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Technology Adoption in Employee Recruitment: The Case of Social Media in Central and Eastern Europe

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Abstract

Social technologies are increasingly used in several organizational functions, including human resource management. The focus of this study is on social media adoption in employee recruitment and selection in Central and Eastern Europe (CEE). The theoretical lens used in this study is the Unified Theory of Acceptance and Use of Technology (UTAUT), extended to include the impact of the recruiters’ managerial position and educational level on technology adoption. Results obtained from partial least squares path modeling, using cross-sectional data collected from 224 recruiters, showed that the core hypotheses of the UTAUT were supported, namely the positive impact of performance expectancy, effort expectancy and social influence on behavioral intention, as well as the positive impact of facilitating conditions and behavioral intention on usage behavior. As expected, the recruiters’ characteristics triggered many interaction effects, but none of them impacted facilitating conditions. Managerial implications are discussed and future research suggestions are provided.

Keywords: Technology adoption; social media; social recruiting; Central and Eastern Europe; UTAUT.
Technology Adoption in Employee Recruitment: The Case of Social Media in Central and Eastern Europe

1. Introduction

Social technologies are used in many organizational functions and for several purposes. Literature reviews of social media research provide evidence on their use in risk and crisis communication (Veil, Buehner, & Palenchar, 2011), sales and marketing (Andzulis, Panagopoulos, & Rapp, 2012), public relations (Khang, Ki, & Ye, 2012), knowledge management and sharing (A. El Ouirdi, El Ouirdi, Segers, & Henderickx, 2015), and organizational communication (Ngai, Moon, Lam, Chin, & Tao, 2015). Social media can also be used in human resource management, including for recruitment and selection (Tufts, Jacobson, & Stevens, 2014; Wolf, Sims, & Yang, 2014).

The use of social media in employee recruitment, often referred to as ‘social recruiting’, includes different practices and offers several advantages. Recruiters use platforms such as LinkedIn, Facebook and Twitter to post job ads, attract and recruit job applicants, and pre-screen applicants (Caers & Castelyns, 2010; Cain, Scott, & Smith, 2010; Ollington, Gibb, & Harcourt, 2013; Pike, Bateman, & Butler, 2013; Melanthiou, Pavlou, & Constantinou, 2015; Zide, Elman, & Shahani-Denning, 2014). As a result of this social media use, the recruitment process becomes more dynamic, relational, and authentic, and the employer brand and attractiveness are enhanced (Carrillat, D’Astous, & Morissette Grégoire, 2014; Girard & Fallery, 2011; Girard, Fallery, & Rodhain, 2013; Henderson & Bowley, 2010).

The importance of studying social media use in recruitment and selection stems from the critical role of staffing practices in today’s increasingly competitive and global talent market (Ployhart, 2006). The adoption of technology in recruitment is becoming a necessity for employers wishing to have a competitive advantage in the labor market, and attract scarce critical talent (Deloitte Consulting LLP, 2014). The examination of topic will thus provide numerous practical implications for recruiters, and fill several topical and methodological research gaps.

The present study was inspired by four primary gaps in the existing literature on social media use in employee recruitment and selection. First, while social media seem to gain popularity in employee recruitment and selection practices, many scholars noted a significant gap between research and practice, with early academic research being primarily non-empirical and lacking sound theoretical foundations (e.g. El Ouirdi, El Ouirdi, Segers, & Henderickx, 2014; Gibbs,
Moreover, research is particularly needed on social media use in organizational contexts to address questions regarding the factors that facilitate or hinder their adoption (Ngai, Tao, & Moon, 2015). Second, despite the popularity of the Unified Theory of Acceptance and Use of Technology (UTAUT) as a model of technology adoption in the organizational context, only a small number of studies applied it empirically (Dwivedi, Rana, Chen, & Williams, 2011; Taiwo & Downe, 2013), hence the need for further replication. Third, research on technology adoption in recruitment and selection tends to focus on the U.S. context and on the applicants' perspective (Anderson, 2003). This gap prompts the need for more research from the recruiters’ standpoint and in other countries. Fourth, given the importance of recruiters’ characteristics, such as competence with new technologies, personality, and educational level, and their impact on innovation adoption in selection (Anderson, 2003), there is need to examine more recruiters’ characteristics such as managerial position and education. Therefore, this study contributes to the literature in three main ways: we contribute to the nascent but growing body of empirical evidence on social media adoption in recruitment; we focus on the recruiters’ perspective, and investigate social media usage in the under-researched region of Central and Eastern Europe (CEE); and we replicate the UTAUT model and extend it by incorporating the recruiters’ managerial position and educational level as potential moderators.

In the following sections, the study’s theoretical background is presented along with a brief review of previous research on the UTAUT’s application to social media adoption. Next, the research hypotheses are presented with a proposed extension of the model with the recruiters’ managerial position and educational level as moderators, followed by the data analysis and findings. Finally, the results are discussed and research limitations highlighted. Future research suggestions and managerial implications are also presented.

2. Theoretical background

There are several user acceptance models that can serve as theoretical frameworks for studying technology adoption (Venkatesh, Davis, & Morris, 2007). Venkatesh, Morris, Davis, and Davis (2003) developed the Unified Theory of Acceptance and Use of Technology (UTAUT) based on the conceptual and empirical similarities of eight prominent models. The models incorporated in the UTAUT are the theory of reasoned action, the technology acceptance model, the motivational
model, the theory of planned behavior, a model combining the technology acceptance model and the theory of planned behavior, the model of personal computer utilization, the innovation diffusion theory, and the social cognitive theory (Venkatesh et al., 2003). The utility of the empirically-tested and cross-validated UTAUT lies in its ability to help managers assess the likelihood of success for new technology introductions, and understand the drivers of their acceptance in order to proactively design interventions targeted at users that may be less inclined to adopt and use new systems (Venkatesh et al., 2003).

Limited research has applied the UTAUT to social media adoption. Previous studies investigated social technology adoption in different countries and by various users including university students in Malaysia (Ismail, 2010), the U.S. (Huang, Hood, & Yoo, 2013), and Korea (Yoo & Huang, 2011); public relation practitioners in Turkey (Alikilic & Atabek, 2012) and the U.S. (Curtis et al., 2010); pre-service teachers in Turkey (Baltaci-Goktalay & Ozdilek, 2010); and health education specialists in the U.S. (Hanson et al., 2011). However, previous applications of the UTAUT on social media were not exclusively quantitative, as some scholars used the model to guide their qualitative research method (e.g. Gruzd et al., 2012) or as part of a canonical action research project based on a single case study (e.g. Mandal & McQueen, 2012). Given that the UTAUT has not yet been applied to social media adoption in the context of human resource management, the present study examined its applicability to recruiters in particular.

Timing is a critical factor in the application of the UTAUT. Venkatesh et al. (2003) emphasized the necessity of timing measurement during the active adoption of the technology in question, as opposed to measurement in a stage where the said technology is already rejected or accepted due to its wide popularity. In this study, timing is taken into consideration by focusing on the region of CEE whose countries share similar digital conditions. In fact, in terms of digital technologies, CEE is relatively behind compared to Western Europe and the United States. Recent reports indicated that the penetration rates of the Internet and social networking sites were respectively at 54% and 33% in CEE, compared to 78% and 44% in Western Europe, 81% and 56% in North America, and 18% and 7% in Africa (We Are Social, 2014). These figures reflect the state of the infrastructure and information access conditions in these regions. In a report on the Internet economy, the Boston Consulting Group constructed an e-friction index that measures the factors preventing consumers, companies and countries from realizing the Internet's full benefits (BCG, 2014). In this report, CEE countries were mostly in the medium friction group, with
Bulgaria, Czech Republic, Hungary, Slovenia and Poland nearing scores of 50 out of 100 (BCG, 2014). By comparison, countries like the United States, Switzerland and the Netherlands had friction scores below 25 (BCG, 2014). A high level of e-friction, exceeding 75 in countries such as Nigeria and Pakistan, has many negative impacts, including impeding Internet adoption and use by businesses (BCG, 2014). Therefore, as CEE does not suffer from severe e-friction and is still relatively lagging behind other countries in terms of Internet and social networking penetration, it is estimated to be a convenient target for a study on technology adoption.

3. Research model

The UTAUT attempts to explain the intention to use a technology as well as subsequent usage behavior, in mandatory or voluntary organizational settings, with four key constructs (Venkatesh et al., 2003). These constructs are performance expectancy, effort expectancy, social influence and facilitating conditions (Venkatesh et al., 2003). Previous research on social media acceptance provides preliminary support for some of the hypothesized positive impacts of these constructs on behavioral intention and use behavior.

Performance expectancy is the degree to which an individual believes using a technology will help him or her attain gains in the job, and the strongest predictor of the individual’s behavioral intention (Venkatesh et al., 2003). In academic settings, performance expectancy was positively associated with scholars’ intention to use, and actual use of, social media (Gruzd et al., 2012), and with students’ intention to adopt social networking sites as a learning technology (Ismail, 2010). For both personal and professional usage, performance expectancy also predicted the behavioral intentions of health educators (Hanson et al., 2011). The direct impact of performance expectancy on social media use was, however, found to be non-significant in non-work activities (Workman, 2014), and for small businesses owners who recognized the value of social media but were still not motivated to start using them (Mandal & McQueen, 2012).

Effort expectancy, which is the degree of ease associated with the use of a technology, impacts an individual’s behavioral intention towards it (Venkatesh et al., 2003). Effort expectancy had an influential impact on scholars’ behavioral intention and usage behavior (Gruzd et al., 2012), on students’ behavioral intention (Ismail, 2010), and on individuals’ non-professional use (Workman, 2014). However, effort expectancy was not influential for health educators (Hanson et al., 2011), and small businesses owners who indicated that even when technology-literate
individuals perceived that a Facebook page, for instance, was technically simple to use, the struggle was to find suitable content for their audience of customers (Mandal & McQueen, 2012).

Social influence is the degree to which an individual perceives that important others believe he or she should use a technology, and a positive predictor of behavioral intention (Venkatesh et al., 2003). Social influence was associated with behavioral intention and/or use behavior for many categories of social media users such as scholars (Gruzd et al., 2012), students (Ismail, 2010), health educators (Hanson et al., 2011), and non-professional users (Workman, 2014). Social influence was not influential, however, on social media use by small business owners (Mandal & McQueen, 2012).

Facilitating conditions are the degree to which an individual believes that an organizational and technical infrastructure exists to support his or her use of the technology, and a predictor of usage behavior (Venkatesh et al., 2003). The relationship between facilitating conditions and social media behavioral intention and use behavior was supported in academia (Gruzd et al., 2012; Ismail, 2010) and in a non-professional setting (Workman, 2014). However, facilitating conditions were not influential for small business owners (Mandal & McQueen, 2012).

In the present study, the hypotheses of the original model were retained (Venkatesh et al., 2003), namely:

**H1.** Social media-related a) performance expectancy, b) effort expectancy, and c) social influence have positive impacts on the recruiter’s intention to use these technologies in employee recruitment.

**H2.** Social media-related a) facilitating conditions and b) behavioral intention have positive impacts on the recruiter’s usage behavior.

In the UTAUT, many interaction effects are expected to be triggered by gender, age, experience with the technology under study, and voluntariness of use (Venkatesh et al., 2003). In sum, according to the UTAUT model, the effect of performance expectancy on behavioral intention is stronger for men and younger workers; the effect of effort expectancy on behavioral intention is stronger for women, older workers, and those with limited experience with the technology; the effect of social influence on behavioral intention is stronger for women, older workers, and those with limited experience, in mandatory settings; and the effect of facilitating conditions on usage behavior is stronger for older workers with more experience with the
technology (Venkatesh et al., 2003). Interaction effects are often omitted in replications of the UTAUT (Dwivedi et al., 2011). The few existing applications of the UTAUT to social media adoption used different research designs to examine the relationships between the model’s key predictors and behavioral intention and/or usage behavior, and even fewer studies investigated the interaction effects hypothesized in the baseline model. For example, in Hanson et al.’s (2011) study on social media use by health educators, the interaction effects triggered by age for the relationships between performance and effort expectancies on the one hand, and behavioral intention on the other hand, were in line with Venkatesh et al.’s (2003) original model. As health educators got older, they believed that social media were less likely to help them attain gains in their job performance, thus decreasing their intentions to use these tools (Hanson et al., 2011). Additionally, for health educators aged over 29, the intention to use social media increased as ease of use increased (Hanson et al., 2011).

In addition to the interaction effects that were supported in Venkatesh et al.’s (2003) study, we examined the impact of the recruiter’s education level and managerial position in the model. First, highly educated managers and highly positioned managers are expected to have stronger performance expectancy, because the former tend to be dissatisfied with their jobs (Gazioglu & Tansel, 2006), and would be likely to continuously strive to attain new gains in their jobs; and the latter are continuously expected to acquire new skills in their critical positions (Mumford, Campion, & Morgeson, 2007). Second, individuals with high education levels have strong cognitive abilities as a consequence of continued intellectual engagement (Compton, Bachman, Brand, & Avet, 2000), and those in higher levels of the organization possess higher levels of all leadership skills, including cognitive skills which encompass the ability to learn and adapt (Mumford et al., 2007). Therefore, high educational levels and managerial positions are expected to be associated with high levels of technology literacy and reduced reliance on facilitating conditions. Finally, in terms of social influence, highly educated and highly positioned managers are expected to react similarly to social influence. Career and leadership success is strongly associated with high levels of education, social influence strategies and networking and interpersonal communication skills (Miller Burke & Attridge, 2011a; Miller Burke & Attridge, 2011b). Furthermore, highly positioned managers possess interpersonal skills including the ability to interact with, and influence, others (Mumford et al., 2007), and are therefore less likely to be sensitive to social influence as they would rather be the ones exerting it.
Given all of the above, and in line with the original model (Venkatesh et al., 2003), we hypothesize the following interaction effects:

**H3.** The influence of performance expectancy on the behavioural intention to use social media in recruitment is moderated by a) gender, b) age, c) education, and d) managerial position such that the effect is stronger for male, younger, more educated, and high positioned recruiters.

**H4.** The influence of effort expectancy on behavioural intention is moderated by a) gender, b) age, c) experience, d) education, and e) managerial position such that the effect is stronger for female, older, less experienced, less educated, and low positioned recruiters.

**H5.** The influence of social influence on behavioural intention is moderated by a) gender, b) age, c) experience, d) education, e) managerial position, and f) voluntariness of use such that the effect is stronger for female, older, less experienced, less educated, and low positioned recruiters, in mandatory settings.

**H6.** The influence of facilitating conditions on usage behaviour is moderated by a) age, b) experience, c) education, and d) managerial position such that the effect is stronger for older, more experienced, less educated and low positioned recruiters.

### 4. Methodology

#### 4.1. Procedure and sample

The target population for this study consisted of human resource professionals involved in recruitment. Data were collected between March and June 2014, by an international human resources consulting firm, as part of a large research project on social recruiting. An email invitation to participate in the study was sent to the firm’s database of recruiters. This procedure ensured consistency across countries in terms of instrument format, data collection, and survey timing (Schaffer & Riordan, 2003). Additionally, a link to the online survey was disseminated on the firm’s social media accounts.

#### 4.2. Measures
The online survey was composed of close-ended questions. The data used in this study were collected from three sections of the survey: a shortened version of the UTAUT model (see Appendix 1), social media use, and demographic data.

All four UTAUT predictors, namely performance expectancy, effort expectancy, social influence, and facilitating conditions were taken from the original model (Venkatesh et al., 2003), which was validated for cross-cultural use (Oshlyansky, Cairns, & Thimbleby, 2007). Some of the items used were “I find social media useful in my job”, “it is easy for me to master social media”, and “I have the knowledge necessary to use social media”. Behavioral intention was measured with one item “I intend to use social media in the next 12 months”. Respondents were asked to rate all nine UTAUT items on a 7-point scale ranging from "I strongly disagree” = 1 to “I strongly agree” = 7. Experience was measured with a dichotomous variable (yes/no) indicating whether the respondent received training on social media use in recruitment; and the voluntariness of social media use took three values, 1, 2 or 3, for voluntary, highly recommended, or mandatory use of social media in the organization.

Usage behavior was measured in different ways in previous UTAUT studies. For information technology, examples of usage behavior measurement included three dimensions to capture activities in addition to one dimension to capture usage frequency (Kijsanayotin, Pannarunothai, & Speedie, 2009); and a combination of the average time spent using computers on an average working day, the average frequency at which computers were used, the number of different computer applications used on the job, and the number of tasks performed on the computer as part of one’s job requirements (Al-Gahtani, Hubona, & Wang, 2007). In social media research, usage behavior was measured in previous research with the number of hours of social media use per week (Workman, 2014), or the categories of Web 2.0 applications used including blogs, wikis, and social networking (Huang et al., 2013). In the present study, respondents were asked whether they used social media in the recruitment process for eight purposes identified in the social recruiting literature, namely: employer branding, advertising jobs, sourcing passive candidates, receiving job applications, checking the accuracy of an applicant's CV, checking an applicant's network, checking content posted by an applicant, and checking references of an applicant. A summative score was computed to measure the respondents’ usage behavior. By measuring social media use in terms of the purposes they fill, we acknowledged its nature as a continuum (Workman, 2014), and did not confine it to a dichotomous variable.
In the demographics section, respondents were asked about their gender (1 = female, 0 = male), year of birth (2 = before 1981; and 1 = after 1981), managerial position (1 = non manager; 2 = under manager; 3 = manager; 4 = senior manager and above), and education (1 = high school or less; 2 = some college; 3 = 2- or 3-year college degree; 4 = 4- or 5-year college degree; 5 = master or doctoral degree).

4.3. Data analysis

SPSS V22 was used to conduct preliminary data analysis and obtain descriptive statistics, and WarpPLS 4.0 was used for structural equation modeling. Partial Least Squares Structural Equation Modeling (PLS-SEM) is efficient with small sample sizes and complex models, and handles reflective and formative measurement models alike, as well as single-item constructs (Hair Jr, Hult, Ringle, & Sarstedt, 2013). Although PLS-SEM is not sensitive to data normality, it is still recommended to examine the data to detect outliers and assess its distribution (Hair Jr et al., 2013). The kurtosis and skewness values of the constructs were all within the accepted range, except for behavioral intention which had a skewness value of -1.56 and a kurtosis value of 2.52, and experience with the technology that displayed a kurtosis value of -1.35. Next, to screen the data for common method variance bias, a Harman’s one-factor test was conducted, and no single factor explained more than 50% of the explained variance. Finally, no problematic outliers were detected.

During the pre-processing of the data, WarpPLS corrects problems such as identical column names, columns with zero variance, and missing values; and detects and reports rank problems when a sample has many repeated or linearly dependent values on different rows or columns, which is sometimes an indication of data fabrication (Kock, 2010). No columns with zero variance were found, and no rank problems were identified. Next, WarpPLS standardized the data for analysis. Finally, after defining the variables and links in the SEM model, the analysis was performed and the results were presented graphically and numerically (Kock, 2010).

Two models were developed to evaluate the proposed relationships between the technology acceptance variables in a hierarchical process (Chin, Marcolin, & Newstead, 2003). Model one evaluated the direct effects of all predictors on intention and behavioral use, and model two introduced the interaction effects brought by the moderators.

5. Results
5.1. Sample characteristics

A total of 224 complete answers of recruiters from 10 CEE countries, including Poland, Hungary and Slovenia, were retained for this study (see Table 1). Respondents were over-represented by women (78.6%), young professionals born after 1981 (62.5%), non-managers (63.4%), and recruiters with no training on social media (68.8%). The participants were mostly university-educated with only 8.5 percent having a high school degree or less, and the majority reported being free to choose whether to use social media in recruitment with only 8.9 percent being constrained to use these technologies. The responding recruiters tended to associate high effort expectancy with social media (M = 5.51, SD = 1.48), and have strong intentions to use these tools in recruitment (M = 5.96, SD = 1.38) (see Table 2). Performance expectancy (M = 5.06, SD = 1.58), facilitating conditions (M = 5.03, SD = 1.33) and social influence (M = 4.67, SD=1.37) were all above average in the sample. In terms of usage behavior, the respondents reported using social media for an average of 4 out of 8 recruitment purposes (M = 4.80, SD = 2.41), with 75.9 percent of them posting job ads, 70.5 percent sourcing passive candidates, and 67.4 percent engaging in employer branding.

Table 1. Demographic profile of respondents (N = 224)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Descriptive</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>176</td>
<td>78.6</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>48</td>
<td>21.4</td>
</tr>
<tr>
<td>Year of birth</td>
<td>Before 1981</td>
<td>84</td>
<td>37.5</td>
</tr>
<tr>
<td></td>
<td>After 1981</td>
<td>140</td>
<td>62.5</td>
</tr>
<tr>
<td>Education</td>
<td>High school or less</td>
<td>19</td>
<td>8.5</td>
</tr>
<tr>
<td></td>
<td>Some college</td>
<td>29</td>
<td>12.9</td>
</tr>
<tr>
<td></td>
<td>2- or 3-year college degree</td>
<td>20</td>
<td>8.9</td>
</tr>
<tr>
<td></td>
<td>4- or 5-year college degree</td>
<td>78</td>
<td>34.8</td>
</tr>
<tr>
<td></td>
<td>Master or doctoral degree</td>
<td>78</td>
<td>34.8</td>
</tr>
<tr>
<td>Managerial position</td>
<td>Non manager</td>
<td>142</td>
<td>63.4</td>
</tr>
<tr>
<td></td>
<td>Under manager</td>
<td>30</td>
<td>13.4</td>
</tr>
<tr>
<td></td>
<td>Manager</td>
<td>33</td>
<td>14.7</td>
</tr>
<tr>
<td></td>
<td>Senior manager and above</td>
<td>19</td>
<td>8.5</td>
</tr>
<tr>
<td>Social media training</td>
<td>Yes</td>
<td>70</td>
<td>31.3</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>154</td>
<td>68.8</td>
</tr>
<tr>
<td>Voluntariness of social media use</td>
<td>Voluntary</td>
<td>96</td>
<td>42.9</td>
</tr>
<tr>
<td></td>
<td>Highly recommended</td>
<td>108</td>
<td>48.2</td>
</tr>
<tr>
<td></td>
<td>Mandatory</td>
<td>20</td>
<td>8.9</td>
</tr>
<tr>
<td>Country</td>
<td>Bulgaria</td>
<td>25</td>
<td>11.2</td>
</tr>
<tr>
<td></td>
<td>Croatia</td>
<td>15</td>
<td>6.7</td>
</tr>
<tr>
<td></td>
<td>Czech Republic</td>
<td>21</td>
<td>9.4</td>
</tr>
</tbody>
</table>
Table 2. Descriptive statistics (N = 224)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance expectancy</td>
<td>5.06</td>
<td>1.58</td>
</tr>
<tr>
<td>Effort expectancy</td>
<td>5.51</td>
<td>1.48</td>
</tr>
<tr>
<td>Social influence</td>
<td>4.67</td>
<td>1.37</td>
</tr>
<tr>
<td>Facilitating conditions</td>
<td>5.03</td>
<td>1.33</td>
</tr>
<tr>
<td>Behavioral intention</td>
<td>5.96</td>
<td>1.38</td>
</tr>
<tr>
<td>Usage behavior</td>
<td>4.80</td>
<td>2.41</td>
</tr>
</tbody>
</table>

5.2. Measurement model fit

The reliability of construct measurement was evaluated by examining the composite reliability (CR), and internal consistency reliability (ICR) with Cronbach’s alpha for each itemized construct (see Table 3). The composite reliability values of .957 for performance expectancy, .816 for social influence and .839 for facilitating conditions all exceeded the .70 minimum value. Internal consistency reliability values were acceptable for performance expectancy (.910) and facilitating conditions (.711), but not for social influence which had a Cronbach’s alpha of .550. However, given that all constructs were previously validated by Venkatesh et al. (2003) and subsequent studies, and that composite reliability is considered a more suitable criterion of reliability in the context of PLS-SEM than Cronbach’s alpha (Hair Jr et al., 2013), social influence was still retained. Additionally, discriminant validity was also achieved as the square root of the average variances extracted for each itemized construct in the survey was higher than the correlations of this construct with other variables as per the Fornell-Larcker criterion (Fornell & Larcker, 1981). The AVE values of performance expectancy (.917), social influence (.690), and facilitating conditions (.635) were all above the required minimum level of .50 for convergent validity (Hair Jr et al., 2013). Furthermore, the p-values associated with item loadings were all significant, and the loadings were greater than .50 (Kock, 2013).

Table 3. Construct correlation matrix and reliability measures
5.3. Structural model

Two separate PLS runs were conducted to examine the direct and moderated effects hypothesized in the research model. Collinearity is usually estimated before the SEM analysis is conducted, and a warning is displayed about it (Kock, 2013). For our dataset, no collinearity issues were detected, and a further examination of the tolerance (VIF) values for all constructs revealed that they were all above .20 and below 5 as required in PLS-SEM (Hair Jr et al., 2013).

In model 1, an analysis of the structural model indicated that performance expectancy ($\beta = .361; p < .001$), effort expectancy ($\beta = .254; p < .001$), and social influence ($\beta = .097; p < .05$) were all significant determinants of the intention to use social media in recruitment (see Figure 1). These three constructs explained 37 percent of the variance in behavioral intention (adjusted $R^2 = .359$). These findings provide support for the hypotheses H1a, H1b and H1c. Behavioral intention ($\beta = .163; p < .01$) and facilitating conditions ($\beta = .213; p < .001$) had significant positive impacts on usage behavior, and explained 10 percent of its variance (adjusted $R^2 = .095$), thus providing support for the hypotheses H2a and H2b. Next, we examined the individual effect size of the predictors to obtain more information about the unique and separate contributions of each construct to the R-squared coefficient of the outcome variable (Kock, 2013). Regarding behavioral intention, performance expectancy (.200) had a medium effect size, followed by effort expectancy (.123) and social influence (.044). With respect to usage behavior, both behavioral intention (.042) and facilitating conditions (.061) had small effect sizes. Finally, we examined predictive relevance by looking at the Q-squared coefficients of behavioral intention (.373) and usage behavior (.106), which are deemed acceptable above 0 (Kock, 2013).
In model 2, significant moderations were triggered by gender, age, education, managerial position, and voluntariness of use on the paths between behavioral intention on the one hand, and performance expectancy, effort expectancy and social influence on the other hand (see Figure 2). A summary of the supported moderated hypotheses is provided in table 5. These results show that the relationship between performance expectancy and behavioral intention was stronger for male, younger, and highly positioned recruiters as expected. The relationship between effort expectancy and behavioral intention was stronger for less educated and low positioned recruiters as expected, but also for male and younger recruiters contrary to expectations. The relationship between social influence and behavioral intention was stronger for low positioned recruiters as expected, but also for male, younger, highly educated recruiters and in voluntary settings contrary to expectations. No moderators impacted the relationship between facilitating conditions and usage behavior, thus providing no support for H6. Furthermore, contrary to expectations, experience did not trigger any interaction effects.

The inclusion of interacting variables increased the explained variance in behavioral intention by .29 to 66% (adjusted $R^2 = 0.628$), without significantly impacting usage behavior ($R^2 = .101$; adjusted $R^2 = .077$). Regarding effect sizes, the one pertaining to performance expectancy decreased to .168, whereas other predictors preserved relatively unchanged effect sizes (.129 for effort expectancy, .043 for social influence, .042 for behavioral intentions, and .051 for facilitating conditions). Effect sizes for all moderated paths were small (< .10).
Figure 2: Path coefficients and $R^2$ values for structural model 2

Note: Only significant paths are displayed. Significance at the *, **, .05, ***.01, and ***.001 levels.

Table 5. Summary of findings for the moderated hypotheses

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>BI</th>
<th>UB</th>
</tr>
</thead>
<tbody>
<tr>
<td>H3a: Gender*PE</td>
<td>Supported</td>
<td></td>
</tr>
<tr>
<td>H3b: Age*PE</td>
<td>Supported</td>
<td></td>
</tr>
<tr>
<td>H3c: Education*PE</td>
<td>Not supported</td>
<td></td>
</tr>
<tr>
<td>H3d: Position*PE</td>
<td>Supported</td>
<td></td>
</tr>
<tr>
<td>H4a: Gender*EE</td>
<td>Not supported. Significant in the opposite direction.</td>
<td></td>
</tr>
<tr>
<td>H4b: Age*EE</td>
<td>Not supported. Significant in the opposite direction.</td>
<td></td>
</tr>
<tr>
<td>H4c: Experience*EE</td>
<td>Not supported</td>
<td></td>
</tr>
<tr>
<td>H4d: Education*EE</td>
<td>Supported</td>
<td></td>
</tr>
<tr>
<td>H4e: Position*EE</td>
<td>Supported</td>
<td></td>
</tr>
<tr>
<td>H5a: Gender*SI</td>
<td>Not supported. Significant in the opposite direction.</td>
<td></td>
</tr>
<tr>
<td>H5b: Age*SI</td>
<td>Not supported. Significant in the opposite direction.</td>
<td></td>
</tr>
<tr>
<td>H5c: Experience*SI</td>
<td>Not supported</td>
<td></td>
</tr>
<tr>
<td>H5d: Education*SI</td>
<td>Not supported. Significant in the opposite direction.</td>
<td></td>
</tr>
<tr>
<td>H5e: Position*SI</td>
<td>Supported</td>
<td></td>
</tr>
<tr>
<td>H5f: VoU*SI</td>
<td>Not supported. Significant in the opposite direction.</td>
<td></td>
</tr>
<tr>
<td>H6a: Age*FC</td>
<td>Not supported</td>
<td></td>
</tr>
<tr>
<td>H6b: Experience*FC</td>
<td>Not supported</td>
<td></td>
</tr>
<tr>
<td>H6c: Education*FC</td>
<td>Not supported</td>
<td></td>
</tr>
<tr>
<td>H6d: Position*FC</td>
<td>Not supported</td>
<td></td>
</tr>
</tbody>
</table>
6. Discussion

In this study, we applied the UTAUT model to social media adoption in employee recruitment in Central and Eastern Europe. In line with the hypotheses of the UTAUT model, the results of the present study showed that the intention to use social media in recruitment was reliant on the perception of their potential job-related gains, their perceived ease of use, and their perceived importance by socially influential individuals. The finding that performance expectancy was the strongest predictor of behavioral intention is consistent with previous applications of the UTAUT (Taiwo & Downe, 2013). For the actual use of social media, both behavioral intentions and facilitating conditions were significant predictors.

The moderated model revealed three main unexpected findings. First, contrary to previous findings in Venkatesh et al.’s (2003) study which posited gender differences based on cognitions related to gender roles, we found that male, rather than female, recruiters were the ones who reported effort expectancy and social influence as strong determinants of their intention to use social media. Additional factors, such as the gender composition of groups, the communication style of interactants, and the gender bias of the task (Carli, 2001) may explain these unexpected gender interactions. For example, over the past few years, women in the U.S. have been more likely than men to use social media, especially Facebook, Pinterest and Instagram (Pew Research Center, 2011; Pew Research Center, 2012; Pew Research Center, 2013a; Pew Research Center, 2013; Pew Research Center, 2014). In CEE, Estonian women also scored significantly higher than men in Internet use for work- and information-related purposes (Kalmus, Realo, & Siibak, 2011). Consequently, it is likely that women may have become more familiar than men with these technologies, and consequently experience less difficulty in adopting them for professional purposes. While other researchers found that gender differences were anachronistic and no longer relevant in technology use and adoption in modern and technology-literate societies (Workman, 2014), our study indicated that gender differences persisted in CEE in terms of performance expectancy which was stronger for men, and rather shifted in terms of effort expectancy and social influence in favor of women who no longer find social media challenging to use or feel social pressure to adopt them. In other words, for male recruiters, the intention to adopt social media was
strongly reliant on job-related gains as expected, but also on ease of use and on social influence contrary to expectations.

The second unexpected finding in this study was the particular relevance of both effort expectancy and social influence for younger recruiters with regards to behavioral intention. In terms of effort expectancy, it is possible that younger users, who mainly use social media for entertainment and connecting with friends, face new challenges in the workplace with the professional use of these technologies. In a study on the motives of Internet use in Estonia, social media and entertainment related use was significantly predicted by younger age and lower education levels, whereas work and information related use was lower for both younger and older users, but stronger for users aged between 30 and 44 and those with higher levels of education (Kalmus et al., 2011). Regarding social influence, Venkatesh et al. (2003) posited that older individuals would have greater difficulty in dealing with new technology, and would feel greater affiliation needs thus placing increased salience on social influences. Our findings, however, demonstrated the sensitivity of younger recruiters to social influence. This could be because young users are particularly sensitive to peer pressure to adopt and use social media in general (Trottier, 2012), and this influence might extend to the workplace. This alternative explanation is in line with meta-analytic findings on the negative relationship between age and social work motives, with younger workers showing stronger motives associated with relationships with other people including co-workers (Kooij, De Lange, Jansen, Kanfer, & Dikkers, 2011). Compared to older workers, younger ones also have stronger growth motives in terms of new learning, training and advancement (Kooij et al., 2011), and might therefore be more sensitive to perceived social influence at the workplace to adopt innovation and advance in their careers.

The third unexpected finding in this study was the significance of social influence’s impact on behavioral intention for highly educated recruiters and in voluntary settings. First, having an advanced degree is a significant predictor of engaging in professional activities and increasing internal visibility at the workplace (Forret & Dougherty, 2001). On social media, highly educated users are more motivated by community interest, social engagement and reputation (Oh & Syn, 2015). It is therefore possible that highly educated individuals are increasingly exposed to social influence in professional settings, on and off social media, and are more sensitive to this pressure. Second, Venkatesh et al. (2003) posited and found that social influence was stronger in mandatory settings due to compliance. However, we found that recruiters who had the freedom to use social
media were the most sensitive to social influence. A study on information technology use in health centers in Thailand found that voluntariness had a direct impact on behavioral intention, as the perception of freedom of choice had a positive effect on the intention to use the technology (Kijsanayotin et al., 2009). Furthermore, in Eastern Europe where conservatism and harmony values are endorsed, social support in the form of co-worker instrumental support is valued by employees (Glazer, 2006). It is therefore possible that social influence is strong in all settings in this region. Another possible explanation for the importance of social influence is the challenges faced by post-communist European countries. Although Eastern European countries have lower Gross Domestic Products, businesses in the region showed higher adoption rates of electronic human resources management, in comparison to Western European countries (Strohmeier & Kabst, 2009). This surprising finding was explained by the possibility that organizations in post-communist countries possessed learning advantages of newness and had to reinvent themselves by cutting off existing routines, whereas businesses in Western Europe might be suffering from organizational inertia (Strohmeier & Kabst, 2009). It is also likely that recruiters in CEE perceived the adoption of social media as important for their organizations which are facing various challenges related to being in transition economies (George, Chattopadhyay, Sitkin, & Barden, 2006). The decision to adopt social media might be aimed at mimicking successful firms in other cultures, especially Western ones, which are viewed as legitimate in an attempt to deal with institutional upheavals (George et al., 2006). As such, it is possible that recruiters in CEE perceived social influence in voluntary contexts as a common force facing them and their organizations, and not necessarily emanating from their organizations.

The relevance of social influence in particular for many categories of recruiters in our study could be due to its situational context. Social norms exert the greatest influence when conditions are uncertain, or when individuals are particularly concerned about establishing or maintaining a relationship with the source (Cialdini & Trost, 1998). Moreover, individualism has a negative relationship with susceptibility to normative influence (Mourali, Laroche, & Pons, 2005). An examination of the updated scores of Hofstede's (1983) cultural dimensions indicated that, on average, the sampled CEE countries have high scores in power distance and uncertainty avoidance, and low scores on individualism. It is therefore possible that the respondents are highly susceptible to social influence due to their national cultures.
7. Limitations and future research

This study’s findings should be interpreted in light of the following limitations. First, our study used a cross-sectional dataset that relied on self-reporting for all variables. Despite the absence of common methods bias in this study, we recommend that future research include additional constructs from other sources, and employ longitudinal or experimental designs to infer causality. Second, the size of the sample was relatively small. A larger and randomized sample of participants in future research will be more representative of the population under study.

The relative novelty of social media-related research creates many opportunities for scale development. In this study, rather than using a dichotomous variable for social media use as was done in previous technology adoption studies, we measured usage by outlining possible purposes filled in the recruitment process. Future research could further expand the measurement of social media use in ways that capture the diversity and multi-functionality of these tools (M. El Ouirdi, El Ouirdi, Segers, & Henderickx, 2014a; Kaplan & Haenlein, 2010). Furthermore, since the focus of this study was limited to the external use of social media in employee recruitment, future research may examine the adoption of social software used internally to manage the process of social recruiting.

While the present study focused on CEE as a region that is still in the process of adopting social media, future studies can continue to examine technology use in this region and others with information system continuance models (e.g. Venkatesh, Thong, Chan, Hu, & Brown, 2011). Cross-cultural research has the potential of bringing even richer insights to this stream of research by examining how culture influences the predictors and outcomes of technology use in organizations.

There is also need for further research on the relationship between social media adoption, use, and access, and work outcomes (Charoensukmongkol, 2014; Leftheriotis & Giannakos, 2014). Future research can examine possible outcomes of social media use on employee performance, productivity and satisfaction, such as technology overload (Karr-Wisniewski & Lu, 2010), social media fatigue (Bright, Kleiser, & Grau, 2015), and positive and negative cyber-slacking behaviors at work (Vitak, Crouse, & LaRose, 2011).

8. Conclusion and managerial implications
In conclusion, the present study applied the UTAUT to social media use in recruitment, and extended it by incorporating two additional moderators, namely the recruiters’ managerial position and educational level. Despite its few limitations, this study’s findings contribute to our understanding of technology adoption in organizational contexts, especially in the CEE region.

The findings of this study provide guidance to managers interested in introducing new technologies to their human resources departments, especially for use in recruitment and selection, in CEE. It is particularly advisable for companies to give greater importance to job gains related to social media adoption in recruitment which had the largest effect size in the analysis. Recruiters who were more influenced by this variable in our study were male, young, and in high management positions.

In terms of social media training, it is recommended to focus on male, young, and less educated recruiters in low management positions, to increase their confidence towards social media use and improve their perceptions of the ease of use of these technologies. Furthermore, male, young, and less educated recruiters in low management positions were the most sensitive to social influence in this study, thus suggesting the suitability of using a top-bottom approach with older, technology-savvy top managers taking the lead for a successful implementation of social media in recruitment in CEE.
Appendix 1: Shortened UTAUT measures

Performance expectancy (PE)
PE1: I find social media useful in my job.
PE2: Using social media increases my productivity.

Effort expectancy (EE)
EE: It is easy for me to master social media.

Social influence (SI)
SI1: People who are important to me think I should use social media.
SI2: In general, my company supports the use of social media.

Facilitating conditions (FC)
FC1: I have the resource necessary to use social media.
FC2: I have the knowledge necessary to use social media.
FC3: A specific person (or group) is available for assistance with social media difficulties.

Behavioural intention (BI)
BI: I intend to use social media in the next 12 months.
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