI) by Gosling, Rentfrow, and Swann Jr. (2003) using a 5-point Likert scale \((r_{TIPI} = 0.72)\) and normalized to \([0, 1]\). Finally, demographics (gender and age) were requested.

4 RESULTS

4.1 Sample characteristics

Data were collected from 917 online-based questionnaires. After removing canceled (86), incomplete (15) and invalid (56) answers, 760 questionnaires (\(\sim 83\%\)) were finally used within the analysis. The criteria for invalid answers were (a) time needed to fulfill the personality test (<25 sec), (b) similar answer patterns, and (c) inconsistent responses.

<table>
<thead>
<tr>
<th>Age segment</th>
<th>No. of participants</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 20 years</td>
<td>22</td>
<td>(\sim 2.9%)</td>
</tr>
<tr>
<td>21 to 30 years</td>
<td>539</td>
<td>(\sim 70.9%)</td>
</tr>
<tr>
<td>31 to 40 years</td>
<td>129</td>
<td>(\sim 17.0%)</td>
</tr>
<tr>
<td>41 to 50 years</td>
<td>53</td>
<td>(\sim 7.0%)</td>
</tr>
<tr>
<td>51 to 60 years</td>
<td>15</td>
<td>(\sim 2.0%)</td>
</tr>
<tr>
<td>&gt; 61 years</td>
<td>2</td>
<td>(\sim 0.3%)</td>
</tr>
</tbody>
</table>

Table 1: Participants’ age distribution

365 (\(\sim 48\%)\) of the test persons were female, 395 (\(\sim 52\%)\) male. The age distribution of the participants can be found in table 1. Participants comprised 395 individuals (\(\sim 52\%)\) with a personal XING-Profile and 365 (\(\sim 48\%)\) without any profile or activity on XING. 45 (\(\sim 11.4\%)\) of the 395 XING-User are active daily-users of the platform. 98 (24.8\%) are using it on a weekly basis, 74 (\(\sim 18.7\%)\) use XING several times per month, 154 (\(\sim 40.0\%)\) at least once a month and 24 (\(\sim 6.1\%)\) never use this social network.

4.2 Sample quality

Compared to the personality traits of the general population similar trait patterns by gender can be observed (table 2). Nevertheless, this result is also justifiable as a consideration of the recruiting method (see section 2.4). The participants were mainly MBA and Bachelor students who study on an extra-occupational basis. Judge et al. (1999) found strong relationships between FFM traits and career success. Conscientiousness positively predicted intrinsic and extrinsic career success. As shown in table 2, the results confirm these observations by Judge et al. (1999) because in my sample of professionals higher values for Conscientiousness were found.

<table>
<thead>
<tr>
<th>TIPI (Gosling, Rentfrow, and Swann Jr., 2003)</th>
<th>My Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>male ((n = 1,173))</td>
<td>male ((n = 395))</td>
</tr>
<tr>
<td>female ((n = 633))</td>
<td>female ((n = 365))</td>
</tr>
<tr>
<td>Openness</td>
<td>0.723</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>0.698</td>
</tr>
<tr>
<td>Extraversion</td>
<td>0.542</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>0.677</td>
</tr>
<tr>
<td>Emotional Stability</td>
<td>0.312</td>
</tr>
</tbody>
</table>

Table 2: Comparison of the \([0;1]\)-normalized TIPI results and our own by gender.
4.3 XING membership differences by personality traits

In order to test the hypotheses H1, H3, H5, H7, and H9 the Mann-Whitney-U-Test by XING membership (user/non user) was applied. Significant differences were found at Extraversion, Emotional Stability, and Openness to Experience (table 3). Based on the results, the hypotheses H7 and H9 were rejected; the hypotheses H1, H3, and H5 were supported.

<table>
<thead>
<tr>
<th>Personality Trait</th>
<th>Avg. Non-user (n = 365)</th>
<th>Avg. User (n = 395)</th>
<th>Diff.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Openness</td>
<td>0.694</td>
<td>0.749</td>
<td>0.057***</td>
<td>0.001</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>0.751</td>
<td>0.783</td>
<td>0.032</td>
<td>0.132</td>
</tr>
<tr>
<td>Extraversion</td>
<td>0.630</td>
<td>0.671</td>
<td>0.041*</td>
<td>0.021</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>0.653</td>
<td>0.667</td>
<td>0.014</td>
<td>0.167</td>
</tr>
<tr>
<td>Emotional Stability</td>
<td>0.621</td>
<td>0.653</td>
<td>0.032*</td>
<td>0.039</td>
</tr>
</tbody>
</table>

Table 3: Comparison Non-User - User (*p < 0.05, ***p < 0.001)

In addition, table 4 shows the further positive impact of Extraversion and Openness to Experience on the choice of a premium membership.

<table>
<thead>
<tr>
<th>Personality Trait</th>
<th>Avg. No premium (n = 291)</th>
<th>Avg. Premium (n = 104)</th>
<th>Diff.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Openness</td>
<td>0.736</td>
<td>0.785</td>
<td>0.049*</td>
<td>0.017</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>0.791</td>
<td>0.758</td>
<td>-0.033</td>
<td>0.149</td>
</tr>
<tr>
<td>Extraversion</td>
<td>0.657</td>
<td>0.709</td>
<td>0.062*</td>
<td>0.024</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>0.667</td>
<td>0.667</td>
<td>0.001</td>
<td>0.947</td>
</tr>
<tr>
<td>Emotional Stability</td>
<td>0.642</td>
<td>0.684</td>
<td>0.042</td>
<td>0.111</td>
</tr>
</tbody>
</table>

Table 4: Comparison No Premium - Premium (*p < 0.05)

4.4 Structural model results

I conducted a structural equation modeling by using SmartPLS, version 2.0.M3 by Ringle, Wende, and Will (2005). The model uses formative indicators from the TIPI (Gosling, Rentfrow, and Swann Jr., 2003) for personality traits and reflective indicators \( I_1 \ldots I_{10} \) for XUI (cf. section 3.2). Reflecting the result, figure 3 shows the inner model.

Figure 3: Structural model of the personality traits influence on the XING usage intensity

Conducting the bootstrapping algorithm of SmartPLS (Ringle, Wende, and Will, 2005) \((n = 5,000\) samples) I found that all five personality traits have a significant influence on the XUI. The five personality factors explained 12.4% of the XUI variance. Despite the fact that all path coefficients are significant, only Extraversion achieved a coefficient value over 0.2. The explained variance is not very high, but consistent with McElroy et al. (2007), who found \( R^2 \)-Values between 12% and 14% for the influence of the Big Five
on Internet use. According to McElroy et al. (2007) “explaining 12 to 14 percent of the variance in highly complex human behavior is meaningful”. As all path coefficients are significant, the hypotheses H2, H4, H6, H8, and H10 were supported.

### 4.5 Structural model quality

The reflective XUI indicators $I_1$...$I_{10}$ load between 0.340 to 0.736, the AVE is only 0.31. However, as each newly developed indicator $I_1$...$I_{10}$ loads at a significance level of $p < 0.001$ and an adequate social media usage measure is not available in the IS literature (the only existing serious instrument by Jenkins-Guarnieri, Wright, and B. Johnson (2013) is related more to social media addiction instead of usage overall), loadings smaller than 0.6 are acceptable (Chin, 1998).

The internal consistency of the XUI construct is given as both values, Cronbach’s $\alpha = 0.758$ and composite reliability $p_c = 0.807$, were greater than 0.7 (cf. Revelle, 1979). In addition, the discriminant validity check was successful. Finally, the Fornell-Larcker criterion for the XUI construct is also fulfilled as the $\sqrt{AVE} < CORR_{XUI,personality traits}$ (cf. Fornell and Larcker, 1981). In summary it can be stated that the measurement model is valid.

### 4.6 Correlations of XING usage intensity indicators with personality traits

Table 5 summarizes the Spearman-Rho correlations between the Big Five personality traits and the XUI indicators.

<table>
<thead>
<tr>
<th></th>
<th>$I_1$</th>
<th>$I_2$</th>
<th>$I_3$</th>
<th>$I_4$</th>
<th>$I_5$</th>
<th>$I_6$</th>
<th>$I_7$</th>
<th>$I_8$</th>
<th>$I_9$</th>
<th>$I_{10}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Openness</td>
<td>0.162**</td>
<td>0.157**</td>
<td>−0.023</td>
<td>0.037</td>
<td>0.067</td>
<td>0.066</td>
<td>0.060</td>
<td>0.024</td>
<td>0.120*</td>
<td>0.140**</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>0.059</td>
<td>0.059</td>
<td>−0.019</td>
<td>0.114*</td>
<td>−0.003</td>
<td>0.085</td>
<td>0.004</td>
<td>0.004</td>
<td>−0.073</td>
<td>0.114*</td>
</tr>
<tr>
<td>Extraversion</td>
<td>0.121**</td>
<td>0.088*</td>
<td>0.016</td>
<td>0.019</td>
<td>0.111*</td>
<td>0.067</td>
<td>0.130**</td>
<td>−0.024</td>
<td>0.114*</td>
<td>0.215**</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>0.027</td>
<td>0.017</td>
<td>−0.016</td>
<td>−0.100*</td>
<td>0.050</td>
<td>−0.052</td>
<td>−0.037</td>
<td>−0.026</td>
<td>−0.003</td>
<td>−0.047</td>
</tr>
<tr>
<td>Emotional Stability</td>
<td>0.097**</td>
<td>0.085*</td>
<td>0.001</td>
<td>0.038</td>
<td>0.103*−0.037</td>
<td>0.050</td>
<td>0.012</td>
<td>0.080</td>
<td>0.171**</td>
<td></td>
</tr>
</tbody>
</table>

Table 5: Spearman-Rho correlations between Big Five and XUI indicators (*$p < 0.05$, **$p < 0.01$)

Extraversion, Emotional Stability and Openness to Experience turn out to be the most predictive personality traits and significantly correlate with six (E) respectively four (S, O) of the XUI indicators. Conscientiousness significantly correlates with two XUI indicators, Agreeableness with one XUI indicator. The XUI indicators ($I_6$) jobsearch, ($I_8$) event organization, and ($I_8$) advantageous offers do not significantly correlate with any of the five personality traits.

### 5 DISCUSSION

Similar to prior studies on private-oriented social media (e.g. Aharony, 2013; Amichai-Hamburger and Vinitzky, 2010; Back et al., 2010; Caers and Castelyns, 2011) – which all highlight quite stable relationships between personality traits and social media usage – my results also revealed a robust relationship. More specifically, it was found that Extraversion, Emotional Stability, and Openness to Experience are good predictors of the XING usage overall, while Conscientiousness and Agreeableness are not. But, in contrast to these prior studies I revealed a positive relationship between Emotional Stability and XING usage overall instead of a negative correlation as found in Amichai-Hamburger and Vinitzky (2010), Correa, Hinsley, and Zúñiga (2010), Hughes et al. (2012), Karl, Peluchette, and Schlaegel (2010), Moore and McElroy (2012), Ryan and Xenos (2011), and Skues, Williams, and Wise (2012).

This contrary result could be explained by Goffman’s SPT (Goffman, 1959). Emotionally stable individuals tend to have stable relationships in both the workplace and privately (Costa and McCrae, 1992) as a condition of career success (Barrick and Mount, 1991; Judge et al., 1999) and feelings of social inclusion (McCrae and Costa, 1999). This leads to a more career-oriented purpose for social media usage by emotionally stable individuals instead of making private acquaintances via social media (Amichai-Hamburger and Vinitzky, 2010; Correa, Hinsley, and Zúñiga, 2010; Hughes et al., 2012; Karl, Peluchette, and Schlaegel, 2010; Moore and McElroy, 2012; Ryan and Xenos, 2011; Skues, Williams, and Wise, 2012; Wang et al., 2012). Individuals with low Emotional Stability values feel more lonely (Costa and McCrae, 1992; McCrae and Costa, 1999) and try to avoid loneliness through intensive private-oriented social media usage (Amichai-Hamburger and Vinitzky, 2010; Correa, Hinsley, and Zúñiga, 2010; Hughes
et al., 2012; Karl, Peluchette, and Schlaegel, 2010; Moore and McElroy, 2012; Ryan and Xenos, 2011; Skues, Williams, and Wise, 2012; Wang et al., 2012). As a result, the usage purpose (business or private) seems to play a major role when people act in social media – resulting in different footprints of social behavior, which is why future research should investigate moderator effects of the usage purpose on the personality–social media relationship. However, it was found that the five personality traits explained only 12.4% of the variance of the XING usage intensity. The explained variance is not high, but consistent with McElroy et al. (2007), who found variances between 12% and 14% for the influence of the Big Five on Internet use overall. Due to this and because of the support of eight out of ten corresponding hypotheses concerning the research question (RQ) it can be summarized that parts of the human personality have a significant influence on social media usage and usage intensity. However, according to prior acceptance research factors such as usefulness, ease of use, or age have a much greater impact on usage (e.g. Davis, 1989; Venkatesh, Morris, et al., 2003).

6 CONCLUSION

Responding to more general recent IS research calls on the role of individual differences in IS adoption (Beaudry and Pinsonneault, 2010; Devaraj, Easley, and Crant, 2008; McElroy et al., 2007; Venkatesh, Thong, and Xu, 2012; Venkatesh and Windeler, 2012) and a more specifically identified research gap on the personality–business-oriented social media relationship, I empirically studied the influence of a user’s personality on XING usage intensity. To the best of my knowledge, this is the first study which has examined the personality–social media usage specifically for XING and, from a holistic personality point of view, for business-oriented social media overall. The results revealed the impact of personality on the XING usage intensity to be 12.4% and found robust relationships between specific personality traits (Extraversion, Emotional Stability, and Openness to Experience) and XING usage intensity. Surprisingly, and contrary to prior research on private-oriented social media, I discovered a significant positive Emotional Stability–XING usage intensity relationship explainable by Goffman’s SPT (Goffman, 1959).

Since XING contains fruitful data about a user’s personality, these data can be used for novel personality-based digital services such as e-recruiting services in order to assess the person-organisation fit (Kristof, 1996). For example, Buettner (2014a) proposed such a framework for social media based e-recruiting, see figure 4.

Figure 4: A framework for social media based e-recruiting (Buettner, 2014a, p. 1421).

6.1 Limitations

The main limitations of this work involve the methodological problems of creating and measuring the construct of personality (traits) and social media usage (intensity). The personality model used, FFM, was measured with the Ten Item Personality Inventory by Gosling, Rentfrow, and Swann Jr. (2003). Despite the proven value of this personality inventory in various studies and an acceptable reliability ($r_{TTPI} = 0.72$), more extensive multi-item measures of the Big Five exist. However, the inventory by Gosling, Rentfrow, and Swann Jr. (2003) was used in order to reduce participant’s effort and thereby the
exit rate. The operationalization of the construct XING Usage Intensity is also problematic. Nevertheless, I conceptionalized the XING Usage Intensity to the best of my knowledge based on Correa, Hinsley, and Züñiga (2010), Jenkins-Guarnieri, Wright, and Hudiburgh (2012), Lin et al. (2012), and Ross et al. (2009) and achieved therewith an acceptable reliability (Cronbach’s $\alpha = 0.758$ and composite reliability $p_c = 0.807$).

In addition, as there is little evidence for substantial cultural differences in personality structure (Benet-Martínez and John, 1998), and as the participants were only recruited from Germany, I have to point to a possible sample bias. Another bias could come from self-selection phenomena (P. M. Podsakoff, MacKenzie, and N. P. Podsakoff, 2012). While according to XING media data (XING2015a) 54 percent of XING members in Germany are aged between 20 and 39, in my study 78.9 percent were aged between 21 and 40.

A further limitation of this study is the fact that the questionnaire in my study did not differentiate between private and business usage of XING. In fact, it can be assumed that XING is mainly used for business, but some people inevitably use it for private matters as well.

### 6.2 Future research

In order to practically apply social media data for personality mining, future work will apply personality-based recruiting services within a queue of recruiting projects, funded by the German Federal Ministry of Education and Research (BMBF) under contracts 17103X10 and 03FH055PX2 to sophisticate employee contracting in Germany through automated negotiation (Buettner, 2006a,b, 2007a,b, 2009; Buettner and Kirn, 2008; Buettner and Landes, 2012). In the next step this work will be extensively evaluated in our laboratory (Buettner, 2013a,b, 2014b, 2015c, 2016b; Buettner, Daxenberger, Eckhardt, et al., 2013; Buettner, Daxenberger, and Woesle, 2013; Buettner, Sauer, et al., 2015), before it will be implemented in external recruiting software, i.e., career-oriented social networking sites (Buettner, 2015b, 2016a) and crowdsourcing platforms (Buettner, 2014c, 2015a).

The results of this study indicated different adoptions and use of social media depending on private or professional purposes. That is why future research should also investigate moderator effects of the usage purpose on the personality–social media relationship. In addition, future research should expand investigations to other business-oriented social media such as LinkedIn and to different user groups (e.g., unemployed people, non-professionals).

In terms of the measurement limitations described above, future research should develop and improve social media usage scales for different contexts (usage intensity, addiction such as Jenkins-Guarnieri, Wright, and B. Johnson (2013), etc.). Furthermore, alternative personality measures (e.g., MBTI) should be applied for personality–social media usage investigations.

Finally, recently developed personality-mining mechanisms (e.g. Bai, Zhu, and Cheng, 2012; Faliagka, Tsakalidis, and Tzimas, 2012; Ortigosa, Quiroga, and Carro, 2011) could be used for the evaluation of the personality–social media usage relationships.

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### References


