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An Empirical Study on Geotagging Technology Adoption Among the Social Networking Sites (SNSs) Users: The Moderating Effect of Geotagg's Use Frequency

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A New Semantic Relations-Based Hybrid Approach for Implicit Aspect Identification in Sentiment Analysis

Hajar El Hannach and Mohammed Benkhalifa

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The Link Between Transformational Leadership and Knowledge Sharing: Mediating Role of Distributive, Procedural and Interactional Justice

Le Ba Phong and Than Thanh Son

2050020

https://doi.org/10.1142/S0219649220500203

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Salma El Hajjami, Mohammed Berrada, Mostafa Harti and Gayo Diallo

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Knowledge Management Promising Contribution to University Performance: Empirical Study Based on Teachers' Opinions

Abdellatif Megnounif and Asma Kherbouche

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Ibrahim Arpaci

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Determinants of Individuals' Tacit Knowledge Sharing

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Abstract. Knowledge sharing (KS) is classified as the exchange of beliefs among individuals. Knowledge is seen as a critical asset of an organisation that can be useful in enhancing the efficiency of its operational processes. Based on previous studies, a model was developed to suggest a relationship between knowledge sharing and four of the individual determinants, namely, image, self-worth, self-efficacy and extrinsic motivation. A total of 105 questionnaires were used to collect data from senior high-school teachers in the new Juaben Municipality, Ghana. Partial least square (PLS) was utilised to analyse the data. The result of the study indicates that self-efficacy and self-worth have a positive significant relationship with knowledge sharing. However, the hypotheses on image and extrinsic motivation fail to be supported. The practical implications of these results are discussed.

Keywords: Knowledge management; self-concept; self-worth; self-efficacy; extrinsic motivation.

1. Introduction

Knowledge management (KM) has become very popular, both in academia and in the practice as businesses are experiencing tremendous changes in technology. According to Lahti and Beyerlein (2000), the only sustainable competitive advantage a firm may enjoy emanates from the value it can develop for its customers. This value is created when important information from employees who engage with

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**Corresponding author.

customers is shared with other employees who can create new knowledge to address the customers' concerns (Fusilier and Durlabhji, 2005; Quinn, 1992). The KM topic has been touched by various disciplines, from management to economics to computer science, each of which has provided new viewpoints and approaches. However, all of them agree on the notion that knowledge is a valuable asset that needs to be managed (Suppiah and Sudhu, 2011).

According to the literature, one may find diverse definitions of KM. Bhatt (1998) defines KM as the process of building, distributing, presenting and applying knowledge. According to Holm (2001), KM is the process of disseminating information to the right people at the right time and making good use of knowledge resources. Alavi and Leidner (1999, p. 11) define knowledge management as "a systemic and organizationally specified process for acquiring, organizing, and communicating both tacit and explicit knowledge of employees so that other employees may make use of it to be more effective and productive in their work". KM can also be broadly defined as an integration of systems, mechanisms and routines implemented by organisations to ensure that organisational knowledge is available to employees (Wang *et al.*, 2006). In another definition, KM is considered equivalent to managing knowledge within an organisation by steering its strategy, structure, culture and systems (uit Beijerse, 2000; Milton *et al.*, 1999).

Establishing a successful KM practices in an organisation requires effective facilitation of knowledge sharing (KS). Knowledge management consists of four major processes known as knowledge application, knowledge capturing, knowledge discovery and knowledge sharing (Becerra-Fernandez *et al.*, 2004). Essentially, this study considers only knowledge sharing which is often described as the main process of knowledge management. Knowledge sharing is the process through which explicit or tacit knowledge is communicated among employees through the process of socialisation and exchange (Nonaka, 1994; Becerra-Fernandez *et al.*, 2004).

Some researchers actually posit that KM is merely management of KS or managing the process of organisational learning (Huysman and de Wit, 2002; Dyer and Singh, 1998). KS, as one of the main processes in KM, is defined as the process through which knowledge is communicated to other individuals (Becerra-Fernandez *et al.*, 2004). The shared knowledge includes organisation's information, ideas, suggestions and expertise and this may occur both informally at the corridor and formally in meetings, seminars and presentations (Wang *et al.*, 2006). Although the role of technical solutions in facilitating KS is undeniable, their role is not as important as the willingness of individuals to share their valuable knowledge with others (McDermott and O'Dell, 2001; de Vries *et al.*, 2016). In other words, to enhance knowledge sharing, social networks are often more important than the electronic ones (Huysman and de Wit, 2002). Essentially, sharing of knowledge among employees seems to be low, individual employees feel exposed and threatened when they often tend to share their knowledge (Khalil and Seleim, 2010; Lewis, 1990). Therefore, knowledge hoarding and knowledge protection seem to be part of the normal office practice (Yesil and Hirlack, 2019). This is noted in the World Bank

report that reveals most companies in the US lose about US\$1.2 billion due to the reluctance of their employees for sharing knowledge. It is assumed that individuals may have indulged in hoarding their knowledge based on the three categories of factors, i.e. individual factors, organisational factors and technological factors (Gupta *et al.*, 2000; Riege, 2005; Twum-Darko and Harker, 2017). However, it is acknowledged that even though all three categories of factors are important, but only two categories of factors, i.e. organisational and the individual factors, are critical to an employee's willingness to engage in knowledge sharing activities (Zack, 1999; Haas and Hanson, 2005; Probst *et al.*, 2006). Many studies have been conducted to examine the factors that influence individuals' intention to share knowledge in organisations; however, only few have focussed on examining the factors that steer the inner drive of senior high-school teachers to exchange their tacit knowledge in the organisation. Most of the studies focussed on knowledge sharing among lecturers in the universities (Jolaee *et al.*, 2014; Abdur-Rafiu and Opesade, 2015; Gaál *et al.*, 2015), leaving behind only few studies (Sohail and Daud, 2009; Mogosti *et al.*, 2011; Boateng *et al.*, 2015) which found basic school teachers to share knowledge among themselves. Generally, the roles of basic school teachers include teaching, researching and consulting. Through teaching, the academic staff also play their role as knowledge disseminator to their students. They are knowledge producers and better knowledge sharing practices would definitely help the development of quality education and also improve the performance of the organisations.

The tacit knowledge of these academic staff is embedded in their minds and constitutes the storehouse of an educational institution's intellectual capital. However, a study conducted by Kong (1999) identified that teachers emphasised more on their individual achievements rather than the attainment of common organisational objectives and goals. This means that teachers find it difficult to share knowledge. They are interested in using their tacit knowledge to research and consult individually than collaborating with other people. They find it easy to share their explicit knowledge in books, magazines, journals and other forms, but feel reluctant to share their tacit knowledge to colleagues. Therefore, this study is aimed to investigate the factors that would influence teachers' intention to share their knowledge. The study developed a theoretical framework to integrate the relationship between self-concept, self-worth, self-efficacy, extrinsic motivation and intention to share knowledge.

1.1. *Knowledge*

According to Becerra-Fernandez *et al.* (2004, p. 17), knowledge is a "justified belief about a relationship among concepts relevant to that particular area". Another definition introduces knowledge as a justified truth or belief (Nonaka and Takeuchi, 1995). Knowledge is also defined as "a fluid mixed of framed experience, values, contextual information and expert insight" (Davenport and Prusak, 1998, p. 5). Knowledge can also be denoted as conceptualisation of experiences, ideas and insights from information and data.

1.2. *Taxonomy of knowledge*

Knowledge can be classified under two nomenclatures, i.e. tacit and explicit knowledge (Polanyi, 1962; Nonaka and Takeuchi, 1995). Explicit knowledge is the knowledge that is communicated in a formal and procedural mode (Nonaka and Takeuchi, 1995). Explicit knowledge is easy to comprehend (Nonaka and Takeuchi, 1995). Explicit knowledge can be found in manuals, drawings, audios and computer programmes. Explicit knowledge is also easy to be captured, manipulated and accessible.

On the other hand, tacit knowledge is quite complicated to express and formalise (Nonaka and Takeuchi, 1995). According to Nonaka and Takeuchi (1995), tacit knowledge is found in individuals' minds and thoughts which is difficult to be codified. Ipe (2003) denotes that tacit knowledge is difficult to transfer or share than explicit knowledge. Examples of tacit knowledge are intuition, designing, skills for using complex equipment, learning a language and others.

1.3. *Knowledge sharing*

Knowledge sharing is one of the core blocks of knowledge management. Perhaps, it is an important aspect of knowledge management. Knowledge sharing is denoted as the enthusiasm to create knowledge which contributes to the increase in employees' performance and harnessing innovation (Liebowitz and Chen, 2001). Knowledge sharing is defined as a deliberate act that makes knowledge reusable by other people through knowledge transfer (Lee and Al-Hawamdeh, 2002). Knowledge sharing can also be defined as the act of exchanging ideas through deliberations to create new knowledge (Hislop, 2003). Hooff and De Ridder (2004) denote knowledge sharing as the process of giving and receiving knowledge. In this study, knowledge sharing is defined as the process of exchanging experience, insight and vision in the organisation. Knowledge sharing intention could be defined as the degree to which an individual believes that he or she would engage in knowledge sharing behaviour.

1.4. *Individuals' function in knowledge sharing*

In the realms of organisational knowledge sharing, employees serve as knowledge creators and knowledge receptors. Knowledge is generated when employees exchange their ideas and technical know-how through socialisation (Nonaka, 1995). As a receptor of knowledge, individuals seek and interpret the knowledge before it is transferred to other location (Nonaka and Takeuchi, 1995). Thus, notwithstanding the act of hoarding knowledge, individuals are the main source of tacit knowledge.

For example, an employee is made known of a technical problem faced by a colleague. The existing equipment and other ICT gadgets can act as the recourse. It would take a conscious effort of an individual, i.e. employee, who has been informed to apply knowledge through the utilisation of existing equipment and ICT. This example shows that individuals are the main source of knowledge. Accordingly,

Riege (2005) argued that among all the factors that influence knowledge sharing, the "human" factors are the most essential.

2. Theoretical Framework

2.1. *Theory of Reasoned Action*

Theory of Reasoned Action (TRA) was postulated in 1967 by Fishbein and Ajzen, and was fully implemented in 1980. Attitude and subjective norm are the main determinants of TRA (Ajzen and Fishbein, 1980; Venkatesh and Davis, 2000).

Since the intention to share knowledge is a behavioural activity, we deem that it is important to conduct a literature review to choose a theoretical framework that could best explain the individual's intention to share knowledge. Based on the review of previous literature, TRA was found to be very useful for this study. The TRA was adopted to be used in this study because many researchers have confirmed the suitability of TRA in explaining individuals' intention to share knowledge; see e.g. Lin (2007a), Bock and Kim (2002), Rahab and Wahyuni (2013), Mahmood *et al.* (2011), Rouibah *et al.* (2009) and Shih and Fang (2004). These confirmations led us to choose TRA as the baseline theory to support the influences of image, extrinsic motivation, self-efficacy and self-worth on knowledge sharing. In adopting the TRA, this study adopted the simplified version of it by examining the relationship between the individual factors, i.e. self-efficacy, self-worth, image and extrinsic motivation, and knowledge sharing intention without engaging the use of attitude and subjective norms. The study seems to suggest that self-efficacy, self-worth, image and extrinsic motivation are attitudinal behaviours which would influence individuals' intention to share knowledge, thus adopting TRA as a theoretical framework for this study is appropriate.

2.2. *Research framework and hypotheses testing*

The research model in Fig. 1 is formulated based on the review of previous studies that portray these factors (self-efficacy, extrinsic reward, self-worth and image) as critical enablers of individuals' intention to share knowledge. These variables were tested among teachers from senior schools in Ghana to see if their intention to share knowledge differs from that of other professionals such as doctors, lawyers and engineers. Therefore, the research model or framework presents the relationship between the aforementioned four variables, i.e. self-efficacy, extrinsic reward, self-worth and image, and the intention to share knowledge, representing the four hypotheses, i.e. H_1–H_4, in the research model that are empirically tested. The following subsections present the discussions that support the development of the hypotheses in the research model.

2.2.1. *Extrinsic reward*

Several studies show that individual motivation is a critical tool that makes employees share their knowledge. For instance, Wasko and Faraj (2005) posit that

employees may share when they are recognised or rewarded for sharing knowledge. Bartol and Srivastava (2002) investigating four mechanisms of knowledge sharing found a positive relationship between reward programmes and knowledge sharing. Looking at this from a sociological and economic purview, it is assumed that an individual would choose to undertake an action which would improve his/her personal life (Smelser and Swedberg, 1994). Moreover, according to Kelley and Thibaut (1978), employees would engage in knowledge sharing activities when they perceive that their action would yield some reward. For instance, considering Siemens' ShareNet project, employees were motivated to share knowledge because of the explicit reward being rendered. Accordingly, the economic exchange theory states that an individual is naturally guided by his/her self-interest, i.e. the individual engages in a behaviour based on the returns. He/she may engage in the behaviour when the return is positive and reject the behaviour when the return is negative. The negative outcomes may be loss of power, loss of image, etc. Previous studies found that employees would share their knowledge when they envisage rewards such as increased pay, bonuses, job security, career advancement, etc. (Davenport and Prusak, 1998; Ruggles, 1998; Blau, 1964; Jarvenpaa and Staples, 2000; Hall, 2001; Lin, 2007b). Therefore, this study hypothesises that employees are likely to share their knowledge when they perceive their knowledge shared would earn them rewards.

Thus, the first hypothesis is proposed as follows.

H₁: *Extrinsic reward has a positive significant influence on knowledge sharing.*

2.2.2. *Image*

According to Rogers (1957), self-concept is defined as the organised set of perceptions and beliefs about a person. It can also be described as a collection of beliefs about oneself. According to Franken (1994), self-concept is the fulcrum that motivates employees to engage in a behaviour. Individuals may engage in a behaviour when they possess a positive self-image or concept. A person's self-concept is basically his/her image, i.e. the way the person perceives him/herself. Individuals would be motivated to engage in image enhancing activities than other benefits. In essence, people are willing to engage in activities that would promote their image when compared to getting a monetary-based reward. People would normally engage in activities that will provide themselves with positive self-esteem. According to the social exchange theory, social rewards such as feelings of approval, status and respect are engendered. Currently, individuals' expertise, insight or knowledge is highly valued as it is perceived as a resource (Davenport and Prusak, 1998; Gray, 2001). Therefore, employees showing their expertise to others would gain recognition and respect which would improve their self-concept. A study conducted by Chennamaneni (2006) found a positive significant relationship between image and the individuals' knowledge sharing behaviour. Knowledge sharing increases individuals' value in a way. Thus, it is theorised that the employee's belief that sharing knowledge will enhance his/her image in the organisation is likely to be an important motivator for him/her to share

knowledge, experience and valuable advice to others. Therefore, the perception that knowledge sharing enhances their image would motivate them to share. Deciphering from the above discussion, this study hypothesises that individuals would share their knowledge when they perceived that their image would be enhanced.

H₂: *Image has a positive significant influence on individuals' intention to share knowledge.*

2.2.3. *Self-worth*

Individuals' sense of self-worth is noted to be one of the rewards for knowledge sharing (Bock *et al.*, 2005). Individuals are willing to participate in knowledge sharing activities when they perceive their contribution is valued by others (Cabrera and Cabrera, 2002). Since employees can assess the importance of their knowledge through feedback in knowledge sharing activities, thus the acquired feeling of self-worth may have a positive influence on individuals' intentions to share knowledge (Bock *et al.*, 2005). Gecas (1982) argued that spontaneous reflection of employees' contribution affirms his/her competencies which increase his/her self-worth. This means that an individual would engage in knowledge sharing when he/she has received feedback on past knowledge sharing behaviours. Thus, the positive feedback would increase his/her sense of self-worth which would motivate him/her to share knowledge. In an empirical study conducted by Bock *et al.* (2005), they found self-worth to have a positive significant influence on knowledge sharing. Thus, we propose that individuals of a higher sense of self-worth may willingly share his/her knowledge than those with a low self-worth. Therefore, the following hypothesis is proposed:

H₃: *Self-worth has a positive significant influence on individuals' intention to share knowledge.*

2.2.4. *Self-efficacy*

Self-efficacy is people's judgements of their ability to undertake an action (Bandura, 1997). This is not about the skills one has, but the understanding of what one can do with the skills. This means that self-efficacy is the likelihood of a person appraising himself/herself on whether an action will be executed successfully or not. Endres *et al.* (2007) denoted that individuals' judgement on their capabilities gives an insight into how people make decisions on sharing their knowledge. Bandura (1997) postulated that individuals' self-efficacy determination may influence the willingness of a person to perform certain activities, i.e. the effort that is exerted on the activity and how long it will be performed. The individual may share knowledge when he/she perceived that he/she possesses the requisite knowledge. Therefore, a person would have the confidence to engage in knowledge sharing when he/she is certain of his/her capability to provide the required knowledge.

Clearly, self-efficacy may have a direct relevance to teachers' knowledge sharing behaviour as the teacher would appraise his/her innate capability before he/she

engages in the knowledge sharing action with colleagues. Thus, a teacher who is experienced in his/her subject area may have a higher self-efficacy to share knowledge than a newcomer. Self-efficacy has been found to be related to knowledge sharing in numerous studies. For instance, a study conducted by Kankanhalli *et al.* (2005) found self-efficacy to have an influence on electronic engineers' knowledge sharing behaviour. In another study, Lin (2007b) also found a positive significant relationship between self-efficacy and knowledge sharing. Okyere-Kwakye *et al.* (2011) found self-efficacy to have an influence on knowledge sharing. Therefore, the study proposes that senior high-school teachers with a higher self-efficacy in their subject area may share their experience more willingly than the ones with low self-efficacy. Thus, the last hypothesis is proposed:

H₄: *Self-efficacy has a positive significant influence on individuals' intention to share knowledge.*

2.3. *Research model*

Drawing from the related works in the literature, a research model as discussed above represents the relationship between knowledge sharing and self-motivation, image, self-efficacy and self-worth (Fig. 1).
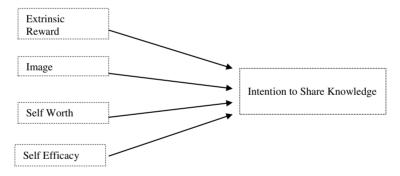

Fig. 1.   The proposed rsearch model of the relationship between extrinsic reward, image, self-efficacy and self-worth and the intention to share knowledge.

3. Research Methodology

3.1. *Instruments*

A questionnaire was used as the instrument to collect the data. The questionnaire consists of Part A and Part B. Part A solicits the demographic characteristics of the respondents, including age, gender, tenure, level of education and status. Part B consists of 20 Likert-scale items that measure the study variables. Five items were used to measure each of the constructs, i.e. intention to share knowledge, self-efficacy, extrinsic motivation, self-worth and image. In this study, intention to share

knowledge was conceptualised as the extent to which one intends to exchange and communicate experience, information and knowledge to other people in an organisation in either the tacit or explicit form. The items used to measure the dependent variable, KS, were adapted from Bock *et al.* (2005) and Lee (2001). Also, self-efficacy was operationalised as the degree to which an individual believes that he/she has the capability to engage in knowledge sharing act and the items used to measure the construct were adopted and modified from Kankanhalli *et al.* (2005). Image was operationalised as the degree of an individual's belief that sharing knowledge would improve his/her reputation. The items used to measure this construct were adopted and modified from Kankanhalli *et al.* (2005). Self-worth was operationalised as the degree of an individual's positive cognition based on his/her knowledge sharing act. The items used to measure this construct were adopted and modified from Bock *et al.* (2005). Lastly, external motivation is defined as the degree to which an individual believes that he/she would be rewarded by knowledge sharing. The items used in measuring this construct were adopted from Bock *et al.* (2005).

Totally 180 questionnaires were distributed to teachers in senior high schools in New-Juaben Municipality, Koforidua, Ghana. And 105 questionnaires were received, achieving a 58.3% rate of return. The respondents' demographic profile (refer to Table 1) indicates that about 58% are males. Majority of the respondents are aged between 20 years and 29 years. The educational backgrounds of respondents as depicted in Table 1 include 4.8% with a diploma, 68.6% with a bachelor's degree, 24.7% being master's degree holders and 1.9% being Ph.D. degree holders. Finally, concerning the length of service, about 22.9% have served for 1–2 years, 30.4% for 2–3 years, 23.8% for 4–6 years and 22.9% for seven years and above.

Table 1.   Demographic profiles ($N = 105$).

Category	Frequency	Percentage
Males	58	55.2
Females	42	44.8
Age		
20–29 Years	50	47.6
30–39 Years	28	26.7
40–49 Years	16	15.2
50–59 Years	10	9.6
Degree		
Bachelor's degree	72	68.6
Master's degree	26	24.7
Ph.D. degree	2	1.9
Diploma	5	4.8
Length of service		
0–1 Year	24	22.9
2–3 Years	32	30.4
4–6 Years	25	23.8
>7 Years	24	22.9

4. Data Analysis

4.1. *Measurement model*

In this study, structural equation modelling (SEM) approach using SmartPLS statistical software (Ringle *et al.*, 2005) was employed to test the hypotheses. The data collected were subjected to convergent and discriminant validity analyses before the final analysis was conducted. Factor loadings, composite reliability (CR) and average variance extracted (AVE) were used to assess convergence validity. The convergent validity was performed to evaluate the degree of relatedness between the items measuring the same concept (see Table 2). The loadings for all items exceeded the recommended value of 0.6 (Chin *et al.*, 1997) except for some of the items for image and knowledge sharing. Seven items, including two for image, two for intention to share knowledge, one for extrinsic reward and one for self-worth, were deleted from further analysis (Hair Jr. *et al.*, 2010). Composite reliability values, which showed the degree to which the items indicated the latent construct, exceeded the recommended value of 0.7 (Hair Jr. *et al.*, 2010). The average variance extracted is in the range of 0.669–0.810 which also exceeded the recommended value of 0.5 (Hair Jr. *et al.*, 2010).

Next, the discriminant validity was conducted to confirm the constructs are not correlated. Discriminant validity is a measure used to determine whether the constructs reflect upon other constructs within the same framework and it is determined

Table 2.   Factor loadings and reliability.

Construct	Items	Loading	AVE	CR
Extrinsic reward	ER2	0.654	0.669	0.856
	ER3	0.827		
	ER4	0.946		
Image	IM1	0.848	0.710	0.880
	IM2	0.827		
	IM3	0.853		
Knowledge sharing intention	KS1	0.897	0.774	0.911
	KS2	0.875		
	KS5	0.867		
Self-efficacy	SE1	0.876	0.682	0.914
	SE2	0.887		
	SE3	0.880		
	SE4	0.715		
	SE5	0.755		
Self-worth	SW2	0.866	0.810	0.945
	SW3	0.927		
	SW4	0.915		
	SW5	0.892		

Note: CR denotes composite reliability; and AVE is the average variance extracted.

Table 3. Inter-construct correlation.

Correlation matrix					
Construct	1	2	3	4	5
Extrinsic reward	**0.818**				
Image	0.216	**0.844**			
Knowledge sharing intention	0.093	0.485	**0.880**		
Self-worth	0.244	0.377	0.440	**0.900**	
Self-efficacy	0.171	0.619	0.659	0.510	**0.826**

Note: Diagonal elements are the square root values of the AVE scores.

Table 4. Summary of the structural model.

Hypothesis	Path	Path coefficient (β)	Standard error	t-Value	Result
H$_1$	**Self-worth → KS intention**	0.143	0.087	1.653	**Supported**
H$_2$	**Self-efficacy → KS intention**	0.521	0.136	3.821	**Supported**
H$_3$	Image → KS intention	0.120	0.127	0.946	Not supported
H$_4$	Extrinsic reward → KS intention	−0.057	0.101	0.563	Not supported

through the calculation of the square root of AVE for each latent variable which is higher than any of the bivariate correlation (R^2) (Fornell and Larcker, 1981). The square root of AVE results and all the AVE values are higher than the correlation matrix shown in Table 3. Thus, the measurement model demonstrated adequate convergent and discriminant validities.
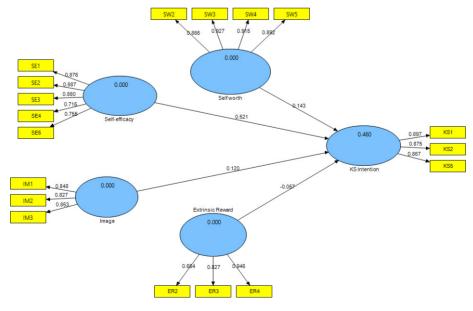

Fig. 2. The structural model.

4.2. *Structural model*

The structural model, which includes the estimates of the path coefficients and the R^2 values, determines the predictive power of the model (Sang *et al.*, 2010). The R^2 values and path coefficients indicate how well the data support the hypothesised model (Chin, 1998; Sang *et al.*, 2010). Table 4 and Fig. 2 show the results of the structural model from the PLS output. Self-worth ($\beta = 0.143, p < 0.05$) and self-efficacy ($\beta = 0.521, p < 0.05$) were positively related to knowledge sharing intention, explaining 46% of the variance, thus supporting H_1 and H_2 of this study. However, image and extrinsic reward were not significant predictors of knowledge sharing intention, thus H_3 and H_4 were not supported.

5. Discussion

This study makes an attempt to examine the relationship between some of the individuals' personal characteristics that may affect knowledge sharing. The main premise of the study is that individuals' inner drive has a quantum control on their actions, perhaps their intentions to share knowledge. The findings of the hypotheses tested are discussed in the following.

Self-efficacy

The study examined the relationship between self-efficacy and individuals' intention to share knowledge. In this study, self-efficacy was operationalised as individuals' or senior high-school teachers' assessment of their capabilities to organise and share their knowledge. The result of this study indicates that self-efficacy has a positive influence on teachers' intention to share knowledge. The outcome of this study is congruent to the findings of other previous studies such as Bock *et al.* (2005), Endres *et al.* (2007), Kankanhalli *et al.* (2005) and Kulkarni *et al.* (2006). Thus, self-efficacy having a positive significant influence on knowledge sharing implies that individuals would share their knowledge when their level of confidence to share knowledge is high and vice versa. Thus, individuals acknowledging the possession of the requisite knowledge, skills and ability (KSA) would increase their enthusiasm or confidence level to share knowledge.

Self-worth

In this context, self-worth was defined as the degree of an individual's positive cognition based on his/her knowledge sharing act. The results of the study indicate that self-worth has a positive influence on individuals' intention to share knowledge. This implies that receiving feedback on excellent tasks executed would create a sense of self-worth. The feeling of worthiness would promote the person to share knowledge. On the other hand, a person may share his/her knowledge when he/she believes that others will recognise his/her competence when engaging in the knowledge sharing activities.

Extrinsic reward

Extrinsic reward was operationalised as individuals' credence that monetary or tangible incentives will be given for sharing their knowledge. Unfortunately, the hypothesis that extrinsic reward has a positive effect on knowledge sharing was not supported. This is similar to the findings of Bock *et al.* (2005), however the result seems to be different from the findings of many researchers (Quinn *et al.*, 1996; Liebowitz, 1999) as their studies found a positive significant relationship between extrinsic rewards and knowledge sharing. This inconsistency might be due to the design and the context of the studies. The context of our study was academics or senior high-school teachers in Ghana who may perceive external rewards to be unnecessary for them to share their knowledge as they are paid to share. They see other rewards like reduced teaching loads, support to attend conferences abroad and publishing in higher impact journals to be important than monetary or other external rewards. According to Gustad (1960), academic members would be highly motivated by opportunities to attend workshops and international conferences, less workload and sabbatical leaves abroad than monetary rewards. This means that senior high-school teachers would be motivated to share their knowledge when they are provided with soft rewards than monetary rewards. This is the reason for the insignificant relationship between external rewards and intention to share knowledge.

Image

Image was operationalised as the degree of the individual's perception that the knowledge that he/she share would enhance his/her reputation. Surprisingly, the study fails to support the hypothesis that image has a positive significant influence on knowledge sharing. The insignificance can be associated with the fact that knowledge sharing culture is on the low side in Ghana and sharing or not may not really have an impact on an employee's level of respect for each other. Another reason for the insignificance could be fear of tagging syndrome in Ghana, a situation where an individual may feel others would see them to be "too known or puff". Thus, it could be a problem that teachers may have the fear of being tagged as showing off or bluffing. This unfortunate situation is common within the context of the study, i.e. Ghana, where an individual normally has to be calm and quiet as a sign of respect. Therefore, he/she would like to hoard his/her knowledge to avoid such criticism.

5.1. *Contributions and practical implications*

From the theoretical perspective, this study provides highlights on the existing relationship between certain individuals' characteristics and knowledge sharing intention. The study theoretically explains the influence of the individual factors such as extrinsic reward, image, self-worth and self-efficacy. Practically, the result shows that self-efficacy has a positive significant relationship with intention to share knowledge. This result implies that academic members, i.e. senior high-school teachers, would be motivated to share their knowledge to colleagues when they feel

competent and capable of having the required knowledge that can contribute to the development of the organisation. This suggests that senior high-school teachers may adopt a particular behaviour when the evaluation of their capability is adequate to accomplish the task. Therefore, management should pay more attention on how to improve teachers' teaching ability. Periodic training, workshops and other educational seminars can be organised to improve teachers' knowledge, skills and ability to teach. This would enhance their self-efficacy and people with higher self-efficacy are considered to be higher performers who are likely to share their knowledge. These recommendations have also been emphasised by several prior researchers (Cabrera and Cabrera, 2002; Fong *et al.*, 2011).

Self-worth having a positive effect on individuals' intention to share knowledge implies that members may share when they perceive knowledge sharing activities to be a source of recognition and power. The result of self-worth having a positive significant influence on individual's intention to share knowledge practically implies that institutions should create an environment where teachers'/academic members' efforts such as publishing in high impact journals, winning international grants and coming out with a ground-breaking research would be recognised in the institution magazines, websites and other reports. Thus, lecturers and researchers may find it necessary to share their knowledge when they perceive prior knowledge contribution is appreciated and valued by superiors and colleagues. This would increase their self-worth which would influence their intention to share knowledge.

5.2. *Limitations*

The study only considered teachers from public senior high school. Thus, it would also be interesting to investigate further the potential differences of the knowledge sharing intention between academic staff in the private and public senior high schools considering the difference in the use of modern educational infrastructures.

In addition, the study employed the use of quantitative techniques in analysing the data. Even though using questionnaire for collecting the data has provided useful and thoughtful information on individual's intention to share knowledge, the use of interview would have provided more detailed information on the subject matter.

5.3. *Conclusion*

The main objective of the study was to find the factors that influence individual's intention to share knowledge. The study utilized TRA as the theoretical framework that explains the relationship between the independent and dependent variables of this research. Based on the relationships between the variables, the hypotheses were developed. To explore these hypotheses, the quantitative method using the survey approach (questionnaire) was used to source for data from 180 senior high-school teachers in Ghana. PLS-SEM was used to test the main hypothesised relationships stated in this study. The results indicated that the relationships between self-efficacy and self-worth and the intention to share knowledge were significant. However, the

relationships between extrinsic motivation and image and the intention to share knowledge were not supported. Based on the findings, implications for practice and theory, limitations and future research were presented.

Acknowledgments

References

Abdur-Rafiu, MA and AO Opesade (2015). Knowledge sharing behavior of academics in The Polytechnic Ibadan. *Library Philosophy and Practice (e-Journal)*, 1287, 1–16.

Ajzen, I (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.

Ajzen, I and M Fishbein (1980). *Understanding Attitudes and Predicting Social Behavior.* Englewood Cliffs, NJ: Prentice-Hall.

Alavi, M and D Leidner (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly*, 25(1), 107–136.

Bandura, A (1997). *Self-Efficacy: The Exercise of Control.* New York, NY: W. H. Freeman.

Bartol, KM and A Srivastava (2002). Encouraging knowledge sharing: The role of organizational reward systems. *Journal of Leadership and Organization Studies*, 9(1), 64–76.

Becerra-Fernandez, I, A Gonzalez and R Sabherwal (2004). *Knowledge Management: Challenges, Solutions and Technologies.* Upper Saddle River, NJ: Pearson/Prentice Hall.

Bhatt, GD (1998). Managing knowledge through people. *Knowledge and Process Management: The Journal of Corporate Transformation*, 5(3), 165–171.

Boateng, H, MD Dzandu and FG Agyemang (2015). The effects of demographic variables on knowledge sharing. *Library Review*, 64(3), 216–228.

Bock, G-W and Y-G Kim (2002). Breaking the myths of rewards: An exploratory study of attitudes about knowledge sharing. *Information Resources Management Journal*, 15(2), 14–21.

Bock, G-W, RW Zmud, Y-G Kim and JN Lee (2005). Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces and organizational climate. *MIS Quarterly*, 29(1), 87–111.

Blau, PM (1964). *Exchange & Power in Social Life.* New York, NY: John Wiley and Sons Inc.

Cabrera, Á and E Cabrera (2002). Knowledge-sharing dilemmas. *Organization Studies*, 23(5), 687–710.

Chin, WW, A Gopal and WD Salisbury (1997). Advancing the theory of adaptive structuration: The development of a scale to measure faithfulness of appropriation. *Information System Research*, 8(4), 342–367.

Chin, WW (1998). Commentary: Issues and opinion on structural equation modelling. *MIS Quarterly*, 22(1), 7–16.

Davenport, TH and L Prusak (1998). *Working Knowledge: How Organisation Manage What They Know.* Boston, MA: Harvard Business School Press.

de Vries, RE, B van den Hooff and JA de Ridder (2006). Explaining knowledge sharing: The role of team communication styles, job satisfaction and performance beliefs. *Communication Research*, 33(2), 115–135.

Dyer, JH and H Singh (1998). The relational view: Cooperative strategy and sources of interorganisational competitive advantage. *Academy of Management Review*, 23(4), 660–670.

Endres, ML, SP Endres, SK Chowdhury and I Alam (2007). Tacit knowledge sharing, self efficacy theory and application to the open community. *Journal of Knowledge Management*, 11(3), 92–100.

Fornell, C and DF Larcker (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.

Fusilier, M and S Durlabhji (2005). An exploration of student internet use in India: The technology acceptance model and the theory of planned behavior. *Campus-Wide Information Systems*, 22(4), 233–246.

Gaál, Z, L Szabó, N Obermayer-Kovács and A Csepregi (2015). Exploring the role of social media in knowledge sharing. *The Electronic Journal of Knowledge Management*, 13(3), 185–197.

Gupta, B, LS Iyer and JE Aronson (2000). Knowledge management: practices and challenges. *Industrial Management & Data Systems*, 100(1), 17–21.

Haas, MR and MT Hanson (2005). When using knowledge can hurt performance: The value of organisational capabilities in a management consulting. *Strategic Management Journal*, 26 (1), 1–24.

Hair, Jr. JF, WC Black, BJ Babin and RE Anderson (2010). *Multivariate Data Analysis*. Upper Saddle River, NJ: Prentice-Hall.

Hislop, D (2003). Linking human management and knowledge management via commitment. *Employee Relations*, 25(2), 182–202.

Holm, J (2001). Capturing the spirit of knowledge management. In *Proceedings of the American Conference on Information Systems*, Boston, MA.

Huysman, MH and DH de Wit (2002). *Knowledge Sharing in Practice*. Dordrecht, The Netherlands: Kluwer Academic Publishers.

International Labour Organisation (2006). Knowledge sharing: Gender equality in the world of work. Available at http://www.ilo.org/gender. Accessed on 10 May, 2018.

Ipe, M (2003). Knowledge sharing in organisations: A conceptual framework. *Human Resource Development Review*, 2(4), 337–359.

Jolaee, A, KM Nor, N Khani and RM Yusoff (2014). Factors affecting knowledge sharing intention among academic staff. *International Journal of Educational Management*, 28(4), 413–431.

Kelley, M and JW Thibaut (1978). *Interpersonal Relationship: A Theory of Interdependence*. New York: Wiley.

Khalil, OEM and A Seleim (2010). Culture and knowledge transfer capacity: A cross-national study. *International Journal of Knowledge Management*, 6(4), 60–86.

Lahti, RK and MM Beyerlein (2000). Knowledge transfer and management consulting: A look at the firm. *Business Horizons*, 43(1), 65–74.

Lee, CK and S Al-Hawamdeh (2002). Factors impacting knowledge sharing. *Journal of Information and Knowledge Management*, 1(1), 49–56.

Lewis, M (1990). Social knowledge and social development. *Merrill-Palmer Quarterly*, 36(1), 93–116.

Liebowitz, J and Y Chen (2001). Developing knowledge-sharing proficiencies: Building a supportive culture for knowledge sharing. *Knowledge Management Review*, 3(6), 12–15.

Lin, CP (2007a). Gender differs: Modelling knowledge sharing from perspective of social network ties. *Asian Journal of Social Psychology*, 9(3), 236–241.

Lin, HF (2007b). Knowledge sharing and firm innovation capability: An empirical study. *International Journal of Manpower*, 28(3–4), 315–332.

Mahmood, A, MA Qureshi and Q Shahbaz (2011). An examination of the quality of tacit knowledge sharing through the theory of reasoned action. *Journal of Quality and Technology Management*, 7(1), 39–55.

McDermott, R and C O'Dell (2001). Overcoming cultural barriers to knowledge sharing. *Journal of Knowledge Management*, 5(1), 76–85.

Milton, N, N Shadbolt, H Cottam and M Hammersley (1999). Towards a knowledge technology for knowledge management. *International Journal of Human-Computer Studies*, 51(3), 615–641.

Nonaka, I and H Takeuchi (1995). *The Knowledge Creating Company: How Japanese Companies Create the Dynamics of Innovation*. London: Oxford University Press.

Polanyi, M (1962). *Personal Knowledge: Towards a Post-Critical Philosophy*, Harper Torchbooks. New York: Harper & Row.

Quinn, JB (1992). *Intelligent Enterprise: A Knowledge and Service based Paradigm for Industry*. New York, NY: The Free Press.

Rahab, J and P Wahyuni (2013). Predicting knowledge sharing intention based on theory of reasoned action framework: An empirical study on higher education institution. *American International Journal of Contemporary Research*, 3(1), 138–147.

Rouibah, K, T Ramayah and OS May (2009). User acceptance of internet banking in Malaysia: Test of three acceptance models. *International Journal of E-Adoption*, 1(1), 1–19.

Ringle, CM, S Wende and A Will (2005). *SmartPLS 2.0 M3 Beta*. Hamburg: University of Hamburg.

Rogers, C (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting and Clinical Psychology*, 21(2), 95–103.

Sang, S, J-D Lee and J Lee (2010). E-government adoption in Cambodia: A partial least squares approach. *Transforming Government: People, Process, and Policy*, 4(2), 138–157.

Shih, Y-Y and K Fang (2004). The use of decomposed theory of planned behaviour to study internet banking in Taiwan. *Internet Research*, 14(3), 213–223.

Sohail, MS and S Daud (2009). Knowledge sharing in higher education institutions: Perpective from Malaysia. *VINE*, 39(2), 125–142.

Twum-Darko, M and L-AL Harker (2017). Understanding knowledge sharing in an organization: A perspective of actor-network theory. *International Journal of Knowledge Management*, 13(1), 53–74.

uit Beijerse, RP (2000). Knowledge management in small and medium-sized companies: knowledge management for entrepreneurs. *Journal of Knowledge Management*, 4(2), 162–179.

Venkatesh, V and FD Davis (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186–204.

Wang, J, HP Peters and J Guan (2006). Factors influencing knowledge productivity in German research groups: Lessons for developing countries. *Journal of Knowledge Management*, 10(4), 113–126.

Wasko, MM and S Faraj (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly*, 29(1), 35–57.

Yesil, S and B Hirlack (2019). Exploring knowledge-sharing barriers and their implications. *International Journal of Knowledge Management*, 6(1), 99–122.

Zack, MH (1999). Developing a knowledge strategy. *California Management Review*, 41(3), 125–145.