Modelling the Relationships between Knowledge Sharing, Organisational Citizenship, Job Satisfaction and Organisational Commitment among School Teachers in Botswana

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Abstract

This study argues that knowledge sharing behaviour is a kind of organisational citizenship behaviour as such: (i) the two variables should be strongly positively correlated and (ii) strong predictors of organisational citizenship behaviour should also strongly predict knowledge sharing behaviour. Since the organisational behaviour literature identifies job satisfaction and organisational commitment as robust predictors of organisational citizenship behaviour, the study investigated the interrelationships among knowledge sharing behaviour, organisational citizenship behaviour, job satisfaction, and organisational commitment. Empirical data were sourced from secondary school teachers in a number of schools in and around Gaborone, Botswana. Knowledge sharing behaviour and organisational citizenship behaviour were significantly positively correlated; organisational commitment was a significant predictor of organisational citizenship behaviour; and job satisfaction and organisational commitment were significantly positively correlated. Contrary to expectations, however, both job satisfaction and organisational commitment were unrelated to knowledge sharing behaviour. While it would be premature to conclude on the strength of the evidence presented in this paper that knowledge sharing behaviour indeed is a kind of organisational citizenship behaviour, the positive correlation between the two suggests that the role of organisational citizenship behaviour in organisational knowledge sharing is worth investigating further.

Keywords

Organisational citizenship behaviour, knowledge sharing behaviour, job satisfaction, organisational commitment, knowledge management.

Introduction

The fundamental question in the field of strategic management is how organisations achieve and sustain competitive advantage (Teece, Pisano and Shuen, 1997). Over the years, strategy researchers have developed a number of frameworks intended to help organisations achieve competitive advantage. In the 1980s, the dominant approach was due to Michael Porter (Porter 1979, 1980). Seminal though it was, Porter's industry analytic approach,

particularly as exemplified by his Five Forces model, was later criticised (e.g. Zack, 1999) for ignoring the role of individual firm characteristics in achieving competitiveness. Consequently, from the mid 1980s onwards, researchers (Barney, 1991; Wernerfelt, 1984) began to look within the organisation for sources of competitive advantage, in the process developing what has come to be known as the 'resource-based view'.

The resource-based view perceives the organisation as a bundle of resources and capabilities that may potentially lead to competitive advantage. In this context, resource refers to 'anything that could be thought of as a strength or weakness of a given firm', or, more formally, 'those (tangible and intangible) assets which are semi-permanently tied to the firm' (Wernerfelt, 1984:172), such as machinery, skilled personnel and efficient procedures. However, resources on their own are not productive; the organisation needs to have the capacity (i.e. knowledge) to mobilise resources and put them to productive use (Grant, 2005).

Isolating knowledge as the key source of sustainable competitive advantage. Researchers (Grant, 1996; Nonaka, Toyama and Nagata, 2000; Prahalad and Hamel, 1990; Spender, 1996) have further refined the resource-based view to form the knowledge-based view. To be sure, in arguing that resources and capabilities determine an organisation's strategy and performance, the resource-based view does acknowledge the role of knowledge – embedded in routines and capabilities – in organisational success. However, the knowledge-based view goes further and argues that organisations exist to integrate knowledge, i.e. 'organisations are social communities in which individual and social expertise is transformed into economically useful products and services by the application of a set of higher-order organizing principles' (Kogut and Zander, 1992:383). This interest in knowledge as a factor of production has in turn given rise to the discipline of knowledge management, which as Botha and Fouché (2002:282) noted, is concerned not with how to manage knowledge (knowledge per se cannot be managed!), but with managing "the organisational environment in which knowledge resources are levered to become a critical production factor".

An important area of research activity within knowledge management field is knowledge sharing which is concerned with transferring expertise from one individual to another within – or even across – organisations (Wang, 2005). Empirically, knowledge sharing has been shown to be positively related to a number of desirable organisational variables, including organisational performance (Du, Ai and Ren, 2007; Jacobs and Roodt, 2007; Lin, 2007; Pai, 2006; Yang, 2007). However, although knowledge sharing in the workplace is in fact organisational behaviour (i.e. behaviour that people engage in within the context of organisations), knowledge sharing researchers have generally not directly and explicitly drawn from the discipline of Organisational Behaviour. In an attempt to address this anomaly, the current study draws from Organisational Behaviour to explore the antecedents of organisational knowledge sharing behaviour. Specifically, the study perceives knowledge sharing behaviour as a type of organisational citizenship behaviour, and as such argues that: (i) the two variables should be strongly positively correlated, and that (ii) predictors of organisational citizenship behaviour should also be predictors of knowledge sharing behaviour.

Literature Review

Knowledge Sharing Behaviour

Formally, knowledge sharing refers to 'behaviour by which an individual voluntarily provides other social actors (both within and outside the organisation) with access to his or her unique knowledge and experiences' (Hansen and Avital, 2005:6). Two aspects of this definition immediately stand out. Firstly, knowledge sharing occurs between individuals, and is thus different from knowledge transfer which occurs between larger organisational entities such as departments and organisations themselves (see Ipe, 2003). Secondly, knowledge sharing is voluntary – and we come back to this point later in this paper when we link knowledge sharing to organisational citizenship behaviour.

Empirical studies have identified a number of antecedents of knowledge sharing behaviour. Ipe

(2003) conveniently placed them into four main groups, namely: (i) the nature of knowledge, (ii) motivation to share, (iii) opportunity to share, and (iv) the culture of the work environment. For instance, explicit knowledge being easily modifiable would be easier to share than tacit knowledge. With respect to motivation to share knowledge, empirical studies have shown that factors such as enjoyment, helping others, and self-efficacy can be strong motivators of knowledge sharing behaviour (Lin, 2007). However, even when individuals feel motivated to share knowledge, such sharing will be subject to the availability of the opportunity to do so, with information and communications technology – frequently in the form of electronic knowledge repositories – routinely used to facilitate knowledge sharing (Cabrera, Collins and Salgado, 2006). The culture of the work environment, too, plays an important role, with researchers reporting that dimensions such as communication climate and organisational justice do in fact influence knowledge sharing behaviour (Kim and Lee, 2006).

The definition of knowledge sharing alluded to earlier viewson knowledge sharing as organisational behaviour, i.e. behaviour that individuals engage in within organisations. One particular concept studied in organisational behaviour that appears closely related to knowledge sharing behaviour is organisational citizenship behaviour: both are considered discretionary, and both have been shown to be positively related to organisational performance. Indeed, some knowledge sharing researchers (Bock and Kim, 2002; Cabrera and Cabrera, 2005; Connelly and Kelloway, 2003; Kelloway and Barling, 2000) have hinted at this similarity, with Cabrera and Cabrera (2005) even suggesting that antecedents of organisational citizenship behaviour may turn out to be antecedents of knowledge sharing behaviour. Nevertheless, empirical research into the relationship between knowledge sharing behaviour and organisational citizenship behaviour remains scarce.

The research hypothesis guiding this study is that knowledge sharing behaviour is a kind of organisational citizenship behaviour. Now, if knowledge sharing behaviour is a type of organisational citizenship behaviour, then: (i) the two must be correlated, and (ii) antecedents of

organisational citizenship behaviour must also be antecedents of knowledge sharing behaviour. The organisational behaviour literature indicates that the main antecedents of organisational citizenship behaviour are job satisfaction and organisational commitment (Organ and Ryan, 1995; Podsakoff *et al*, 2000). This study, therefore, empirically investigates the relationships among knowledge sharing behaviour, organisational citizenship behaviour, job satisfaction, and organisational commitment.

Organisational Citizenship Behaviour

Formally, organisational citizenship behaviour may be defined as 'individual behaviour that is discretionary, not directly or explicitly recognized by the formal reward system, and in aggregation promotes the efficient and effective functioning of the organisation' (Organ, Podsakoff, and MacKenzie, 2006). As Konovsky and Pugh (1994:658) observe, it is 'employee behaviour that is above and beyond the call of duty and is therefore discretionary and not rewarded in the context of an organisation's formal reward structure'. Thus, the fundamental distinction between organisational citizenship behaviour and in-role behaviour is that while the latter is formally required and expected of the employee as part of their duties and responsibilities, the former is voluntary and goes beyond normal role expectations (Allison, Voss and Dryer, 2001).

Within the literature, different types of organisational citizenship behaviours have been identified. Indeed, the review by Podsakoff *et al* (2000) identified some thirty or so discussed in the extant literature. Nevertheless, Pierce, Gardner, and Dunham (2002) list a handful of features common to all organisational citizenship behaviours, namely, that they are (i) voluntary on the part of the employee, (ii) intentional i.e. the employee consciously decides to perform them, (iii) intended to be positively valued by the employee and the organisation, and (iv) primarily benefit the organisation (or co-workers) and not the employee themselves.

A number of researchers have investigated correlates of organisational citizenship behaviour. In

particular, job satisfaction and organisational commitment appear to be strongly related to organisational citizenship behaviour. According to Penner, Midili, and Kegelmeyer (1997:112), 'there is little question that the affective and cognitive components of job attitudes are causally related to [organisational citizenship behaviours]'. In their meta-analytic review of the extant literature, Podsakoff *et al.* (2000:532) observed that '… job attitudes … [including job satisfaction and organisational commitment] … appear to be more strongly related to [organisational citizenship behaviour] than the other antecedents'. More recently, Chu *et al* (2005) investigated the antecedents of organisational citizenship behaviour among hospital nurses in a Taiwan regional hospital, and found that job satisfaction and job involvement significantly influenced the nurses' organisational citizenship behaviour.

Job Satisfaction

Job satisfaction is '… an attitudinal variable that reflects how people feel about their jobs overall as well as about various aspects of them' (Spector, 2003:210). Locke (1976), cited in Brief (1998), defined it as 'a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences'. Brief (1998) notes that although as an attitude job satisfaction is multi-dimensional, most job satisfaction definitions are only concerned with its affective component.

Empirically, job satisfaction has been found to be correlated with a large number of other organisationally important variables, including the following: negatively with turnover or turnover intentions (Cotton and Tuttle, 1986; Tett and Meyer, 1993; Shaw, 1999; Lambert, Lynne and Barton, 2001; Lam, Baum and Pine, 2001; Van Dick *et al.*, 2004); negatively with lateness (Clark, Peters and Tomlinson, 2005); positively with health, well-being, and life satisfaction (Daley and Parfit, 1996; Faragher, Cass and Cooper, 2005; Rice, Near and Hunt, 1980; Schmitt and Pulakos, 1985; Kantak, Futrell and Sager, 1992); positively with job characteristics (Lee, McCabe and Graham, 1983; Voydanoff, 1980; Bhuian and Menguc, 2002; Thomas, Buboltz and Winkelspecht, 2004). Importantly – at least for our

study – job satisfaction, as noted earlier, has been found to be a robust predictor of organisational citizenship behaviours.

Organisational Commitment

Informally, organisational commitment may be thought of as a measure of the devotion and loyalty that an employee feels towards her employing organisation. Mowday, Steers and Porter (1979), cited in Meyer and Allen (1991), defined it as 'the relative strength of an individual's identification with and involvement in a particular organisation'. Organisational commitment has also been defined as 'the totality of internalized normative pressure to act in a way that meets organisational interests' (Wiener, 1982:418).

Meyer and Allen (1991) proposed a three-component model of organisational commitment, which has been widely cited in the literature. This model distinguishes among affective, continuance, and normative commitment:

> *'affective commitment refers to the employee's emotional attachment to, identification with, and involvement in the organisation … Continuance commitment refers to an awareness of the costs associated with leaving the organisation. … Finally, normative commitment refers to a feeling of obligation to continue employment.'* (Meyer and Allen, 1991:67)

Affective organisational commitment has been found to be related to a number of organisationally important variables: turnover and turnover intentions (Griffeth, Hom and Gaertner, 2000); tardiness and absenteeism (Blau, 1986; Dishon-Berkovits and Koslowsky, 2002); job performance (Riketta, 2002). Importantly – at least for our study – organisational commitment, as noted earlier, has been found to be a strong predictor of organisational citizenship behaviours.

Research Model and Hypotheses

Figure 1 depicts the research model guiding this study. As intimated above, this study's thesis is that knowledge sharing is a type of organisational citizenship behaviour; as such, the two are expected to be positively correlated. Accordingly, the first hypothesis of this study is as follows:

H1: Knowledge sharing behaviour and organisational citizenship behaviour are positively correlated.

If knowledge sharing behaviour is a type of organisational citizenship behaviour, then not only should the two be correlated, but antecedents of one should also be antecedents of the other. Earlier, it was pointed out that job satisfaction and organisational commitment have been found to robustly predict organisational citizenship behaviour. Accordingly, it is hypothesised as follows:

H2: Job satisfaction positively influences organisational citizenship behaviour.

H3: Organisational commitment positively influences organisational citizenship behaviour.

H4: Job satisfaction positively influences knowledge sharing behaviour.

H5: Organisational commitment positively influences knowledge sharing behaviour.

Research suggests that job satisfaction and organisational commitment are strongly positively correlated. In their 1990 meta-analytic review of the then extant literature, Mathieu and Zajac, cited inin Spector (2003), reported a correlation of 0.49 between job satisfaction and organisational commitment. Similarly, in the 1996 meta-analysis by Brown, cited in Muchinsky (2006), the average correlation between job satisfaction and organisational commitment was 0.53. Consequently, it is hypothesized as follows:

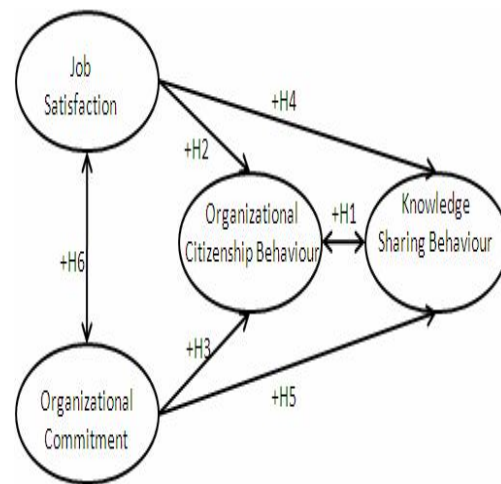*H6: Job satisfaction and organisational commitment are positively correlated.*

Figure 1: Conceptual framework indicating study hypotheses

Research Design

Research Approach

The study seeks to quantify relationships among the variables: *knowledge sharing behaviour*, *organisational citizenship behaviour*, *job satisfaction* and *organisational commitment*. As such, a cross-sectional survey was used to generate primary data that could be subjected to quantitative correlation and regression analytic techniques. For all variables, pre-existing instruments were used as they were , or modified as appropriate. All instruments were piloted at a junior community secondary school in Tlokweng in the outskirts of Gaborone, Botswana.

Research Method

The study specifically targeted teachers in senior secondary schools in Botswana, i.e. teachers in schools that offer the last two years of Botswana's five year secondary education, thereby preparing students for the Botswana General Certificate of Secondary Education examination, an equivalent of the University of Cambridge International General Certificate of Education (IGSE). There are 27 such schools in Botswana, scattered around the country. A primary concern of research in the social sciences is the issue of questionnaire response rates which are often extremely low. In a bid to bolster return rates, this study only focused on the nine schools in and around Gaborone. In all, 720 copies of the questionnaire were distributed; 283 were returned, giving a response rate of 39%, which was deemed acceptable. Gender-wise, respondents were fairly evenly distributed, with females numbering 147 and males 133. In all the analysis, listwise deletion was used to handle missing data.

Measuring Instruments

All constructs were measured using instruments sourced from the extant literature. All scales used a forced four-item scale consisting of the options "Strongly Disagree" (Score = 1), "Disagree" (Score = 2), "Agree" (Score = 3), and "Strongly Agree" (score = 4). For each construct, the summated score was obtained by calculating the mean score of all the items in the scale. Knowledge sharing was measured using the scale developed by Van den Hooff and colleagues (De Vries, Van den Hooff and De Ridder, 2006; Van den Hooff and De Leeuw van Weenen, 2004; Van den Hooff and De Ridder, 2004) as modified by Lin (2007). The scale measures two dimensions of knowledge sharing, namely: knowledge donating and knowledge collecting. Knowledge donating refers to 'communicating to others what one's personal intellectual capital is' while knowledge donating is concerned with 'consulting colleagues in order to get them to share their intellectual capital' (Van den Hooff and De Ridder, 2004:118). Lin (2007) modified this scale to produce a version in which no reference is made to departments within the company; this is particularly useful in school contexts where teachers are assigned to departments on the basis of the subjects they teach, raising the possibility of teacher belonging to more than one department. The full scale is shown here in Table 1.

Table 1: Knowledge Sharing Behaviour Scale
[Modified from Lin (2007)]

When I've learned something new, I tell my colleagues about it
When they have learnt something new, my colleagues tell me something about it
Knowledge sharing among colleagues is considered normal in my school
I share information with my colleagues when they ask for it
I share my skills with colleagues when they ask for it
Colleagues in my school share knowledge with me when I ask them to
Colleagues in my school share their skills with me when I ask them to

Organisational citizenship behaviour was measured using the Individual Citizenship Behaviour Scale developed by DiPaola and colleagues (DiPaola, 2007). With items such as 'I try to help my colleagues any way I can', the scale is a self-reported measurement of an individual's organisational citizenship behaviour. For the purposes of the current study, some items in the original scale were modified, while others were dropped altogether. For instance, the item that read 'I sponsor extracurricular activities' was changed to read 'I volunteer to be involved in extracurricular activities': it was felt that since the study participants were not in general mother tongue speakers of English, they may find the use of the word 'sponsor' in this context confusing. As can be seen from Table 2, the final scale used in this study had 17 items, compared to the 21 in the original instrument.

Table 2: Individual Teacher Citizenship Behaviour
[Source: Modified from DiPaola (2007)]

I go out of my way to introduce myself to substitute teachers
I try to help substitute teachers any way I can
I try to help my colleagues any way I can
I volunteer to be involved in extra curricular activities
I give colleagues advanced notice of changes in my schedule
I volunteer to serve on committees
I take things as they come in school without complaining
I make it a point to arrive on time for work
I spend a lot of my own time helping students
I make a lot of suggestions to improve the overall quality of our school
I am conscientious about getting to appointments on time
I always make time to deal with parental concerns
I am considerate of my colleagues' time
I voluntarily attend important school functions
My free time is my own time
Too many of my colleagues don't take responsibility for their actions and decisions
I devote time to help new teachers

Job satisfaction and organisational commitment, too, were measured using pre-existing instruments. Job satisfaction was measured using the six-item scale (Agho, Price and Mueller, 1992) that is in fact a shortened form of the instrument developed by Brayfield and Rothe (1951). The Brayfield and Rothe scale has been used widely in the literature – even to measure teacher job satisfaction (Stempien and Loeb, 2002). Shown here in Table 3, the six-item version measures global job satisfaction. Organisational commitment was measured using Meyer and Allen's (1991) affective organisational commitment scale. The scale is shown here in Table 4, where the (R) indicates reverse-worded items. The decision to measure only affective – and neither continuance nor normative – organisational commitment was motivated by the realisation that as by Van den Hooff and De Ridder (2004:119) observe, 'affective commitment is positively related to individuals' willingness to commit extra effort to their work, [it is] the kind of commitment that can be expected to be related to willingness to donate and receive knowledge'.

Table 3: Shortened Brayfield and Rothe (1951) Job Satisfaction Scale
[Source: Agho, Price and Mueller (1992

1	I find real enjoyment in my job
2	I like my job better than the average person
3	I am seldom bored with my job
4	I would not consider taking another kind of job
5	Most days I am enthusiastic about my job
6	I feel fairly well satisfied with my job

Table 4: Affective Organisational Commitment Scale
[Source: Modified from Meyer and Allen (1991)]

1	I would be very happy to spend the rest of my teaching career in this school
2	I enjoy discussing my school with people outside it
3	I really feel as if this school's problems are my own
4	I think I could easily become as attached to another school as I am to this one
5	I do **not** feel like 'part of the family' at my school (R)
6	I do **not** 'feel emotionally' attached to this school (R)
7	This school has a great deal of personal meaning for me
8	I do **not** feel a strong sense of belonging to my school (R)

Research Procedure

It had initially been intended that at each school, a staff meeting would be arranged during which the study would be introduced, and the respondents asked to fill in the questionnaire. However, this was only possible at one school. At all the other schools, the head teachers preferred that the questionnaire be left with a contact person in the school, who would then distribute and collect the questionnaires on behalf of the researchers. In general, the school heads felt that an outsider distributing and collecting questionnaire in their schools would be too disruptive for their liking. Although these sentiments were unanticipated, they were entirely understandable; schools tend to be over-researched, with some indicating that they receive a questionnaire every fortnight! Indeed, when the first author arrived to seek permission to undertake the study at one of the schools, teachers were in the process of completing another questionnaire from a different researcher.

Statistical Analysis

In all cases, Cronbach's coefficient á was used to test the reliability of the various scales used in the study. The Pearson product moment correlation coefficient was used to test hypotheses H1 and H6, while multiple regression analysis was used to test hypotheses H2, H3, H4, and H5.

Results

Knowledge Sharing Behaviour Scale

Table 5 shows the means, standard deviations, and reliability analysis results for all the measuring scales used in this study. The table also shows the correlations amongst the various study constructs. The knowledge sharing behaviour scale used in this study was due to Lin (2007) and consisted of 7 items (see Table 1), the first three of which were intended to measure knowledge donating, while the last four were supposed to measure knowledge collecting. Item analysis of the the seven-items scale yielded a Cronbach's coefficient á of 0.82, with all the items strongly positively correlated with the scale total. The knowledge donating items on their own yielded a Cronbach's coefficient á of 0.70, while the knowledge collecting items on their own yield a Cronbach's coefficient á of 0.87. However, principal axis factoring with both the Eigenvalue > 1 rule and inspection of the scree plot revealed that the seven–item scale was, for the sample under consideration, uni-dimensional, explaining 76% of the variance in the data. Further statistical analysis was thus based on the seven–item uni-dimensional knowledge sharing scale with a coefficient á of 0.82. The reason for the uni-dimensionality of the scale might be that the differences in the items were too subtle for the respondents to notice: in particular, the use of the word "share" might have been construed as suggesting a bi-directional, rather than uni-directional, flow of knowledge and information, thus nullifying the distinction between knowledge donating and knowledge collecting.

Organisational Citizenship Behaviour Scale

When the organisational citizenship behaviour scale (see Table 2) was subjected to item analysis the

following became apparent. Firstly, item 7 negatively correlated with the rest of the scale items, suggesting that it was measuring something else not being measured by the other items. Secondly, item 15 appears to be reverse worded, especially when read in conjunction with all the other items. Nevertheless, even reversing it gave a rather low correlation: the problem here might be that some people read it as being reverse–worded, while others did not, so that in the end it did not measure anything. Dropping this item would improve the scale's Cronbach's coefficient á substantially. Thirdly, item 16 gave a rather low correlation figure, and dropping it would improve coefficient á substantially. This item differs from the other items in that it asks what the respondent thinks about his or her colleagues, while all the other items are about the respondent him–or herself. It was thus decided that items 7, 15, and 16 be dropped from the organisational citizenship behaviour scale. For the remaining items, principal axis factoring with both the Eigenvalue > 1 rule and the scree test revealed that the scale was uni-dimensional, and explained 72% of the variance in the data: this scale was used in the ensuing statistical testing of the various hypotheses. The scale had a high Cronbach's coefficient á of 0.86.

Job Satisfaction Scale

Item analysis indicated that dropping item 4 from the job satisfaction scale (see Table 3) would improve the scale's Cronbach's coefficient á from 0.77 to 0.79, while dropping item 3 would improve it to 0.81. Item 3 in the job satisfaction scale read: 'I am seldom bored with my job'. Because respondents were not mother tongue English speakers, it is possible that they might have been confused by the word 'seldom'. Item 4, on the other hand, included the word not: 'I would not consider taking another kind of job'. Although this item was not reverse worded, it differed from the other items, such as 'I find real enjoyment in my job', that did not include a negation. As such, respondents may have mistakenly misconstrued it as being reverse worded, and responded to it accordingly. Consequently, it was decided that both items 3 and 4 be dropped from the job satisfaction scale, leaving a four-item scale with a robust Cronbach's coefficient á of 0.86.

Table 5: Means, Standard Deviations, And Reliability and Correlation Analysis Results

		Mean	Std. Dev.	α	1	2	3
1	JOB	2.60	0.66	0.86			
2	AOC	2.65	0.55	0.79	0.45**		
3	OCB	3.05	0.40	0.86	0.14*	0.28**	
4	KSB	3.09	0.43	0.82	0.07	0.10	0.20**

Organisational Commitment Scale

When the organisational commitment scale (see Table 4) was subjected to item analysis, the results showed that item 4 in the scale pulled down Cronbach's coefficient á somewhat; dropping this item from the scale would raise coefficient á from 0.71 to 0.79. More significantly, this item exhibited a negative correlation (-0.18) with the rest of the scale items, suggesting that it was not measuring what the other items were measuring. The item read 'I think I could easily become as attached to another school as I am to this one', and might have been measuring a general personality characteristic, i.e. 'I am like that ... I get attached to schools, and it is not because of the school, that is the way I am'. The item was reverse worded to begin with, and was coded as such in the initial analysis; however, even when treating it as 'not reverse worded', its correlation with the other scale items, at 0.18, remained very low. Item 4 was thus dropped from the organisational commitment scale.

Hypotheses Testing

The Pearson product moment correlation was used to quantify the strength of the relationship between knowledge sharing behaviour and organisational citizenship behaviour. The correlation between these two constructs was statistically significant at the p = 0.01 level, with a Pearson correlation coefficient of 0.20. Thus, H1 was supported, albeit weakly.

Multiple linear regression was used to test the relationships between job satisfaction and organisational commitment on the one hand, and organisational citizenship behaviour on the other (see Table 6). The multiple correlation coefficient R was 0.28, indicating that less than 1% of the variance of organisational citizenship behaviour is accounted for by the linear combination of job satisfaction and organisational commitment. This figure is rather low, suggesting that, for the sample investigated here, taken together, job satisfaction and organisational commitment do not significantly influence organisational citizenship behaviour.

Table 6: Results of Hypotheses Testing

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.282	.080	.073	.39089	.080	12.032	2	278	.000
2	.105	.011	.004	.43245	.011	1.541	2	278	.216

Table 6 (a): Summary of regression models

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.668	2	1.834	12.032	.000
	Residual	42.368	278	.152		
	Total	46.036	280			
2	Regression	.576	2	.288	1.541	.216
	Residual	51.989	278	.187		
	Total	52.566	280			

Table 6 (b) ANOVA results from the regression analysis

	Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	2.484	.125		19.892	.000					
JOB	.006	.040	.009	.142	.888	.135	.008	.008	.795	1.257
ACC	.207	.048	.278	4.309	.000	.282	.250	.248	.795	1.257
(Constant)	2.852	.138		20.642	.000					
JOB	.018	.044	.028	.414	.679	.068	.025	.025	.795	1.259
ACC	.071	.053	.089	1.333	.184	.102	.080	.080	.795	1.259

Table 6 (c) Regression coefficients

(For model 1, job satisfaction and organisational commitment were used to predict organisational citizenship behavior; for model 2, job satisfaction and organisational commitment were used to predict knowledge sharing behavior)

It was interesting to note, however, that in the regression model, although job satisfaction was not a significant predictor of organisational citizenship behaviour, the influence of organisational commitment on organisational citizenship behaviour was statistically significant ($p < 0.001$). To further investigate the relationship between organisational commitment and organisational citizenship behaviour, job satisfaction was dropped from the regression model. While both R and R^2 remained unchanged at 0.282 and 0.077 respectively, the adjusted R^2 improved from 0.073 to 0.076. Furthermore, both the unstandardised and standardised coefficients also improved, the former from 0.041 to 0.421, and the latter from 0.278 to 0.282. These results indicate that although H2 was not supported, H3 was. At least, for the sample considered in the current study, job satisfaction and organisational citizenship behaviour appear to be unrelated, while organisational commitment positively influences organisational citizenship behaviour.

Multiple linear regression was also used to test the relationships between job satisfaction and organisational commitment on the one hand, and knowledge sharing behaviour on the other (see Table 6). The multiple correlation coefficient R was 0.105, indicating that approximately 1% of the variance of knowledge sharing behaviour is accounted for by the linear combination of job satisfaction and organisational commitment. This figure is very low, suggesting that, for the sample considered here, taken together, job satisfaction and organisational commitment do not significantly influence knowledge sharing behaviour. Furthermore, neither of the two predictors was statistically significant at the $p = 0.05$ level. Thus, hypotheses H4 and H5 were not supported, i.e. neither job satisfaction nor organisational commitment was related to knowledge sharing behaviour.

The final hypothesis H6 was concerned with the relationship between job satisfaction and organisational commitment. Pearson's correlation coefficient was used to quantify the strength of the relationship between these two variables. The hypothesis was supported, with a correlation coefficient of 0.45, $p<0.01$. The results of hypotheses testing appear in table 6.

Discussion

This study contributes to the growing body of literature that seeks to place knowledge management concepts such as knowledge sharing behaviour in the broader organisational behaviour literature, in the process helping the knowledge management discipline break away from the shackles of technology that were so evident in the early years of the discipline (see Wilson, 2002). The main thesis of the study is that knowledge sharing is a type of organisational citizenship behaviour, and that, as such: (i) the two should be strongly positively correlated, and (ii) predictors of the latter should also be predictors of the former. The study proposes a tentative model that seeks to explain how knowledge sharing behaviour can be fostered in organisational contexts, and also opens the way for research into how other factors that are known to be correlated to prosocial behaviour may influence organisational knowledge sharing.

The first research question sought to investigate the relationship between knowledge sharing behaviour and organisational citizenship behaviour. In a real sense, this question is the crux of the current study: the study posits that knowledge sharing behaviour is a kind of organisational citizenship behaviour, and the two should thus be correlated. The other two variables, job satisfaction and organisational commitment were brought in to buttress the arguments that knowledge sharing behaviour is a kind of organisational citizenship behaviour: if the hypothesis holds, then one would expect that predictors of organisational citizenship behaviour would also be predictors of knowledge sharing behaviour. As expected, knowledge sharing behaviour and organisational citizenship behaviour were significantly positively correlated, although only moderately so ($r = 0.20$). Both the magnitude and direction of the correlation do suggest that the two are in fact related, though perhaps not to the extent that one could conclude that knowledge sharing behaviour is a kind of organisational citizenship behaviour. Nevertheless, the study does suggest that the organisational citizenship behaviour construct has a place in knowledge sharing research: further research would be necessary to explore this relationship further. It would seem, though, that within the school environment, there would be value in

encouraging organisational citizenship behaviour in order to enhance – even if only moderately – knowledge sharing behaviour.

The second and third research questions focused on the relationships between job satisfaction and organisational commitment on the one hand, and organisational citizenship behaviour on the other. Specifically, it was hypothesised that both job satisfaction and organisational commitment would strongly predict organisational citizenship behaviour. As it turned out, job satisfaction was not related to organisational citizenship behaviour; organisational commitment, however, did appear moderately related to organisational citizenship behaviour. These findings go against the conventional wisdom according to which 'there is little question that the affective and cognitive components of job attitudes are related to [organisational citizenship behaviours]' (Penner, Midili and Kegelmeyer, 1997:112). Further research would be needed to clarify whether the results were just a fluke, or whether they generally hold among teachers – and other employees – in the Botswana context.

Other variables may also be moderating the relationships between the workplace attitudes investigated in this study – particularly job satisfaction – and organisational citizenship behaviour. According to Baron and Kenney (1986:1174), 'in general terms, a moderator is a qualitative (e.g. sex, race, class) or quantitative (e.g. level of reward) variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable'. For instance, the study by Foote and Tang (2008) found team commitment to be a significant moderator of the relationship between job satisfaction and organisational citizenship behaviour: while job satisfaction and organisational citizenship behaviour were significantly related, the relationship was found to be stronger when team commitment was higher. Moderation may also have been at play in the current study: it is plausible that among the participants of the current study some other variable or variables not directly investigated in the study – such as organisational culture, social norms, and team (in this context, department) commitment – moderated the relationship between job satisfaction and organisational citizenship behaviour. This would help

explain the apparent lack of relationship between job satisfaction and organisational citizenship behaviour. Furthermore, moderation may also account for the moderate, rather than robust, correlation between organisational commitment and organisational citizenship behaviour: indeed, Cohen (2006) detected a moderating effect of culture on the relationship between organisational commitment and organisational citizenship behaviour.

The fourth and fifth research questions focused on the relationship between job satisfaction and organisational commitment on the one hand, and knowledge sharing behaviour on the other. Specifically, it was hypothesized that both job satisfaction and organisational commitment would strongly predict knowledge sharing behaviour. These hypotheses were predicated on the argument that knowledge sharing behaviour being a type of organisational citizenship behaviour, if job satisfaction and organisational commitment strongly predicted organisational citizenship behaviour (as the literature suggested), then they would also strongly predict knowledge sharing behaviour. As it turned out, both hypothesis H4 and hypothesis H5 were not supported: neither job satisfaction nor organisational commitment was related to knowledge sharing behaviour. Further research would be needed to clarify the relationships between job satisfaction and organisational commitment on the one hand, and knowledge sharing behaviour on the other, among secondary school teachers in Botswana.

As in the case of the relationship between job satisfaction and organisational citizenship behaviour, here, too, it would be important to keep the potential role of moderation in mind. Important antecedents of knowledge sharing behaviour reported in the literature include such variables as self-efficacy (Cabrera, Collins and Salgado, 2006), evaluation apprehension (Boardia, Irmer and Abusah, 2006), and trust (Wang, Lee, Lin and Zhuo, 2007). Thus, for instance, even in cases where job satisfaction is high, if self-efficacy is low, then it seems plausible that both knowledge donating and knowledge collecting would be compromised: while generally satisfied with her job, a teacher with low self-efficacy may be reluctant to either donate or seek knowledge for, among other things, fear of being considered incompetent by her colleagues. Similarly,

the opportunity to share would influence actual sharing: highly satisfied and committed teachers may be eager to share knowledge, but be denied to do so by a dearth of knowledge sharing opportunities. In general, all the factors identified in the literature review as important antecedents of knowledge sharing behaviour may potentially moderate the relationship between each of job satisfaction and organisational commitment and knowledge sharing behaviour. An important avenue of research, therefore, would be to investigate whether these factors do in fact moderate the relationships between workplace attitudes (job satisfaction and organisational commitment) and knowledge sharing behaviour.

In the case of the relationship between organisational commitment and knowledge sharing behaviour, as well as moderation, there is another dimension that must be borne in mind. Although in this study the focus was on organisational (i.e. school) commitment, teachers are employees not of the school, but of the Department of Secondary Education, and are often transferred from one school to another. Consequently, teachers might have found it difficult to answer the survey questions on commitment, where the seven items on commitment all asked participants to report their feelings in relation to this 'this school' or my 'school'. More generally, an important consideration to keep in mind is that, as Reichers (1985:471) persuasively argues, 'organisations are coalitions of entities' and that 'employees of organisations are themselves aware of the multiple sets of goals and values that different coalitions espouse'; as such commitment in the workplace may be directed at different targets. Indeed, according to Meyer, Becker and Vandenberghe (2004:993), a 'major development in commitment theory has been the recognition that commitment can be directed toward various targets, or foci, of relevance to workplace behaviour, including the organisation, occupation, supervisor, team, program, the customer and union'. For instance, in the study by Redman and Snape (2005:301) the co-workers, the union, the union representative, customers, and even the immediate boss were found to be important foci of commitment, separate from 'global' commitment to the organisation as a whole.

It is thus possible that while this study sought to measure 'organisational' commitment, respondents may have been thinking in terms of a different type of commitment, so that in the end the relationship being quantified was in fact not between organisational commitment and organisational citizenship behaviour. Thus, although teachers participating in this study generally appeared to be committed to their schools, their commitment may in fact have been directed at other targets, such as supervisors and the profession, and not necessarily their schools. Consequently, this study may have been unwittingly measuring the relationship between some of these other commitments and knowledge sharing behaviour. It would be interesting, therefore, to try and disentangle commitment among teachers, and determine which commitment in particular – if any – is related to knowledge sharing behaviour.

The sixth research question sought to investigate the relationship between job satisfaction and organisational commitment. In the extant organisational behaviour literature, a robust correlation is usually reported between these two variables; in their 1990 meta-analytic review of the then extant literature on the antecedents, correlates, and consequences of organisational commitment, Mathieu and Zajac (1990), cited in Spector (2003), reported a mean correlation of 0.49 between (global) job satisfaction and organisational commitment. This figure is quite similar to the 0.45 obtained in the current study, indicating that in the sample considered here, just as in samples considered elsewhere, job satisfaction and organisational commitment are robustly positively correlated.

Conclusions and Recommendations

Arguing that knowledge sharing behaviour is in fact a type of organisational citizenship behaviour, this study developed and tested a model linking together knowledge sharing behaviour and organisational citizenship behaviour to job satisfaction and organisational commitment, both of which have generally been shown to be strong predictors of organisational citizenship behaviour. Job satisfaction and organisational commitment robustly positively correlated, which is in agreement with results reported elsewhere in the literature. Surprisingly,

both job satisfaction and organisational commitment were not related to knowledge sharing behaviour. Furthermore, although correlation analysis suggested that both job satisfaction and organisational commitment were positively related to organisational citizenship behaviour, regression analysis indicated that only organisational commitment would be useful for predictive purposes. While, as predicted, knowledge sharing behaviour positively correlated with organisational citizenship behaviour, the correlation was only modest, and cannot thus be used to support the assertion that the former is a subset of the latter. Nevertheless, the existence and direction of the relationship is enticing, and further work exploring it would be worthwhile.

The results of this study have some important implications for organisational managers. While job satisfaction was not found to be related to either organisational citizenship behaviour or knowledge sharing behaviour, this may be an artefact of the sample considered here; as such, organisational managers should not be tempted to conclude that job satisfaction does not matter anymore. Organisational commitment positively correlated with organisational citizenship behaviour. This underscores the importance of nurturing the former in order to grow the latter; nevertheless, a word of caution is in order because – as indicated earlier – too strong a commitment to one school may prove problematic when a teacher is transferred from one school to another. This may be countered by focusing on increasing occupational commitment, so that even when a teacher is transferred to another school, because such an individual remains in the teaching profession, then the negative effects of commitment to the old school are mitigated. Furthermore, organisational citizenship behaviour and knowledge sharing behaviour were positively significantly correlated, suggesting that other antecedents of the former, such as organisational justice and leader supportiveness, may also be used to leverage the latter.

Science works by replication, and a study that investigates the relationships among knowledge sharing behaviour, organisational citizenship behaviour, job satisfaction, and organisational commitment under similar conditions to those of the current study would be invaluable. However, it is also important to remember that the bigger question is not so much whether organisational citizenship behaviour and knowledge sharing behaviour are related among Botswana secondary school teachers, but whether the two are related in organisational contexts in general. As such, it would be instructive to extend the work reported in this thesis by sampling people in other work environments, across different industries and cultures, in both the public and private sectors.

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