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Determinants of Knowledge Sharing Behavior in Public Sector Organizations: The case of Addis Ababa City Administration Bureaus

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Abstract

The study examined the determinants of knowledge-sharing behavior of employees in Addis Ababa City Administration Bureaus. The study was based on three main theories of knowledge sharing behavior: social capital, social cognition, and social exchange theories. A sample 400 employees from five selected bureaus were taken as a sample through rule of thumb to collect the primary data through self-administered questionnaire. The data were analyzed using both descriptive and inferential statistics. The findings showed that trust; organizational support, information technology, perceived reciprocal benefit and extrovert personalities were the main determinants which had statistically significant positive effect on employees' knowledge sharing behavior. However, introvert personalities had a statistically significant negative effect on knowledge sharing behavior, but perceived reputation enhancement had insignificant influence on employees' knowledge sharing behavior. The study concluded that except reputation enhancement all of the determinants had a statistically significant influence on knowledge sharing behavior of employees. It also concluded that organizational support has high effect size followed by information technology as compared to other determinants. The study offered empirical evidence on knowledge sharing determinants and how they affect employees' knowledge sharing behavior. It empirically supports the need for developing organizational cultures that enhance trust, organizational support, use of information technology, and employee extrovert personalities.

Key words: trust, organizational support, information technology, perceived reciprocal benefit, introvert personality, extrovert personality

1. Introduction

In today's knowledge-based economy an organization's success is primarily dependent on its capacity to effectively create, manage, share, and apply knowledge. This idea is crucial for public organizations, as they can greatly increase operational efficiency by increasing the value of their knowledge assets through efficient knowledge sharing techniques (Biloslavo & Trnavcevic, 2007). Even though knowledge sharing is crucial, many public organizations fail to

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recognize it as an essential aspect for their survival and growth. Staff members' reluctance to share their knowledge presents a serious problem and could jeopardize the overall capacity of public organizations tasked with knowledge creation and sharing (Lin et al., 2008).

Scholars like Ardichvili (2017) list obstacles to knowledge sharing, including interpersonal, procedural, technological, and cultural challenges. Furthermore, Seba et al. (2012) stress the importance of organizational context in promoting a knowledge-sharing culture, contending that knowledge of cultural values and practices is crucial, particularly in Asian contexts (Nguyen, 2020). Organizations in the public sector are especially knowledge-intensive, and encouraging efficient knowledge sharing among staff members is essential for enhancing customer services, developing new services, and reducing expenses (Willem, 2007).

The lack of extensive and detailed research shows knowledge gap, which denotes the lack of systematically recorded knowledge or discoveries in this area, implying that managers, researchers, and policymakers might not completely comprehend the factors that encourage or impede knowledge sharing among staff members in their organizations. This study is hoped to contribute to the body of knowledge management and leadership literature already in existence. By comprehending how various leadership styles affect knowledge sharing, leaders in public bureaus can implement successful tactics to foster a culture of knowledge sharing, which is essential for organizational learning and innovation. With this understanding, this study aimed to assess existing knowledge sharing practices, key determinants influencing knowledge sharing behaviors, and their effects on knowledge sharing behaviors of employees.

2. Review of Related Literature

2.1 Theoretical Literature Review

2.1.1 Concepts of Knowledge Sharing

Mousakhani and Gharakhani (2012), stated as knowledge sharing is an organizational belief, behavior, culture, or network that illustrates the sharing of information, expertise, and experience between departments and employees. Another way to describe it would be as a tool that facilitates information sharing within an organization. Therefore, in order to improve employee collaboration and performance, the knowledge sharing process in an organization is becoming increasingly significant.

Most authors concur that individual characteristic like motivation, experience, values, and beliefs impact knowledge sharing (Albino et al., 2004). According to Lam and Lambermont-Ford (2010), sharing knowledge is a difficult task because one of the primary obstacles is a person's willingness to share and incorporate their knowledge. In Ethiopia context, even if there is no enough studies, most previous studies regarding knowledge management were conducted in healthcare organizations such as Dessie et al. (2021) and Asemahagn (2014) but they have not addressed knowledge sharing separately and factors affecting individuals’ behavior in knowledge sharing. On the other hand, a few researchers have focused on the practices of knowledge sharing in higher education (Amin et al. (2019).Asfaw &Mekonnen et al. (2012)). In addition,

some studies have been made on practices and enablers of knowledge management in higher education of Ethiopia (Bayu, 2018; Ebuy, 2013 & Temtime, 2020).

2.1.2 Determinants of Knowledge Sharing Behavior

- **Trust**

Social exchange theorists consider trust to be the most important of the key variables. Therefore, trust between the parties to an exchange relationship is essential to the growth and continuation of social exchange. If employees feel that sharing their knowledge will benefit both them and the organization as a whole, they are more likely to do so. This proves that knowledge-sharing behavior improves when an organization maintains member trustworthiness (Gambetta (2000).

- **Organizational Support**

According to the social exchange theory, employees' desire to adopt behaviors that align with the support they receive from the organization has led researchers to find a connection between knowledge-sharing behavior and organizational support (Jolaee et al., 2014).

- **Information Technology**

Technology and tools that are thought to be easy to use and acquire are expected to have a positive impact on knowledge sharing behavior. Thus, IT is a very helpful enabler for preserving explicit knowledge (Nguyen, 2020).

- **Perceived Reciprocal Benefits**

Human behavior is explained by the Social Exchange Theory in terms of social exchange. According to earlier research, people share knowledge in the hopes that others will satisfy their future knowledge needs. Reciprocity is a key motivator for people to contribute knowledge to electronic knowledge repositories, according to Kankanhalli et al. (2005). It is therefore hypothesized that knowledge workers' perception that others will satisfy their future knowledge requirements in exchange for their knowledge sharing is likely to have a favorable impact on their knowledge-sharing behavior.

- **Perceived Reputation Enhancement**

According to the Social Exchange Theory, social interactions produce social rewards like a sense of acceptance, prestige, and respect. Because reputation depends on an individual's traits and behaviors that are apparent to others, people choose a specific self-image that they wish to reflect, alter their behavior to reflect it, and decide to reflect that self-image (Carroll et al., 2003).

- **Personality**

A person's emotions, sense of self, worldview, thoughts, and behavioral patterns make up their personality. Personality traits can affect how people share knowledge at work on an individual basis and most individuals can be categorized into introversion and extroversion according to popular belief (Paliszkiewicz, 2011).

2.1.3 Theories Related to Knowledge Sharing

- **Social Capital Theory**

In this theory social capital has been identified as consisting of trust, recognition, a common language, and a common vision. One paradigm for understanding the importance of interpersonal connections and group resources is the social capital theory (Chiu et al., 2016).

- **Social Cognitive Theory**

According to this theory, factors such as a person's personality, their environment, and their behavior all have a big impact on how they interact with others (Lu et al., 2006).

- **Social Exchange Theory**

According to this theory, organizational and supervisor support have an impact on an individual's behavior to share knowledge, since a person's desire to interact with others is driven by the hope of gaining social benefits like respect, status, and acceptance (Ford and Staples, 2010).

2.2 Empirical Literature Review

Bock and Kim's (2005) early research on public sector employees showed how knowledge sharing is impacted by expected contributions and rewards. Kwok and Gao (2005) turned their attention to college students and looked into the functions of absorptive capacity and extrinsic motivation. While Lin (2007) assessed perceived organizational rewards and the satisfaction gained from assisting others in Taiwanese businesses, Bock et al. (2005) also addressed social relationships and anticipatory rewards in Korea's private sector. Study by Palo and Charles (2015), has examined how organizational commitment and reputation enhancement influence the sharing behavior of sales personnel. Fullwood and Rowley (2017) took an academic perspective, analyzing the relationship between organizational culture and knowledge sharing, particularly in the UK context. Suman (2023) confirmed that individual motivations, perceptions of organizational support, cultural factors, technology, and trust play significant roles in facilitating knowledge sharing. Other acknowledged influences include organizational structure, climate, size, and reward mechanisms.

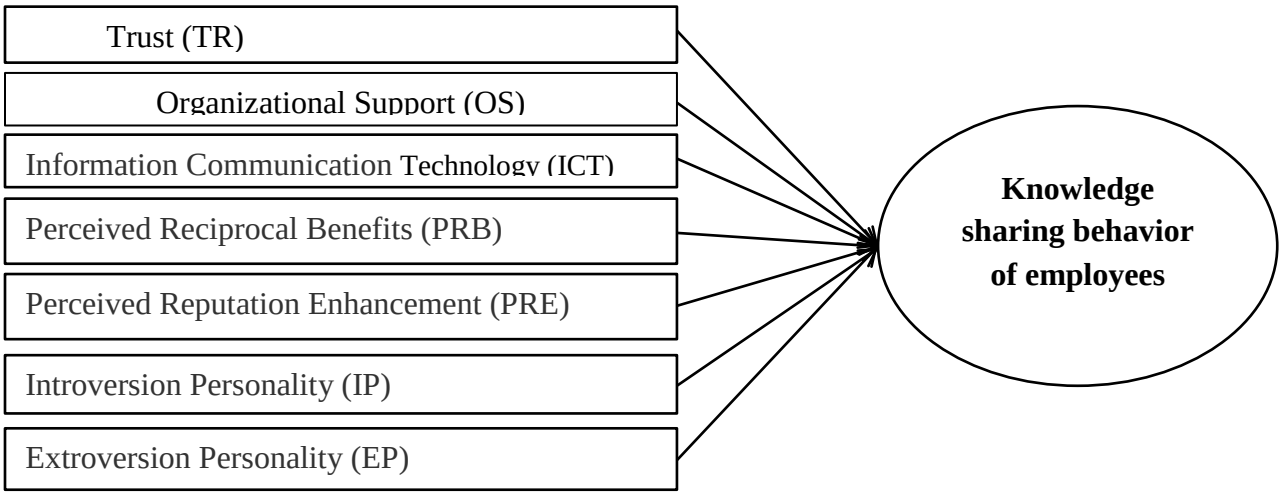
In the Ethiopian context, Dessie et al., (2021) and Asemahagn, (2014) conducted studies on existing practices of knowledge management on healthcare organizations. Some attention has been given to higher education practices in knowledge management and enablers (Amin et al., 2019; Asfaw & Mekonnen, 2022), Bayu, (2018); Ebuy, (2013); Temtime, (2020) highlights practices and enablers of knowledge management.

2.3 Conceptual Framework

The conceptual framework of this study describes the major determinants which comprises trust, organizational support, it, perceived reciprocal benefits, personality (extroversion introversion)

and perceived reputation enhancement (Independent variables) that affect knowledge sharing behavior of employees.

Figure 2.1 Conceptual Framework



Source: Adapted from Chung & Pham (2022)

3. Materials and Methods

The study used mixed research approach where the researcher combines all elements of qualitative and quantitative research approaches. Both descriptive and explanatory concurrent research designs were employed. Primary data was collected through a questionnaire and focus group discussion. 400 employees were selected from selected bureaus for survey through systematic random sampling technique. Furthermore, focus group discussion discussants were selected using a purposive sampling technique. To analyze the collected data both descriptive and inferential statistics were employed. To examine the effects of each determinant on knowledge sharing behavior of employees Structural Equation Modeling Partial Least Square (PLS) model was used. Qualitative data was analyzed in narrative way to support the quantitative data.

4. Results and Discussion

4.1 Descriptive Analysis on Existing Practices of Determinants of Knowledge Sharing

Under this section data collected on all determinants of knowledge sharing behavior were analyzed and discussed by using descriptive statistics. Regarding the existing practice of determinants of knowledge sharing researcher used Ling et al., (2015) mean cutting point to interpret the mean scores where mean score below 3.39 are deemed low, those between 3.40 and 3.79 are considered moderate, and those above 3.79 are considered high.

4.1.1 Existing practices of Trust

Table 4.1 Existing practices regarding trust

Items	Mean	Standard Deviation
Colleagues often consulted me at work	3.21	1.023
Colleagues often appreciate my opinion	3.19	1.083
Colleagues appreciate my work experience	3.32	1.082
Colleagues believe in my expertise	3.18	1.069
Colleagues want to learn from my work experience	3.30	1.129
Cumulative Mean	**3.27**	**1.076**

Source: SPSS output based on survey data, 2023

Respondents were asked whether their colleagues often consulted them at work, and they rated moderately as shown by the mean score of 3.21 and the standard deviation of 1.023. This implies that employees received little assistance from their coworkers. In addition, respondents were asked if their colleagues often appreciate their opinion, and, the respondents rated low, as evidenced by the mean score of 3.19 and a standard deviation of 1.083. This indicates that their colleagues value their opinions less than respondents perceive.

Respondent's response shows that their colleagues rated their work experience poorly with a mean score of 3.32 and standard deviation of 1.082. This indicates that their colleagues have less trust in their work experiences than they perceived. Respondents asked that their colleagues believe in their expertise, and the response shows that their colleagues rated their expertise lowly, as evidenced by a 3.18 mean and a 1.069 standard deviation. Additionally, participants were asked whether their colleagues wanted to learn from their work experiences, and they replied that employees were less interested in learning from the work experiences of their colleagues. Moreover, the cumulative mean (3.27) and Std. 1.076 indicate that there was low trust among employees of selected bureaus to share knowledge and to help each other in their work place.

4.1.2 Organizational Support

As far as existing practice of organizational support in knowledge sharing behavior was concerned, respondents replied that there is low organizational support to increase employee's possibility of getting a well work assignment by transferring knowledge with their coworkers, with a mean of 2.67 and a standard deviation of 1.051. The respondents were also asked if sharing knowledge with coworkers increased their chances of getting promoted, and the respondents responded that there was inadequate organizational support to give employees who shared knowledge with coworkers a chance of promotion, as evidenced by a mean score of 2.43 and a standard deviation of 0.873. Besides, respondents were asked whether their organization supported them in getting incentives as a result of their behavior of knowledge sharing with their co-workers. The responses obtained indicated that there was low organizational support for

improving the knowledge sharing behavior of employees via incentives as exhibited by a mean score of 2.53 and standard deviation of 0.92.

Table 4.2 Existing practices regarding organizational support

Items	Mean	Standard Deviation
Sharing information with coworkers increases my likelihood of receiving a better work assignment	3.72	0.785
Sharing knowledge with my co-workers improves the likelihood of getting a promotion for me	3.62	0.810
Sharing knowledge with my co-workers improves the likelihood of getting a higher salary for me	2.53	0.923
Sharing knowledge with my co-workers improves the likelihood of getting a bonus for me	2.45	0.871
I expect to get more job security when I share knowledge with my co-workers	2.58	0.932
My organization encourages employees to share knowledge with their colleagues	2.84	1.090
My organization provides most sources of information so employees can share knowledge with their colleagues	2.23	0.836
Cumulative Mean	**2.43**	**0.83**

Source: SPSS output based on survey data, 2023

Respondents were asked if they anticipated that sharing their knowledge would increase their job security, and they replied that there is less expectation on their organization's support to get a chance for more job security, as evidenced by a mean score of 2.58 and standard deviation of 0.93. Their organization was seen as less supportive in encouraging them to share knowledge among their co-workers, as seen from mean 2.84 on average, with a 1.09 standard deviation.

Furthermore, respondents were asked if their organization provided required sources of information to initiate them in sharing of knowledge with their colleagues and they replied as there is no provision of resources to encourage employees to share knowledge as supported with a mean of 2.01 and 0.44 Std. Finally the existing practice of organizational support to improve employee's knowledge sharing behavior was low as exhibited by a cumulative mean of 2.43 and Std. of 0.83.

4.1.3 Information Technology

Respondents were asked if they widely used information technology to access knowledge, as response they replied as there is low utilization of IT to access knowledge as evidenced by a mean of 3.12 and Std. of 1.116. Employees were requested if they are allowed to use software, intranet to discuss with colleagues about work; their response shows that employees are less utilizes software and intranet for sharing of knowledge related to their work as evidenced wit mean of 3.09 and 1.092 Std.

Respondents were asked whether they were permitted to talk about work with coworkers via software and the intranet and their response indicates there was less practice in having appropriate technology to support knowledge sharing as evidenced with a mean of 2.78 and Std of 1.001. Employees were inquired as they regularly trained in IT to share knowledge; they replied they were moderately trained in IT as exhibited by mean of 3.58 and 0.980 Std.

Table 4.3 Existing practices regarding information communication technology

Items	Mean	Standard Deviation
Employees are widely used information data to access knowledge	3.12	1.116
Employees are allowed to use software, intranet to discuss with colleagues about work	3.14	1.093
My organization has appropriate technology in place	3.23	1.118
Employees are regularly trained in information technology to share knowledge	3.09	1.092
My practiced virtual interactions to enhance knowledge sharing	2.78	1.001
Cumulative Mean	**3.12**	**1.084**

Source: SPSS output based on survey data, 2023

Moreover, respondents were asked whether their organization practiced virtual interactions to enhance knowledge sharing and they responded that there was low practice of virtual interaction to enhance knowledge sharing as supported with a mean of 3.23 and Std. of1.118. The cumulative mean for utilization of IT shows there is less use of IT in their organization as exhibited with a mean of 3.14.

4.1.4 Perceived reciprocal benefits

Table 4.4 Existing practices regarding perceived reciprocal benefits

Items	Mean	Standard Deviation
When I share knowledge with my co-workers, I expect them to respond to my knowledge needs	3.52	1.009
When I share knowledge with my co-workers, I believe that my queries for knowledge will be answered	3.61	1.004
I know that my co-workers help me, so it is only fair to help them out when they are in need of knowledge	3.69	0.881
Cumulative Mean	**3.6**	**0.95**

Source: SPSS output based on survey data, 2023

The mean score of 3.52 and a standard deviation of 1.009 indicated that respondents moderately expected their coworkers to respond to their knowledge needs when asked if employees share knowledge with their coworkers by expecting them to do so. The mean of 3.61 and standard deviation of 0.966 indicate that respondents' questions about knowledge sharing were moderately

answered. They were also asked if they thought that would be answered with their coworkers when they shared knowledge or not. Respondents asked because they believe it is only right to assist them when they need information and because they are aware that their coworkers assist them. They responded that there is a moderate degree of reciprocal expectation because their coworkers assist them when they need it, which is supported by a mean score of 3.69 and 0.881. As demonstrated by a standard deviation of 0.952 and a cumulative mean of 3.6. Employees' reciprocity benefits to improve their knowledge-sharing behavior are moderate.

4.1.5 Perceived reputation enhancement

Table 4.5 Existing practices regarding perceived reputation enhancement

Items	Mean	Standard Deviation
My co-workers respect me, when I share knowledge with them	3.63	0.917
Sharing knowledge with my co-workers improves others recognition of me	3.01	1.118
I share my knowledge to improve my reputation in the organization	3.33	1.112
Cumulative Mean	**3.32**	**1.049**

Source: SPSS output based on survey data, 2023

When asked if their coworkers respect them when they share knowledge with them, respondents rating moderately (mean of 3.63, standard deviation of 0.917). With mean scores of 3.01 and 1.118, respondents gave sharing knowledge with their coworkers a low rating in terms of improving others' recognition of them. This shows that employees' feel their co-workers have low respect to them. Respondents' replies low regarding sharing of their knowledge to improve their reputation in the organization was low, as can be seen from the mean score of 3.33 and Std of 1.112. This implies that employees perceived sharing of knowledge to their co-workers had low contribution to get reputation in their organization.

4.1.6 Personality (Introversion and Extroverts)

Table 4.6 Existing practices regarding personality (introversion and extroverts)

Items	Mean	Standard Deviation
I rarely express my actual feelings when I speak	3.54	1.028
I seldom bring up sharing with others	3.44	.949
I do not easily trust strangers	3.50	.983
I am someone who would rather listen than speak	3.58	.998
I never share my opinions with others	3.25	1.060
Cumulative Mean	**3.46**	**1.004**

Source: SPSS output based on survey data, 2023

For question stated as they rarely express their actual feelings when they speak, their response was moderate which is exhibited with a mean of 3.54 and 1.028 Std. This implies that they are moderately introverted to share their knowledge. Besides, respondents' reply if they seldom bring up sharing with others was also moderate with mean of 3.44 and Std. of 0.949. This indicates that employees rarely interacted with others to share knowledge. Respondents demonstrated a moderate level of trust in strangers, as indicated by a mean score of 3.5 and a standard deviation of 0.983.This implies that employees moderately trust the strangers to share ideas with them. Additionally, a moderate mean score of 3.58 and a standard deviation of 0.998 indicate that respondents tended to prefer listening over speaking. This indicates that employees have perceived themselves as they are listener than talking with others.

Moreover, employees tended to have a low tendency to inquire or share their opinions with others, as reflected by a mean score of 3.25 and a standard deviation of 1.060.. This implies that employees share their opinion with others to some extent. The cumulative mean shows that employees of the selected bureaus were moderately introverted to share knowledge. Respondents demonstrated a moderate level of sociability and approachability toward others, as indicated by a mean score of 3.57 and a standard deviation of 1.054. This indicates that employees are sociable to some extent. They also rated themselves as moderately comfortable working with others, with a mean score of 3.49 and a standard deviation of 0.995.This implies that employees have a perception that they are comfortable to work with others to some extent. Besides, employees rated low (m=3.37, Std=0.984) regarding enjoy in socializing and interacting with others. This shows that employees' perceived as they enjoy less as they are socializing and interacting with other's action and interaction. Furthermore, Employees perceived themselves as low in loving being an inspiration, with a mean score of 3.26 and a standard deviation of 1.074. This indicates that employees were not in love to motivate others in sharing knowledge. The cumulative mean (3.45) show that employees moderately perceived themselves as extrovert. This implies that some employees are tried to interact and share knowledge with others.

4.1.7 Knowledge Sharing Behavior

Table 4.7 Existing practices regarding knowledge sharing behavior

Items	Mean	Standard Deviation
I am a sociable and approachable individual	3.57	1.054
I am always comfortable working with people	3.49	.995
I enjoy socializing and interacting with others	3.40	.976
I am always comfortable working in groups	3.58	.935
I love being an inspiration	3.39	1.037
Cumulative Mean	**3.45**	**1.013**

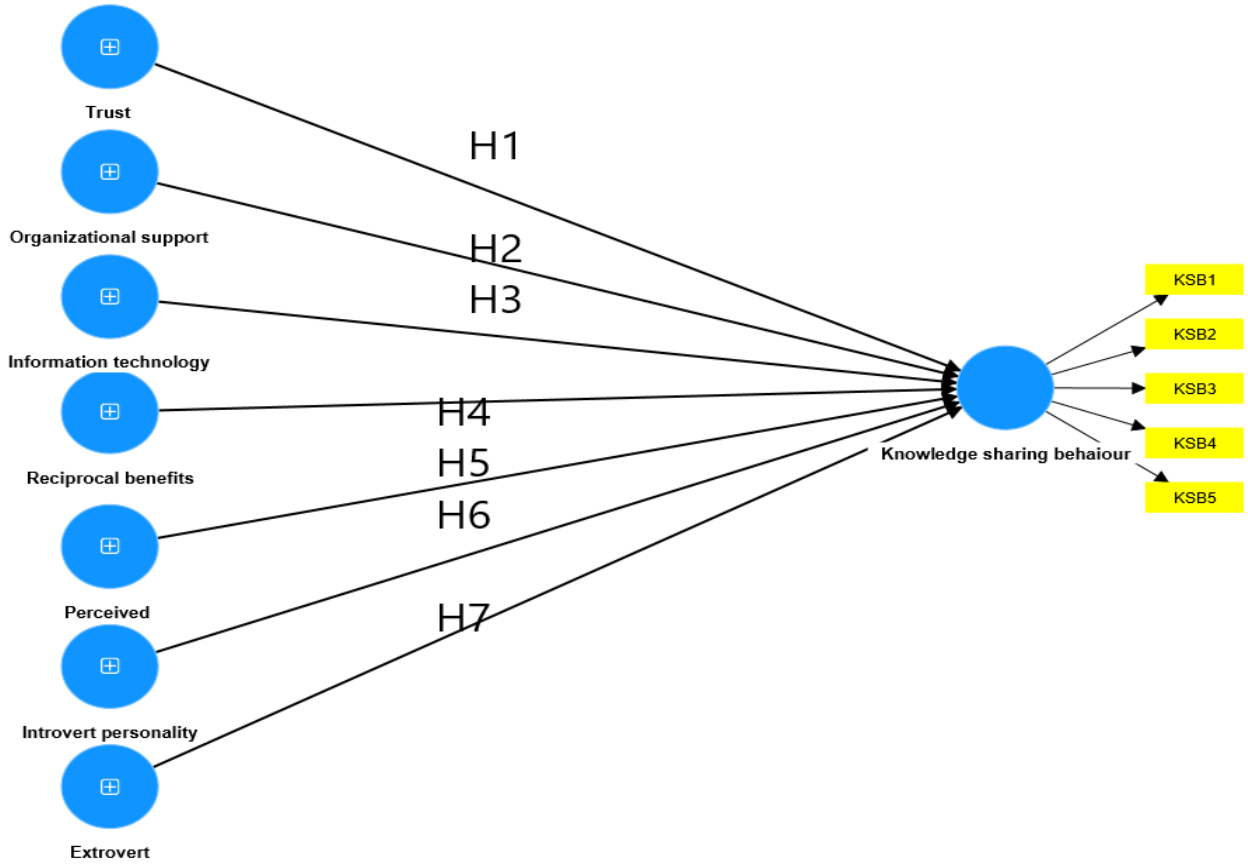
Source: SPSS output based on survey data, 2023

When asked about their organization's practice of sharing organizational knowledge with employees, the employees' perception of knowledge sharing behavior was found to be low, with a mean score of 3.11 and a standard deviation of 1.144.This indicates that employees perceived that their organization has inefficient practice in sharing its knowledge to employees. Respondents also perceived low (m=3.14, Std=1.157) on their practice to share what they know to co-workers. Employees rated low (m=3.11, Std=1.088) their behavior to share their work experiences with co-workers. This indicates that employees' sharing behavior is low, with a mean score of 2.97 and a standard deviation of 1.189, reflecting limited practice of sharing skills with co-workers. Besides there is low (m=3.22, Std=1.128) trends of sharing expertise they get from education or training with their co-workers. Finally, the cumulative mean shows as there is low (3.11) behavior of knowledge sharing among employees of selected bureaus. This implies that employees have

4.2 Inferential Analysis

The researcher used PLS-SEM and Smart PLS4 software to investigate the effects of each determinant on knowledge sharing behavior of employees as seen below.

Figure 4.1 Model of the study



Source: PLS output based on survey data, 2023

A measurement model displays each exogenous construct (introverted personality, extrovert personality, perceived reciprocal benefits, ICT, trust, organizational support, and perceived image enhancement) along with the indicators that go along with it. However, the structural model illustrates the relationship between independent and dependent variables. Under the measurement, or outer model, the study focused on evaluating the reflective model's criteria (tests), which include discriminant validity (Fornell and Larcker criteria), convergent validity (outer-loadings and average variance extracted/AVE), and composite reliability.

4.2.1 Evaluation of Measurement Model (Outer Model)

- **Composite Reliability**

The composite reliability values should be equivalent to or higher than 0.70 (Hair et al., 2021).

Table 4:8 Composite reliability and Convergent validity test

Constructs	Cronbach's alpha	Composite reliability (rho_a)	Average variance extracted (AVE)
Trust	0.801	0.873	0.664
Organizational support	0.715	0.893	0.679
Information technology	0.761	0.792	0.558
Perceived reciprocal benefit	0.814	0.840	0.664
Perceived reputation enhancement	0.702	0.720	0.546
Introvert personality	0.744	0.774	0.513
Extrovert personality	0.793	0.828	0.660
Knowledge sharing behavior	0.730	0.758	0.574

Source: PLS output based on survey data, 2023

The composite reliability was 0.873 for trust, 0.893 for organizational support, 0.792 for information technology, 0.840 for perceived reciprocal benefit, and 0.720 for perceived reputation enhancement, 0.774 for introvert personality, 0.828 for extrovert personality, and 0.758 for knowledge behavior. Following recommendations by Hair et al., (2021) all of the values are greater than the cutoff point (0.7) and less than 0.95. The result shows that the model complies (conforms) to the internal consistency criteria.

The AVE values for trust (0.664), organizational support (0.679), information technology (0.558), perceived reciprocal benefit (0.664), Perceived reputation enhancement (0.546), Introvert personality (0.513), Extrovert personality (0.660), and 0.574). The results implies that on average the construct accounts for more than half of the variation of its indicators and confirms the absence of a problem with convergent validity of the model. Table 4.9 shows the values for the Fornell-Larcker Criterion, which states that the square root of each construct's AVE should be greater than its highest correlation with any other construct.

Consequently, the diagonals (highlighted values) in Table 4.9 represent the square root of the AVE, while the other scores represent the square correlations. The eight (8) constructs' inter-correlation ranged from 0.237 to 0.605, falling below Hair et al. (2021)'s suggested upper limit of 0.8. The outcome thus demonstrates that each construct's square root of AVE is higher than its highest correlation with any other construct. Therefore, since a construct is distinct from other constructs; discriminant validity is not an issue.

Table 4.9 Discriminant validity (Fornell-Larcker Criterion)

Constructs	EP	ITC	IP	KSB	PRB	PRE	Trust	OS
EP	0.716							
ITC	0.481	0.708						
IP	0.605	0.544	0.762					
KSB	0.577	0.403	0.573	0.757				
PRB	0.478	0.359	0.400	0.313	0.778			
PRE	0.456	0.496	0.390	0.329	0.532	0.739		
Trust	0.339	0.237	0.328	0.271	0.40	0.370	0.751	
OS	0.338	0.435	0.401	0.309	0.402	0.428	0.475	0.799

Source: PLS output based on survey data, 2023

The researcher evaluated the structural model using Hair et al.'s reflective model criteria (2021). The criteria include evaluations of predictive relevance Q2, effect size/or f2, R2 values, path coefficients, and collinearity. Collinearity between exogenous variables was assessed using the variance inflation factor (VIF) prior to the structural model assessment, as indicated in Table 4.10. Each variable's VIF value should be less than five, per Hair et al. (2021).

Table 4.10 Collinearity statistics (VIF)

Independent variables	**Knowledge sharing behavior**
Extrovert personality	1.022
Information technology	1.066
Introvert personality	1.113
Knowledge sharing behavior	
Perceived reciprocal benefit	1.139
Perceived reputation enhancement	1.241
Trust	1.016
organizational support	1.009

Source: PLS output based on survey data, 2023

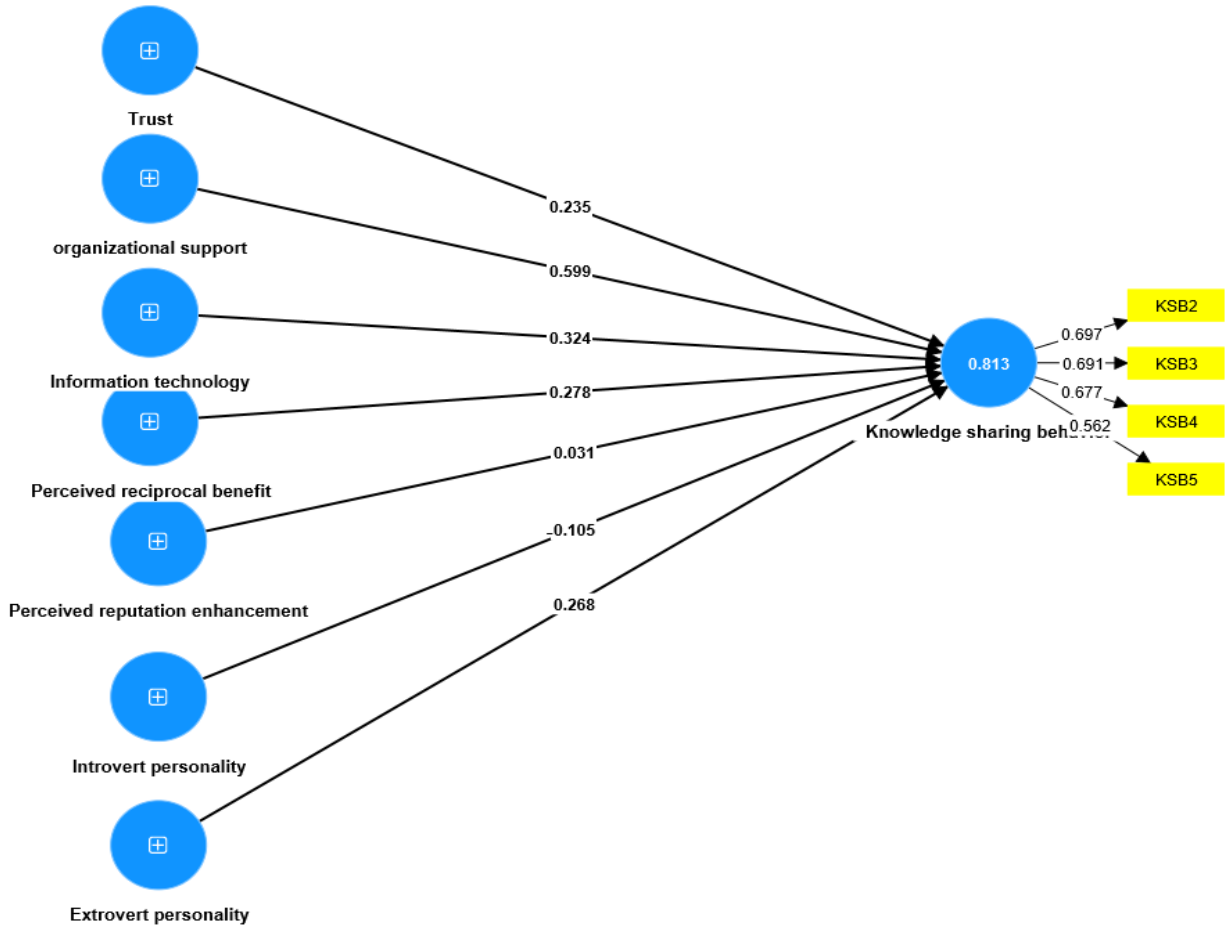
The results indicate that the values of multi-collinearity (VIF) for all independent variables (Trust=1.016, organizational support=1.009, information technology=1.066, perceived reciprocal benefit=1.139, perceived reputation enhancement=1.241, introvert personality=1.113, and

extrovert personality=1.022 are less than 5, which is the maximum threshold for collinearity. Hence, there is no a problem collinearity for the model under evaluation.

4.2.2 Evaluation of Structural Model Results (Inner Model)

After testing all required requirements for PLS reflective model the researcher proceeded to the path coefficients, which represent the hypothesized relationships between the independent and dependent variables in PLS-SEM, which are displayed in the algorithm findings.

Figure 4.2 Path model analyses (measurement and structural model)



Source: PLS output based on survey data, 2023

4.2.3 Coefficient of Determination Evaluation (R-square)

Table 4.11 Coefficient of determination evaluation (R-square)

	R-square	R-square adjusted
Knowledge sharing behavior	0.813	0.809

Source: PLS output based on survey data, 2023

The R-square value for knowledge sharing behavior of employees was 0.813. This shows that the independent variables (trust, organizational support, information technology, perceived reciprocal benefit, perceived reputation enhancement, introvert and extrovert personality) account for 81.3% of the variation in knowledge sharing behavior of employees. This implies that about 81.3% of improvement in employees' knowledge sharing behavior was due to the change in these determining factors.

4.2.4 Path Coefficients (ß) for effects of each determinant on knowledge sharing behavior

The structural model path coefficients (ß values) were calculated as displayed in figure 4.2 on previous and summarized on table 4.12.

Table 4.12 Path Coefficients (ß)

Effects of each determinant on KS behavior	Path coefficients
Trust -> Knowledge sharing behavior	0.235
organizational support -> Knowledge sharing behavior	0.599
Information technology -> Knowledge sharing behavior	0.324
Perceived reciprocal benefit -> Knowledge sharing behavior	0.278
Perceived reputation enhancement -> Knowledge sharing behavior	0.031
Introvert personality -> Knowledge sharing behavior	-0.105
Extrovert personality -> Knowledge sharing behavior	0.268

Source: PLS output based on survey data, 2023

As a result, the path coefficient (ß) for trust among employees was 0.235 which indicates that trust has a positive direct effect on employee's knowledge sharing behavior. Thus, the change in one standard deviation (SD) of trust of employees changes their knowledge sharing behavior with 0.235. Regarding organizational support (ß) was 0.599 which indicates that organizational support has a positive direct effect on employee's knowledge sharing behavior and the change in one standard deviation (SD) of organizational support changes the behavior of employees to share knowledge by 0.599. For information technology (ß) was 0.324, which shows the positive effect and the change in one standard deviation of information technology utilization alters employee's knowledge sharing behavior by 0.324. Path coefficient for perceived reciprocal benefit (0.278) shows as employees' perception for reciprocal benefit has a direct positive effect on their behavior to share knowledge to others and an increase in one SD of employee's

perception for reciprocal benefit changes their knowledge sharing behavior by 0.278. Path coefficient for perceived reputation enhancement (0.031) revealed that it has a very low positive direct effect on employees' knowledge sharing behavior. This indicates that as the perception of employees to enhance their reputation through knowledge sharing is a change in one SD, it alters their knowledge sharing behavior by 0.031 only.

On the other hand, introvert personality of employees had a negative direct effect on knowledge sharing behavior of employees as the path coefficient is -0.105. This indicates that as an introvert personality of employees increased by one SD, their knowledge sharing behavior reduced by 0.105. Finally, the path coefficient of extrovert personality of employees is 0.268 which points the direct positive effect of employees' extrovert personality on their knowledge sharing behavior. This means as there is a change in one SD of extrovert personality of employees there is a change in employees' knowledge sharing behavior by 0.268.

Even though all determining factors had effects on knowledge sharing behavior, organizational support had a greater influence with a path coefficient of 0.599 when compared to other constructs, and is followed by information technology with a path coefficient of 0.324. For testing hypotheses bootstrapping was calculated using 500 (default) sub-samples, a 95% confidence level (0.05 level of significance), and a two-tailed test, as shown in Table 4.13.

Table 4.13 Hypothesis testing (P- values)

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T-statistics (|O/STDEV|)	P values	Status of hypotheses
Trust -> Knowledge sharing behavior	0.115	0.121	0.054	2.111	0.035	Supported
Organizational support -> Knowledge sharing behavior	0.247	0.101	0.097	4.909	0.000	Supported
Information technology -> Knowledge sharing behavior	0.236	0.234	0.049	4.815	0.000	Supported
Perceived reciprocal benefit -> Knowledge sharing behavior	0.170	0.172	0.052	3.305	0.001	Supported
Perceived reciprocal enhancement -> Knowledge sharing behavior	0.185	0.187	0.082	0.080	0.289	Not supported
Introvert personality -> Knowledge sharing behavior	0.189	0.041	0.055	2.108	0.043	Supported
Extrovert personality -> Knowledge sharing behavior	0.190	0.190	0.057	3.318	0.001	Supported

Source: PLS output based on survey data, 2023

Ha1 indicates that trust among employees has a statistically significant positive effect on knowledge sharing behavior of employees with 0.035 P-value which is less than the anticipated

cutoff (0.05), and the T-statistics value of 2.111, which was greater than the critical T-value (1.96) and the study's data confirms the predetermined hypothesis.

Ha2 shows that organizational support has a statistically significant positive effect on knowledge sharing behavior of employees with a P-value of 0.000, and a T-statistics value of 4.909, which is greater than T-critical (1.96). The study's result confirms the pre-assumed hypothesis.

Ha3 suggests that information technology has statistically positive significant effect on knowledge sharing behavior of employees with a p-value of 0.000, which is less than the threshold (0.05), and a T-statistic of 4.815, which is higher than the T-critical (1.96). Thus, the research provided evidence in support of the hypothesized relationship.

Ha4 shows that perceived reciprocal benefit has a statistically significant positive effect on knowledge sharing behavior of employees with a path coefficient of, and P-value of 0.001 which less than 0.05, a T-statistic is 3.305 that is higher than the T-critical. This suggests that the finding supported the presumptive hypothesis.

Ha5 shows that perceived reciprocal enhancement has no statistically significant effect on knowledge sharing behavior of employees with p-value of 0.080 and T-statistics of 0.289.This indicates that the data did not support the pre-stated assumption.

Ha6 indicates that introvert personality has statistically significant negative effect on knowledge sharing behave or of employees.

Ha7 revealed that extrovert personality has statistically significant positive effect on employees' knowledge sharing behavior. It confirms as the data support the proposed hypothesis.

4.3 Discussions

The main objective of this study was to identify the main determinants of knowledge sharing (trust, organizational support, information technology, perceived reciprocal benefit, perceived reputation enhancement, and introvert and extrovert personalities) and investigate their effects on the behavior of employees in knowledge sharing. According to the study's findings, there was low organizational support, little employee trust, and low use of information technology to encourage knowledge sharing among staff members in particular bureaus. On the other hand the study found that employees perceived a moderate degree of reciprocal benefit and reputation enhancement from sharing knowledge with coworkers. Additionally, the study found that while only a small percentage of workers were introverts, some of them had extrovert personalities and excel at teaching others.

Similarly, the focus group discussion results show that low trust among employees and between employees and managers in sharing knowledge. Besides, there was low organizational support to motivate employees to engage in knowledge sharing activities. The response from group discussants also showed as there was low utilization of ICT for knowledge sharing activities even if there is better IT infrastructure in some bureaus. Moreover, the study found that organizational support, information technology, trust, a perception of reciprocal benefits, and an extrovert personality all had a statistically significant positive effect on employees' knowledge-

sharing behavior. Though perceived reputation enhancement had a modest positive influence on knowledge sharing behavior but introverted personalities had a statistically significant negative effect on this behavior.

The study's results showed that organizational support had the greatest influence on employees' knowledge-sharing behavior. The study conducted by Anwar et.al (2019) evidenced that culture and climate of an organization plays a vital role in building a knowledge sharing behavior of employees. On the other hand, among public sector workers, Bock and Kim (2005) looked at elements like expected rewards, expected contribution, and expected association have a significant influence on knowledge sharing behavior of employees. University students' extrinsic motivation, channel richness, and absorptive capacity were examined by Kwok and Gao in 2005 as all influence the behavior of students in sharing knowledge. Anticipated Extrinsic Rewards (AER), reciprocal relationships, and Sense of Self-Worth (SSW) among Korean private sector employees were examined by Bock et al. in 2005 as all of them affect behavior of employees.

4.4 Conclusions

Concerning the present status of the determinants of knowledge sharing, the study concluded that there is low organizational support, low employee trust, and insufficient use of information technology to encourage staff knowledge sharing behavior. Although employees acknowledge as knowledge sharing has a moderate potential to improve reputation and yield reciprocal benefits, the current inadequacies prevent these benefits from being fully realized. The study also concluded that trust, information technology, organizational support, the sense of reciprocal benefits, and extroverted personality traits significantly encourage employees to share their knowledge.

4.5 Recommendations

By offering incentives and resources, it is recommended if leaders actively encourage a culture of knowledge sharing. To make knowledge sharing simpler and more efficient, it is better if organizations assess and improve their technology infrastructure by putting in place software that promotes employee communication and resource sharing, knowledge management systems, or collaborative platforms. A more encouraging atmosphere can be produced by trust-building initiatives, such as team-building exercises, open communication, and cooperative opportunities. Employees' worries about knowledge sharing can be alleviated by promoting open communication.

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