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*Full Length Research Paper*

# Internet self-efficacy, computer self-efficacy and cultural factors on knowledge sharing behavior

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**Knowledge sharing has been the focus of research within organizations, yet very few studies have been conducted on the influence of knowledge sharing self-efficacy and cultural factors on individuals' knowledge sharing behavior. Given the unique social and cultural aspects of the Chinese community, this study aimed to examine the relationship between the internet self-efficacy, computer self-efficacy, cultural factors and knowledge sharing behavior among the Chinese. Data were collected from 135 Chinese students studying in Malaysian universities. This study included three variables relating to knowledge sharing self-efficacy (i.e., internet self- efficacy, beginning-level computer self-efficacy, and advanced-level computer self-efficacy) and three variables relating to cultural factors (that is, face-saving, face-gaining and *guanxi*). Results from the multiple regression analysis showed that advanced-level computer self-efficacy, face-gaining and *guanxi* were found to have significant and positive relationships with knowledge sharing behavior. Face-saving was reported to have a significant and negative relationship with knowledge sharing behavior. This research and its findings had resulted in both theoretical contribution and practical implications.**

**Key words:** Knowledge sharing, self-efficacy, cultural factors.

## INTRODUCTION

The emergence of Information and Communication Technology (ICT) has changed the ways of learning and knowledge sharing in the education sector (Yuen and Majid, 2007). Today, more and more tertiary students participate in virtual communities such as online group meetings and forum to acquire and share knowledge. Within the context of an institution of higher learning, students often share the knowledge that they have learned with other students, and the sharing of knowledge forms a common understanding of learning methods among faculty members and students (Tan et al., 2010).

Past research (Ford and Staples, 2010; Bock et al., 2005; Kankanhalli et al., 2005; Cummings, 2004) has studied the various predictors of knowledge sharing such as trust, rewards, language, costs and benefits, as well as organizational structures. However, due to the increase in geographically distributed learners, cultural heterogeneity can cause serious difficulties in knowledge sharing activities. Therefore, the understanding of cultural impacts on knowledge sharing behavior is gaining importance. Several studies have been conducted to compare the situation in China with other countries and, these studies found that there are differences in knowledge sharing. Chow et al. (2000) found that the degree of collectivism influences the openness of knowledge sharing in a comparison of Chinese and American subjects. Different motives will lead to different degrees of knowledge sharing were found in a study where both Chinese and Russian companies scored high in collectivism (Michailova and Hutchings, 2006). As reported by Huang et al. (2008), the importance of knowledge sharing

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has been recognized by Chinese companies but they are not included in the list of companies which globally manage knowledge most effectively (McKellar, 2006). This may be explained by the Chinese culture that emphasis on “concern for face” and “ingroup / outgroup distinctions” that avert people from having effective knowledge sharing behavior (Voelpel and Han, 2005). Since knowledge sharing behaviors are influenced by both intrinsic and extrinsic motivations, the present study aimed to investigate the knowledge sharing self-efficacy and cultural factors that foster individuals’ tendencies to share knowledge.

## LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### Knowledge sharing

Knowledge sharing is the voluntary dissemination process of acquired skills and experience to other people (Ipe, 2003; Davenport, 1997). Research has shown that knowledge sharing during collaborative learning results in reflection and learning (Walker, 2002), and benefit in terms of cognitive gains and positive learning outcomes (Rafaeli and Ravid, 2003). Students are found to achieve more academically and interpersonally in cooperative interaction as compared to competitive or individualistic interaction (Johnson and Johnson, 1988). Moreover, such knowledge exchanges help students answer questions, solve problems, learn new things increase un-derstanding regarding a particular subject, or merely acts as a means to help one another (Hogberg and Edvinsson, 1998).

### Knowledge sharing self efficacy

Self-efficacy is a form of self-evaluation that influences decisions about what behaviors to undertake, the amount of effort and persistence to put forth when faced with obstacles, and finally, the mastery of the behavior (Bandura, 1997). Thus, people who have low self-efficacy should be less likely to perform related behavior in the future, than those with high degree of self-efficacy. More recently, the concept of self-efficacy has been applied to knowledge management to validate the effect of personal efficacy belief in knowledge sharing, that is, Knowledge Sharing Self-Efficacy (KSSE) (Hsu and Chiu, 2004). The desire to share knowledge is not sufficient to carry out the knowledge sharing behavior. A knowledge producer must also have the perceived capabilities to complete it. Several researchers have employed KSSE to examine its effect on knowledge sharing intention. According to Bock and Kim (2002), self-efficacy was a major factor of self-motivational source for knowledge sharing. Their result shows that individual's judgment of his or her contribution to organization performance has positive influence on knowledge sharing. Kankanhalli et al. (2005) reported that KSSE as a factor of intrinsic benefits and combined it with other variables to examine their effect on knowledge contribution behavior. The study of Kankanhalli et al. (2005) shows that self-efficacy is positively related to knowledge contribution while using electronic knowledge repositories.

In general, two important research streams have been developed from self- efficacy into IT related studies, that is, internet self efficacy (ISE) (Hsu and Chiu, 2004; Lam and Lee, 2005) and computer self efficacy (CSE) (Johnson and Marakas, 2000; Easley et al., 2003; Venkatesh et al., 2003). ISE refers to the beliefs in one's capabilities to organize and execute courses of Internet actions required to produce given attainments (Hsu and Chiu, 2004). Since knowledge sharing activities are widely applied using the Internet as a communication medium, ISE ingrained in knowledge sharing participants are essential to promote knowledge sharing behavior (Teh et al., 2010). In addition, previous studies by Hsu and Chiu (2004); Eastin and La Rose (2000) have reported a positive relationship between ISE and knowledge sharing behavior. Thus, the following hypothesis is proposed:

$H_1$: Internet self-efficacy has a significant positive association with individuals’ knowledge sharing behavior.

Computer self efficacy (CSE) refers to an individual judgment of one’s capability to use a computer (Hsu and Chiu, 2004). Prior research consistently indicates that CSE is positively correlated with an individual’s willingness to choose and participate in computer-related activities, expectation to success in such activities, and persistence or effective coping behaviors when faced with computer-related difficulties (Compeau and Higgins, 1995; Gist et al., 1989, Karsten and Roth, 1998; Murphy et al., 1989). In short, CSE appears to promote active knowledge sharing behavior. The relationship of com-puter experience (that is, different level of CSE) to CSE has also been investigated. Not surprisingly, individuals with advance level are more likely to evidence higher CSE than individuals at beginning level (Harrison and Rainer, 1992; Hill et al., 1987; Torkzadeh and Van dyke, 2001). Based on these studies, the following hypotheses are proposed:

$H_2$: Beginning-level computer self-efficacy has a significant positive association with individuals’ knowledge sharing behavior.

$H_3$: Advanced-level computer self-efficacy has a significant positive association with individuals’ knowledge sharing behavior.

### *Cultural factors*

Huang et al. (2008) in their study of impact of personal and cultural factors on knowledge sharing in China

proposed face saving, face gaining and *guanxi* orientation as three main cultural factors that differentiate Chinese from other nationalities. The social standing of an individual is closely connected to the amount of 'face' an individual can claim for himself/herself. "Even though the concept of face is universally applicable to rank an individual's standing in his social environment, the Chinese interpretation of face is specifically oriented to status and fixed role behavior" (Wilpert and Scharpf, 1990 as cited by Kanzler, 2010, p. 35) . Leung and Chan (2003) define "face" as respect, pride and dignity of an individual as a consequence of his/her social achievement and the practice of it. Cardon and Scott assert that "face in China is an essential component of communication and relates to a person's image and status within a social structure, while Westerners' view of face is fairly simple and separated from communication" (Cardon and Scott, 2003 as cited by Kanzler, 2010, p.35). The perception of losing face may make people feel embarrassed and disrespected by others (Huang et al., 2008). Furthermore, Ardichvili et al. (2006) proposed that the desire of face saving is a barrier in knowledge sharing processes. Hence, people may not want to participate in knowledge sharing activities if they feel that sharing knowledge may make them display their ignorance and hence make them feel a loss of face. Consequent to this rationale, the following hypothesis is proposed:

$H_4$: Face-saving has a significant negative association with individuals' knowledge sharing behavior.

On the other hand, face could be gained through others' recognition and admiration (Huang et al., 2008). Self expression, showing one's merit (Chu, 2006) and offering help to others (Hu, 1944) are ways that are suggested by researchers that could gain face. Hence, the following hypothesis is proposed:

$H_5$: Face-gaining has a significant positive association with individuals' knowledge sharing behavior.

*Guanxi* is described as a form of interpersonal relationships and connections unique to the Chinese culture (Kanzler, 2010). Due to the high value of harmony in the Confucian oriented Chinese society, Chinese tend to emphasize good relationships in their social environment (Huang et al., 2008). It is found that social ties, including trust and close relationship, would promote positive knowledge sharing (Kotlarsky and Oshri, 2005). Since Chinese are very eager to maintain good relationships with people in their environment, they have a high *guanxi* orientation (Huang et al., 2008). Thus, the following hypothesis is proposed:

$H_6$: *Guanxi* has a significant positive association with individuals' knowledge sharing behavior

Based on the literature review presented, a research model (Figure 1) was developed to examine the relationships between the internet self-efficacy, computer self-efficacy, cultural factors and knowledge sharing behavior among the Chinese.

## METHODS

### Measures

The three constructs of knowledge sharing self-efficacy were measured using the instrument developed by Hsu and Chiu (2004), Karsten and Roth (1998), Murphy et al. (1989); Torkzadeh and Van dyke (2001): (1) Internet self-efficacy; (2) beginning-level computer self-efficacy, and; (3) advanced-level computer self-efficacy. The instrument of cultural factors (i.e., face-saving, face-gaining and *guanxi*) used in this study was adapted from Cheung et al. (2001) and Zuo (2002) as cited by Huang et al. (2008). The survey items for knowledge sharing behaviour construct were adapted from Cheng and Chen (2007). These scales were chosen because they constituted the core scales that defined the relevant knowledge sharing self -efficacy and cultural aspects of the Chinese community. Responses to these items were organized in a six-point scale where 1="extremely disagreed", 2="very disagreed", 3="somewhat disagreed", 4="somewhat agreed", 5="very agreed", and 6="extremely agreed".

### Samples and procedures

The unit of analysis for this study was individual (i.e., the university student) . A stratified random sampling method was used in the present study. Respondents were chosen from both public and private universities in Malaysia. The strata used in the stratified random sampling technique were Chinese students, students' experience of using Internet and students' accessibility of Internet facilities on campus. In the present study, the respondents sampled were from a public university (i.e., University of Malaya) and a private university (i.e., Multimedia University). The two universities were chosen because both University of Malaya and Multimedia University have surpassed other Malaysian universities in overall academic performance, and they are equally ranked in Tier 5 (excellent) in Malaysian Qualifications Agency rating system for higher education institutions in Malaysia 2009 (SETARA 2009) (University-Malaysia dot com, 2010). Given that both University of Malaya and Multimedia University are equipped with advanced ICT facilities, these two universities have provided an appropriate context for this research. The ICT infrastructure criteria were important in the present study because provision of faster and more stable Internet connectivity on campus allows students to access online entertainment applications and share their online entertainment knowledge with others. Four hundred survey questionnaires were personally administered to the students from the two universities. Of the 400 questionnaires distributed, 303 questionnaires (128 from UM and 175 from MMU) were returned. Of the 303, 168 questionnaires had to be excluded to ensure homogeneity of the sample (i.e., Chinese students). As a result, 135 surveys were used for analysis, yielding a net response rate of 33.75%. The profile of survey respondents is shown in Table 1.

### Statistical procedures

Exploratory factor analysis was conducted for all dependent and independent variables. Reliability test and correlation analysis were performed to determine the variability and interdependence of the survey items derived from the exploratory factor analysis. Finally,

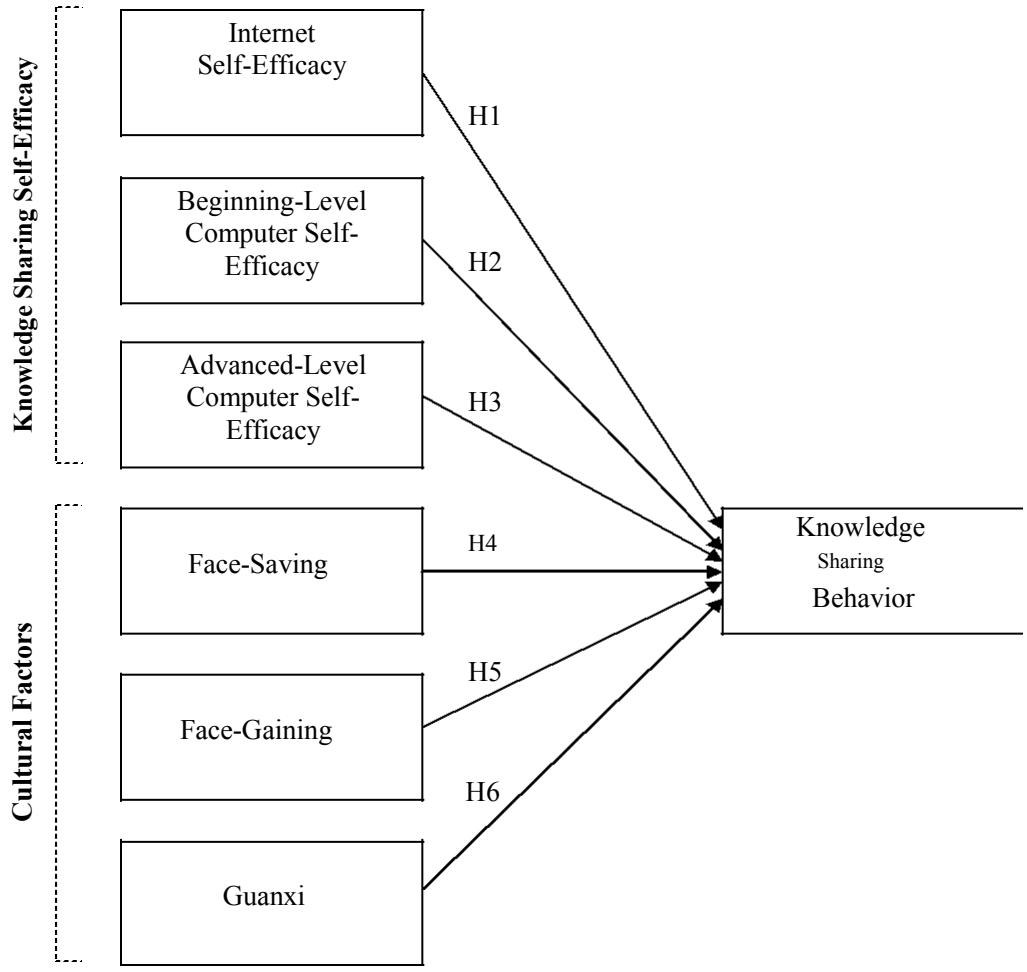


**Figure 1.** Research model.

multiple regression analysis was applied to examine the relationship between technical skills and cultural factors, and individuals' knowledge sharing behavior.

## RESULTS

### Exploratory factor analysis, reliabilities and correlations

Individual items for each scale were factor analyzed to test the unidimensionality of the scales. As shown in Table 2, the values of Kaiser-Meyer-Olkin (KMO) mea-sures of sampling adequacy for each factor are greater than 0.50, with majority of values above 0.70. The values for the Bartlett test of sphericity are large and significant for all the factors, with values ranging from 100.863 (*Knowledge Sharing Behavior*) and 2019.524 (*Internet self-efficacy*). As a result, the factorability of the cor-relation matrix for these variables is assumed. In addition, Table 2 indicates that all eigen-values of the factors were greater than 1. Given that only the factors showing eigen-values greater than 1 are regarded significant (Hair et al., 2010), the seven factors (*internet self-efficacy, beginning-level computer self-efficacy, advanced-level computer self-efficacy, face- saving, face-gaining, guanxi* and *knowledge sharing behaviour*) were significant to be studied in this research. According to Hair et al. (2010), factor loadings ± 0.50 or greater are regarded practically significant. Since all the items of each scale had high factor loadings greater than 0.50 on a single factor, all seven factors were validated.

The reliability test was measured using Cronbach's Alpha coefficients. As reported in Table 3, the values of reliability coefficients ranged from 0.7955 to 0.9525, indicating that all values exceeded the desired level of 0.7 recommended by Nunnally and Bernstein (1994). Hence, the instrument measuring the internet self-efficacy, computer self-efficacy, cultural factors and knowledge sharing behavior was statistically assessed to be reliable. Multicollinearity is another essential assumption to be met in this data analysis. Following Hair et al. (2010), the *r*-value between each pair of variables in the correlation matrix should not exceed 0.90 which may result in multicollinearity. Referring to the correlation matrix in Table

**Table 1.** Profiles of the survey respondents.

| Profile | Number of respondents | Category | Count | Percentage |
|---|---|---|---|---|
| Gender | 135 | Female | 77 | 57.04 |
| | | Male | 58 | 42.96 |
| Type of Institution | 135 | Public University | 70 | 51.85 |
| | | Private University | 65 | 48.15 |
| Age (Years) | 135 | 18-19 | 3 | 2.22 |
| | | 20-21 | 51 | 37.78 |
| | | 22-23 | 67 | 49.63 |
| | | 24-25 | 9 | 6.67 |
| | | >25 | 5 | 3.70 |
| Experience using Computer (Years) | 135 | >1-2 | 6 | 4.44 |
| | | >2-5 | 30 | 22.22 |
| | | >5-8 | 41 | 30.37 |
| | | >8-10 | 23 | 17.04 |
| | | >10 | 35 | 25.93 |
| Experience using Internet (Years) | 135 | >1-2 | 9 | 6.67 |
| | | >2-5 | 47 | 34.81 |
| | | >5-8 | 48 | 35.56 |
| | | >8-10 | 17 | 12.59 |
| | | >10 | 14 | 10.37 |

matrix in Table 3, the highest value of correlation coefficient was 0.80 (*beginning- level computer self-efficacy* with *internet self-efficacy*) which was less than 0.90. An examination on the tolerance values and variance inflation factors (VIF) were conducted to further validate the presence of multicollinearity. Referring to Table 4, each variable had a tolerance value of more than 0.10 and the VIF values ranged from 1.306 to 3.227. Thus, the multicollinearity problem was not substantial in the study because, according to Hair et al. (2010), multicollinearity occurs if the variables show tolerance values below 0.10 and VIF of 10 or higher.

## Multiple regression analysis

Multiple regression analysis is a multivariate technique used to analyze the relationship between a single dependent variable and several independent variables (Hair et al., 2010). Given that this study analyzed six independent variables (that is, *internet self-efficacy, beginning-level computer self-efficacy, advanced-level computer self-efficacy, face-saving, face-gaining* and *guanxi*) and one dependent variable (i.e., *knowledge sharing behaviour*), multiple regression analysis was deemed to be the most appropriate technique to be performed to test the relationships between technical skills and cultural factors, and individuals' knowledge sharing behavior.

In the present study, Cohen's rules for effect sizes were used to assess the magnitude of effects. Following Cohen (1977, p. 83), conventional effect size are defined as follows: (1) *r*-value = 0.10 is regarded as small; (2) *r*-value = 0.30 is considered as medium; and (3) *r*-value = 0.50 is regarded as large. As presented in Table 4, the effect size of this study is deemed as large because the coefficient of determination ($R^2$) was 0.297; specifying 29.7% of knowledge sharing behavior can be explained by the six independent variables. Table 4 also reported *F*-statistic = 8.997 ( *p*-value = 0.000) was significant at the 5% level. In this regard, the overall model provided a significant relationship between technical skills and cultural factors, and knowledge sharing behavior. Furthermore, the results of multiple regression analysis showed that advanced-level computer self-efficacy ( = 0.287, $p < 0.01$), face-gaining ( = 0.254, $p < 0.01$), *guanxi* ( = 0.199, $p < 0.05$) were found to have a significant and positive relationship with knowledge sharing behavior. Face-saving ( = -0.286, $p < 0.01$) was found to have a significant and negative relationship with knowledge sharing behavior. On the other hand, internet self-efficacy ( = 0.092, $p > 0.05$) and beginning-level computer self-efficacy ( = -0.065, $p > 0.05$) had no significant relationship with knowledge sharing behavior.

**Table 2.** Results of exploratory factor analyses (EFA).

| Variables | Factor Loadings | Number of Items | Factor Number | Kaiser-Meyer-Olkin (KMO) | Bartlett's Test of Sphericity | Eigen-values |
|---|---|---|---|---|---|---|
| ISS | | 19 | 1 | 0.918 | 2019.524*** | 9.996 |
| ISS1 | 0.773 | | | | | |
| ISS2 | 0.798 | | | | | |
| ISS3 | 0.810 | | | | | |
| ISS4 | 0.685 | | | | | |
| ISS5 | 0.636 | | | | | |
| ISS6 | 0.764 | | | | | |
| ISS7 | 0.807 | | | | | |
| ISS8 | 0.808 | | | | | |
| ISS9 | 0.731 | | | | | |
| ISS10 | 0.742 | | | | | |
| ISS11 | 0.727 | | | | | |
| ISS12 | 0.683 | | | | | |
| ISS13 | 0.749 | | | | | |
| ISS14 | 0.717 | | | | | |
| ISS15 | 0.747 | | | | | |
| ISS16 | 0.570 | | | | | |
| ISS17 | 0.579 | | | | | |
| ISS18 | 0.664 | | | | | |
| ISS19 | 0.728 | | | | | |
| BCSS | | 12 | 1 | 0.919 | 1336.005*** | 7.918 |
| BCSS1 | 0.809 | | | | | |
| BCSS2 | 0.875 | | | | | |
| BCSS3 | 0.816 | | | | | |
| BCSS4 | 0.870 | | | | | |
| BCSS5 | 0.779 | | | | | |
| BCSS6 | 0.790 | | | | | |
| BCSS7 | 0.785 | | | | | |
| BCSS8 | 0.759 | | | | | |
| BCSS9 | 0.765 | | | | | |
| BCSS10 | 0.866 | | | | | |
| BCSS11 | 0.822 | | | | | |
| BCSS12 | 0.799 | | | | | |
| ACSS | | 9 | 1 | 0.891 | 926.261*** | 5.763 |
| ACSS1 | 0.794 | | | | | |
| ACSS2 | 0.822 | | | | | |
| ACSS3 | 0.807 | | | | | |
| ACSS4 | 0.806 | | | | | |
| ACSS5 | 0.833 | | | | | |
| ACSS6 | 0.815 | | | | | |
| ACSS7 | 0.798 | | | | | |
| ACSS8 | 0.785 | | | | | |
| ACSS9 | 0.739 | | | | | |
| FS | | 3 | 1 | 0.695 | 123.687*** | 2.130 |
| FS1 | 0.837 | | | | | |
| FS2 | 0.875 | | | | | |

**Table 2.** Contd.

| | | | | | | |
|---|---|---|---|---|---|---|
| FS3 | 0.815 | | | | | |
| | | | | | | |
| FG | | 2 | 1 | 0.500 | 100.863*** | 1.730 |
| FG1 | 0.930 | | | | | |
| FG2 | 0.930 | | | | | |
| GX | | 6 | 1 | 0.790 | 386.723*** | 3.533 |
| GX1 | 0.690 | | | | | |
| GX2 | 0.675 | | | | | |
| GX3 | 0.854 | | | | | |
| GX4 | 0.797 | | | | | |
| GX5 | 0.818 | | | | | |
| GX6 | 0.754 | | | | | |
| | | | | | | |
| KSB | | 4 | 1 | 0.773 | 170.053*** | 2.505 |
| KSB1 | 0.790 | | | | | |
| KSB2 | 0.832 | | | | | |
| KSB3 | 0.856 | | | | | |
| KSB4 | 0.675 | | | | | |

Note: *** $p < 0.001$. ISS=Internet Self-Efficacy; BCSS=Beginning-Level Computer Self-Efficacy; ACSS=Advanced-Level Computer Self-Efficacy; FS=Face-Saving; FG=Face-Gaining; GX=Guanxi; KSB=Knowledge Sharing Behaviour.

**Table 3.** Correlation and reliabilities analyses of variables.

| Variable | ISS | BCSS | ACSS | FS | FG | GX | KSB |
|---|---|---|---|---|---|---|---|
| ISS | **0.9483** | | | | | | |
| BCSS | 0.800** | **0.9525** | | | | | |
| ACSS | 0.689** | 0.665** | **0.9294** | | | | |
| FS | -0.020 | 0.004 | -0.029 | **0.7955** | | | |
| FG | 0.091 | 0.006 | 0.187* | 0.556** | **0.8439** | | |
| GX | 0.194* | 0.197* | 0.095 | 0.371** | 0.378** | **0.8564** | |
| KSB | 0.322** | 0.251** | 0.414** | -0.063 | 0.285** | 0.242** | **0.7977** |

Correlation is significant at * $p < 0.05$ (two-tailed); ** $p < 0.01$ (two-tailed). The values in bold in the diagonal row are scale reliabilities. ISS=Internet Self-Efficacy; BCSS=Beginning-Level Computer Self-Efficacy; ACSS=Advanced-Level Computer Self-Efficacy; FS=Face-Saving; FG=Face-Gaining; GX=*Guanxi*; KSB=Knowledge Sharing Behaviour.

As a result, Hypotheses 3 through 6 were supported.

## DISCUSSION

The findings in the present study indicated that one dimension of knowledge sharing self-efficacy and three aspects of cultural factors were related to individuals' knowledge sharing behaviour. Within the elements of knowledge sharing self-efficacy, the finding showed that only the advance level of computer self-efficacy was found significantly related to knowledge sharing. This could be due to those with advance level of computer self-efficacy have better understanding of the features and advantages of computer and hence increase their trust level in using the computer to share knowledge. They may appreciate the technology and have confidence in sharing knowledge through IT platform.

On the other hand, the present finding showed that the internet self-efficacy was not significantly related to knowledge sharing. This result contradicted with previous studies which reported that internet self-efficacy was a significant predictor of knowledge sharing behavior (Bock and Kim, 2002; Compeau and Higgins, 1995; Easley et al., 2003; Hsu and Chiu, 2004; Kankanhalli et al., 2005). Several possible explanations are offered. First, even though students possess good internet self-efficacy, they may not participate actively in knowledge sharing due to

**Table 4.** Results of multiple regression analyses.

| Model | | Unstandardized coefficients | | Standardized coefficients | *t* | Sig. | Collinearity statistics | |
|---|---|---|---|---|---|---|---|---|
| | | | Std. Error | | | | Tolerance | VIF |
| 1 | (Constant) | 1.973 | 0.458 | | 4.312 | 0.000 | | |
| | ISS | 0.092 | 0.141 | 0.087 | 0.651 | 0.516 | 0.310 | 3.227 |
| | BCSS | -0.065 | 0.128 | -0.068 | -0.509 | 0.612 | 0.311 | 3.217 |
| | ACSS | 0.287 | 0.102 | 0.314 | 2.817 | 0.006** | 0.443 | 2.259 |
| | FS | -0.286 | 0.090 | -0.298 | -3.192 | 0.002** | 0.629 | 1.589 |
| | FG | 0.254 | 0.080 | 0.308 | 3.156 | 0.002** | 0.576 | 1.737 |
| | GX | 0.199 | 0.083 | 0.203 | 2.392 | 0.018* | 0.766 | 1.306 |
| | $R^2$ | 0.297 | | | | | | |
| | Adj. $R^2$ | 0.264 | | | | | | |
| | Sig. *F* | 0.000 | | | | | | |
| | *F*-value | 8.997 | | | | | | |

Dependent Variable: Knowledge Sharing Behaviour. *p < 0.05 (two-tailed); **p < 0.01 (two-tailed). ISS=Internet Self-Efficacy; BCSS=Beginning-Level Computer Self-Efficacy; ACSS=Advanced-Level Computer Self-Efficacy; FS=Face-Saving; FG=Face-Gaining; GX=Guanxi; KSB=Knowledge Sharing Behaviour.

fear of losing power. Previous research in a Chinese setting showed that the loss of knowledge power has a negative influence in knowledge sharing processes in an economic setting (Bock et al., 2005; Huang et al., 2008). The second possible explanation was because internet self-efficacy was self-reported by participants. Although students are increasingly internet-experienced, that experience is often narrow in focus (Karsten and Roth, 1998). All the cultural factors were significantly correlated with knowledge sharing behavior. These findings were consistent with Huang et al. (2008). As supported by Huang et al. (2008), this paper found a negative influence of face saving on the knowledge sharing activity. Sharing incorrect knowledge displays their ignorance and would cause them a loss of face (Kanzler, 2010). Hence, individuals who try to save face would probably not participate in knowledge sharing activities. Furthermore, in order to save face people might restrict their behavior even to the extent of avoiding contact with others (Huang et al., 2008).

The Chinese desire to gain face increase one's sense of self worth could explain the positive relationship and this result was supported by previous studies (Kanzler, 2010; Huang et al., 2008; Bock et al., 2005). Hence, Chinese would appreciate more frequent feedback, especially allowing the individuals to see how their contribution in knowledge sharing processes has improved the projects' performance. Such discussions would allow participants to increase their face gaining and would further have a positive impact on their intention to share knowledge, enhancing future knowledge sharing activities (Kanzler, 2010). Hence, doing something that enhances someone else's reputation or prestige by praising, gift giving or concessions can improve the knowledge sharing activities (Cardon and Scott, 2003).

The *guanxi* orientation played an important role in knowledge sharing in the Chinese culture. This result was supported by the findings of Huang et al. (2008), Huang et al. (2008); Kanzler (2010). Chinese always want to maintain a good relationship and try to create a harmonious atmosphere, which enables knowledge sharing in the first place and facilitates the building of reciprocal relationships (Davies et al., 1995; Dunning and Kim, 2007; Lockett, 1988; Kanzler, 2010; Huang et al., 2008; Valentine and Godkin, 2001; Zhang et al., 2008). Hence, these findings reassured that the concept of face has a strong impact on knowledge sharing activities within Chinese society. Thus, we emphasized that one should carefully focus on consequences and implications of face, when interacting with Chinese community.

## Conclusion

Personal (that is, knowledge sharing self-efficacy) and cultural factors have been widely researched for human behaviors in various contexts. However these factors have not been jointly applied to knowledge sharing research. On the theoretical level, the research model presented herein has included both personal and cultural factors to examine the determinants of knowledge sharing behaviours in Chinese younger generation. This study has validated the proposed research model, and provided empirical evidence regarding the influence of advanced-level computer self-efficacy, face-saving, face-gaining, and *guanxi* on knowledge sharing behaviours. These findings have helped to explain why individuals are willing to engage in sharing knowledge. This contribution is useful. Apparently, knowledge inhabits within individuals who create, store and apply knowledge in their day-to-day activities. The development of knowledge across individual boundaries, into and from repositories, and

into practices depends on individual's knowledge sharing behaviours. These young Chinese people are future employees. A collective understanding of personal and cultural factors is important to nurture the knowledge sharing culture in tomorrow's workplace.

From the practitioners' perspective, the results of this research suggest that, individuals should be trained to increase their advanced-level computer self-efficacy via training programs (e.g., online or face-to-face computer software training programs) so that these individuals would be able to share their knowledge. Second, our results show that cultural factors have significant impact on knowledge sharing behaviors. Given that face-saving and face-gaining have opposite impact on knowledge sharing behavior, educational and organizational administrators should look into ways of developing reward mechanism that promote face gaining through sharing knowledge. On the other hand, activities such as debating and brainstorming should be regularly held to reduce the propensity to emphasize face saving behaviors. Our findings also found that the element of *guanxi* does affect the individuals' knowledge sharing behaviors. The Chinese are inherently inclined to develop and maintain a good relationship with people around them, building a high level of *guanxi* orientation. This social relationship should be fostered in order to encourage more individuals to share knowledge.

## RESEARCH LIMITATIONS

Although the present study has offered valuable insights into knowledge sharing, there are two research limitations in this study. First, the use of cross -sectional data may restrict the conclusions draw from this study. Future research should collect longitudinal data involving control groups to examine the interactive relationship among the variables studied in this research. Second, the proposed research model has included particular Chinese concepts of face and *guanxi*. For this reason, the results of this research, for instance, can only be generalized to younger Chinese individuals (e.g., Generation Y) instead of other societal contexts characterised by elements of face-saving, face-gaining and *guanxi*. Future studies should consider adding age and gender differences in examining the impact of individuals' technical skills and cultural factors on knowledge sharing behavior. Moderating variables such as age and gender may provide additional insights on what types of Chinese people are more likely to share knowledge.

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