# Linking the Big Five Model of Personality to Knowledge Sharing Intention

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This study aims at empirically analyzing the relation between employees' personality and their knowledge sharing intentions, on which enough light has not yet been shed in spite of its importance. By integrating the big five model of personality with social capital theory and social cognitive theory, this study develops six hypotheses concerning the relation and empirically tests them by using 724 samples collected from employees in practice. The empirical analysis results from this study reveal that employees' extroversion and agreeableness are positively associated with their social relations and that their openness to experience and conscientiousness are positively associated with their knowledge self-efficacy, which are positively related to their knowledge sharing intentions. Based on the new findings, theoretical and practical implications are provided for knowledge management researchers and managers in practice.

Keywords : Personality, Knowledge Sharing Intention, Social Relation, Knowledge Self-Efficacy

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# Ⅰ. Introduction

Knowledge is an important resource that can provide competitive advantages for firms [Grant, 1996]. Furthermore, today's knowledge-intensive economy has made the knowledge of organizations become more and more important to their success in the severe competitions in their markets. When employees' knowledge is effectively and efficiently shared across their organization, it can create and keep sustainable competitive advantages [Nonaka and Takeuchi, 1995; Nonaka and Konno, 1998]. Therefore, both academic and business circles have paid special attention to how to increase employees' knowledge sharing intentions in organizations, which has resulted in a variety of studies on the influential factors to them so far. However, enough light has not yet been shed on the relation between employees' personality and their knowledge sharing intentions in spite of its importance [Wang and Noe, 2010].

A person's intention to perform a target behavior is a strong predictor of actually performing it [Ajzen, 1988; Fishbein and Ajzen, 1975]. And personality is "a set of traits, characteristics, and predispositions of a person [Champoux, 1996; p. 86)", which significantly influences employees' knowledge sharing in the workplace [Matzler *et al.*, 2008]. Therefore, this study aims at empirically analyzing the relation between employees' personality and their knowledge sharing intentions. Moreover, in order to shed a new light on the associations between employees' personality, social relations and knowledge self-efficacy with regard to their knowledge sharing intentions, this study integrates the big five model of personality with social capital theory and

social cognitive theory in its research model.

In line with the research objectives, this study is focused on how employees' personality is related to their knowledge sharing intentions. More specifically, this research concentrates on how employees' personality is associated with their social relations and knowledge self-efficacy and how their social relations and knowledge self-efficacy are related to their knowledge sharing intentions.

This paper is composed of six parts including this introductory part. The second part presents the literature review. The third part provides the theoretical background for hypothesis development. The fourth part deals with research methodology. The fifth part reports the empirical analysis results. The last part provides the conclusion with the implications and limitations of this study.

# Ⅱ. Literature Review

This section provides a review on the major prior studies about the big five model of personality, social capital theory, and social cognitive theory with regard to knowledge sharing research.

## 2.1 The Big Five Model of Personality and Knowledge Sharing Research

The big five model of personality is an elaborated model which has been developed for over a century, categorizing a person's traits into fives dimensions [Champoux, 1996]: extroversion, openness to experience, conscientiousness, agreeableness, and emotional stability. The extroversion stands for an individual's personal

trait such as being sociable, active, and gregarious, the openness to experience for one such as being intelligent, creative, and curious, the conscientiousness for one such as being thorough, dependable, and responsible, the agreeableness for one such as being good-natured, cooperative, and courteous, and the emotional stability for one such as being secure, calm, and relaxed [Champoux, 1996].

So far, a few prior studies have applied the big five model of personality to knowledge sharing research but they have focused only on the relations between individuals' personalities and their knowledge sharing behavior or between the personalities and their attitudes toward knowledge sharing behavior. Matzler *et al*. [2008] empirically showed that employees' agreeableness, conscientiousness, and openness to experience were positively related to their knowledge sharing behavior based on 124 samples collected from an engineering company. Gupta [2008] empirically showed that persons with high agreeableness and conscientiousness were more involved in knowledge sharing behavior than persons with low agreeableness and conscientiousness but there were not significant differences in their extroversion, openness to experience, and emotional stability with regard to knowledge sharing behavior, by using the data collected from 156 post graduate-students attending a class. Teh *et al*. [2011] empirically showed that persons' extroversion and emotional stability were positively associated with their attitudes toward knowledge sharing whereas their agreeableness and conscientiousness were not significantly associated with the attitudes based on 255 sample collected from university students. The prior studies are limited

in that they can hardly shed a new light to the relation between employees' personalities and their intentions to share knowledge in various industries, which has made this study attempt to perform an empirical analysis on the relation based on the samples from multiple industries.

## 2.2 Social Capital Theory and Knowledge Sharing Research

Social capital can be defined as "sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit [Nahapiet and Ghoshal, 1998; p. 243]." This definition shows well that social relation is one of the essential factors for social capital because social capital is based on the network of relationships between people or social units. In the individual level, social relations are referred to as interpersonal linkages between persons, which can be strengthened or weakened according to their degree of social interactions [Chow and Chan, 2008; He *et al*., 2009]. Prior research on knowledge sharing pointed out the social relation as a salient factor to both knowledge sharing intention and knowledge sharing behavior. For example, Chow and Chan [2008] empirically showed employees' social network had a positive effect on their knowledge sharing intentions, mediated by their subjective norms and attitudes toward knowledge sharing based on the 190 samples collected from companies in Hong Kong. Chiu *et al*. [2006] revealed that social interaction ties were positively related to quantity of knowledge sharing by using 310 data collected from a virtual community in Taiwan. These prior studies seem to

have the limitation in that they paid little attention to such potential antecedents as individuals' personal traits to their social relations. A person's personal traits can influence his or her social relations to a great extent. For example, an extrovert person more tends to enjoy interactions with others than an introvert person, which can make the extrovert person have more chances of extending his or her social relations. Therefore, to overcome the limitation of the prior studies, this study considers the personal traits as a major antecedent to social relations in its research model.

## 2.3 Social Cognitive Theory and Knowledge Sharing Research

Social cognitive theory argues that a person's degree of the confidence in his or her capability of making a target action, so called self-efficacy, plays a critical role in actually performing it [Bandura, 1986, Bandura, 1977]. In accordance with this theory, previous knowledge sharing research indicates self-efficacy as a significant influential factor to not only knowledge sharing behavior but also the attitude and the intention toward it. Lin [2007] empirically showed that employees' knowledge self-efficacy positively affected their attitudes and intentions toward knowledge sharing based on 172 samples collected in Taiwan. Hsu *et al*. [2007] showed self-efficacy had a positive impact on knowledge sharing behavior through an empirical analysis by using 274 data collected in Taiwan, Hong Kong, and China.

The previous research, however, does not seem to provide an adequate explanation about the missing linkage between an individual's personal trait such as openness to experience or conscientiousness and his or her self-efficacy with regard to knowledge sharing. For example, an employee with high openness to experience is intelligent, creative, and curious [Champoux, 1996], which helps the employee to absorb more new knowledge than one with low openness to experience. The more new absorbed knowledge can deepen and widen the employees' knowledge base to share, which is the source of his or her knowledge self-efficacy [Bandura, 1986]. Therefore, this study is focused on the relation between employees' personal traits and his or her self-efficacy which has not been explored yet in the previous knowledge sharing research.

## Ⅲ. Theoretical Background and Hypothesis Development

This study develops six hypotheses for the research model based on the combination of the big five model of personality with social capital theory and social cognitive theory including a control variable such as employees' ages seen in the <Figure 1>.

According to the big five model of personality, an individual's traits can be classified into extroversion, openness to experience, conscientiousness, agreeableness, and emotional stability [Champoux, 1996]. Among these five types of personality, this research adopts only the extroversion, agreeableness, conscientiousness and openness to experience as the independent variables in the research model because there are few logical evidences about the linkage between employees' emotional stability and their knowledge sharing intentions through social relation or knowledge self-efficacy.
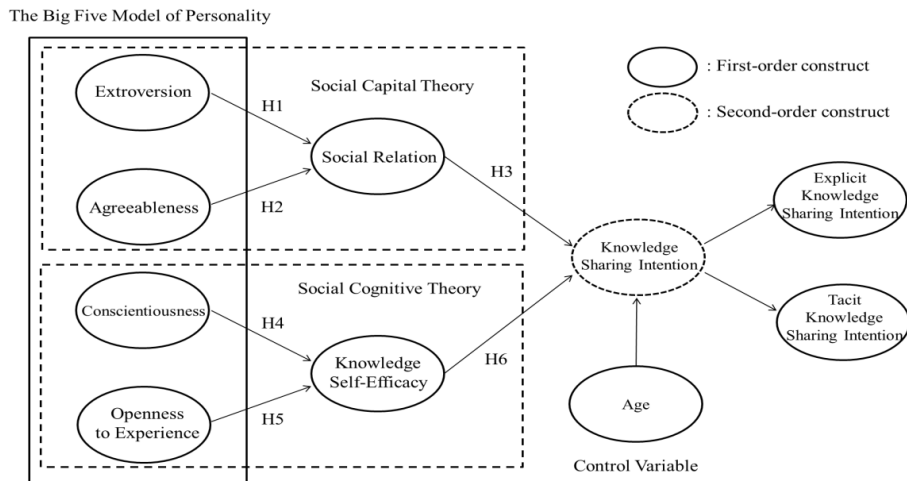
<Figure 1> Research Model

The final dependent variable for this research is the knowledge sharing intention in the individual employee level. It is a second-order reflective construct composed of explicit and tacit knowledge sharing intentions [Bock *et al.*, 2005]. This part explains the theoretical background for the six hypotheses concerning the knowledge sharing intention.

## 3.1 The Big Five Model of Personality and Social Capital theory

Social capital theory emphasizes on the importance of social interactions because social relations are based on them [Chow and Chan, 2008, Hau and Kim, 2011]. Good social relations among employees can hardly be expected without social interactions [Hau *et al.*, 2013].

Concerning the social interactions, the big five model of personality suggests that employees' extroversion and agreeableness can have positive associations with their social relations. Extrovert employees are outgoing and feel at ease with other people [Champoux, 1996; Rothmann

and Coetzer, 2003], which can trigger more social interactions with other members at work than introvert employees. Extrovert employees prefer meeting people to spending time alone, which can increase the extrovert employees' social relations. Agreeable employees are cooperative and care about other people [Champoux, 1996; Rothmann and Coetzer, 2003], which is useful to widening and deepening their social interactions for good social relations with other members in their firm. Accordingly, this study generates the following hypothesis 1 and 2 concerning the associations between employees' extroversion, agreeableness and social relations.

*Hypothesis 1: The higher an employee's extroversion is, the more the employee's social relation will be.*

*Hypothesis 2: The higher an employee's agreeableness is, the more the employee's social relation will be.*

Employees feel more inclined to share their

knowledge when their social relations are strong [Nonaka and Takeuchi, 1995; Nonaka and Konno, 1998]. Employees have no reason to have the intention to share their knowledge with other employees whom they are not much acquainted with [Hau *et al.*, 2013; Nonaka and Konno, 1998]. Employees' social relations have a positive effect on their intentions to share knowledge [Chow and Chan, 2008, Hau *et al.*, 2013]. Therefore, this study develops the hypothesis 3 concerning the relation between employees' social relations and their knowledge sharing intentions as follows.

*Hypothesis 3: The more an employee's social relation is, the greater the employee's intention to share knowledge will be.*

## 3.2 The Big Five Model of Personality and Social Cognitive Theory

Social cognitive theory points out the importance of self-efficacy in actually making an action [Bandura, 1986]. Self-efficacy refers to a person's judgment on his or her capability of actually performing a target action [Bandura, 1986; Bandura, 1977]. In the context of knowledge sharing research, knowledge self-efficacy means "employees' judgments of their capability to share knowledge that is valuable to the organization [Lin, 2007; p. 140]."

The big five model of personality suggests that employees' conscientiousness and openness to experience can have positive relations with their knowledge self-efficacy. A conscientious employee is accurate, careful, and well ready for tasks [Champoux, 1996; Rothmann and Coetzer, 2003]. Sharing valuable knowledge requires good preparation in advance such as an activity of search-

ing for accurate materials including data and information to support the knowledge to be shared, which conscientious employees can perform well.

An employee who is open to experience is creative and imaginative with a good power of understanding [Champoux, 1996; Rothmann and Coetzer, 2003]. Employees' creativeness and imagination are important sources of more new valuable knowledge, which can strengthen their knowledge self-efficacy. Therefore, this study generates the following hypothesis 4 and 5 related to the associations between employee's conscientiousness, openness to experience, and knowledge self-efficacy.

*Hypothesis 4: The higher an employee's conscientiousness is, the larger the employee's knowledge self-efficacy will be.*

*Hypothesis 5: The higher an employee's openness to experience is, the larger the employee's knowledge self-efficacy will be.*

Social cognitive theory points out self-efficacy as a determinant factor to forming the intention to perform a behavior [Ajzen, 1988; Fishbein and Ajzen, 1975]. Knowledge self-efficacy significantly and positively influences employees' intentions to share knowledge [Lin, 2007]. Consequently, this research generates the hypothesis 6 concerning the relation between employees' knowledge self-efficacy and their knowledge sharing intentions as follows.

*Hypothesis 6: The larger an employee's knowledge self-efficacy is, the greater the employee's intention to share knowledge will be.*

# Ⅳ. Research Methodology

This section deals with the measurement, data collection, and analysis method for this research.

## 4.1 Measurement

This research used the measurement items which had been verified in prior studies about the big five model of personality and knowledge management (KM, hereafter). The measurements items for the personality such as extroversion, agreeableness, conscientiousness, and openness to experience were adapted from Goldberg et al. [2006][1]. Social relation was assessed with the items from Chow and Chan [2008]. The measurement items for knowledge self-efficacy were adopted from Lin [2007]. Explicit and tacit knowledge sharing intentions were adopted from Bock et al. [2005]. 7 point Likert scale was used to measure all of the items, ranging from 1 (never agree) to 7 (completely agree). The appendix 1 provides all of the items used for this study with the references for them.

## 4.2 Data Collection

The data for this study was collected through the online survey for the February in 2009 from employees in practice. Before the online survey, we made a pilot test in five organizations. Five KM researchers examined the expression and structure of each item for the survey. Based on the result from the pilot test and the feedbacks from the five researchers, I modified ambiguous

1) http://ipip.ori.org/newBigFive5broadKey.htm

survey questions into clear ones and restructured the survey to increase the readability of it. The first page of the survey provides the purpose of this study and the researcher's picture and contact number to increase respondents' credibility in the survey. In total, 724 samples were collected and analyzed. Their profiles are summarized in the following <Table 1>.

<Table 1> Profile of Samples

|  | Option | Frequency (N = 724) | % |
|---|---|---|---|
| Position | Employee | 165 | 22.8 |
|  | Assistant Manager | 251 | 34.7 |
|  | Manager | 170 | 23.5 |
|  | Deputy General Manager | 113 | 15.6 |
|  | General Manager | 24 | 3.3 |
|  | Direct (or above Direct) | 1 | 0.1 |
| Tenure (in years) | < 2 | 49 | 6.8 |
|  | 2≤ and < 4 | 48 | 6.6 |
|  | 4≤ and < 6 | 62 | 8.6 |
|  | 6≤ and < 8 | 60 | 8.3 |
|  | 8≤ and < 10 | 65 | 9.0 |
|  | 10≤ | 440 | 60.8 |
| Function | Support | 249 | 34.4 |
|  | Manufacture | 101 | 14.0 |
|  | Marketing | 60 | 8.3 |
|  | Sale | 115 | 15.9 |
|  | R&D | 199 | 27.5 |
| Age (in years) | 20≤ and ≤30 | 75 | 10.4 |
|  | 31≤ and ≤ 40 | 295 | 40.7 |
|  | 41≤ and ≤ 50 | 276 | 38.1 |
|  | 51≤ | 78 | 10.8 |
| Sector | Private | 351 | 48.5 |
|  | Public | 373 | 51.5 |
| Industry | Manufacturing | 221 | 30.5 |
|  | Service | 503 | 69.5 |

## 4.3 Analysis Method

This study has chosen the PLS graph version 3.0 to test the hypotheses in the research model because of the non-normality in the distributions of the samples. The distributions of the collected samples do not follow the multivariate normal distribution which is one of the basic requirements for structural equation modeling analysis through AMOS or LISREL. But, the PLS is an effective analytic method to analyze samples whose distributions do not show the multivariate normality [Efron, 1988]. Therefore, the PLS has been adopted as the analysis method for this study.

# Ⅴ. Analysis Results

This part covers the results from the measurement model and the structural model tests. The section for the measurement model test provides the empirical evidence about the satisfactory levels of the internal reliability, the convergent validity, and the discriminant validity of the measurement items for this study. The section for the structural model test reports the hypotheses testing results concerning the research model.

## 5.1 The Measurement Model Test

This study has taken the following three steps to test the measurement model. First, the Cronbach's α value of each construct was calculated to examine the internal reliabilities of the survey items. The internal reliabilities of them are acceptable if all of the Cronbach's α values are over 0.7 [Nunnally, 1978]. The Cronbach's α values from all the constructs in this study showed the acceptable level of the internal reliabilities, ranging from 0.876 to 0.960.

Second, composite reliability (CR, hereafter), average variance extracted (AVE, hereafter), factor loading, and t-value were checked to confirm the convergent validity of the survey items. In order to satisfy the acceptable level of convergent validity, CRs should be over 0.7 [Chin, 1988], t-values should be more than 1.96 [Gefen and Staub, 2005], AVEs should be larger than 0.5 [Fornell and Larcker, 1981], and factor loadings should be larger than 0.5 [Hair et al., 2006]. The minimum values of CRs, t-values, AVEs and factor loadings were 0.923, 53.383, 0.773, and 0.837, respectively, confirming the satisfactory level of the convergent validity of the survey items. The following <Table 2> summarizes the Cronbach's α values, CRs, t-values, AVEs and factor loadings resulting from the measurement model test.

Third, the square roots of the AVEs were compared to the inter-correlation coefficients among all of the constructs in the research model. The square roots of the AVEs should be greater than the inter-correlation coefficients to verify the satisfactory level of the discriminant validity in the measurement model [Chin et al., 1997]. The following <Table 3> shows that all the square roots of the AVEs are larger than the inter-correlation coefficients, confirming the acceptable level of the discriminant validity of the measurement model.

In addition, to address the concern about the multicollinearity of the high correlations between constructs as shown in the <Table 3>, this study has checked the variance inflation factor (VIF) values of the constructs that are highly correlated, which ranges from 1.834 to 2.069. Therefore, the multicollinearity is not a serious concern in this research.

<Table 2> Internal Reliability and Convergent Validity

| Item | CR | AVE | Cronbach's α | Factor Loading | Mean | SD | t-value |
|---|---|---|---|---|---|---|---|
| Extro1 | | | | 0.837 | 4.941 | 1.243 | 53.383 |
| Extro2 | 0.923 | 0.801 | 0.876 | 0.921 | 4.698 | 1.309 | 106.986 |
| Extro3 | | | | 0.923 | 4.673 | 1.309 | 139.008 |
| Agree1 | | | | 0.878 | 5.010 | 1.193 | 81.812 |
| Agree2 | 0.926 | 0.807 | 0.878 | 0.918 | 5.240 | 1.075 | 108.035 |
| Agree3 | | | | 0.896 | 5.142 | 1.113 | 77.722 |
| Consc1 | | | | 0.898 | 5.019 | 1.141 | 97.710 |
| Consc2 | 0.940 | 0.839 | 0.903 | 0.930 | 5.233 | 1.107 | 160.131 |
| Consc3 | | | | 0.918 | 5.319 | 1.081 | 108.567 |
| Open1 | | | | 0.885 | 4.623 | 1.184 | 101.161 |
| Open2 | | | | 0.876 | 5.113 | 1.107 | 82.585 |
| Open3 | 0.932 | 0.773 | 0.902 | 0.900 | 4.964 | 1.115 | 109.261 |
| Open4 | | | | 0.853 | 4.867 | 1.123 | 69.736 |
| SR1 | | | | 0.902 | 5.546 | 1.069 | 68.680 |
| SR2 | 0.929 | 0.813 | 0.880 | 0.949 | 5.392 | 1.040 | 214.044 |
| SR3 | | | | 0.850 | 4.877 | 1.177 | 70.873 |
| KSF1 | 0.961 | 0.924 | 0.918 | 0.961 | 5.097 | 1.126 | 235.419 |
| KSF2 | | | | 0.961 | 4.957 | 1.152 | 235.419 |
| TKSHI1 | | | | 0.961 | 5.471 | 1.153 | 250.604 |
| TKSHI2 | 0.974 | 0.926 | 0.960 | 0.961 | 5.569 | 1.162 | 185.543 |
| TKSHI3 | | | | 0.963 | 5.508 | 1.148 | 232.845 |
| EKSHI1 | 0.963 | 0.928 | 0.923 | 0.963 | 5.307 | 1.171 | 232.745 |
| EKSHI2 | | | | 0.963 | 5.283 | 1.162 | 232.745 |

Note: CR stands for Composite Reliability; AVE for Average Variance Extracted; SD for Standard Deviation; Extro for Extroversion; Agree for Agreeableness; Consc for Conscientiousness; Open for Openness to Experience; SR for Social Relation; KSF for Knowledge Self-Efficacy; TKSHI for Tacit Knowledge Sharing Intention; for EKSHI for Explicit Knowledge Sharing Intention.

<Table 3> Inter-correlation and Discriminant Validity

| | Extra | Agree | Consc | Open | SR | KSF | TKSHI | EKSHI |
|---|---|---|---|---|---|---|---|---|
| Extro | **0.895** | | | | | | | |
| Agree | 0.716 | **0.898** | | | | | | |
| Consc | 0.548 | 0.635 | **0.916** | | | | | |
| Open | 0.521 | 0.553 | 0.697 | **0.879** | | | | |
| SR | 0.572 | 0.648 | 0.681 | 0.656 | **0.902** | | | |
| KSF | 0.481 | 0.516 | 0.681 | 0.782 | 0.673 | **0.961** | | |
| TKSHI | 0.405 | 0.488 | 0.536 | 0.484 | 0.567 | 0.507 | **0.962** | |
| EKSHI | 0.416 | 0.519 | 0.531 | 0.476 | 0.565 | 0.513 | 0.854 | **0.963** |

Note: The numbers on the diagonal are the square root of AVE of each construct and the other numbers are the inter-correlation coefficients; Extro stands for Extroversion; Agree for Agreeableness; Consc for Conscientiousness; Open for Openness to Experience; SR for Social Relation; KSF for Knowledge Self-Efficacy; TKSHI for Tacit Knowledge Sharing Intention; for EKSHI for Explicit Knowledge Sharing Intention.

<Table 4> Common Method Bias Test

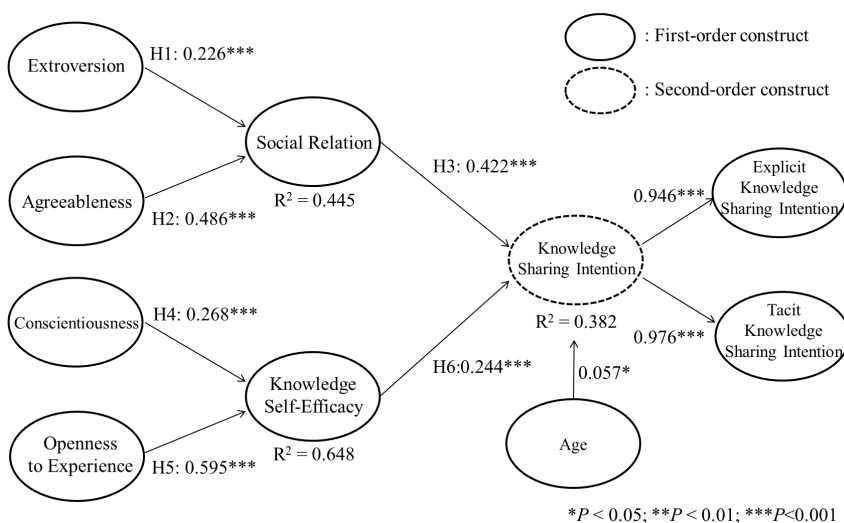| Construct | Item | Substantive Factor Loading(R1) | $R1^2$ | Method Factor Loading(R2) | $R2^2$ |
|---|---|---|---|---|---|
| Extro | Extro1 | 0.745*** | 0.555 | 0.114* | 0.013 |
| | Extro2 | 1.008*** | 1.016 | -0.108*** | 0.012 |
| | Extro3 | 0.920*** | 0.846 | 0.004 | 0.000 |
| Agree | Agree1 | 0.866*** | 0.750 | 0.016 | 0.000 |
| | Agree2 | 0.891*** | 0.794 | 0.032 | 0.001 |
| | Agree3 | 0.937*** | 0.878 | -0.048 | 0.002 |
| Consc | Consc1 | 0.850*** | 0.723 | 0.056 | 0.003 |
| | Consc2 | 0.987*** | 0.974 | -0.066* | 0.004 |
| | Consc3 | 0.909*** | 0.826 | 0.012 | 0.000 |
| Open | Open1 | 0.867*** | 0.752 | 0.022 | 0.000 |
| | Open2 | 0.845*** | 0.714 | 0.037 | 0.001 |
| | Open3 | 0.898*** | 0.806 | 0.002 | 0.000 |
| | Open4 | 0.907*** | 0.823 | -0.063 | 0.004 |
| SR | SR1 | 0.850*** | 0.723 | 0.064 | 0.004 |
| | SR2 | 0.958*** | 0.918 | -0.010 | 0.000 |
| | SR3 | 0.897*** | 0.805 | -0.057 | 0.003 |
| KSF | KSF1 | 0.903*** | 0.815 | 0.077*** | 0.006 |
| | KSF2 | 1.020*** | 1.040 | -0.077*** | 0.006 |
| TKSHI | TKSHI1 | 0.915*** | 0.837 | 0.052* | 0.003 |
| | TKSHI2 | 1.014*** | 1.028 | -0.058* | 0.003 |
| | TKSHI3 | 0.958*** | 0.918 | 0.006 | 0.000 |
| EKSHI | EKSHI1 | 1.003*** | 1.006 | -0.045 | 0.002 |
| | EKSHI2 | 0.924*** | 0.854 | 0.045 | 0.002 |
| | Average | | 0.844 | | 0.003 |

Note: Extro stands for Extroversion; Agree for Agreeableness; Consc for Conscientiousness; Open for Openness to Experience; SR for Social Relation; KSF for Knowledge Self-Efficacy; TKSHI for Tacit Knowledge Sharing Intention; for EKSHI for Explicit Knowledge Sharing Intention.
*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

This study has examined the possibility of the common method bias by using the method suggested by Liang *et al*. [2007]. The <Table 4> shows that the average variance influenced by the method factor is 0.003 whereas the average variance substantively influenced by each latent construct is 0.844. As a result, the ratio of the method variances to substantive variances to is about 1: 281, confirming the little possibility of the common method bias in this study.

## 5.2 The Structural Model Test

In accordance with our expectations, all the hypotheses in the research model have been supported. Employees' extroversion (H1: path coefficient = 0.226, *t*-value = 5.332) and agreeableness (H2: path coefficient = 0.486, *t*-value = 11.333) are positively related to their social relations, respectively. Their extroversion and agreeableness have been found out to explain the 44.5% of the variance of employees' social

<Figure 2> Structural Model Test

relations ($R^2$ = 0.445). The social relations are positively associated with their knowledge sharing intentions (H3: path coefficient = 0.422, *t*-value = 8.797). Employees' conscientiousness (H4: path coefficient = 0.268, *t*-value = 7.236) and openness to experience (H5: path coefficient = 0.595, *t*-value = 17.176) are positively related to their knowledge self-efficacy, respectively. Their conscientiousness and openness to experience have been proved to explain the 64.8% of the variance of employees' knowledge self-efficacy ($R^2$ = 0.648). The knowledge self-efficacy is positively associated with employees' knowledge sharing intentions (H6: path coefficient = 0.244, *t*-value = 5.280). Their social relations and knowledge self-efficacy have turned out to explain the 38.2% of the variance of employees' knowledge sharing intentions ($R^2$ = 0.382). Employees' ages are a significant control variable for their knowledge sharing intentions (path coefficient = 0.057, *t*-value = 2.101). The knowledge sharing intention is the second-order reflective construct composed of explicit knowledge sharing intention

(factor loading = 0.946, *t*-value = 184.721) and tacit knowledge sharing intention (factor loading = 0.976, t-value = 446.277). The <Figure 2> summarizes the results from the structural model test.

# Ⅵ. Conclusion

This part summarizes the major findings from this study and provides the theoretical and practical implications based on them, followed by the limitations of this study.

## 6.1 Summary of the Major Findings

This research is targeted at empirically analyzing the relations between employees' personality, social relations, and knowledge self-efficacy with regard to their knowledge sharing intentions. Based on the 724 samples collected from employees in practice, the empirical analysis results reveal that employees' extroversion and agreeableness are positively associated with their

social relations, which are positively related to their intentions to share knowledge. They also show that employees' conscientiousness and openness to experience are positively related to their knowledge self-efficacy, which has a positive association with their knowledge sharing intentions.

## 6.2 Theoretical and Practical Implications

For KM researchers, the empirical analysis results from this study are expected to provide three useful implications as follows. First, this study has shed a new light to the importance of employees' personalities such as extroversion, agreeableness, openness to experience and conscientiousness as a significant factor to their knowledge sharing intentions. So far, prior studies about knowledge sharing have been mainly focused on the personalities as a major antecedent to either knowledge sharing behavior or the attitude toward it [Gupta, 2008, Matzler *et al.*, 2008, Teh *et al.*, 2011]. But, the empirical analysis results from this research extend the scope of the prior studies and point out the need of paying special attention to employees' personalities as the significant factors to their knowledge sharing intentions by empirically proving the significant role of employees' personalities as a major antecedent to their knowledge sharing intentions.

Second, this study has revealed the significant and positive relation between employees' personalities, social relations, and knowledge self-efficacy which has not yet been explored in previous knowledge sharing research to our knowledge. This study provides empirical evidences that there exist significant and positive

associations between employees' extroversion and social relations, between their agreeableness and social relations, between their openness to experience and knowledge self-efficacy, and between their conscientiousness and knowledge self-efficacy.

Third, this study shows that the integration of the big five model of personality, social capital theory, and social cognitive theory makes a good synergetic effect on explaining the influential factors to employees' knowledge sharing intentions. Employees' personalities such as extroversion, agreeableness, openness to experience and conscientiousness have positive relations with the employee's social relations and knowledge self-efficacy. Social capital theory and social cognitive theory provide logical linkages about the positive relations, integrated with the big five model of personality.

For managers in practice, this study is expected to provide the following three implications. First, this study suggests that they should consider employees' personality as an important factor in forming and implementing various KM strategies to promote employees' knowledge sharing intentions in their organizations. This study empirically reveals that employees' personality can have a positive relation with the intentions through the associations between their personality, social relations, knowledge self-efficacy, and knowledge sharing intentions. Therefore, it will be desirable for managers in practice to take employees' personal traits into consideration in order to effectively increasing their knowledge sharing intentions.

Second, this study shows that managers in practice need to take employees' personalities such as extroversion, agreeableness, openness

to experience and conscientiousness into consideration for the success of knowledge intensive work which requires active knowledge sharing among employees. According to the empirical analysis results from this study, there will be more possibilities for employees with higher extroversion, agreeableness, openness to experience and conscientiousness to make more contributions to the success of the knowledge intensive work through more knowledge sharing intentions.

Third, this study empirically reveals that employees with extroversion and agreeableness are likely to have more social relations and employees with openness to experience and conscientiousness are likely to have more knowledge self-efficacy, which are positively related to their knowledge sharing intentions. These findings suggest that managers in practice should pay special attention to employees' extroversion, agreeableness, openness to experience and con-

scientiousness in arranging or rearranging employees for increasing their knowledge sharing intentions across organizations.

## 6.3 Limitations

In spite of the theoretical and practical implications, this study has the following limitations. This study can provide only the snapshot of the relation between employees' personality and their knowledge sharing intentions because only the cross-sectional data was collected for this study. Moreover, employees' personal traits can be different according to the national cultures around them. But, the findings of this study reflect only the employees' personality in the South Korea, so it will be better for future studies to collect data from various employees in multiple countries with different national cultures to enhance the generalizability of their findings.

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## ⟨Appendix 1⟩ Survey Items and References

| Construct | Item | Reference |
|---|---|---|
| Extroversion | I feel comfortable around people | Goldberg *et al.* [2006]* |
| | I start conversations earlier than other people when they are around me | |
| | I talk to a lot of different people at parties | |
| Agreeableness | I am much interested in people | Goldberg *et al.* [2006]* |
| | I sympathize with others' feelings well. | |
| | I take time out for others | |
| Conscientiousness | I am always prepared | Goldberg *et al.* [2006]* |
| | I pay attention to details | |
| | I am exacting in my work | |
| Open to experience | I have excellent ideas | Goldberg *et al.* [2006]* |
| | I am quick to understand things | |
| | I can handle a lot of information | |
| | I have a vivid imagination | |
| Social relation | I have a very good relationship with my organizational members | Chow and Chan [2008] |
| | I am very close to my organizational members | |
| | I always hold lengthy discussions with my organizational members | |
| Knowledge self-efficacy | I am confident in my ability to provide knowledge that others in my organization consider valuable | Lin [2007] |
| | I have the expertise required to provide valuable knowledge for my organization | |
| Explicit knowledge sharing intention | I will share my work reports and official documents with members of my organization more frequently in the future | Bock *et al.* [2005] |
| | I will always provide my manuals, methodologies, and models for members of my organization | |
| Tacit knowledge sharing intention | I intend to share my experience or know-how from work with my organizational members more frequently in the future | Bock *et al.* [2005] |
| | I will always provide my know-where or know-whom at the request of my organizational members | |
| | I will try to share my expertise from my education or training with my organizational members in a more effective way | |

Note) http://ipip.ori.org/newBigFive5broadKey.htm

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Yong Sauk Hau is an assistant professor at School of Business in Yeungnam University. He received his Ph.D. from KAIST Business School and MBA from Seoul National University. His main research areas include open innovation, user innovation, knowledge management, and information technology management. His research papers have been published in the journals such as Journal of Knowledge Management, International Journal of Information Management, International Journal of Mobile Communications, and Computers in Human Behavior. He has professional research experience at Samsung Economic Research Institute (SERI), Korea Institute for International Economic Policy (KIEP) and Korea Information Society Development Institute (KISDI).