The International Journal of Management Education 15 (2017) 1–12

Contents lists available at ScienceDirect

The International Journal of Management Education

journal homepage: www.elsevier.com/locate/ijme

Research Notes

The impact of perceived enjoyment, perceived reciprocal benefits and knowledge power on students' knowledge sharing through Facebook

Sedigheh Moghavvemi*, Manal Sharabati, Tanuosha Paramanathan, Nurliana Md Rahin

Faculty of Business and Accountancy, University of Malaya, Kuala Lumpur, Malaysia

ARTICLE INFO

Article history:
Received 5 February 2016
Received in revised form 25 August 2016
Accepted 22 November 2016

Keywords:
Knowledge sharing
Social media/social network
Facebook
Structural equation modeling
Community
Perceived reciprocal benefit

ABSTRACT

This study examined the relationship between perceived enjoyment, perceived reciprocal benefits, perceived status, outcome expectation, and the power of knowledge, and how each of these factors affect knowledge sharing between students via Facebook. The effects of using Facebook on students' knowledge sharing was measured among 170 undergraduate university students and tested using structural equation modeling. The results showed that outcome expectation is the main factor effecting students sharing knowledge, followed by perceived reciprocal benefit, and perceived enjoyment. Students shared knowledge and helped others due to the expected outcome i.e. respect received from other members and lecturers, good comments from friends, the opportunity to enrich their knowledge, and recognition. The power of knowledge and perceived status are not strong motivators for students to share knowledge in a Facebook group. The factors affecting students' knowledge sharing can differ between different people and context, therefore, future research could examine the differences in social media participation based on gender, age, or subject matter. The findings of this study helped us understand why students choose to engage in social media, specifically Facebook, to share knowledge within a specific learning context, which will be useful for educators.

© 2016 Elsevier Ltd. All rights reserved.

1. Introduction

Most teenagers use social media to socialize and learn on the Internet, consuming and producing digital information, and looking for personalized careers. Distinctions between learning, work, fun, and leisure are becoming less and less in their respective lives (Karakas, Manisaligil, & Sarigollu, 2015). A survey among college students revealed that 23% used social network sites for research, 22% for entertainment, 15% to obtain the latest news, and 12% specified that they used it to chat and communicate with their friends and families (Al-Harrasi & Al-Badi, 2014). Social network sites, such as Facebook, Twitter, and YouTube are often utilized by students to communicate, exchange, and share knowledge, opinions, and ideas (Judele, Tsovaltzi, Puhl, & Weinberger, 2014; Osgerby & Rush, 2015), and encourage constant interaction with other

* Corresponding author.
E-mail addresses: sedigheh@um.edu.my (S. Moghavvemi), manals@gmail.com (M. Sharabati), tanuosha@siswa.um.edu.my (T. Paramanathan), lianarahin@um.edu.my (N.M. Rahin).

http://dx.doi.org/10.1016/j.ijme.2016.11.002
1472-8117/© 2016 Elsevier Ltd. All rights reserved.

members (Yuen & Yuen, 2008). Facebook is mainly utilized for social reasons, and many students consider Facebook as a social tool (Hew, 2011; Madge, Meek, Wellens, & Hooley, 2009; Selwyn, 2009) to connect with people from different places and maintain old ties while creating new ones (Selwyn, 2009; Wohn & LaRose, 2014). Facebook creates an opportunity for its users to join new groups and networks in a manner that could encourage sharing ideas, information, exchange thoughts and ideas, and work together with other members that have common interests and needs (Mazman & Usluel, 2010). Facebook is regarded as an ideal platform for collaborative learning (Selwyn, 2007). Alloway, Horton, Alloway, and Dawson (2013) pointed out that many high school students in the UK utilized Facebook as a platform to share and expand their knowledge (i.e. reading through friends' shared post on the latest news or local events). Some students use Facebook for academic purposes, more specifically to contact people in their respective classes to get information about assignments, with some stating that they preferred Facebook to university education software programs, as it provided more immediate responses (Kosik, 2007).

The emergence of social networks has provided solutions, new insights, and mechanisms for knowledge sharing to various organizations (e.g., hospitals and educational institutions). Social Rapid exchange of information and knowledge via social network has dramatically changed lifestyles and enhanced individual and organizational learnings (Chen & Hung, 2010). However, the success of social network in sharing knowledge requires that the knowledge contributors be amenable in donating their knowledge (Ba, Stallaert, & Whinston, 2001), since some people would rather retain knowledge than share it (Chennamaneni, 2006). The same individual can be a giver or a receiver at different times. Some people enjoy sharing their knowledge to help others (McLure Wasko & Faraj, 2000), while some expect to benefit in the future from it (Fehr & Gächter, 2000). Therefore, identifying the critical factors affecting knowledge sharing behavior through Facebook would help us choose and implement the right tools to encourage students to share their knowledge, which is beneficial for other students and themselves. Therefore, the main aim of this study is to identify factors that affect students sharing knowledge via Facebook. A better understanding of the determinants of knowledge sharing among students and useful technology will allow for more informed decisions to implement the right educational technologies in higher educational institutions.

2. Literature review

2.1. Social network sites and knowledge sharing

Learning and teaching without technology is seen as uninteresting (Loon, Evans, & Kerridge, 2015). Therefore, many research investigated the usage and usefulness of different technologies in the context of teaching and learning. Some researchers investigated the blended learning pedagogic approach, which enables instructors to benefit from both traditional and digital domains (Loon et al., 2015), such as the use of e-learning tools (Garrison & Vaughan, 2008), simulation games and reflective learning (Lean, Moizer, & Newbery, 2014; Loon et al., 2015), and films (Lee & Lo, 2014), while others examined the role that information and communication technologies play in supporting learning and teaching activities, and indicated that selecting a suitable technology for teaching and learning should be based on different types of activities that will be conducted within that context, since the purpose of use and effect differs from faculty to students (Waycott, Bennett, Kennedy, Dalgarno, & Gray, 2010). Rovai (2002) investigated virtual classrooms and how to design online courses that foster a community between learners and the level of satisfaction. He indicated that it is important to increase effective support by promoting a strong sense of community that will put a stop to the feeling of isolation and connecting with other learners. This sense of community is the result of interactions and deliberations by people brought together by similar interests and common goals (Rovai, 2002).

Researchers argued that the use of social network for educational purposes is regarded as one of the main revolutions that have taken place in academia over the last few years (Sánchez, Cortijo, & Javed, 2014). Social network sites embraces collaborative learning, engage individuals in critical thinking, and enhances communication and writing skills by encouraging members to work in personalized environments (Ajjan & Hartshorne, 2008; Lockyer & Patterson, 2008). Some researchers investigated the possibility of using Facebook for personal and educational purposes among higher education faculties and students, and highlighted the benefits and limitations of using technologies as teaching and learning tools (Roblyer, McDaniel, Webb, Herman, & Witty, 2010; Waycott et al., 2010). Some researchers expressed serious concerns about the use of social media for academic purposes and highlighted issues pertaining to personal privacy on social media and the effect of social media on time dedicated to studies (Roblyer et al., 2010). Other researchers considered social media as a source of entertainment and believed that it would distract students from school work (Au, Lam, & Chan, 2015; Sobaih, Moustafa, & Ghandforoush, 2016). Although social media will facilitate learning, monitoring and controlling the quality of learning and teaching is also important. For example, some faculty members encourage sharing information via social media, but they pointed out that the originality of work will be difficult to guarantee (Au et al., 2015), while others pointed out that the number of challenges offered by social networks, such as issues related to communication between students and teachers and pedagogical and technological challenges related to incorporating social network into teaching and learning practice and cultural and social factors, such as the erosion of teachers' traditional roles and the management of relationship with students limiting teaching use of social media (Manca & Ranieri, 2015, 2016).

From another perspective, social network sites, especially Facebook, can be used as an education tool because it consist of activities, such as enabling communication between students and their instructors, facilitating class discussions, following

announcements on classes and courses, departments, or schools, delivery of homework and assignments by teachers, and informing about resources and links related to courses (Ainin, Naqshbandi, Moghavvemi, & Jaafar, 2015; Mazman & Usluel, 2010). It is through this type of online community that Facebook users are able to maintain meaningful and dynamic educational experiences, exercise higher levels of thinking skills, and share knowledge (Garrison & Kanuka, 2004). Many educationists use Facebook to support students' interaction, and were deemed a good platform for sharing and learning new contents (Khan, Wohn, & Ellison, 2014). Irwin, Ball, Desbrow, and Leveritt (2012) mentioned that most students prefer to use Facebook as an academic platform because it could be an effective learning resource, such as encouraging interaction and participation of its users, as well as the capability to share knowledge when it comes to discussions about course topics and exposure to relevant media and learning materials. Indeed, Facebook's features makes sharing educational resources convenient, encourages a two-way learning process between students and teachers, and boosting interactions with other users (Jong, Lai, Hsia, Lin, & Liao, 2014). This means that most college students use Facebook to broadly and loosely connect with others to share knowledge and obtain information (Wohn & LaRose, 2014; Chu & Du, 2013).

Social networking provides opportunity for students to build knowledge and helps them be active in creating and sharing information (Nguyen, Yan, & Thai, 2013) by enabling users to connect by creating personal information profiles, providing access to friends and colleagues to those profiles, and sending e-mails and instant messages (Al-Harrasi & Al-Badi, 2014). For example, when people sign up for a Facebook group, they would have the opportunity to gain and share knowledge about current fashions from regional network members (Nguyen et al., 2013). Lee and Ma (2012) pointed out that social media empowers its users to create, share, and comment on news content, as well as provide them with the opportunity to interact and collaborate with network members, thus changing the entire structure and nature of sharing news.

Facebook provides its users with a personalized profile page while concurrently providing means for communication, information sharing, generating network members' list, photo albums, and the formation of Facebook group that consist of members with similar social interests to share their respective knowledge (Mazman & Usluel, 2010). Cheung, Chiu, and Lee (2011) reported that many people use social network sites, especially Facebook, because it effectively connects people, and it is a simple platform for exchanging knowledge (Cheung et al., 2011). When there is opportunity for sharing information between group members on Facebook, the younger generation felt more comfortable discussing it with their physician or parents (Gajaria, Yeung, Goodale, & Charach, 2011).

Hsu and Lin (2008) underlined that an individual may be motivated to share information and knowledge through blog space if they assume that they would have the opportunity to enhance their social relationships and reputation. Current studies have also mentioned that information seeking, enhancing status, and reputation are vital motives for people to utilize social networks, and many people used this platform for group discussions and communication (Harridge-March, Dunne, Lawlor, & Rowley, 2010; Park, Kee, & Valenzuela, 2009). Wasko and Faraj (2005, pp. 35–57) posited that many individuals tend to engage in knowledge sharing activities if it would help enhance their social status. Gaining social support from other members in a social networks via information and knowledge sharing is regarded as one of the most vital reasons users in an online social networking establish connections (Park et al., 2009). In another context, Jinyang (2015) found that people who contribute their knowledge in virtual communities tend to lose their value, which is beneficial to those who have amassed knowledge from contributors. Moreover, Bock, Zmud, Kim, and Lee (2005) posited that individuals will normally share knowledge when they know that their interests will supersede the costs of contributing or sharing of that knowledge with other members, thus leaving perceptions from many people that their own knowledge is extremely useful and significant to society.

2.2. Theoretical background and hypothesis development

Knowledge is a key organizational resource (Analoui, Sambrook, & Doloriert, 2014). Knowledge sharing behavior is present when an individual disseminates their acquired knowledge to other members within an organization (Ryu, Ho, & Han, 2003). According to Wang and NOE (2010), knowledge sharing refers to “the provision of task information and know-how to help others and to collaborate with others to solve problems, develop new ideas, or implement policies or procedures”.

Knowledge sharing could be regarded as a type of social exchange (Bock et al., 2005), with people sharing their knowledge and skills with their colleagues and expecting, reciprocally, to receive others' knowledge in return. The Social Exchange Theory was developed, expanded, and revised by Homans (1958), Thibaut and Kelley (1959), and Blau (1964). Homans (1961) defined social exchange as the exchange of activity, tangible or intangible, and more or less a reward, between at least two parties. His focus on the study of social behavior was categorized in terms of rewards and punishments. According to Blau (1964, p. 91): “Social exchange refers to voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others.” These benefits are not only tangible, since individuals may engage in an interaction with the expectation of reciprocity (Gouldner, 1960). In such exchanges, people help others with the general expectation of future returns, such as gaining the desired resources via social reciprocity. In order to maximize gained resources, individuals may build social relationships with others by sharing their knowledge (Liang, Liu, & Wu, 2008). He later pointed out that behaviors that generate positive consequences will be reinforced, while behaviors that has been rewarded in a previous situation will more likely be performed in similar situations.

Since social exchange is complicated, different research projects have highlighted different aspects. For example, Kankanhalli, Tan, and Wei (2005) used cost/benefit analysis based on Social Exchange Theory to analyze incentives and inhibitory factors in knowledge sharing, and argued that cost factors (i.e., loss of knowledge power and codification effort)

and benefit factors (i.e., organizational reward, image, reciprocity, knowledge self-efficacy, and enjoyment in helping others) affects knowledge contributors. Wasko and Faraj (2005, pp. 35–57) examined the impact of individual motivations factors (reputation, helping others) and relational capital factors (commitment and reciprocity) on knowledge sharing behaviors, whereas Hsu, Ju, Yen, and Chang (2007) examined self-efficacy and outcome expectations as predictors of personal factors of knowledge sharing behaviors.

In order to explore knowledge sharing behaviors in social networks, we draw on the Social Exchange Theory to conceptualize a research model for this study (see Fig. 1). We hypothesize that perceived reciprocal benefit, perceived enjoyment, perceived status, outcome expectation, and the power of knowledge are some of the main factors that influences knowledge sharing among students via Facebook groups.

2.2.1. Perceived reciprocal benefit

Reciprocity in the context of knowledge sharing is defined as the benefit expectancy of a future request for knowledge being met as a result of current contributions (Kankanhalli et al., 2005, pp. 113–143). Reciprocity is a form of conditional gain; that is, people expect future benefits from their present actions (Fehr & Gächter, 2000). In order to contribute knowledge, individuals must believe that their contribution is worth the effort. According to Davenport and Prusak (1998), people's time, energy, and knowledge are limited. Therefore, with the exception of when it is profitable, people are usually unwilling to share scarce resources with others. In a team, people who anticipate and are more willing to share good ideas also expect others to respond in kind. Expected reciprocal benefits involved the degree to which a person believed he or she could obtain mutual benefits via knowledge sharing (Hsu & Lin, 2008). Previous research indicated that knowledge sharing in online communities is facilitated by a strong sense of reciprocity (McLure Wasko & Faraj, 2000, 2005, pp. 35–57). Furthermore, researchers have observed that reciprocal benefits can provide an effective motivation to facilitate knowledge sharing, thus achieving long-term mutual cooperation (Bock et al., 2005). Lin (2007) indicated that if employees believe they can obtain reciprocal benefits from colleagues by sharing knowledge, they are more likely to view knowledge sharing favourably, thus having higher knowledge sharing intentions. Based on the previous research, we hypothesize that:

H1. Perceived reciprocal benefit will positively affect knowledge sharing through Facebook.

2.2.2. Perceived enjoyment

Perceived enjoyment can be considered from two perspectives: enjoy using social network while spending time with friends, and enjoy helping others. For the former, Hsu and Lin (2008) defined enjoyment as the degree to which an Internet user participates in social networks because the process "yields fun and enjoyment" (p. 67), and suggested that enjoyment is a factor that determines the intention of users to participate in social networks. Venkatesh (2000) considered the enjoyment of using technology and defined perceived enjoyment as "the extent to which the activity of using a specific system is perceived to be enjoyable in its own right, aside from any performance consequences resulting from system use" (p. 351). Therefore, Internet users would be likely to participate in social networks activities, because the interaction process results in fun and enjoyment. Teo, Lim, and Lai (1999) suggested that perceived enjoyment had a significant effect on Internet usage. From another perspective, enjoyment in helping others is defined as the perception of pleasure obtained from helping others via knowledge contribution (Kankanhalli et al., 2005, pp. 113–143). Previous works showed that employees are intrinsically motivated to contribute knowledge, as engaging in intellectual pursuits and solving problems is challenging or pleasurable and because they enjoy helping others (McLure Wasko & Faraj, 2000; Wasko & Faraj, 2005, pp. 35–57). Knowledge contributors who derive enjoyment from helping others may be more favorably oriented and inclined towards knowledge sharing (Lin, 2007). In turn, enjoyment in helping others can significantly impact the knowledge contributor's usage of information systems (Kankanhalli et al., 2005, pp. 113–143). This research merged both dimension of perceived enjoyment (enjoyment of using social network and enjoyment of helping others), and hypothesized that:

H2. Perceived enjoyment will positively affect knowledge sharing through Facebook.

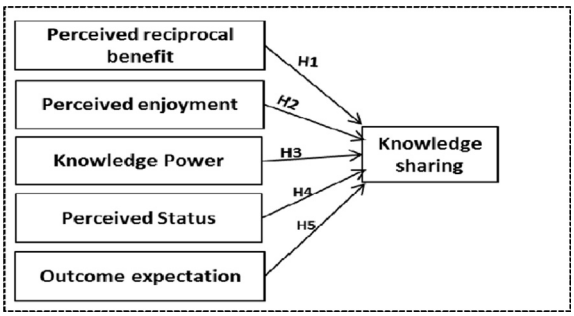

Fig. 1. Research framework.

2.2.3. Knowledge power

French and Raven (1959) studied power and divided it into five different forms; reward power, coercive power, legitimate power, referent power, and expert power. Reward power is defined as power which has its basis in its ability to reward. Coercive power is similar to reward power, where it can be used in a coercive manner, such as withholding rewards or expertise, or using a referent power to threaten social exclusion. Referent power is often treated with admiration or charm. Expert power is based on in-depth information, knowledge, or expertise. Later, they added informational power, which is related to having control over information that others need or want, which puts a person in a powerful position. This power come when the person is in a position to share, withhold, manipulate, distort, conceal it, help others, or as a weapon or a bargaining tool.

Since knowledge is considered a source of power, individuals may hide it (Chennamaneni, 2006). Loss of knowledge refers to the perception of power and unique value lost due to contributed knowledge (Kankanhalli et al., 2005, pp. 113–143). Previous research suggests that knowledge sharing could be hindered if people are afraid that loss of knowledge will cause them to lose their individual competitive advantage (Kankanhalli et al., 2005, pp. 113–143). People gain their precious knowledge little by little from their working experience, even from failures and frustration; thus, this precious knowledge enables them to exceed the performance of their colleagues, gain better pay and more opportunities in their respective careers. Consequently, people would rather retain knowledge than share it. Although knowledge sharing could be beneficial, they hold onto their knowledge if they think this could be more beneficial (Davenport & Prusak, 1998).

Some individuals possess an 'unwillingness to share' attitude, due to their insecure feelings, such as the fear of being impeded from moving up (or lost career opportunities) and the notion of 'knowledge is power' (Dunford, 2000; Grandori & Kogut, 2002). That is, employees fear the loss of superiority and knowledge ownership after sharing their unique knowledge (Bartol & Srivastava, 2002). Potential knowledge contributors may keep themselves out of a knowledge exchange if they feel they can benefit more by hoarding knowledge rather than sharing it (Davenport & Prusak, 1998). Therefore, we hypothesized that:

H3. Knowledge power has a negative effect on students' knowledge sharing through Facebook.

2.2.4. Perceived status/reputation

According to Anderson, Srivastava, Beer, Spataro, and Chatman (2006), status is the prominence, respect, and influence individuals enjoy in the eyes of others. Striving for status has been proposed as a primary and universal human motive (Anderson, John, Keltner, & Kring, 2001). Reputation is the degree to which a person believed that participation could enhance personal image via knowledge sharing (Hsu & Lin, 2008). Lakhani and Von Hippel (2003) found that individuals expect to gain status by answering frequently and intelligently, while Stewart (2005) found that reputation may also be related to social status.

Wasko and Faraj (2005) investigated the reason people share knowledge with others in social media, and reported that both reputation and centrality have significant influences on the helpfulness and volume of knowledge contribution. Prior research found that building reputation is a strong motivator for active participation in social media (Donath, 1999). Recent work confirms that people contribute knowledge when they think their professional reputations will be enhanced (Wasko & Faraj, 2005, pp. 35–57). Zywica and Danowski (2008) highlighted that Facebook users may participate in knowledge sharing to achieve a desired social status, to expand their friendship circle, and improve their self-esteem.

Reputation can help individuals obtain and maintain their status within a community (Marett & Joshi, 2009). Several studies suggested that people share their knowledge because they believed that they can establish and improve their individual reputation (Wasko & Faraj, 2005, pp. 35–57) or earn peer recognition (Carrillo & Gaimon, 2004). As a result of this, when individuals feel that knowledge sharing can elevate their reputation, they will be more inclined to share their knowledge (Ba et al., 2001; Wasko & Faraj, 2005, pp. 35–57). Knowledge contributors can benefit from showing others that they possess valuable expertise (Ba et al., 2001). This earns them respect (Constant, Kiesler, & Sproull, 1994) and a better image (Constant, Sproull, & Kiesler, 1996). Therefore, contributors can benefit from improved self-concept when they contribute knowledge (Hall, 2001, pp. 10–11). Some people expect that their contributions will help them build a good reputation and improve their status within their respective social group (Liang et al., 2008). Wasko and Faraj (2005, pp. 35–57) also argue that the possibility of improving one's reputation serves as an important motivational factor for offering useful advice to others in an organizational electronic network. This leads to:

H4. Perceived status/reputation has a positive effect on students' knowledge sharing through Facebook.

2.2.5. Outcome expectation

Outcome expectations refers to the expected consequence of one's own behavior (Bandura, 1997; Hsu et al., 2007) and an individual's belief that task accomplishment leads to a beneficial outcome (Chiu, Hsu, & Wang, 2006). In other words, personal outcome expectation refers to image and rewards following actions of individuals, who share their information in return for benefits, such as reputation and expected relationships (Hsu et al., 2007). In a community, researchers found that individuals are more likely to engage in a specific behavior that will result in favorable consequences (Chiu et al., 2006). Individuals tend to undertake behaviors that they believe will result in a "better" outcome (Lu & Hsiao, 2007). Based on Social

Cognitive Theory (SCT), people are more likely to engage in a behavior if they expect to be rewarded. This is why knowledge sharing will take place when rewards are greater than cost (Constant et al., 1994).

Outcome expectation (reward systems) is an important factor that influences the decision to share knowledge (Bartol & Srivastava, 2002). Knowledge sharing will occur when outcomes exceed costs, or met expectations (Constant et al., 1994). On one hand, outcome expectations imply that if members of social networks believe that they would receive extrinsic benefits, such as monetary rewards, promotion, or educational opportunity from their knowledge sharing, then they would have an intention to share knowledge (Jang, Hong, Woo Bock, & Kim, 2002). In the context of technology acceptance, Thompson, Higgins, and Howell (1991) argued that the utilization of a PC will be greater if the expected consequences of using a PC is attractive. Similarly, people will continue to share information on the Internet if they expect praises or rewards (Lee, Cheung, Lim, & Ling Sia, 2006). Therefore, the following hypothesis was developed:

H5. Outcome expectation has a positive effect on student's knowledge sharing through Facebook.

3. Methodology

3.1. Sample and procedure

The antecedents of knowledge sharing, i.e. perceived status/reputation, knowledge power, perceived enjoyment, outcome expectation, and perceived reciprocal benefit were measured from 170 undergraduate students in the University of Malaya, Malaysia. This is a field experiment when the researchers are interested to determine the effect of creating Facebook group on students' knowledge sharing and the factors which motivated them to share their knowledge. The instructor of the business statistic course created a Facebook group and started uploading related videos, online books and texts, and other information pertaining to the subject, and updated it each week based on the subject taught in the class. The Facebook group was created to facilitate the use of e-Learning material for students and provide a reliable source for them to find all related information. The lecturer announced the address of the Facebook group to the class, however, the option to use the group was left to the students. The use of the Facebook group was voluntary, however, within a week, all of the students had requested to be a member of the Facebook group and began asking questions from the instructor or chatted with each other online. They started sharing information related to the class and assignments, and watched related videos (the number of the seen and like shows that most of them watched the video) and downloads provided by the lecturer. The number of seen and like was almost equal to the number of the members in the group most of the time. Each time, almost 20% of the members' commented and share extra information (uploaded some video, notes). ~15% answered questions from other students and tried to help. They answered other students' questions, shared lecture notes and extra information related to the assignment and exam in the Facebook group while updating each other on news related to group activity and campus news.

The Facebook group was created in the beginning of the semester, while the data was collected at the end of the semester from the students who were members of the Facebook group. The lecturer announced in the Facebook group that we are interested in knowing their experience of using the Facebook group during the semester and online questionnaire sent to the group. The option to answer the questionnaire was left up to the students, which culminated in 98% completing it. This research was carried out in accordance to university policy on Human Ethical Practice in Research, and we did not collect any data on students' name and personal information. The data is aggregated for analysis.

3.2. Research instrument

This study is quantitative, and we designed the questionnaire and used the survey method to collect data. We used the original validated scales and adapted them to the context of knowledge sharing. We modified some previously validated scales to better fit the current research context. The items used to measure perceived status, perceived enjoyment, and outcome expectation were adopted from Wasko and Faraj (2005, pp. 35–57), Hsu and Lin (2008, 2007). The items used to measure the reciprocal benefit were adopted from Chen and Hung (2010), while the items used to measure knowledge power were adopted from Lee, Lee, and Sanford (2011). The items used to measure knowledge sharing were adopted from Staples, Hulland, and Higgins (1998) and Davenport and Prusak (1998), while the items used to measure outcome expectations were adopted from (Bock et al., 2005). The seven-point Likert-type scale, ranging from 1 (strongly agree) to 7 (strongly disagree), asked the respondents to rate their expectations about knowledge sharing and factors affecting them in sharing knowledge. The questionnaire distributed among ten students to evaluate their reactions to the items and ease of answerability before final data collection. The questionnaire was subsequently improved based on their comments.

4. Data analysis and results

The majority of the respondents (80%) were third year students in management, accounting, and finance. 43.29% of the respondents were male, while 56.71% were female. The majority of the respondents were between 21 and 23 years old with average age of ~22 years old. We test the reliability of the construct through Cronbach α in SPSS and the results of the reliability test for all the variables were acceptable (see Appendix A), and more than 0.7.

The data was tested through a structural equation modeling (SEM) using AMOS 18. The SEM is a multivariate technique that combines aspects of multiple regression and is able to estimate a series of inter-related and theoretical relationships between a set of concepts. It has two stages namely confirmatory factor analysis and structural model. First the reliability and validity of the constructs (all items) will check through confirmatory factor analysis. In the second stage the relationship among the independent and dependent variables will test through structural model. We ran the confirmatory factor analysis to confirm the adequacy of the underlying variables in our new context (Malaysia), while we ran the structural model to test the relationship among the variables in the framework. First the data run through the measurement model to check if all the items in the questionnaire have acceptable factor loading. The results of the measurement model indicated that for all items the standardized regression weight exceeded 0.70, while the composite reliabilities exceeded 0.80. Therefore, these results supported the assumptions of internal consistency and reliability of the measurement model. We evaluated the convergent validity of the constructs to examine if two measures of constructs that theoretically should be related, are in fact related. Convergent validity was assessed using average variance extracted (AVE). The AVE for all constructs was equal to or greater than 0.50. These results proved that convergent validity for all constructs had been achieved for the measurement model (Fornell & Larcker, 1981; Moghavvemi, Mohd Salleh, Zhao, & Mattila, 2015; 2012). The results of the measurement model suggested a good fit for the data CMIN/DF = 1.920, goodness of-fit index [GFI] = 0.829; comparative fit index [CFI] = 0.903; Tucker–Lewis index [TLI] = 0.883; incremental fit index [IFI] = 0.906; root mean square error of approximation [RMSEA] = 0.078). The results of the data analysis showed the data fitted to the model. Therefore, we were able to check the hypothesis and the relationship among the independent and dependent variables (see Table 1).

4.1. Testing the hypotheses

The results showed that the structural model achieved a good level of fit (i.e., $\chi^2 = 382.590$, $\chi^2/df = 1.771$, GFI = 0.798, TLI = 0.888, CFI = 0.904, RMSEA = 0.07). The results indicated that the relationship between perceived enjoyment ($\beta = 0.190$, $p = 0.002$) and perceived reciprocal benefits ($\beta = 0.223$, $p = 0.000$) to knowledge sharing was significant and positive, thus supporting H1 and H2. This confirmed that perceived enjoyment will influence students' knowledge sharing. If students perceived that they will benefit from this knowledge sharing they will share their knowledge. The relationship between knowledge power and knowledge sharing ($\beta = -0.022$, $p = 0.613$) was negative and not significant, therefore, H3 was rejected. This suggest that perceived power is not significant factors for students and does not affect them. The results did not support the relationship between perceived status towards knowledge sharing ($\beta = 0.032$, $p = 0.270$) which rejected H4, while outcome expectation ($\beta = 0.545$, $p = 0.00$) was a strong determinant of knowledge sharing on the Facebook group (see Table 2), therefore, supporting H5. Perceived status is not important factor among the students while it can be important in the other context and setting. However outcome expectation is important and will increase knowledge sharing among students. The result showed that 59% of the variance associated with knowledge sharing was accounted for by these five variables.

5. Discussion

The main aim of this research was to identify the factors affecting students' intention to share knowledge with other members in the Facebook group. The results showed a positive and significant relationship between perceived enjoyments

Table 1
Composite reliability, Average variance extracted, correlation.

Construct	CR	AVE	1	2	3	4	5	6
Perceived Status	0.650	0.552	**0.742**					
Knowledge Power	0.796	0.700	0.539**	**0.836**				
Perceived enjoyment	0.839	0.749	0.226**	0.073	**0.865**			
Outcome expectation	0.774	0.680	0.216**	0.070	0.100	**0.824**		
Perceived Reciprocal benefit	0.767	0.552	0.313**	0.054	0.081	0.044	**0.742**	
Knowledge sharing	0.868	0.754	0.476**	0.602**	0.159*	0.110	0.243**	**0.868**

Notes: values on diagonal are square root of AVE; CR= Composite reliability; *: $p < 0.05$; **: $p < 0.01$.

Table 2
Structural model results.

Hypotheses		β	S.E.	C.R.	P-value	Hypotheses
H1	Perceived reciprocal benefit →knowledge sharing	0.223	0.059	4.127	0.000	Supported
H2	Perceived enjoyment →knowledge sharing	0.190	0.067	3.132	0.002*	Supported
H3	Knowledge power → knowledge sharing	−0.022	0.049	−0.506	0.613	Rejected
H4	Perceived status → knowledge sharing	0.032	0.022	1.104	0.270	Rejected
H5	Outcome expectation → knowledge sharing	0.545	0.072	8.832	0.000	Supported

β: Standardized Regression Weight; S.E.: Standardized Error; C.R.: Critical Ratio; *$p < 0.01$.

towards knowledge sharing between the students via Facebook. These results suggested that students in the Facebook group enjoyed sharing their knowledge, which eventually helped other students. This indicates that students' intrinsic motivation was to use the Facebook group to share knowledge. The result was consistent with previously reported works, who argued that perceived enjoyment positively affected the attitude of a person towards sharing knowledge (Moghadam, Selamat, & Moosavi, 2013; Pi, Chou, & Liao, 2013). Another possible explanation was that frequent communication between students affected their knowledge sharing behavior, which indirectly encouraged the feeling of intrinsic enjoyment (Yu, Lu, & Liu, 2010). Students shared knowledge because they think that helping others facing problems would be enjoyable and interesting, and they feel good when doing so (Rahab & Wahyuni, 2013).

The results showed that there was a significant effect of perceived reciprocal benefit towards knowledge sharing via the Facebook group. This suggested that students will share knowledge based on their expectation from future benefit, which will motivate them to help each other via Facebook. The students spend time and effort to answer each other's' questions and help others, and they expect that they will benefit from it and expect other students to share their respective ideas and respond in kind. Therefore, the strong sense of perceived reciprocal benefit will encourage them to share knowledge. The finding of this paper was consistent with other research mentioning that expected reciprocal benefits involved the degree to which a person believed he or she could obtain mutual benefits via knowledge sharing (Hsu & Lin, 2008; Wasko & Faraj, 2005, pp. 35–57).

Examining the effect of knowledge power towards students' knowledge sharing showed that there was a negative effect, and it was not significant. This suggests that the power of knowledge is not a significant factor for students in sharing knowledge. If they perceive that knowledge sharing reduces their power within the group, they will not share their knowledge. The power of knowledge is not a significant factor to stop them from knowledge sharing, because knowledge that is shared is recorded and looked upon by all users, including students and instructors. This can be an advantage in the context of sharing knowledge via Facebook, since knowledge will be recorded, and members know who it was from. Another possible explanation is that students were not anxious about knowledge sharing, as they felt that this will not make them weak or affect their position, knowledge ownership, and uniqueness, since their knowledge was not considered as a source of power among their classmates. The results is supported by Yiu and Law (2012), which highlighted the negative effects of knowledge power on knowledge sharing, despite the effect not being significant among students.

The results of this study showed the perceived status as not a significant determinant of the student's knowledge sharing. This result indicated that perceived status among friends and instructor is not an important factor to students compared to other factors, such as outcome expectation, reciprocal benefits, and perceived enjoyment. This may be due to the fact that they are in a group of friends and classmates, and they know each other, therefore, sharing knowledge to increase status is not an important factor for them. These findings was not consistent with previous research, such as Pi et al. (2013), who argued that users who joined Facebook Groups and bloggers perceive that online knowledge sharing would enhance their respective social status. This might differ from groups and communities. While this is not important for students, it may be important for members in an organization or other communities.

The results showed the strong effects of students' perception related to the outcome of knowledge sharing, highlighting the fact that students expected good results and returns from the knowledge that they share. This suggests that students believe that sharing knowledge will lead to desirable outcomes and favorable consequences. They will share knowledge and help other members to achieve desirable outcomes, such as respect from other members and instructors, good comments from other friends, enriched knowledge, and recognition. These findings are supported by Zhang and Hiltz (2003, p. 53), who reported that people who engage in knowledge sharing within virtual communities have outcome expectations, such as elevating their level of knowledge, making new acquaintances, and seeking social support from professionals.

5.1. Managerial implication

Nowadays, the purpose of using social networks, especially Facebook, differed from before, when people used to use it for communication and entertainment. One of the main reasons for this distinct difference is that Facebook is fast gaining social support from other members of society via information and knowledge sharing. The members of social networks can share knowledge, experience, collaborate on related topics, and seek assistance. Sharing knowledge via social networks can create a good sense of community between people with similar interest and issues. These networks can be used as a tool to record knowledge and share with others.

Academic managers can use social network sites, especially Facebook, to create a sense of community among the students, record the knowledge, and improve students' interaction and collaboration. Students are more comfortable to discuss, comment, share ideas, and work through Facebook groups as opposed to classrooms. It represents an excellent opportunity for use in teaching and learning and allow them to interact, share, and discuss related information together. Communicating with students will create knowledge about their preferences and needs, and help managers arrange courses and activities based on desires and needs. Creating a sense of community via a Facebook group will strengthen the classroom community, which will create a positive environment between students and instructors and improve the learning process. The results can be used as a sample for using Facebook groups to effectively and efficiently sharing knowledge with students. It provides the empirical knowledge for academic managers to encourage knowledge sharing between students via Facebook groups.

5.2. Limitation and future research

Future research is essential to validate the findings of this study, and further studies should be conducted on factors affecting students' knowledge sharing via Facebook in different cultures and contexts. The sample of this research is small, since this research need a group of students with similar interests and topics to provide the related knowledge and simultaneously, the instructor needed to monitor the entire process. Future research can examine this topic using a bigger sample to obtain a more substantiated portion of the population. The results of this study showed that the importance of certain factors differs from one group to another, therefore, future research could examine differences in social media/network participation based on gender, age, or subject matter.

6. Conclusion

This study utilized previous works and examined factors affecting students' knowledge sharing via Facebook and their respective expectations to share knowledge. The results showed that students' perceived reciprocal benefit, outcome expectation, and perceived enjoyment encourages them to share their knowledge between other members while concurrently expecting rewards and desirable outcomes. The results also justified the outcomes of knowledge power in a different context. In academia, the power of knowledge is not an important factor that effects students in sharing knowledge. However, this factor may play a negative role in prohibiting individuals to share their knowledge if they fear losing their uniqueness or positions. This study also showed that factors affecting individual knowledge sharing can vary based on conditions and contexts. Thus, factors that affect students will differ from factors that affect employees in the context of sharing knowledge. Therefore, it is important to examine the determinants of knowledge sharing and consequences in different contexts and people. Moreover, the results showed that the usability of a Facebook group in creating a sense of belonging among community members with similar interest, which could be an influential factor to share knowledge and experience. Overall, the findings of this study enhanced understanding as to why students choose to engage in social media, specifically Facebook, to share knowledge within a specific learning context, and therefore present considerations for educators to enhance and alter their respective practices.

Acknowledgement

We would like to thank Professor Jane Elizabeth Klobas. We have greatly benefited from the discussions and her assistance as well as her guidance in giving us ideas on how to go about the research topic and methods.

Appendix A

	Cronbach α
Perceived enjoyment	0.811
The process of knowledge sharing in the Facebook group is enjoyable.	
I have fun sharing knowledge in the Facebook group.	
I enjoy sharing my knowledge with others in Facebook group	
It feels good to help other members by sharing my knowledge in Facebook group	
My knowledge sharing with other students is personally rewarding.	
Sharing my knowledge with others in the Facebook group gives me pleasure.	
Perceived reciprocal benefits	0.878
If I share my knowledge with other students in the Facebook group, they will help me if I ask.	
If I share my knowledge with other students in the Facebook group, I expect them to share their knowledge with me in the future.	
Students in the Facebook group will help me to solve a problem if I help them to solve a problem.	
Other students will share their knowledge with me if I share my knowledge with them in the Facebook group.	
I should share my knowledge with other students if they share their knowledge with me in the Facebook group.	
Knowledge power	0.798
I do not gain anything by sharing my knowledge with others in the Facebook group.	
If I share my knowledge with anyone else I the group, I will lose my knowledge power	
My knowledge allows me to influence other students in the Facebook group.	
My course-related knowledge is a source of influence over other students.	
Sharing my course-related knowledge reduces my ability to influence other students.	
Sharing my course-related knowledge increases my ability to influence other students.	
If I share my knowledge with other students, I give away something that makes me unique.	
Knowledge sharing	0.894
Using Facebook group to share course-related knowledge was important for my study.	
It was interesting to use Facebook group to share course-related knowledge.	
Using Facebook group to share course-related knowledge helped me to keep up to date.	

(*continued on next page*)

(*continued*)

	Cronbach α
Using Facebook group to share course-related knowledge, I could make a contribution to the course.	
I appreciated being able to exchange course-related knowledge with other students on Facebook group.	
I enjoyed using Facebook for sharing course-related knowledge	
Perceived status	0.793
Sharing knowledge in the Facebook group enhances my status in the class	
Sharing knowledge in the Facebook group improves my status among other students	
I earn rewards in the form of good reputation by sharing knowledge in the Facebook group	
Sharing knowledge in the Facebook group enhances my status in the eyes of my lecturer	
Outcome expectation	0.750
Knowledge sharing in the Facebook group strengthens my ties with other students	
Knowledge sharing in the Facebook group gives me a sense of accomplishment	
Knowledge sharing in the Facebook group helps me expand my network of friends.	
Knowledge sharing in the Facebook group facilitates cooperation among students.	
Knowledge sharing creates strong relationships among members of the Facebook group who shared common interests.	

References

Ainin, S., Naqshbandi, M. M., Moghavvemi, S., & Jaafar, N. I. (2015). Facebook usage, socialization and academic performance. *Computers & Education, 83*, 64–73.

Ajjan, H., & Hartshorne, R. (2008). Investigating faculty decisions to adopt Web 2.0 technologies: Theory and empirical tests. *The internet and higher education, 11*(2), 71–80.

Al-Harrasi, A. S., & Al-Badi, A. H. (2014). The impact of social networking: A study of the influence of smartphones on college students. *Contemporary Issues in Education Research (CIER), 7*(2), 129–136.

Alloway, T. P., Horton, J., Alloway, R. G., & Dawson, C. (2013). Social networking sites and cognitive abilities: Do they make you smarter? *Computers & Education, 63*, 10–16.

Analoui, B. D., Sambrook, S., & Doloriert, C. H. (2014). Engaging students in group work to maximise tacit knowledge sharing and use. *The international Journal of Management Education, 12*, 35–43.

Anderson, C., John, O. P., Keltner, D., & Kring, A. M. (2001). Who attains social status? Effects of personality and physical attractiveness in social groups. *Journal of personality and social psychology, 81*(1), 116.

Anderson, C., Srivastava, S., Beer, J. S., Spataro, S. E., & Chatman, J. A. (2006). Knowing your place: Self-perceptions of status in face-to-face groups. *Journal of personality and social psychology, 91*(6), 1094.

Au, M., Lam, J., & Chan, R. (2015). Social media education: Barriers and critical issues. In *Technology in education, Transforming educational practices with technology* (pp. 199–205). Berlin Heidelberg: Springer.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Macmillan.

Bartol, K. M., & Srivastava, A. (2002). Encouraging knowledge sharing: The role of organizational reward systems. *Journal of Leadership & Organizational Studies, 9*(1), 64–76.

Ba, S., Stallaert, J., & Whinston, A. B. (2001). Research commentary: Introducing a third dimension in information systems design—the case for incentive alignment. *Information Systems Research, 12*(3), 225–239.

Blau, P. M. (1964). *Exchange and power in social life*. Transaction Publishers.

Bock, G.-W., Zmud, R. W., Kim, Y.-G., & Lee, J.-N. (2005). Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. *MIS quarterly*, 87–111.

Carrillo, J. E., & Gaimon, C. (2004). Managing knowledge-based resource capabilities under uncertainty. *Management Science, 50*(11), 1504–1518.

Chen, C.-J., & Hung, S.-W. (2010). To give or to receive? Factors influencing members' knowledge sharing and community promotion in professional virtual communities. *Information & management, 47*(4), 226–236.

Chennamaneni, A. (2006). *Determinants of knowledge sharing Behaviors: Developing and testing an integrated model*. University of Texas. PhD. diss.

Cheung, C. M., Chiu, P.-Y., & Lee, M. K. (2011). Online social networks: Why do students use Facebook? *Computers in Human Behavior, 27*(4), 1337–1343.

Chiu, C.-M., Hsu, M.-H., & Wang, E. T. (2006). Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decision Support Systems, 42*(3), 1872–1888.

Chu, S. K.-W., & Du, H. S. (2013). Social networking tools for academic libraries. *Journal of Librarianship and Information Science, 45*(1), 64–75.

Constant, D., Kiesler, S., & Sproull, L. (1994). What's mine is ours, or is it? A study of attitudes about information sharing. *Information Systems Research, 5*(4), 400–421.

Constant, D., Sproull, L., & Kiesler, S. (1996). The kindness of strangers: The usefulness of electronic weak ties for technical advice. *Organization science, 7*(2), 119–135.

Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Harvard Business Press.

Donath, J. S. (1999). Identity and deception in the virtual community. *Communities in cyberspace, 1996*, 29–59.

Dunford, R. (2000). Key challenges in the search for the effective management of knowledge in management consulting firms. *Journal of Knowledge Management, 4*(4), 295–302.

Fehr, E., & Gächter, S. (2000). Fairness and retaliation: The economics of reciprocity. *The journal of economic perspectives*, 159–181.

Fornell, C., & Larcker, D. F. (1981). Evaluation of structural equation model with unobservables variable and measurement error. *Journal of Marekting Research, 18*(1), 39–50.

French, J. R. P., & Raven, B. (1959). The bases of social power. In D. Cartwright (Ed.), *Studies in social power* (pp. 150–167). Ann Arbor, MI: Institute for Social Research.

Gajaria, A., Yeung, E., Goodale, T., & Charach, A. (2011). Beliefs about attention-deficit/hyperactivity disorder and response to Stereotypes: Youth postings in Facebook groups. *Journal of Adolescent Health, 49*(2011), 15–20.

Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The internet and higher education, 7*(2), 95–105.

Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in higher education: Framework, principles, and guidelines*. USA: John Wiley & Sons.

Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American sociological review*, 161–178.

Grandori, A., & Kogut, B. (2002). Dialogue on organization and knowledge. *Organization science, 13*(3), 224–231.

Hall, H. (2001). *Social exchange for knowledge exchange. Presented at managing knowledge: Conversations and critiques*. University of Leicester Management Centre. April 2001.

Harridge-March, S., Dunne, Á., Lawlor, M.-A., & Rowley, J. (2010). Young people's use of online social networking sites-a uses and gratifications perspective. *Journal of Research in Interactive Marketing, 4*(1), 46–58.

Hew, K. F. (2011). Students' and teachers' use of Facebook. *Computers in Human Behavior, 27*(2), 662–676.

Homans, G. (1958). Social behavior as exchange. *American Journal of Sociology, 63*(6), 597–606.
Homans, G. (1961). *Social Behavior: Its elementary forms*. New York: Harcourt, Brace & World.
Hsu, M.-H., Ju, T. L., Yen, C.-H., & Chang, C.-M. (2007). Knowledge sharing behavior in virtual communities: The relationship between trust, self-efficacy, and outcome expectations. *International Journal of Human-Computer Studies, 65*(2), 153–169.
Hsu, C.-L., & Lin, J. C.-C. (2008). Acceptance of blog usage: The roles of technology acceptance, social influence and knowledge sharing motivation. *Information & management, 45*(1), 65–74. http://dx.doi.org/10.1016/j.im.2007.11.001.
Irwin, C., Ball, L., Desbrow, B., & Leveritt, M. (2012). Students' perceptions of using Facebook as an interactive learning resource at university. *Australasian Journal of Educational Technology, 28*(7), 1221–1232.
Jang, S., Hong, K., Woo Bock, G., & Kim, I. (2002). Knowledge management and process innovation: The knowledge transformation path in samsung SDI. *Journal of Knowledge Management, 6*(5), 479–485.
Jinyang, L. (2015). Knowledge sharing in virtual communities: A social exchange theory perspective. *Journal of Industrial Engineering and Management, 8*(1), 170–183.
Jong, B.-S., Lai, C.-H., Hsia, Y.-T., Lin, T.-W., & Liao, Y.-S. (2014). An exploration of the potential educational value of Facebook. *Computers in Human Behavior, 32*, 201–211.
Judele, R., Tsovaltzi, D., Puhl, T., & Weinberger, A. (2014). Collaborative learning in Facebook: Adverse effects of individual preparation. In *Paper presented at the system sciences (HICSS), 2014 47th Hawaii international conference on*.
Kankanhalli, A., Tan, B. C., & Wei, K.-K. (2005). *Contributing knowledge to electronic knowledge repositories: An empirical investigation*. MIS quarterly.
Karakas, F., Manisaligil, A., & Sarigollu, E. (2015). Management learning at the speed of life: Designing reflective, creative, and collaborative spaces for millenials. *The International Journal of Management Education, 13*, 237–248.
Khan, M. L., Wohn, D. Y., & Ellison, N. B. (2014). Actual friends matter: An internet skills perspective on teens' informal academic collaboration on Facebook. *Computers & Education, 79*, 138–147.
Kosik, A. (2007). The implications of Facebook. *Sharing the Commonwealth: Critical issues in higher education, 910*.
Lakhani, K. R., & Von Hippel, E. (2003). How open source software works:"free" user-to-user assistance. *Research policy, 32*(6), 923–943.
Lean, J., Moizer, J., & Newbery, R. (2014). Enhancing the impact of online simulations through blended learning: A critical incident approach. *Education +Training, 56*(3), 208–218.
Lee, M. K., Cheung, C. M., Lim, K. H., & Ling Sia, C. (2006). Understanding customer knowledge sharing in web-based discussion boards: An exploratory study. *Internet Research, 16*(3), 289–303.
Lee, G., Lee, W. J., & Sanford, C. (2011). A motivational approach to information providing: A resource exchange perspective. *Computers in Human Behavior, 27*(1), 440–448. http://dx.doi.org/10.1016/j.chb.2010.09.006.
Lee, V., & Lo, A. (2014). From theory to practice: Teaching management using films through deductive and inductive processes. *The International Journal of Management Education, 12*, 44–50.
Lee, C. S., & Ma, L. (2012). News sharing in social media: The effect of gratifications and prior experience. *Computers in Human Behavior, 28*(2), 331–339.
Liang, T.-P., Liu, C.-C., & Wu, C.-H. (2008). *Can social exchange theory explain individual knowledge-sharing Behavior? A meta-analysis* (Paper presented at the ICIS).
Lin, H.-F. (2007). Effects of extrinsic and intrinsic motivation on employee knowledge sharing intentions. *Journal of information science, 33*(2), 135–149.
Lockyer, L., & Patterson, J. (2008). Integrating social networking technologies in education: A case study of a formal learning environment. In *Eighth IEEE international conference on*. Paper presented at the Advanced Learning Technologies, 2008. ICALT'08.
Loon, M., Evans, J., & Kerridge, C. (2015). Learning with a strategic management simulation game: A case study. *The International Journal of Management Education, 13*, 227–236.
Lu, H.-P., & Hsiao, K.-L. (2007). Understanding intention to continuously share information on weblogs. *Internet Research, 17*(4), 345–361.
Madge, C., Meek, J., Wellens, J., & Hooley, T. (2009). Facebook, social integration and informal learning at university: 'It is more for socialising and talking to friends about work than for actually doing work. *Learning, Media and Technology, 34*(2), 141–155. http://dx.doi.org/10.1080/17439880902923606.
Manca, S., & Ranieri, M. (2015). *Implications of social network sites for teaching and learning*. Education and Information Technologies. Where we are and where we want to go http://dx.doi.org/10.1007/s10639-015-9429.
Manca, S., & Ranieri, M. (2016). Facebook and Others. Potentials and obstacles of social media for teaching in higher education. *Computer & Education, 95*, 216–230.
Marett, K., & Joshi, K. (2009). The decision to share information and rumors: Examining the role of motivation in an online discussion forum. *Communications of the Association for Information Systems, 24*(1), 4.
Mazman, S. G., & Usluel, Y. K. (2010). Modeling educational usage of Facebook. *Computers & Education, 55*(2), 444–453.
McLure Wasko, M., & Faraj, S. (2000). "It is what one does": Why people participate and help others in electronic communities of practice. *The Journal of Strategic Information Systems, 9*(2), 155–173.
Moghadam, S. R., Selamat, H., & Moosavi, S. (2013). Exploring the key factors of knowledge sharing via employee weblogs. *Research Journal of Applied Sciences, Engineering and Technology, 6*(19), 3686–3694.
Moghavvemia, S., Mohd Salleh, N. A., Sulaimana, A., & Abessi, M. (2015). Effect of external factors on intention behaviour gap. *Behaviour & Information Technology, 34*(12), 1171–1185.
Moghavvemi, S., Mohd Salleh, N. A., Zhao, W., & Mattila, M. (2012). The entrepreneurs perception on information technology innovation Adoption: An empirical analysis of the role of precipitating events on usage behavior. *journal of Innovation: Management, Policy & Practice, 14*(2), 231–246.
Nguyen, N. P., Yan, G., & Thai, M. T. (2013). Analysis of misinformation containment in online social networks. *Computer Networks, 57*(10), 2133–2146.
Osgerby, J., & Rush, D. (2015). An exploratory case study examining undergraduate accounting students' perceptions of using Twitter as a learning support tool. *The International Journal of Management Education, 13*, 337–348.
Park, N., Kee, K. F., & Valenzuela, S. (2009). Being immersed in social networking environment: Facebook groups, uses and gratifications, and social outcomes. *CyberPsychology & Behavior, 12*(6), 729–733.
Pi, S.-M., Chou, C.-H., & Liao, H.-L. (2013). A study of Facebook Groups members' knowledge sharing. *Computers in Human Behavior, 29*(5), 1971–1979.
Rahab, & Wahyuni. (2013). Predicting knowledge sharing intention based on theory of reasoned action Framework: An empirical study on higher education institution. *American International Journal of Contemporary Research, 3*, 138–147.
Roblyer, M. D., McDaniel, M., Webb, M., Herman, J., & Witty, J. V. (2010). Findings on Facebook in higher education: A comparision of collecge faculty and student uses and perceptions of social networking sites. *Internet and Higher Education, 13*, 134–140.
Rovai, A. P. (2002). Building sense of community at a distance. *The International Review of Research in Open and Distributed Learning, 3*(1), 1–16.
Ryu, S., Ho, S. H., & Han, I. (2003). Knowledge sharing behavior of physicians in hospitals. *Expert systems with Applications, 25*(1), 113–122.
Sánchez, R. A., Cortijo, V., & Javed, U. (2014). Students' perceptions of Facebook for academic purposes. *Computers & Education, 70*(2014), 138–149.
Selwyn, N. (2007). The use of computer technology in university teaching and learning: A critical perspective. *Journal of computer assisted learning, 23*(2), 83–94.
Selwyn, N. (2009). Faceworking: Exploring students' education-related use of Facebook. *Learning, Media and Technology, 34*(2), 157–174. http://dx.doi.org/10.1080/17439880902923622.
Sobaih, A. E. E., Moustafa, M. A., & Ghandforoush, P. (2016). To use or not to use? Social media higher education in developing countries. *Computer in Human Behaviour, 58*, 296–305.
Staples, D. S., Hulland, J. S., & Higgins, C. A. (1998). A self-efficacy theory explanation for the management of remote workers in virtual organizations. *Journal of Computer-Mediated Communication, 3*(4).
Stewart, D. (2005). Social status in an open-source community. *American sociological review, 70*(5), 823–842.

Teo, T. S., Lim, V. K., & Lai, R. Y. (1999). Intrinsic and extrinsic motivation in Internet usage. *Omega, 27*(1), 25–37.
Thibaut, J., & Kelley, H. H. (1959). *The social psychology of groups*. New York: Wiley.
Thompson, R. L., Higgins, C. A., & Howell, J. M. (1991). *Personal computing: Toward a conceptual model of utilization*. MIS quarterly.
Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control; intrinsic motivation, and emotion into the technology acceptance model. *Information System Research, 11*(4), 342–365.
Wang, S., & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review, 20*(2), 115–131.
Wasko, M. M., & Faraj, S. (2005). *Why should I share? Examining social capital and knowledge contribution in electronic networks of practice*. MIS quarterly.
Waycott, J., Bennett, S., Kennedy, G., Dalgarno, B., & Gray, K. (2010). Digital divides? Students and staff perceptions of information and communication technologies. *Computers and Education, 54*(4), 1202–1211.
Wohn, D. Y., & LaRose, R. (2014). Effects of loneliness and differential usage of Facebook on college adjustment of first-year students. *Computers & Education, 76*, 158–167.
Yiu, M., & Law, R. (2012). A review of hospitality internship: Different perspectives of students, employers, and educators. *Journal of Teaching in Travel & Tourism, 12*(4), 377–402.
Yuen, S. C.-Y., & Yuen, P. (2008). *Web 2.0 in education*. In *Paper presented at the society for information technology & teacher education international conference*.
Yu, T.-K., Lu, L.-C., & Liu, T.-F. (2010). Exploring factors that influence knowledge sharing behavior via weblogs. *Computers in Human Behavior, 26*(1), 32–41.
Zhang, Y., & Hiltz, S. R. (2003). Factors that influence online relationship development in a knowledge sharing community. *AMCIS 2003 Proceedings*.
Zywica, J., & Danowski, J. (2008). The faces of Facebookers: Investigating social enhancement and social compensation hypotheses; predicting Facebook™ and offline popularity from sociability and self-esteem, and mapping the meanings of popularity with semantic networks. *Journal of Computer-Mediated Communication, 14*(1), 1–34.