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# **The role of learning analytics in networking for business and leisure: A study of culture and gender differences in social platform users**

## **Abstract:**

Engagement with social networking sites is influenced by the cognitive and learning processes which in turn is influenced by culture. This paper aims at unbundling the effect of culture on the use of social network sites and thus contributes to our understanding on the way cognitive and learning processes influence the engagement with social networks. The study of over 600 social networking users addresses how professional and leisure use of social networks differs across cultures, gender and other demographics. Firstly, by utilising ANOVA techniques we associate users' behaviour with nationality and furthermore through the use of an ordered logistics regression we delineate clusters of users by the purpose of social networking adoption and their cultural characteristics. Our study helps bridge the gap in literature on identifying how cultural traits, nationality and gender affect both business and leisure use of social networking. The implications of differences in user behaviour driven by nationality and gender warrant further need for applying learning analytics in social platforms to enhance user experience. Future directions of research on social networking in relation to cognition and culture are offered for discussion.

## **1. Introduction**

Current trends and challenges in business and higher education require a mind shift towards openness, technology and active collaboration. It has been shown that social learning analytics has demonstrated productive results when used in supporting students as active learners in open and social platforms (Laat & Prinsen, 2016). The analysis of users digital footprint or learning behaviours provides insight into the opportunities to promote co-construction of knowledge. For business, social networking sites (SNS) have become the medium enabling knowledge transformation, bring more business, improve sales or strengthen or build a new brand or business. Whilst global commercial exploitation of social media is valued at over \$23bn (Bennet, 2015; Media Buying, 2015), little is known about engagement with SNS by different cultures. Culture influences cognitive processes of individuals and thus far the vast majority of studies approach the use of SNS from a social and leisure perspective (Parish & Hammer, 2014; Jackson & Wang, 2013; Peters et al, 2015; Shneor & Efrat, 2014). What is lacking is a clear understanding of the characteristics of social platforms user base, particularly from a cultural perspective, especially in a multi-cultural context. Most studies focus on a small number of cultures and tend to focus on specific elements of the Hofstede (2001) framework in order to understand users' engagement in SNS from a social, primarily, perspective. The three most commonly used dimensions are individualism-collectivism, femininity-masculinity and uncertainty avoidance. These dimensions measure only partially culture and therefore most existing studies offer an incomplete perspective. The infamous BMW marketing campaign on Chinese SNS, which showed car ads to those users who were selected as more affluent, while the rest saw smartphone ads, is an example worth mentioning. The campaign backfired bruising a few egos of 550 million users of WeChat and making dissatisfied Chinese customers voice their views (The Economist, 2015). Social users are often viewed in literature as a uniform mass of billions with similar behaviours when using social media for professional or leisure purposes. From the cultural perspective, cognitive process is not an obvious characteristic; however it is a part of the subconscious influence of culture. Engagement with social networking sites is impacted by the cognitive and learning processes which consequently are influenced by culture.

To address the above gaps in the existing literature, in this paper we not only focus on Facebook, as the dominant SNS, but also explore the use of LinkedIn. Our sample covers 74 different

nationalities and therefore is one of the widest in cultural coverage. Our contribution by expanding the SNS under consideration and having a sample that covers a wide range of cultures is not the only one. We contribute further to the existing literature through another dimension. In this paper, we do not only explore the social use of Facebook and LinkedIn but also their business related use. To the best of our knowledge this is one of the first studies exploring the business related dimension. Prior studies by Lefteriotis and Giannakos (2014) focused on the impact of the use of social media on work and explored performance related issues.

Our paper contributes to the special issue by offering insights from the social learning analytics and behavioural traces of graduates on SNS. We explore whether the social technologies, together with the current curriculum, prepare students across cultures for a more effective and constructive use of SNS, especially towards securing jobs and identifying business opportunities. We achieve this goal by conducting our study in an educational setting. The vast majority of our participants are current undergraduate or postgraduate students or recent graduates looking to maintain and develop their social networks but also identify and explore business opportunities.

This paper establishes how social media user characteristics influence business and leisure use of social platforms and attempts to cluster them into distinct profiles. Our survey of over 600 active social networking users investigated their adoption for business and informal leisure purposes. Results obtained through ANOVA techniques and an ordered logistic regression show clear a delineation between cultural profiles of businesses users of SNS, whilst gender plays an important role in how individuals approach professional use of social platforms. The conclusions of our study have a significant impact for theoretical conceptualisation of the social media innovation for business and have implications for policy and practice, thus making a significant contribution to the literature.

The remainder of the paper is structured as follows. Section 2 addresses the behavioural characteristics of users and reviews existing studies on culture and gender in social media settings. Section 3 describes the method and data collection strategy of the study. Section 4 provides the insights on the research findings. Concluding sections describe implications for policy and practice as well as opening opportunities for future research.

## **2. SNS users' traits and behavioural characteristics**

Users join social networks as they perceive a value in belonging to a network and building connections through it. For example Yang & Lin (2014) suggest that the value of belonging to a network is threefold. Joining Facebook offers its users social, hedonistic and epistemic values, and users with different aims of belonging to a network draw different benefits from it. Knowledge sharing opportunities have been explored by Chow & Chan (2008). It was found that employees receive satisfaction from content and knowledge sharing in trusted environment in professional settings. Social capital built through the online social networks is another area which received high attention in the academic debate. Social capital theory supports the notion of ties between network entities bringing value to those connected. This is particularly relevant in the changing economic climate with employment fluctuations and a highly competitive job market (Gu, Zhang & Liu, 2014).

According to Powers & Valentie (2013) younger generation grown up with the advent of the internet, has their specific traits. They find that members of the younger generation are more well travelled and open to new ideas as compared to the previous generations. They are also less likely to watch TV and trust mass media whilst messaging and social networks are their preferred communication medium. They are also said to be more likely to turn for advice to peers and trust their opinion than listen to ads on media. Finally, of interest is the change in the way they value work-life balance; they are less likely than their predecessors to place an emphasis on income in their career, but prefer satisfaction with their lifestyle and an entertainment element in life than work. They are also more social than previous generations and actively embrace social networks as a medium for socialisation and socio-affection needs satisfaction, as the younger generation displays traits of socio-affective society.

Earlier research by Pempek et al. (2009) shows that younger users adopt social networks for building their identity. Individuals use traditional markers, including religion, political ideology, and media content to express their identity. Social networking users are often left in the dark about online reputation, its attributes, consistency and professional extensions of social media activities. To develop strong social presence and exploit professional prospects on SNS, users need to be aware of the opportunities of the participation in the networking events, interactions with peers, CV building, application forms and media content accumulation (Benson & Filippaios, 2015). This social media content is collected on personal accounts on professional SNS, leading to the formation of the rich digital footprint. Very few, however, have a clear understanding how their social media identity builds or damages their personal

brand through the creation of a digital footprint. Understanding the significance of digital footprint and implications of online behaviour is important for successful career management, professional networking and developing business opportunities online.

### *2.1 Business Social Networking*

Extant research highlights the growing need for networking in entrepreneurial activity. In fact network membership and skills necessary in successful exploitation of embedded social capital are paramount for firm growth and networking practices. In this sense networking skills must be developed in effective entrepreneurs (Anderson et al, 2007).

The popularity of social networking is largely due to the proliferation of smart/mobile devices and the intuitive nature of social technologies (Croitoru et al., 2014; Salehman & Negahban, 2013). An area which has received limited coverage in academic literature refers to the move from the intuitive use to knowledge led ability to leverage social networking sites for business and professional purposes. Earlier publications addressed the intuitive use of social networks and social capital accumulated through networking (Benson, Morgan, & Filippaios, 2010). The researchers showed that international users actively networked to form useful connections during job search and career management, while British users, especially younger individuals, used social networks largely for personal and leisure use. Other publications highlight the importance of professional competencies necessary to operate in social networking environment for business use (Shah, 2010).

### *2.2 Culture in Social Media Adoption*

Few studies this far have addressed the impact of culture on the business vs leisure use of SNS (Parish & Hammer, 2014). Most studies approach the topic from either a single culture dimension or focus on specific aspects of SNS use. The most commonly used framework to capture cultural differences is the one proposed by Hofstede (2001). The framework originally contained four dimensions providing a cultural profile but further developments have resulted in the inclusion of two additional dimensions, i.e. long vs short term orientation and indulgence vs restraint. In this paper we make use of the full six dimensions of Hofstede to explore the impact of culture on business vs leisure use of SNS. This last dimension of indulgence vs restraint can have important implications for the SNS use as it captures the way societies feel about enjoyment in life.

Previous studies have explored different dimensions of Hofstede's and their impact on SNS use. Individualism/Collectivism dimension has been found to play a significant role in the use of online social networks. Jackson and Wang (2013) explored the SNS differences between individualistic cultures such as the US and collectivist cultures such as the Chinese. In their study US participants were found to spend more time, considered the use of online social networks important and had more friends than the Chinese counterparts. Conducting a comparative study in Namibia and United States, Peters et al (2015) found that Facebook usage is related to culture and cultural practices and call for further research in the area. Looking at the average time spend on SNS, Shneor and Efrat (2014) found that the use of SNS is culturally driven but is also moderated by the nature of the SNS

In their study Parrish and Hammer (2014) provide some conceptual arguments with regards to the differential use of SNS. They argue that LinkedIn's premium subscription, for example, promotes power distance as it allows certain members to have privileged access to information. On the other hand LinkedIn places high value on becoming a member of a group thus fostering collectivism. In the same study they argue that Masculinity is a key characteristic of LinkedIn given that the prestige of a user is linked to their number of connections. On the uncertainty avoidance dimension Facebook is quite low given that users can control who can post and what can be posted on their profile. Finally, Facebook allows instant results from reposting thus being linked to short term orientation. On the contrary, in LinkedIn it takes time to create a professional network and gain recognition. However the idea of online cultural convergence has been proposed recently. This is attributed to the generation Y and their high dependency on the internet. Lichy (2012) suggests that cultural differences dissolve for generation Y as users display strong convergence in their use of the internet and SNS despite the cultural backgrounds. We argue that the agreement on the role of culture in SNS use for professional networking is yet to be reached and more research is needed to establish how culture influences SNS behaviour.

### *2.3 Gender in Social Media Innovation adoption*

Gender, thus far, has not been found to be an important factor for SNS engagement (Zheng et al , 2016). In the same study, Zheng et al. (2016) focus on the way men and women tend to select profile pictures. They claim that the motivations behind selecting profile pictures differ substantially between men and women. Men tend to select pictures that represent attractiveness, having fun and share special moments whilst in contrast the motives for women

are the above as well as protection of anonymity and show their interests. It is evident that women show a larger diversity of motives. In another study focusing on gender differences, Doring et al (2016) found that women tend to emphasise emotional expression when using SNS.

Women's careers advancement is often hindered by the lack of access to professional contacts and social capital. SNS provide a unique opportunity to female members to access a wider business network and develop connections that span to a wider geographic and industrial reach (Aten et al, 2017) In that same study, the authors argue that the motives behind the use of SNS can also differ between men and women. According to Krasnova et al (2017) women are primarily motivated by the ability to gain social information and maintain close ties in contrast with men that are primarily motivated by access to general information. This leads to the creation of gender specific strategies to the attraction and retention of users.

### **3. Hypothesis Development**

We expect that nationality has an impact on user preferences for belonging to a specific network. This effect could come from two separate channels: First, in a number of countries a separate set of SNS has been developed in parallel with the global ones. Participation in these local SNS, occasionally provides higher value, in terms of social capital (Choi et al., 2013). Indeed statistics suggest that Russians for instance, prefer VContacte (SmallBizTrends, 2015); while China has a set of popular SNS accumulating 3.9 billion users between them; these mirror western SNS in functionality: e.g. Sina Weibo (similar to Twitter), Renren (Facebook-like) and WeChat is analogous to WhatsApp (TechInAsia, 2015). Second, a few countries have imposed restrictions on the use of global SNS or their functionalities and this could push users towards adopting local SNS. Overall rates of social network penetration by platform in different countries support this (SmartInsights, 2016). We therefore put forward the following hypothesis:

*H1: Nationality has an impact on different purpose of adoption of social networks.*

Culture of participants in social networks is expected to have a differentiating effect on the use of SNS for professional and social purposes. We follow Hofstede's framework (Hofstede, 2001) to link specific cultural attributes to the use of SNS for business/professional or



social/leisure purposes. Culture represents a wider spectrum of attributes than the nationality of a user and perhaps is more reliable in explaining users' behaviour and traits. Most studies, thus far, tend to associate culture with nationality (Vasalou et al, 2010; Ji et al., 2010) In this study we separate the two as we hypothesise different effects. For example, high power distance constrains the information flows and therefore the equality imposed by the use of certain SNS might not fit well in high power distance cultures. Contrary, low power distance societies are keen to facilitate growth of social ties and especially through online social networks. This could result in Facebook engagement, for example, being better for low power distance societies. Looking at other dimensions of Hofstede's framework, the formation of ties is faster and stronger in collective societies. This leads collective societies to engage more with online social networks and especially Facebook (Shneor and Efrat, 2014). Facebook for example has a perceived individualistic and low context approach that could potentially clash with more collectivist and high context cultures (Choi, et al., 2013). This finding is directly linked with what the authors call 'cultural discount' which could play a significant role especially for eastern cultures. Privacy and other security concerns might hinder the use of SNS especially in societies where uncertainty avoidance is quite high. The ways a user can control its privacy and security settings differ from one SNS to another. Facebook, for instance, has a range of options that allow users complete control of their settings minimising thus any potential uncertainty. SNS foster the creation of ties and relationships and therefore are preferred in feminine societies. This type of relationship was examined in a study by Al Omoush et al. (2012). They examined differences between Arab and Western cultures and their use of Facebook. Masculinity was found to be a significant predictor of Facebook use. Getting social support can be a strong motivating factor for joining SNS. This ability to develop and maintain relationships is a key finding linking the use of SNS with collective cultures (Abbas and Mesch, 2015). Contrary in certain SNS, such as LinkedIn, user prestige is associated with the existence of connections and therefore builds more on masculine aspects of culture. Finally, cultures that are on the indulgence spectrum of the indulgence vs restraint dimension would demonstrate a higher engagement in SNS for leisure purposes. We therefore propose to test the following hypothesis:

*H2: User's cultural background has an effect on the differential use of social networks.*

The vast majority of studies rely on a subset of Hofstede's framework to explain users' engagement with SNS. In this paper we have complemented Hofstede with data from the World Values Survey (2010-2014) to enhance and complement his framework. Individual traits going beyond culture can provide useful information on the use of SNS (Makri and Schlegelmilch, 2017). Users with more intellectual and independent tasks will use social networks for primarily business purposes. We would expect them to be more professionally orientated in forming social networks, unlike people who are engaged in routine manual tasks. The following hypothesis is then put forward:

*H3: Nature of tasks in work life has an effect on the differential use of social networks.*

People who value leisure, family and friends we would consider to be more orientated towards the social dimension of social networks. In cases where this social dimension is mixed with work purposes, especially in making contact with senior managers or receiving work-related friend requests there could be a negative effect in adopting SNS and more specifically Facebook (As described in Powers and Valentine (Powers & Valentine, 2013) Generation Y members are socio-orientated and tend to see value in belonging to groups. They value peers' opinion, openly share their views and put more emphasis on work-life balance, that the previous generation that placed income at the top of professional priorities. We therefore propose to test the following hypothesis:

*H4: Values in life drive differentiation on the use of social networks.*

Time orientation of users can influence their active or passive engagement with SNS (Makri and Schlegelmilch, 2017). This can be extended to account for time constraints in managing career paths and business networking (Smithson & Stokoe, 2005). Usually, in male population this happens in face to face interaction over networking events outside of the working hours, while business women adopt a more proactive and efficient approach and manage their networking connections through social media (Forret, 2004). Previous studies have shown that this is partially supported for Facebook, but not for LinkedIn. Gender is not important for LinkedIn as differencing factor for its use. This is in line with previous studies identifying that gender is not a differencing factor in the overall use of SNS (Benson & Filippaios, 2015; Lichy, 2012). This effect of course can also depend on the geographic region. Omoush et al. (2012)

argue that the Arab world is significantly different with lower female participation in the use of SNS, especially Facebook. On the basis of the above we hypothesise:

*H5: Women have a stronger tendency to use social networks for professional purpose.*

Our hypotheses, above, offer a holistic perspective of the impact of nationality, culture and gender differences on the use of SNS. We proceed by testing these hypotheses on a sample of over 600 active SNS users and we discuss our methodological approach in the following section.

#### **4. Methodology and Sample Characteristics**

This study is a part of a wider research into the use of social networks by business students and graduates with data collected from questionnaires distributed to AMBA members (primarily MBA students and graduates) and students coming from two AMBA accredited institutions in the United Kingdom. A variety of paper based and electronically distributed questionnaire methods was used to reach out to a larger number of participants. We followed Bowling (2005) in ensuring that the bias introduced from the different methods of administration did not influence our results. A clear justification on using a student based population is offered by Salmona et al (2013). They argue that students are the most frequent users of SNS and most likely to be unaware of their digital footprint. The questionnaire was constructed following two focus groups and consisted of a number of questions on participants' use of social networks and the internet. For the purposes of this study the whole sample was used covering a wide range of participants, from undergraduate students to executives studying towards an MBA and recent graduates of MBA programmes. The overall sample distribution can be seen in table 1. Data shows a wide variety of student groups with variable years of work experience. This is higher in AMBA members that includes recent graduates with an average of 12.47 years and much lower in the undergraduate population with a range between 2.9 and 3.2 years.

*Insert Table 1 here*

Our sample consisted of 645 questionnaires with 354 undergraduate, 120 pre-experience masters and 171 MBA (post-experience Masters). Although our sample contains a significant proportion of undergraduate students the overall distribution is not significantly different from the distribution of the student population in the UK Higher Education sector. We also covered 74 different nationalities in our sample with the top ones presented in Table 2 below. It is worth mentioning here that the small number of participants from specific nationalities prevented us from performing a cluster analysis as this could be biased from the small size standard errors.

*Insert Table 2 here*

The main sample characteristics, related to our hypotheses development, broken down by the different nationalities are presented in table 3. Average age varies between 23 years approximately for Lithuanians and 32 years for Cypriots. The overall gender balance in our sample is achieved but there are significant differences amongst nationalities with some, i.e. Cypriots, Indians and Americans having a much lower representation of women. This is in line with findings in the literature as Abbas and Mesch, (2015) find similar female representation for specific Arab cultures. Participants have an average work experience close to 6 years with the Cypriots being the most experienced ones and the Lithuanians the least experienced. This is not surprising given the findings on the average age presented above. Most nationalities have joined Facebook in either 2007 or 2008 with the year that joined LinkedIn showing a much higher variation and ranging from 2008 till 2011. Finally, it appears that participants spend almost three times per week more time on Facebook than on LinkedIn, with the Indians and the Thai being the most intensive users.

*Insert Table 3 here*

This study follows a two-step quantitative approach. In our first step we explore differences in our participants' use of social networks according to their nationality and their use of Facebook versus LinkedIn for business and social purposes. In all cases, we associate their behaviour with their nationality and we explore the statistical significance of the differences through the use of an ANOVA technique.

In our second step, we explore further the reasons that influence their use of social networks for business and social purposes through the use of an ordered logistic regression. The use of an ordered logistic regression analysis was preferred over an ordered probit on the basis of the log likelihood function. This estimation methods was also selected over a cluster analysis due to the potential small number of nationality clusters with enough observations to generate consistent results. A small number of clusters could lead to over inflation of standard errors (Mooi and Sarstedt, 2011). An additional issue that is usually associated with cluster analysis is the reliance on researcher's judgement to generate clusters (Ketchen and Shook, 1996). Our approach to follow an ordered logistic regression analysis is addressing both these issues. Our dependent variables were constructed through the use of a Cronbach's alpha between instruments used to measure the business and social use of social networks. Two indicators were used to explore the use of the two online social networks: The indicator of social use of SNS comprised of the use of online social networks to be generally sociable and to keep in touch with friends. The second indicator was constructed around the business use making use of two statements around participants' use of online social networks to find a job and find business in general. The relevant Cronbach Alpha's are presented in the table below together with the statements used from the questionnaire to calculate the social/leisure and business use for Facebook and LinkedIn.

*Insert Table 4 here*

Our independent variables correspond to the years of work experience, the age and the gender of the participants. In our regression analysis, we have also used variables capturing the different nationalities of participants, their cultural dimensions according to Hofstede's framework, the nature of the tasks they perform in their work and the importance they have in life factors such as family, friends, leisure and work. The variables definitions and their sources can be found below in Table 5.

*Insert Table 5 here*

## **5. Results and discussion**

Culture has a significant impact on the cognitive and learning process of individuals. Whilst the cognitive process is not always an evident characteristic it is a part of the subconscious influence of culture.

From the cognitive perspective engagement with social networking in turn is influenced by culture as well as national backgrounds. Our first step of data analysis was to explore the use of online social networks and any potential differences across different nationalities. With regards to the overall use of SNS, Facebook and LinkedIn were the two dominant ones and we present in Table 6 the average use per week of each one of the two according to nationality.

*Insert Table 6 here*

Indians spend the highest amount of time using both Facebook and LinkedIn with close to 17 hours per week spent on Facebook and just over 5 hours per week on LinkedIn. It is worth pointing out that an F-test reveals that in both cases their use is significantly different from the overall average.

British, Chinese, Russians and Germans tend to use both Facebook and LinkedIn less than the average but for different reasons. British students studying in home institutions would tend to rely less on online social networks to maintain links with their peers, old friends, family or get a job. Results show that British users tend to use LinkedIn in particular almost half of the time than the average user in our sample with the difference being statistically significant. On the other hand, the remaining nationalities tend to use more local online social networks to connect and thus their use of either Facebook or LinkedIn might be constraint.

We then explored participant's levels of Facebook and LinkedIn usage for social and business purposes. Table 7 presents the results by nationality with lower numbers (1- Strongly Agree, 5 – Strongly Disagree) indicating stronger agreement with the use of the relevant online social network.

*Insert Table 7 here*

Results clearly demonstrate that in general participants tend not to use Facebook for business purposes. British users, especially, show a statistically significant disagreement from the overall average with 4.40 points. On the contrary, Thai students are the ones with the lowest level of disagreement and this is complemented by their statistically significant responses for LinkedIn where they demonstrate the highest level of disagreement on the business use of LinkedIn. Most other nationalities show high levels of agreement with the Russians, the Chinese and the Indians showing the highest levels. With regards to the social use, results for Facebook are almost in the opposite direction with most nationalities showing a high level of agreement on the social use of Facebook with again the British students clearly having a statistically significant difference from the overall average. The picture, though, is not so clear when it comes to the social use of LinkedIn with mixed results. The overall average is quite low showing a significant use of LinkedIn for social purposes which contradicts the professional nature of the network. Indians tend to agree the most with the network's social use whilst Thai and German students tend to agree less than the average in a statistically significant way.

The above results confirm our first hypothesis and show that there is a nationality effect on the use of online social networks both in terms of the intensity (hours per week) as well as in terms of actual purpose (social or business purpose).

These results are worth further investigation and we will attempt to explore them further by the use of regression analysis in order to address the remaining hypotheses. A number of variables have been used to capture the factors that influence the probability of using Facebook and LinkedIn for social and business purposes. We control for the age, sex and years of work experience of participants and then we explore the impact of nationality, the Hofstede's Cultural Dimensions and items from the World Values Survey. With regards to the last two factors we have included all six dimensions of Hofstede for each participant. We have used items from the World Values Survey capturing the nature of the tasks participants are performing and the value they give in life in factors such as family, friends, work and leisure.

### *5.1 Business use of Social Networks*

Table 8 presents the results obtained for the business use of Facebook.

*Insert Table 8 here*

We have controlled for the age, gender and years of work experience of participants in all regressions. Model 1.1 presents the results for the impact of different nationalities and two nationalities stand out. British participants tend to use Facebook more than others for business purposes whilst Thai participants tend to use it the least. Coefficients for other nationalities are insignificant showing that there is not much of a difference between them for this particular type use of Facebook. In Model 1.2 we included the six dimensions of Hofstede for all participants in our sample. For this specific use of Facebook, though, it appears that no cultural effects are statistically significant not offering full support to our second hypothesis. The gender of participants is significant and positive indicating that female participants tend to use more Facebook for business purposes confirming our fifth hypothesis. On the other hand the inclusion of values for the nature of tasks from World Values Survey in Model 1.3 shows that cultures that tend to perform more intellectual than manual tasks in their everyday life tend to use Facebook more for business purposes. This is an important finding as it differentiates cultures on the basis of their approach to work. It is worth pointing out that in this model, years of work experience are also positive and significant influencing participants' use of Facebook for business purposes. Finally, the factors measuring the importance in life of family, friends, leisure and work appear insignificant for this particular use of Facebook.

Table 9 presents our results for the use of LinkedIn for business purposes. Model 2.1 presents the effects of nationalities once we control for age, gender and years of work experience. Four nationalities tend to differentiate themselves. In particular US and Thai participants tend to use LinkedIn more for business purposes than all other nationalities, whilst Russians and Lithuanians tend to use it considerably less than others. It is thus evident that assuming homogeneous use of LinkedIn for business purposes across nationalities would be misleading. Interesting are also the results obtained for the cultural dimensions of Hofstede. Three dimensions appear to influence negatively the use of LinkedIn for business purposes. More specifically, high individualism, high masculinity and high uncertainty avoidance all reduce the use of LinkedIn for business purposes. Cultures that foster cooperation amongst their members, are less competitive and prefer to have uncertainty with regards to the future would use online social networks such as LinkedIn for business purposes. This is not surprising, given the nature of online social networks that foster collaboration and build on values that put forward caring for others and quality of life. These results offer support to both hypotheses on the differential effect of nationality and culture on the use of SNS. Finally, as it



can be seen from models 2.3 and 2.4 variables capturing the nature of tasks and the importance in life of family, friends, leisure and work are not important for this particular use of LinkedIn.

*Insert Table 9 here*

## *5.2 Leisure Use of Social Networks*

In Table 10 we present our results with regards to the factors that influence the social purposes of Facebook. As a general observation, the gender of participants appears to be statistically significant in all specifications of our model. Men tend to use Facebook more than women for social purposes. This does not contradict our fifth hypothesis as we have only assumed a difference in use for professional purposes. In Model 3.1 we can observe that nationalities again differ with Indians and Americans using Facebook less for social purposes than other nationalities in contrast to the Germans that tend to use it more. An interesting cultural profile emerges in Model 3.2 with a negative effect of power distance and a positive effect of uncertainty avoidance. Cultures with high power distance tend to use Facebook less for social purposes. This is not a surprise given the nature of Facebook as online social network that fosters open and equal communication across its members. On the other hand high uncertainty avoidance increases the use of Facebook for social purposes. Users prefer to have certainty for the future to engage with Facebook for social purposes. The impact of World Values Survey variables in models 3.3 and 3.4 is insignificant for the use of Facebook.

*Insert Table 10 here*

Our final table 11 presents the results with regards to the use of LinkedIn for social purposes. The age of participants is consistently positive and statistically significant with older participants using LinkedIn more for social purposes. This is not surprising given the dominance of Facebook in younger ages. This means that some of the older participants prefer to engage in an online social network that is primarily for business in a social context. Again a number of nationalities are important and have a positive influence on the use of LinkedIn for social purposes. More specifically, Cypriots, Russians, Thai, Germans and Lithuanians tend to

use LinkedIn for social purposes more than other nationalities. From the cultural dimensions, high power distance is negative and statistically significant. This result is similar to the one obtained for the social use of Facebook and indicates that cultures with high power distance tend to engage less with online social networks for social purposes. The nature of tasks is not statistically significant as it can be seen in model 4.3 but we can observe that in model 4.4 the value of leisure for the participants' importance in life plays a positive role in increasing their use of LinkedIn for social purposes. This indicates that cultures that value highly leisure prefer to engage for socialisation in online social networks that have at the same time a business dimension such as LinkedIn.

*Insert Table 11 here*

Our results are summarised in Table 12 below. It is evident that a number of factors differentiate the characteristics of users for the two different online social networks but most importantly for their different purposes of their use. Nationalities consistently are a differentiating factor and in three out of four cases cultural aspects also play a significant role. Existence of high power distance is a key factor negatively influencing the use of both Facebook and LinkedIn for social reasons whilst other factors such as uncertainty avoidance, femininity and individualism tend to differentiate between social and business use of Facebook and LinkedIn.

*Insert Table 12 here*

To use Facebook for social reasons users are coming from a culture with low power distance, indicating more equality in the society. Facebook enables equilateral ties and connections within the SNS. At the same time there are people who use Facebook for social reasons and have a higher uncertainty avoidance, which means that people want to avoid ambiguous and uncertain situations through networking. To address their need for new knowledge or information seeking behaviour they rely on Facebook to enable the connectivity with other knowledge actors. Furthermore, male user tends to rely on Facebook for leisure purposes whilst females tend to use Facebook for business/professional purposes. Facebook is the only SNS

which exhibits this distinction, whilst on LinkedIn the distinction in terms of the gender is absent.

An interesting profile emerges for business users of LinkedIn. They, primarily, tend to associate themselves with groups, having collective identity (tendency to use discussion boards, interest group memberships, etc.). LinkedIn markets itself as opportunity enabler, for instance offering career progression opportunities, but if one considers the profile of business users of LinkedIn, they also seek human relationships instead of achievement and success, therefore clearly identifying with femininity. These are users who can cope with uncertainty but value social connectivity which is very different from what someone would expect for a career oriented network membership and particularly unlikely expectation from the predominantly business orientated users of such network. When it comes to social use of LinkedIn, users tend to show low power distance which means that they prefer equality in a society and they highly value work-life balance in life. This result is consistent with description of the generation Y traits, which is found to be more social orientated and value work-life balance over the income as the goal in life. It is a trait not found in the previous generation and social media innovation serves as a technology enabler of these user characteristics. In both cases of LinkedIn and Facebook social use is associated with low power distance. In order for someone to significantly use a social network for social purposes they would have to come from a background that believes in equal levels of power in a society.

## **6. Implications for Policy and Practice**

Engagement with social networking sites is influenced by the cognitive and learning processes which in turn is influenced by culture. Results of our study have important implications for policy and practice, particularly in recognising differences of user engagement with SNS by developers. Our findings help raise awareness about why users join different SNS. Against the background of the business and education trends and challenges, we offer the insights and highlight opportunities for applying social learning analytics to support users in their SNS practices that will move students from awareness about business prospects to productive engagement in active knowledge formation as well as commercial exploitations of SNS.

The multi-dimensional implications for organisational adoption of social networks for internal use and engaging external stakeholders have been revealed by the findings. In particular when using a social network (such as Yammer) for organisation communication it is important to

realise the impact of gender, culture and nationality on its adoption throughout the organisational staff. No consistency in terms of profiles of users in different social networks have emerged. Organisations that wish to maximise their engagement on social networks must develop online presence across multiple channels addressing various needs of audiences. However this raises the issue of resources. Therefore our results will help organisation to focus on specific channels in order to communicate effectively in specific contexts and cultural environments.

From the user perspective with regards to career management, which falls into the professional purpose of adoption, particular considerations should be given to the human relationship element shown as significant. This is evident in the example of LinkedIn (though seen by many as professional network for showcasing individual's professional achievements, it is perceived by business users as opportunity for building human relationships and enhancing social capital as highlighted in earlier studies (Benson & Filippaios, 2015). Our study shows that this element is owed to the cultural trend. Our advice to the users of social networks for career management would be to embrace the professional networks from career progression point of view but also keep in mind the importance of the social links fosters with business colleagues. The way one defines professional use of social network is organically connected to the social dimension in career management, which is confirmed by our study.

Having delineated clusters of users by the purpose of social networking adoption and their characteristics in this paper should help social networking providers who should create opportunities for their user to integrate professional representation with social interaction opportunities. Following these principles social network providers will be able to penetrate new markets and blur national boundaries in social network adoption which are evident in the current SNS landscape.

The implications of our study span across three stakeholder groups and are relevant to organisations, individuals and vendors seeking to make the most of social networking presence and address the needs of various user clusters.

## **7. Limitations and Future Research Directions**

Our study has some limitations. One of them is the self-reported data collection approach to time spending in Facebook and LinkedIn, which in the past has been prone to social desirability

bias. It has been suggested that a better understanding of user behaviours may be obtained through qualitative research approach. We suggest the findings reported in this paper are tested in a series of settings and more social platforms using observations and experimental approaches. One of the proposed novel methods would be Fuzzy-Set Qualitative comparative analysis (fsQCA) to identify complex and asymmetric relations within the sample. Studies such as Hsu et al (2013), Pappas et al (2016) and Woodside (2013) offer excellent applications of fsQCA that can form the basis for future research in the area of SNS. In this context we welcome further testing of our hypotheses using fsQCA in order to obtain more insights from the existing research instruments.

It has long been recognised in online research that an in-depth understanding of user behaviours and motivations can be gained through qualitative research such as discourse analysis (Bowen-Schrire et al., 2004). Furthermore, even though our data is gathered from the larger population of social platforms, the sample size is comparatively smaller compared to the social media user base and refers to a single time frame. A longitudinal and larger scale study, for example, could provide additional insights into whether the effects of social networking usage and learning analytics could improve understanding of cognitive processes. Future research is welcome to test our assumptions on a wider range of social network providers in different regions, which would enhance our understanding of the role of culture, nationality and gender on professional and leisure use of networks. Finally, future research should incorporate a control group (non-SNS users) in the design. Therefore, our results should be interpreted with caution, but should still stimulate future empirical work in the field.

## **8. Conclusions**

Over the last decade, global user base embraced social technologies with enthusiasm and the commercialisation of this technology was simply a matter of time. Recent literature draws a rich account of social networking applications in business and professional networking. Collaborative opportunities opened up by social platforms are unprecedented and examples of their applications in commercial settings present opportunities for effective connection building and project management, career progression; the list is almost endless. The opportunities for business and professional uses of social networks are experiencing steady growth.

Engagement with social networking sites is impacted by the cognitive and learning processes which in turn are influenced by culture. With these considerations in mind, we addressed the

views of social media users on business and professional opportunities opened by social networks and explored these from nationality, culture and gender viewpoints. The survey of over 600 social media users of various backgrounds and nationalities revealed some significant gaps in realising business and professional opportunities through social networking activity and entrepreneurship. One of the results which emerged from the data analysis using a logistic regression was that the professional orientation of social networking usage is not gender dependent. Both males and females actively use social networks and have similar levels of knowledge with regards to their business applications. Yet, female users are more likely to engage in professional network building on social platforms.

The findings of our survey show that professionals with higher years of industry experience are more aware and are more likely to take advantage of business opportunities on social networks, irrespective of perceived leisure vs business orientation of the social network such.

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Table 1. Sample distribution (count of participants and average years of work experience, in parentheses)

		Undergraduate	Postgraduate		Postgraduate Total	Grand Total
			Pre-experience Masters	MBA		
	<b>2008</b>					
<b>University A</b>		132 (2.87)	58 (5.68)	41 (9.73)	99 (7.42)	231 (4.92)
	<b>2012</b>					
<b>University B</b>			34 (5.25)	15 (9.37)	49 (7.01)	50 6.88)
<b>University A</b>		221 (3.22)	28 (4.96)		28 (4.96)	249 (3.42)
	<b>2012</b>					
<b>AMBA</b>				115 (12.47)	115 (12.47)	115 (12.47)
	<b>Grand Total</b>	354 (3.09)	120 (5.40)	171 (11.53)	291 (9.24)	645 (5.89)

Table 2. Count of nationalities

Nationality	Count
British	293
India	44
China	30
Cyprus	26
Russia	20
Thailand	17
USA	13
Germany	12
Lithuania	10

Table 3. Sample Characteristics

Variable	British	Chinese	Cypriot	India	Russia	Thailand	USA	Germany	Lithuania	Other	Total
Age	24.62	24.80	32.21	26.67	29.80	25.00	27.42	24.17	22.89	26.26	25.80
Gender	0.61	0.45	0.22	0.21	0.60	0.63	0.31	0.45	0.86	0.59	0.55
Years of Work Experience	6.05	4.50	10.36	5.29	8.63	3.13	8.92	3.00	3.30	5.33	5.90
Joined Facebook	2007	2009	2008	2007	2008	2008	2007	2008	2007	2008	2008
Joined LinkedIn	2010	2010	2008	2009	2011	2011	2008	2011	2008	2009	2009
Weekly use of Facebook	8.27	6.59	10.00	16.73	3.00	14.40	8.46	6.01	10.60	8.66	9.09
Weekly use of LinkedIn	1.49	1.10	1.00	5.16	1.00	3.00	2.00	2.25	1.00	3.16	2.68

Table 4. Cronbach's Alpha

	Facebook	LinkedIn
<b>Business Use</b>		
I joined to find a job	0.8605	0.8676
I joined to find business		
<b>Social Use</b>		
I joined to be generally sociable	0.6914	0.6431
I joined to keep in touch with friends		
I joined to make new friends		

Table 5. Variables definition and sources

Variable Name	Definition	Source
Social Use of Facebook	Composite Variable capturing participants' agreement to the social use of Facebook	Authors' survey and own calculations
Social use of LinkedIn	Composite Variable capturing participants' agreement to the social use of LinkedIn	Authors' survey and own calculations
Business use of Facebook	Composite Variable capturing participants' agreement to the business use of Facebook	Authors' survey and own calculations
Business use of LinkedIn	Composite Variable capturing participants' agreement to the business use of LinkedIn	Authors' survey and own calculations
Age	Age of each individual participant	Authors' survey
Gender	Gender of each individual participant	Authors' survey
Years of Work Experience	Years of work experience of each individual participant	Authors' survey
Power Distance	Acceptance and expectation that power is distributed unequally by members of a society	Hofstede's Cultural Dimensions
Individualism	The individuals are expected to take care of themselves	Hofstede's Cultural Dimensions
Masculinity	Societies with high levels of competition and assertiveness	Hofstede's Cultural Dimensions
Uncertainty avoidance	Feeling uncomfortable with the unknown/future	Hofstede's Cultural Dimensions
Long and Short Term Orientation	Approach to link with the past and deal with the future	Hofstede's Cultural Dimensions
Indulgence	Enjoying life and having fun	Hofstede's Cultural Dimensions

Important in Life: Family	The degree to which family is considered important	World Values Survey
Important in Life: Friends	The degree to which friendship is considered important	World Values Survey
Important in Life: Leisure	The degree to which leisure is considered important	World Values Survey
Important in Life: Work	The degree to which work is considered important	World Values Survey
Nature of Tasks: Manual vs Intellectual	Whether the tasks at work are mostly manual or intellectual	World Values Survey
Nature of Tasks: Routine vs Creative	Whether the tasks at work are mostly routine or creative	World Values Survey
Nature of Tasks: Independence	How much independence there is in performing tasks at work	World Values Survey

Table 6. Average use per week of online social networks by nationality

	Facebook use	F-stat	LinkedIn use	F-stat
<b>British</b>	8.27	0.93	1.49	8.41***
<b>Chinese</b>	6.59	0.55	1.10	0.87
<b>Cypriot</b>	10.00	0.01	1.00	0.19
<b>Indian</b>	16.73	8.54***	5.16	11.40***
<b>Russian</b>	3.00	0.39	0.00	0.48
<b>Thailand</b>	14.40	1.54	3.00	0.01
<b>USA</b>	8.46	0.01	2.00	0.16
<b>Germany</b>	6.01	0.46	2.25	0.05
<b>Lithuania</b>	10.60	0.06	0.00	0.01
<b>Total</b>	<b>9.09</b>		<b>2.68</b>	

\* Significant at 10%, \*\* Significant at 5%, \*\*\* Significant at 1%

Table 7. Social and Business Use of Online Social Networks

	Facebook Business Use	F-Stat	LinkedIn Business Use	F-Stat	Facebook Social Use	F-Stat	LinkedIn Social Use	F-Stat
<b>British</b>	4.40	25.13***	2.21	0.01	1.85	4.32**	1.91	0.02
<b>Chinese</b>	4.00	0.28	1.88	0.37	1.70	1.75	1.93	0.01
<b>Cypriot</b>	4.28	0.18	2.67	0.55	1.89	0.04	2.00	0.03
<b>Indian</b>	3.94	0.82	1.94	1.66	1.82	0.69	1.61	2.52*
<b>Russian</b>	3.92	0.18	1.00	1.21	1.93	0.01	2.00	0.01
<b>Thailand</b>	3.29	7.52***	5.00	6.79***	2.29	1.55	3.25	4.40**
<b>USA</b>	4.27	0.21	2.50	0.46	1.83	0.18	1.64	0.53
<b>Germany</b>	4.42	0.84	2.00	0.18	2.29	1.37	2.50	3.14*
<b>Lithuania</b>	3.72	1.06	2.00	0.07	1.61	1.06	1.75	0.05
<b>Total</b>	<b>4.12</b>		<b>2.20</b>		<b>1.95</b>		<b>1.89</b>	

\* Significant at 10%, \*\* Significant at 5%, \*\*\* Significant at 1%

Table 8. Ordered Logit Regression of factors influencing participants' use of Facebook for business purposes.

	Model 1.1	Model 1.2	Model 1.3	Model 1.4
age	-0.017 (0.032)	0.001 (0.034)	-0.046 (0.033)	-0.015 (0.034)
gender	0.279 (0.193)	0.347* (0.194)	0.258 (0.199)	0.203 (0.203)
work experience	0.045 (0.036)	0.038 (0.038)	0.082** (0.038)	0.050 (0.040)
British	0.780*** (0.229)			
Chinese	0.181 (0.357)			
Cypriot	0.214 (0.431)			
Indian	0.013 (0.390)			
Russian	-0.350 (0.639)			
Thai	-1.060** (0.526)			
USA	0.802 (0.673)			
German	0.915 (0.904)			
Lithuanian	-0.599 (0.723)			
Power Distance		-0.013 (0.011)		
Individualism		0.009 (0.008)		
Masculinity		0.013 (0.009)		
Uncertainty Avoidance		0.001 (0.005)		
Long vs Short Term		0.005 (0.006)		
Indulgence		-0.005 (0.009)		
NoTManualvsIntellectual			0.568** (0.267)	
NoTRoutinesCreative			-0.108 (0.381)	
NoTIndependence			-0.052 (0.164)	
liIFamily				-1.239 (1.603)
liIFriends				2.007 (1.276)
liLLeisure				-0.185 (0.627)
liLWork				-0.381 (0.521)
N	434	393	382	382
Wald Chi(2)	33.76***	32.37***	16.92***	27.59***
Pseudo R2	0.024	0.028	0.014	0.024

\* Significant at 10%, \*\* Significant at 5%, \*\*\* Significant at 1%  
Standard Errors in parenthesis

Table 9. Ordered Logit Regression of factors influencing participants' use of LinkedIn for business purposes.

n2buslinkedin	Model 2.1	Model 2.2	Model 2.3	Model 2.4
age	0.017 (0.047)	0.014 (0.050)	0.020 (0.049)	0.009 (0.047)
gender	0.131 (0.342)	-0.011 (0.353)	0.084 (0.356)	0.228 (0.376)
work experience	0.047 (0.048)	0.048 (0.052)	0.051 (0.048)	0.071 (0.049)
British	-0.156 (0.383)			
Chinese	-0.049 (3.075)			



Cypriot	0.698			
	(0.828)			
Indian	-0.156			
	(0.416)			
Russian	-13.410***			
	(1.082)			
Thai	34.904***			
	(1.186)			
USA	0.753*			
	(0.448)			
German	-0.737			
	(2.027)			
Lithuanian	-13.285***			
	(1.073)			
Power Distance		-0.026		
		(0.034)		
Individualism		-0.033*		
		(0.019)		
Masculinity		-0.031*		
		(0.017)		
Uncertainty Avoidance		-0.017*		
		(0.010)		
Long vs Short Term		-0.026		
		(0.019)		
Indulgence		0.017		
		(0.020)		
NoTManualvsIntellectual			-0.324	
			(0.500)	
NoTRoutinevsCreative			0.519	
			(0.695)	
NoTIndependence			0.136	
			(0.231)	
liLFamily				-2.223
				(3.416)
liLFriends				-0.215
				(2.867)
lnLLeisure				2.017
				(1.324)
liLWork				0.946
				(1.158)
N	148	136	126	126
Wald Chi(2)	13.65***	21.47***	16.21**	18.53
Pseudo R2	0.045	0.049	0.028	0.032

\* Significant at 10%, \*\* Significant at 5%, \*\*\* Significant at 1%  
Standard Errors in parenthesis

Table 10. Ordered Logit Regression of factors influencing participants' use of Facebook for social purposes.

n1socfacebook	Model 3.1	Model 3.2	Model 3.3	Model 3.4
age	0.005	0.009	0.023	0.010
	(0.030)	(0.033)	(0.032)	(0.032)
gender	-0.368*	-0.309*	-0.321*	-0.376*
	(0.188)	(0.184)	(0.189)	(0.194)
work experience	0.034	0.031	0.022	0.034
	(0.031)	(0.032)	(0.033)	(0.033)
British	-0.354			
	(0.224)			
Chinese	-0.558			
	(0.449)			

Cypriot	-0.019			
	(0.458)			
Indian	-0.736*			
	(0.379)			
Russian	0.187			
	(0.427)			
Thai	0.809			
	(1.007)			
USA	-0.877*			
	(0.540)			
German	0.916*			
	(0.471)			
Lithuanian	0.019			
	(0.450)			
Power Distance		-0.018*		
		(0.010)		
Individualism		-0.009		
		(0.008)		
Masculinity		0.005		
		(0.008)		
Uncertainty Avoidance		0.011**		
		(0.005)		
Long vs Short Term		0.001		
		(0.006)		
Indulgence		-0.006		
		(0.008)		
NoTManualvsIntellectual			-0.137	
			(0.278)	
NoTRoutinevsCreative			0.162	
			(0.311)	
NoTIndependence			0.040	
			(0.163)	
liLFamily				2.323
				(1.541)
liLFriends				-1.429
				(1.212)
InLLeisure				0.548
				(0.780)
liLWork				0.100
				(0.474)
N	449	405	395	395
Wald Chi(2)	25.80**	21.80***	13.89**	17.71**
Pseudo R2	0.014	0.013	0.010	0.013

\* Significant at 10%, \*\* Significant at 5%, \*\*\* Significant at 1%  
Standard Errors in parenthesis

Table 11. Ordered Logit Regression of factors influencing participants' use of LinkedIn for social purposes.

n2soclinkedin	Model 4.1	Model 4.2	Model 4.3	Model 4.4
age	0.115*	0.118*	0.108*	0.123*
	(0.061)	(0.064)	(0.055)	(0.068)
gender	-0.351	-0.524	-0.267	-0.323
	(0.338)	(0.351)	(0.334)	(0.351)
work experience	-0.006	-0.034	-0.019	-0.035
	(0.059)	(0.059)	(0.057)	(0.070)
British	0.435			
	(0.435)			
Chinese	-0.277			
	(0.875)			

Cypriot	1.644***			
	(0.529)			
Indian	-0.379			
	(0.456)			
Russian	1.695***			
	(0.371)			
Thai	3.125***			
	(1.146)			
USA	-0.787			
	(0.713)			
German	2.422***			
	(0.700)			
Lithuanian	2.434***			
	(0.474)			
Power Distance		-0.044**		
		(0.020)		
Individualism		-0.017		
		(0.017)		
Masculinity		-0.007		
		(0.017)		
Uncertainty Avoidance		0.012		
		(0.011)		
Long vs Short Term		0.006		
		(0.012)		
Indulgence		-0.005		
		(0.013)		
NoTManualvsIntellectual			0.502	
			(0.541)	
NoTRoutinevsCreative			0.018	
			(0.513)	
NoTIndependence			-0.057	
			(0.248)	
liLFamily				-0.102
				(2.614)
liLFriends				-1.818
				(2.599)
InLLeisure				2.108*
				(1.268)
liLWork				-0.647
				(0.951)
N	163	148	139	139
Wald Chi(2)	29.89***	29.01***	16.89***	18.62***
Pseudo R2	0.065	0.056	0.039	0.043

\* Significant at 10%, \*\* Significant at 5%, \*\*\* Significant at 1%  
Standard Errors in parenthesis

Table 12. Summary of results

	Business Use	Social Use
Facebook	<ul style="list-style-type: none"> <li>• Nationalities (British vs Thai)</li> <li>• Gender</li> <li>• Years of work experience</li> <li>• Intellectual tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Nationalities (Indian &amp; US vs German)</li> <li>• Gender</li> <li>• Low Power Distance</li> <li>• High Uncertainty Avoidance</li> </ul>
LinkedIn	<ul style="list-style-type: none"> <li>• Nationalities (US &amp; Thai vs Russians &amp; Lithuanians)</li> <li>• Low individualism</li> <li>• Femininity</li> <li>• Low uncertainty avoidance</li> </ul>	<ul style="list-style-type: none"> <li>• Nationalities (Cypriots, Russians, Thai, Germans and Lithuanians)</li> <li>• Low power distance</li> <li>• High value of leisure in life</li> </ul>