Effect of Trust and Perceived Reciprocal Benefit on Students' Knowledge Sharing via Facebook and Academic Performance

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Abstract: This paper explored the effect of trust and perceived reciprocal benefit on students' knowledge sharing via Facebook and on students' academic performance and reputation. The research model was tested using 170 undergraduate students in Malaysia via structural equation modeling. The results show that trust and perceived reciprocal benefit are two strong predictors of knowledge sharing amongst students, which affects their academic performance and recognition. Students with high levels of altruism are more open to sharing knowledge without preconditions compared to those with lower levels of altruism. The findings of this research would help educational institutions use Facebook as a knowledge sharing platform and also convert their academic procedures to an e-learning environment with Facebook as its platform. Creating a virtual environment and facilitating knowledge sharing among students will encourage a more productive and constructive learning environment. Facebook groups are regarded as an online community that increase students' interaction, collaboration, and trust.

Keywords: Facebook, Knowledge Sharing, Trust, Academic Performance, Perceived Reciprocal Benefit

1. Introduction

Knowledge sharing is defined as the interchange of knowledge between individuals and organizational units, groups, and the organization itself (Paulin and Suneson, 2012). It can also be referred to as trading knowledge between individuals (Paulin and Suneson, 2012). Recently, the development of social media and social network services (SNSs) have redefined communications and knowledge sharing in cyber-space (Nguyen et al., 2013; Choi and Scott, 2013). New media platform could change the flow of information and transform communication processes (Ou et al., 2016). Social network sites have become increasingly popular with the rise of Web 2.0, due to increased collaboration and sharing between users via applications such as wikis, blogs, podcasts, and RSS feeds. SNS creates a sense of community, where members feel involved and try to develop relationships, socialize, and interact with each other, which facilitates the flow of information and knowledge sharing (Choi and Scott, 2013). Taking this into account, several organizations such as IBM and Starbucks have begun utilizing SNS for networking and collaboration (Choi and Scott, 2013). Frequent exchange of information and knowledge via SNS has dramatically changed a person's lifestyle and enhanced individual and organizational learnings (Chen and Hung, 2010). However, what will prompt individuals to share knowledge is an important question that many researchers are trying to answer. Many organization are experimenting with ways of getting people to share knowledge (Gaál et al., 2015). Academic institutions are also trying to encourage knowledge sharing amongst their staff as well as students.

Many researchers investigated the determinants of knowledge sharing in different contexts and cultures (Coldwell et al., 2008; Graff, 2006; Zaqout and Abbas, 2012). Knowledge sharing among university students has been recognized as an important and interesting area of study in academia. Academic managers and lecturers in universities used SNS, especially Facebook, as a tool to communicate with students and share academic information. Irwin et al. (2010) investigated the use of Facebook pages (course-specific) and its efficiency as a course learning tool, and highlighted the fact that Facebook can be a complementary e-learning tool for teaching. Other studies such as Moghavvemi and Janatabadi (2017), Rouis (2012), and Rouis et al. (2011) underlined the effect of using Facebook on students' academic performance, while researchers such as Valenzuela et al. (2009) investigated the effect of using Facebook on students' life satisfaction and social trust.

Reference this paper: Moghavvemi, S. et al., 2018. Effect of Trust and Perceived Reciprocal Benefit on Students' Knowledge Sharing via Facebook and Academic Performance. *The Electronic Journal of Knowledge Management,* 16(1), pp. 23-35, available online at www.ejkm.com

Most of these studies show that SNS brought about a tremendous change in the way students interact and share information and knowledge (Kaeomanee et al., 2015). Morallo (2013) and Khan et al. (2014) reported that Facebook can be an ideal platform for knowledge sharing among educationists, teachers, and students, because they could upload/download lecture notes and obtain up-to-date information on the class. Many students use Facebook to pose questions to their peers and sharing knowledge (Lampe et al., 2011). However, factors that determine whether or not students will share knowledge or information via Facebook has yet to be investigated. Social network researchers argued that trust could affect the capability to share knowledge sharing, and its lack thereof might limit knowledge sharing (Lewis, 2003). Other researchers believed that benefit expectancy of a future request will affect knowledge sharing in current contributions (He and Wei, 2009; Kankanhalli et al., 2005), therefore, many researchers used the social exchange theory to investigate individuals' knowledge-sharing behavior (Blau, 1964; Bock et al., 2005; Kankanhalli et al., 2005; Papadopoulos et al., 2013). According to this theory, individuals regulate their interactions with others based on a self-interest analysis of costs and benefits.

The main question of this research is what are the factors that encourage students to share knowledge via Facebook? The main aim of this study is to examine the effect of trust and perceived benefit on students' knowledge sharing via Facebook and on students' academic performance and recognition. The intention of being collaborative and enjoying mutual benefits may encourage students to share knowledge. When students share their knowledge with others, they will experience personal satisfaction, appreciation by their peers, and the attainment of a general acknowledgement and confirmation that they possess positive attitude towards the academic field. We argue that creating an online community via Facebook will increase students' communication, collaboration, interaction, and trust, all of which will influence their knowledge sharing and affect the academic performance and recognition amongst students and instructor. This argument is based on previous researches, which proved that strong communal feelings will increase the flow of information among learners, cooperation among members, availability of support, commitment to group goals, and satisfaction with group efforts (Rovai, 2002). The paper is organized in the following order. Section 2 reviews the literature on knowledge sharing, development of research model and the related hypothesis. Section 3 details the research method employed in this study. Section 4 presents the results and discuss the findings of the study. Finally, Section 5 concludes this work.

2. Background of the study

Knowledge sharing behavior refers to the dissemination of acquired knowledge to other members within an organization (Ryu et al., 2003; Sucahyo et al., 2016). 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". Many researches described alternate perspectives of knowledge sharing (e.g., Bock et al., 2005; Kankanhalli et al., 2005; Papadopoulos et al., 2013). Most discussed the necessities, benefits, and contents of knowledge sharing. For example, Khyzer et al. (2009) deduced that trust, perceptions, and willingness to share influence students' attitude toward knowledge sharing, while Liang et al. (2008) pointed out that individuals could build social relationships with others by sharing knowledge in order to maximize gains. In the same vein, Molm (2001) indicated that people seek to maximize benefits and minimize costs when exchanging resources. Wangpipatwong (2009) conducted a study on university students in Bangkok, and reported that technology support, students' ability to share, and degree of competition with classmates had significantly influenced knowledge sharing behavior. Riege (2005) categorized the factors influencing knowledge sharing into three main elements; individual factors (e.g., trust, power, and leadership), organizational factors (e.g., social network, reward system, and sharing opportunities), and technological factors (e.g., information technology systems and member training). Other researchers confirmed that there are numerous intangible benefits that individuals could gain from sharing knowledge, such as becoming visible (Butler et al., 2002), enhancing reputation (He and Wei, 2009; Wasko and Faraj, 2005), intensifying peer recognition (Carrillo and Gaimon, 2004), earning respect (Constant et al., 1994), obtaining a better image (Constant, et al., 1996), and strengthening the sense of self-worth (Bock et al., 2005). 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.

2.1 Development of Research Model

Taking into account previous researches and in order to explore the knowledge sharing behavior in social networks, we used the social exchange theory to conceptualize a research model in the context of Facebook. We hypothesize that students will share knowledge if they trust other members and if they could benefit from it in the near future. We suggest that students' knowledge sharing behavior will affect their academic performance and recognition. Trust and perceived reciprocal benefit are considered independent variables that affect students' knowledge sharing via Facebook groups, which in turn affect the recognition and students' academic performance (see Figure 1). Altruism is a moderating factor on the relationship between perceived reciprocal benefit and knowledge sharing, which measure students' unconditional kindness without pre-conditions. The following section discusses and developed hypotheses based on this argument.

2.1.1 Knowledge sharing on Social Network Sites

Previous researches on Facebook observed its educational value (Jong et al., 2014; Mazman and Usluel, 2010, Moghavvemi et al., 2017b), explored its use for the purpose of teaching and learning (Wang et al., 2012), and investigated the perspective of academic collaboration on Facebook (Khan et al., 2014). Pi et al. (2013) found that members on Facebook Groups would be obliged to share knowledge when they expect to experience sharing or mutual benefits. When members on Facebook groups experience being treated without any bias and when the environment encourages knowledge sharing, they would be obliged to share knowledge, and would expect the same from other group members (Pi et al., 2013). Members on Facebook Groups tend to exchange information and knowledge in a virtual community environment (Pi et al., 2013). Facebook groups can be regarded as an online community, since group members feel that they belong, participate together in discussion, and share certain practices. McMillan and Chavis (1986) define community as "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (p. 9).

On the other hand, Pi et al. (2013) also pointed out that reputation on Facebook groups would strongly affect the members' attitude in whether or not they want to engage in knowledge sharing activities. These members assume that participating and engaging in Facebook groups could elevate their reputation and status (Pi et al., 2013). Members on Facebook groups enjoy sharing knowledge when they are able to benefit from lending a helping hand to others (Pi, et al., 2013). Enhancing relationships with others could be another reason, since the study shows that employees would be inclined to engage in knowledge sharing if they believe that it could enhance their relationship with others (Bock and Kim, 2001). Moghavvemi et al. (2017a) highlighted the fact that outcome expectation, perceived reciprocal benefit, and perceived enjoyment are the main factors affecting students sharing knowledge via Facebook groups.

2.1.2 Trust

Previous researches defined trust differently. Sharratt and Usoro (2003) considered trust as important facilitator in communication. Mayer et al. (1995) suggested that ability, benevolence, and integrity are the basic factors that underline trust, while Tinsley (1996) argued that integrity and benevolence should be separated from ability and combined with other ethical factors as a base of ethically based concept of trust. Chen and Hung (2013) adopted Mayer et al. (1995) definition of trust, suggesting that "interpersonal trust in others' abilities, benevolence, and integrity increases the desire to give and receive information, resulting in improved performance of distributed groups; which creates and maintains exchange relationship" (page 228). Trust plays a major role in knowledge sharing initiatives and in diffusing knowledge (Shapin, 1988) transfer, and exchanging information (Czerwinski and Larson, 2002) in the virtual world (Xiao, et al., 2012). Trust has been recognized as an important antecedent of group performance, intellectual capital exchange, and knowledge sharing in virtual communities (Ridings et al., 2002). Khyzer, et al. (2009) deduced that trust, perceptions, and willingness to share influences online participants' attitude toward knowledge sharing. This happens because when a relationship is established based on trust, people in that relationship are more willing to participate in cooperative interaction (Nahapiet and Ghoshal, 1998). The online socio-emotional interaction increases trust relation between community members by improving the group members' emotional closeness, which further stimulates knowledge exchange behavior between members of the virtual community (Xiao et al., 2012). Therefore, trust appears to be an important factor in building positive interpersonal relationships, which encourages knowledge sharing (Jer Yuen and Majid, 2007; Van Alstyne, 2005). Chen et al. (2014) depicted that community trust is an essential factor that influences a persons' intention to share knowledge, which can lead to elevating knowledge sharing behavior. Based on previous researches (McLeod, 2008;

Nonaka, 1994; Shapin, 1988), we used Chen and Huang (2010) definition of interpersonal trust and assumed a positive relationship between university students' knowledge sharing intention and the level of interpersonal trust (McLeod, 2008; Nonaka, 1994; Shapin, 1988). We expect that students' level of trust will increase their knowledge sharing behavior on Facebook groups. The following hypothesis is formulated based on this assumptions:

H1: Trust will positively affect students' knowledge sharing behavior via Facebook.

2.1.3 Perceived reciprocal benefit

Expected reciprocal benefits in the context of knowledge sharing is defined as the degree to which a person believes they could obtain mutual benefits via knowledge sharing (Hsu and Lin, 2008). According to Davenport and Prusak (1998), peoples' time, energy, and knowledge are limited. Therefore, except when it is profitable, people are usually unwilling to share scarce resources with others. In order to contribute knowledge, individuals must believe that their contribution is worth the effort. Reciprocity is a form of conditional gain; that is, people expect future benefits from their present actions. This means that a behavior is undertaken in response to previously friendly actions (Fehr and Gächter, 2000). Many studies detailed analyses of reciprocity, and confirmed that it can benefit knowledge contributors because they anticipate future help from others (Connolly and Thorn, 1990; Kollock, 1999). The norm of reciprocity Gouldner (1960) makes two minimal demands: (1) people should help those who have helped them, and (2) people should not harm those who have helped them. In a team environment, people who anticipate and are more willing to share their ideas also expect others to do the same. Thus, people who expect reciprocity will share more ideas, their ideas will be more useful and creative, and their satisfaction will increase. People share knowledge with their colleagues as they develop relationships with them and anticipate receiving knowledge in the future. Wasko and Faraj (2005) argued that knowledge sharing in online communities is facilitated by a strong sense of reciprocity. 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; Kankanhalli et al., 2005). Thus, if individuals believe they can obtain reciprocal benefits from colleagues by sharing knowledge, they are more likely to view knowledge sharing favorably, thus having higher knowledge sharing intentions (Lin, 2007, Moghavvemi et al., 2015). Therefore, we hypothesize that:

H2: Perceived reciprocal benefit will positively affect students' knowledge sharing behavior via Facebook.

2.1.4 Altruism

Altruism can be seen as a form of unconditional kindness without the expectation of a return (Fehr and Gächter, 2000), where an individual provides help and achieves a sense of satisfaction from an action (Kollock, 1999). Altruism is derived from the intrinsic enjoyment of helping others (Jeon et al., 2011; Kankanhalli et al., 2005). In other words, it can be defined as the willingness to help others without anything in return (Hsu and Lin, 2008). Previous studies confirmed the positive relationship between altruism and knowledge contribution (Davenport and Prusak, 1998; Wasko and Faraj, 2005) and quality and quantity of knowledge sharing (Sedighi et al., 2016). For instance, He and Wei (2009) suggested that knowledge workers contribute knowledge to the Knowledge Management System (KMS) due to their enjoyment in helping others. Altruism plays an important role between an individuals' intention to share knowledge (Chen et al., 2014). Lin (2007) suggested that the act of helping others (altruism) could be a strong influence on a persons' knowledge sharing behavior. De Vries et al. (2006) suggested that willingness to share knowledge is a form of altruism that indicates a positive attitude towards other members in the team and the willingness to reply to colleagues. Therefore, we hypothesize that:

H2a: Altruism moderates the relationship of perceived reciprocal benefit towards students' knowledge sharing behavior via Facebook

2.1.5 Reputation / Recognition

A good reputation carries significant mental or physical pleasure and privileges in society (Yan et al., 2016). Research confirmed that people contribute knowledge when they think that their professional reputations will improve (Wasko and Faraj, 2005). Hsu and Lin (2008) defined reputation as a degree to which a person believes that knowledge sharing could enhance personal reputation. Wasko and Faraj (2005) confirmed that reputation, which is a type of social benefit, is a perceived value derived from knowledge sharing in social networks. Wasko and Faraj (2005) suggested that individuals contribute knowledge in electronic networks of

practice with expectations of improved status and reputation. O'Dell, et al. (1998) suggested that employees share their best practices due to their expectation of recognition by experts and employees. When members feel they are identifiable and that others know who they are, they are motivated to build and maintain their "reputation" in a virtual community (Morio and Buchholz, 2009). Chennamaneni (2006) reported that employees' belief that sharing knowledge will enhance their reputation and position in the job is an important motivator/facilitator for sharing valuable knowledge. If participants believe that they would receive intrinsic benefits such as self-satisfaction, social recognition, or power, then they would also derive pleasure from knowledge sharing (Kankanhalli et al., 2005). Knowledge contributors can benefit from improved self-concept when they contribute knowledge (Hall, 2001). Taking into account previous works, this study hypothesized that knowledge sharing will affect students' recognition/reputation between members and instructors.

H3: Students' knowledge sharing behavior positively affect reputation.

2.1.6 Academic Performance

Previous researches showed that knowledge sharing leads to better team performance, due to improved decision making, better problem solving, and enhanced creativity (Huang, 2009; Nonaka and Takeuchi, 1995). Nelson and Cooprider (1996) noted that the absence of shared knowledge may lead to poor group performance, while the presence of such a shared perception could lead to better performance. Psychological literature provides many theoretical explanations based on the assumption that when a group is exposed to more information, the performance will improve (Huang, 2009). Moye et al. (2005) found that information sharing can reduce both task and relationship conflict with beneficial effects on team performance. Increased knowledge sharing helps participants consider more options, learn from the experiences of others, and better utilize the knowledge, all of which leads to improved performance (Huang, 2009). Majid and Wey (2009) suggested that online collaboration tools help students learn and share knowledge, as well as improve their academic performance. Therefore, this study hypothesizes that knowledge sharing will affect students' academic performance (Figure 1):

H4: Students' knowledge sharing behavior has a positive effect towards their academic performance.

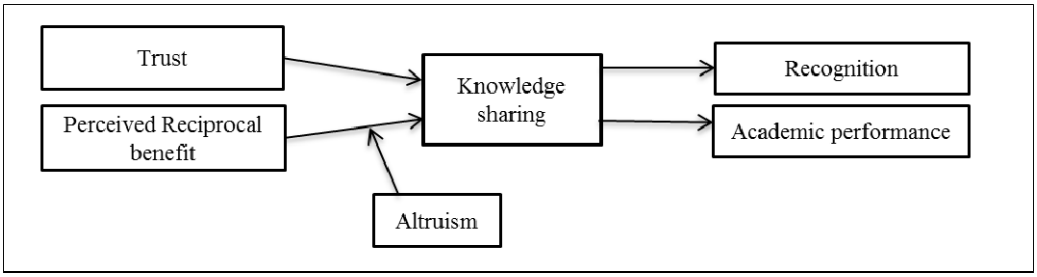

Figure 1: Research Framework

3. Methodology

3.1 Sample and procedure

The sampling frame is made up of 170 undergraduate students in a business statistics class in University of Malaya, Malaysia. The data collection took place from the beginning of September 2016 to the end of December 2016 (one semester). The Facebook group (online community) was created for students taking the business statistic course to help the use e-Learning material and provide a reliable platform for them to obtain and share information pertaining to the course. The lecturer uploaded materials relevant to the course, and suggested that the students share information with other members if they feel obliged to do so. All of the students had requested to be a member of the Facebook group (it was optional), and began asking questions and chatting with each other and the instructor online. They started sharing information related to the class and assignments while also uploading other course related information. They answered each other's questions related to the assignment, exam, lecture notes, and helped each other answer tutorial questions and assignments.

3.2 Research Instrument

This study uses the original validated scales, which was adopted into the context of e-Learning and social network. The items used to measure trust was adopted from Chen and Hung (2010), Chow and Chan (2008)

and Palvia (2009). Perceived reciprocal benefit was adopted from Chen and Hung (2010) and Lin (2007), while knowledge sharing was adopted from Staples, et al. (1998) and Davenport and Prusak (1998). Recognition/reputation was adopted from Kankanhalli, et al. (2005) and Compeau et al. (1999), while academic performance was adopted from Wohn and LaRose (2014). Academic performance was tested through self-reported measures, since most of the students did not answer question related to their cumulative grade point average (CGPA). Altruism was adopted from Rushton et al. (1981) and Lee et al. (2011). The seven-point Likert-type scale, ranged from 1 (strongly agree) to 7 (strongly disagree), asked respondents to rate their perception about the factors affecting knowledge sharing and their expectations from sharing knowledge. In the beginning of the questionnaire we asked them about the frequency of using Facebook group and their post and comments and the results presented in the data analysis section. The pre-tests were designed and developed to ensure that the measures used were logically consistent, complete, and valid. The measurements were tested by giving the questionnaires to a sample of ten students to evaluate their reaction to the items and ease of answerability and minor changed done after their comments. The pilot test among 30 respondents revealed that the Cronbach alpha for all the construct exceeded the acceptable range of 0.7.

4. Data Analysis and results

The research model was tested and the data sets checked for missing data, outliers, normality, and reliability. The majority of the students (80%) were third year students in accounting, management, and finance. 43.2% of the respondents were males, while 56.2% were females. The average age of the respondents was ~22 years old. ~20% of the members' commented and shared extra information (uploaded some video, notes), while ~15% answered questions from other students and tried to help. They answered other students' questions, shared lecture notes and extra information related to assignments and exams in the Facebook group while updating each other on news related to group activity and campus news. 20% watched and read and Like the shared documents. 45% just watched and read them without taking any action. The results of reliability test for all of the variables were high and exceeded the acceptable point of 0.7 (see Appendix A). The data was tested through a structural equation modelling using AMOS 18. AMOS is statistical software that is able to graphically draw models. 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 determine the relationship between independent and dependent variable, and tested the hypotheses. The discriminant and convergent validity were examined through a confirmatory factor analysis (see Table 1). There are two common ways used by researchers to evaluate and validate the measurement model. First is testing each construct separately, second is testing all constructs together in one measurement model (Woo et al., 2009). Testing all constructs at once is preferable than testing each construct separately because it allows us to take into account the relationships between the indicators of different constructs (Woo et al., 2009). We ran all of the constructs in one measurement model, and the results indicated that standardized (regression) parameter estimations were higher than 0.70, while the composite reliabilities exceeded 0.80 (see Table 1), which supported the assumptions of internal consistency and reliability of the measurement model. Convergent validity was also assessed using average variance extracted (AVE), and the results revealed that the AVE for all constructs was equal to or greater than 0.50 (see Table 1).

The results of the measurement model suggested a good fit since all the fit indices was within the acceptable range (CMIN/DF =1.793, goodness of-fit index [GOF] = 0.847; comparative fit index [CFI] = 0.923; Tucker–Lewis index [TLI] = 0.906; incremental fit index [IFI] = 0.924; root mean square error of approximation [RMSEA] = 0.072) (see Appendix B for the Benchmark for Model Fit Indices). Therefore, we can check the hypothesis and relationship among the independent and dependent variables via the structural model.

Table 1: Composite Reliability, Average Variance Extracted, Correlation

Construct	CR	AVE	1	2	3	4	5	6
Perceived reciprocal benefit	0.812	0.550	**0.741**					
Trust	0.723	0.505	0.244**	**0.710**				
Knowledge sharing	0.736	0.690	0.243**	0.492**	**0.830**			
Recognition (reputation)	0.886	0.813	0.285**	0.413**	0.517**	**0.901**		
Perceived Academic Performance	0.887	0.780	0.319**	0.495**	0.523**	0.678**	**0.883**	
Altruism	0.799	0.661	0.098	0.149	0.217**	0.132	0.176*	**0.813**

Notes: values on diagonal are square root of AVE; CR= Composite reliability; *: p< .05; **: p< .01.

4.1 Testing the hypotheses

The results confirmed that the structural model achieved a good level of fit (i.e., χ^2 = 484.153, χ^2/df = 1.841, goodness of-fit index (GOF) = 0.803, Tucker–Lewis index (TLI) = 0.890, comparative fit index (CFI) = 0.903, root mean square error of approximation (RMSEA) = 0.07. This shows that the relationship between trust (β = 0.429, p = 0.007) and perceived reciprocal benefits (β = 0.322, p = 0.039) to knowledge sharing was significant and positive, thus supporting H1 and H2. In addition, the relationship between knowledge sharing and recognition (reputation) (β = 0.725, p = 0.000), and student academic performance (β = 0.951, p = 0.000) was strong and significant, which supported H3 and H4 (see Table 2). The result showed that 50% of the variance associated with knowledge sharing was accounted for by trust and perceived reciprocal benefit.

Table 2: Structural Model Results

Hypotheses		β	S.E.	C.R.	P-value	Supported
H1	Trust →knowledge sharing	0.429	0.150	2.674	0.007**	Yes
H2	Perceived Reciprocal benefit →knowledge sharing	0.322	0.195	2.063	0.039*	Yes
H3	Knowledge sharing → Recognition	0.725	0.103	7.978	0.000	Yes
H4	knowledge sharing →Perceived academic performance	0.951	0.094	11.642	0.000	Yes

β: Standardized Regression Weight ; S.E.: Standardized Error; C.R.: Critical Ratio; *p< 0.05; **p< 0.01

To test the hypothesized moderation model in the structural equation modeling (multi-group analysis in Amos), two group models can be used in the core model, which is tested for high and low groups (Hair et al., 2006; Moghavvemi et al., 2015). In this study, using the mean score of the moderator (Altruism), the sample was split into two groups (low altruism group; high altruism group). The constrained and unconstrained models were ran using the multiple group analysis in AMOS. Results from the Chi-square (χ2) differences confirmed that altruism moderated the relationship between perceived reciprocal benefit and knowledge sharing, thus supporting H2a. However, the effect of perceived reciprocal benefit on knowledge sharing is strong and significant for students with high levels of altruism (β = 0.478, p = 0.000), but not significant for students with low levels of altruism (β = 0.129, p = 0.751). This suggests that students with high levels of altruism are more interested in sharing knowledge with others via Facebook compared to students with low levels of altruism. The effect of perceived reciprocal benefit highlighted the fact that students will share their knowledge based on the expectation of future benefits. However, students with high levels of altruism are not really concerned about future benefits, and they share knowledge without expectations of a return, due to kindness and personal satisfaction gained from helping others.

5. Discussion

The results of this study highlighted the significant effect of trust on students' knowledge sharing, which may occur because students know each other well and are involved in the same course, making them more comfortable in sharing knowledge. Another reason could be the existence of online communities, which created an environment that facilitated interactions, sense of belonging, and trust. This result is consistent with Ravi (2002), which argued that members of classroom communities will display feelings of belonging and trust. In another research, Chai and Kim (2010) and McLeod (2008) indicated that there is a positive relationship between knowledge sharing amongst bloggers and interpersonal trust. Trust has the capability to affect students' knowledge sharing, since student's trust their circle of familiar friends. Students feel more comfortable sharing knowledge via social networks, answering each other's questions, and uploading new information related to the course.

The results showed a positive effect of perceived reciprocal benefit towards knowledge sharing via Facebook. This suggested that when students believe there could be an opportunity to gain mutual benefit via knowledge sharing, they will be willing to share knowledge. This is consistent with Shapin (1988) and Strong et al. (2008), who divulged that mutual reciprocity is one of the main factors that encourage knowledge sharing. Being in a Facebook group gives students the opportunity to learn about others' background details and interest, which brings them closer and increase their sense of belonging and reducing the level of uncertainty, which is an essential factor for developing reciprocity and trust.

Previous researches indicated that there is a relationship between knowledge sharing and academic performance, which is supported by the current research. Using Facebook group encourages a better two-way communication and an enhanced level of interaction between students and educationist, which could be a contributing factor to students learning and expanding their knowledge. Ainin, et al. (2015) highlighted that

Social Network Services (SNSs) has developed the opportunity to initiate and uphold relationships with network members and peers, thus creating learning opportunities (i.e. information seeking and knowledge sharing). For example, students have the opportunity to post sample past year questions for a particular subject on Facebook, or they may even share their assignments or project paper details or educational videos, which could positively affect their learning process. Indeed, students can gain much knowledge, information, and experience from the instant chat messaging platform on Facebook, which allows them to exchange ideas and opinions on topics of interest (Ainin, et al., 2015). Collaborative learning is believed to possess the capability of improving and elevating students' overall academic performance, which will in turn improve their overall academic performance.

Previous researches regard recognition/reputation as determinants of knowledge sharing, while this research shows that recognition is a consequence of knowledge sharing. Knowledge sharing is related to a persons' social status, and when students engage in knowledge sharing activities, there is an opportunity that their status will be elevated and enhanced. Wasko and Faraj (2005) found that reputation and centrality were some of the main reasons encouraging people to engage in knowledge sharing on social media. They justified this by the fact that many social media users share information and contribute knowledge when they assumed that doing so could elevate their professional reputation. Yang and Brown (2013) found that information sharing activities on Facebook could enhance their reputation.

Examining the moderating effect of altruism revealed that there are differences between students with high altruism in the context of knowledge sharing. Students who have high levels of altruism are internally satisfied when helping other members, without expecting anything in return. This is because they are more concerned about helping others and sharing knowledge, despite the fact that they do not elicit the same reactions from the other students in the group. Therefore, the effect of perceived reciprocal benefit is strong among them, which could eventually lead to knowledge sharing and helping of others. The results of this study is consistent with previous researches, indicating that altruism is derived from the intrinsic enjoyment of helping others (Jeon et al., 2011) without expecting any benefits in return (Hsu and Lin, 2008).

Finally, the results of this research highlighted the fact that creating an online community (Facebook Group) increased the possibility of collaboration, sharing knowledge, and seeking information among the students and lecturer as well, compared to the classroom where students are mostly passive. Communication via Facebook brings the lecturers and students closer, create a feeling of belonging, and facilitate deeper levels of communication. Creating a Facebook groups will create a sense of community and commitment, which will encourage them to help each other, as per Cheng et al. (2009), who argued that knowledge sharing requires a people-oriented environment.

5.1 Managerial Implication

The results of this study is useful for academic managers and instructors who intend to improve students' academic performance and knowledge sharing. They can create a community that is close, share information, and are willing to collaborate with each other, all of which increases their trust and perceived reciprocal benefit. This study can be an excellent reference for academic managers and lecturers in universities on the use of SNS (especially Facebook), as SNS can serve as an ideal platform for students and lecturers to share academic and social knowledge.

5.2 Limitation and future research

The main limitation of this study is the fact that the sample size was small, which makes generalization of the findings inaccurate. We needed a sample size that was readily available, and also wanted a group of students whose behavior could be easily observed and monitored. Another limitation is that the study was only carried out on university students, which limits the possible generalizability of the findings to other sets of the population, such as employees in organizations or other online groups of other SNS. However, future research can use the findings of this study to investigate the effect of online community on knowledge sharing in the other context and setting since knowledge sharing and transferring knowledge are main issues in many organization. We use the self-reported questionnaire to measure academic performance, but future research could use the cumulative grade point average (CGPA) or other measurement to measure the effect of knowledge sharing on academic performance. Future research can investigate the role of social network site as community of practice and how these platforms can increase knowledge sharing amongst different groups and communities, since students are inherently different from organizations and/or individual users.

6. Conclusion

The objective of this study is to measure the effect of perceived reciprocal benefit and trust on students' knowledge sharing via Facebook and its influence on students' academic performance and recognition. The results show that trust and perceived reciprocal benefit are strong predictors of students' knowledge sharing via Facebook. Knowledge sharing via Facebook strongly effect students' recognition (reputation) and academic performance. The data collected from undergraduate students and this study proved that trust and perceived reciprocal benefit encourages students to share their knowledge via Facebook, while the act of sharing knowledge has improved students' academic performance and reputation amongst peers and lecturers. We highlighted the effect of online community (Facebook group), which facilitates students' interaction, collaboration, and knowledge sharing. Trust in Facebook group is higher because those within the group know each other better and share similar interests, prompting them to share their respective experience and knowledge. The results of this study confirmed that Facebook group can be one of the platforms (online community) for students and lecturers to share academic and social knowledge ask questions related to a certain topic, and improve their level of socialization and information seeking. Moreover, Facebook can be a platform for universities to disseminate information regarding university events. The finding of this study are applicable to the other online communities that encourage students to be closer, communicate more, share information and knowledge, increase trust, and create the sense of belonging. Finally, we should pay attention to the fact that using social network for teaching and learning and knowledge sharing have both positive/negative effects, and many researchers considered social media/ social network as a source of entertainment and believed that it would distract students from school work. Therefore, managing these technologies and reducing the negative effect of usage require more extensive research.

Acknowledgements

The University of Malaya Equitable Society Research Cluster provided financial support for research assistance and project team meetings under Project RP021-14SBS.

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Appendix A: Measurements and reliability test

Trust	**Reliability 0.811**
Students in the Facebook group do not take advantage of others even when the opportunity arises.	
I trust information in the Facebook group to be accurate.	
Members of the Facebook group are truthful in dealing with one another.	
Most students in the Facebook group are willing to help if you need it.	
In the Facebook group, one has to be alert or someone is likely to take advantage of you	
Perceived reciprocal benefit	**0.877**
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.	
I should share my knowledge with other students if they share their knowledge with me.	
Recognition (Reputation)	**0.781**
Other friends (students) praised me when I shared knowledge in the Facebook group	
My knowledge sharing in the Facebook group was acknowledged by other members	
Other students wrote good comments about my knowledge sharing in the Facebook group	
I earnt respect from others by sharing knowledge in the Facebook group.	
My knowledge sharing in the Facebook group was appropriately acknowledged by the lecturer	
Sharing knowledge in the Facebook group enhanced my reputation with other class members.	
Student Academic performance	**0.834**
Sharing knowledge in the Facebook group helped me to learn	
Sharing knowledge in the Facebook group has had a positive effect on my learning	
Sharing knowledge in the Facebook group helped significantly in my learning	
Sharing knowledge in the Facebook group helped me to learn faster	
Sharing knowledge in the Facebook group made my study easier	
Sharing knowledge in the Facebook group improved my study-related performance	
Sharing knowledge in the Facebook group enlarged the sources of learning available to me	
Knowledge sharing	**0.756**
Using Facebook to share course-related knowledge was important for my study.	
It was interesting to use Facebook to share course-related knowledge.	
Using Facebook to share course-related knowledge helped me to keep up to date.	
Using Facebook 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.	
I enjoyed using Facebook for sharing course-related knowledge	
It is frustrating to use Facebook to share course-related knowledge.	
I don't have time to use Facebook to share course-related knowledge.	
I do not know very much about sharing course-related knowledge with Facebook.	

Altruism	**0.701**
I have given directions to a stranger.	
I have given money to a stranger who needed it (or asked me for it).	
I have done volunteer work for a charity.	
I have helped carry a stranger's belongings (books, parcels, etc.).	
I have delayed a lift (elevator) and held the door open for a stranger.	
I have allowed someone to go ahead of me in a queue (e.g., in the supermarket, at a cash machine).	
I have pointed out an error (e.g., at the market, in a shop) in undercharging me for an item.	
I have let a neighbour whom I didn't know very well borrow an item of some value to me (e.g., a dish, tools, etc.)	
I have helped a classmate who I did not know very well with an assignment when my knowledge was greater than his or hers.	
I have looked after a neighbour's child or children without being paid for it.	
I have offered to help a handicapped or elderly stranger across a street.	
I have offered my seat on a bus or train to a stranger who was standing.	
I have helped an acquaintance to move house.	
I have looked after a neighbour's pet(s) without being paid for it.	

Appendix B: Benchmark for Model Fit Indices

Fit Measure	**Fit Measures' Indicators**
Probability	A p value greater than 0.05 indicates an acceptable fit.
Chi-Square (χ^2)	The value less than 3 indicates an acceptable fit.
CMIN/DF (χ^2/df)	A value close to one and not exceeding 3 indicates a good fit.
RMESA	A value about 0.05 or less indicates a close fit of the model. A value of about 0.08 or less indicates a reasonable error of approximation
TLI	A value between 0 and 1. A value close to 1, indicates a very good fit.
CFI	A value between 0 and 1. A value close to 1 indicates very good fit.
NFI	The value between 0 and 1. A value of 1 indicates a perfect fit.
GFI	The value should always be less than or equal to 1. A value of 1 indicates a perfect fit.
AGFI	A value of 1 and above, whereby the value is bounded by above 1. A value of 1 indicates perfect fit.