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PERSONAL FACTORS AFFECTING THE INTENSITY OF KNOWLEDGE SHARING BEHAVIOR (KSB) IN THE UNIVERSITY OF KIGALI, RWANDA

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Abstract

Organizations' competitive advantage increasingly depends on effective knowledge management and organizational learning. Successfully implementing knowledge management systems depends on employee behavior especially on knowledge sharing among employees. The main purpose of this paper is to assess the personal factors that affect knowledge sharing behavior among academic staff at the University of Kigali, Rwanda. This research paper is based on the theory of perceived behavior. Research data collected from fourteen full-time staff of the University of Kigali using printed questionnaires. It was observed that the academic staff at the University of Kigali share knowledge acknowledged that sharing knowledge is a good and pleasant thing, and they share knowledge to acquire new knowledge and experiences. They further indicated that they believe that sharing new ideas will save time, and it is within their control. Moreover, the academic staff noted that they share knowledge for the sake of their colleagues regardless of the colleague's level of knowledge and experience. However, it can be observed that most academic staff feels that they share more knowledge with their colleagues than they receive from their colleagues.

Keywords: Personal Factors, Knowledge Sharing, Knowledge Sharing Behavior, Theory of Planned Behavior, Perceived Behavior Control.

Introduction

Organizational knowledge is becoming the most powerful resource an organization can utilize to achieve competitive advantage [28] [31]. However, for knowledge to become vital it must be shared, and knowledge sharing does not occur in an organizational vacuum, successful knowledge sharing depends on employees [23]. This research paper defines knowledge sharing as a behavior of diffusing one's acquired knowledge to for collaboration in order to solve problems, implement policies, or develop new ideas within an organization [24] [26].

Research has shown a strong connection between knowledge sharing and team performance [10], production costs reduction [5], firm innovativeness [14], efficient and effective product development projects [9], and general organization growth. Therefore, there is a need to investigate the factors that shape knowledge sharing behaviors in the organizational context referring to the enormous significance of knowledge sharing to organizational survival.

Identification of factors that motivate employees to share knowledge for the benefit of other employees and the firm is a high priority issue for organizations [8] [13] [24] [27]. Knowledge is the most coveted asset of an individual, and it is important to distinguish that individuals may decide to share or not to share their knowledge for some reasons [29]. Therefore, the absence of consideration of how the individual characteristics influence knowledge sharing can be an important reason for the failure of organizational knowledge sharing [10]. It is in this perspective that this paper seeks to assess the personal factors that affect knowledge sharing among the academic staffs at the University of Kigali.

Previous studies have shown that there are so many factors that foster or hinder knowledge sharing among employees [17] [19], and they differ from one organization to other and from one discipline to other. Hence, to promote knowledge sharing the factors that contribute to the willingness of the employee to share knowledge must be investigated [26] if organizations are committed to adding value to the practitioners of knowledge sharing intensity [4] [15]. Therefore, this paper uses the Theory of Perceived Behavior (TPB) in seeking to understand the contributing factors on knowledge sharing among the academic staff in developing nations. Following hypothesis will be tested:

- Hypothesis 1. Knowledge Sharing Intention has a positive effect on Knowledge Sharing Behavior.
- Hypothesis 2. Subjective Norms has a positive effect on Knowledge Sharing Intention.
- Hypothesis 3. Perceived Behavior Control has a positive effect on Knowledge Sharing Intention.
- Hypothesis 4. Perceived Behavior Control has a positive effect on Knowledge Sharing Behavior.
- Hypothesis 5. Attitude towards knowledge sharing has a positive effect on Knowledge Sharing Intention.

Theory of Perceived Behavior (TPB)

The Theory of Planned Behavior (TPB) was used over the Theory of Reasoned Action (TRA) because TPB has occasionally explained the actual behavior better than TRA in seeking to identify personal factors that contribute to knowledge sharing behavior. For example, TPB was successfully used it to predict: hunting behaviors [16], dishonest actions [7], teachers intention to provide dietary counseling [6], students intention to quit smoking [21], breast self-examination behavior [22] and a number of studies in information systems have also used TPB to predict the usage of technology [12]. Therefore, it can be observed that the Theory of Planned Behavior (TPB) is perhaps the most influential and the popular social-psychological model for explaining and predicting human behavior in specific contexts [1].

The TPB was developed by Ajzen and is an extension of the researcher’s earlier work on the Theory of Reasoned Action (TRA) [2] [3] because it was realized that behavior is not totally influence by voluntary and under control some other factors exist. This resulted in Ajzen introducing perceived behavioral control as a new determinant to behavior and hence the new theory named theory of planned behavior was introduced as visualized in figure 1 below.

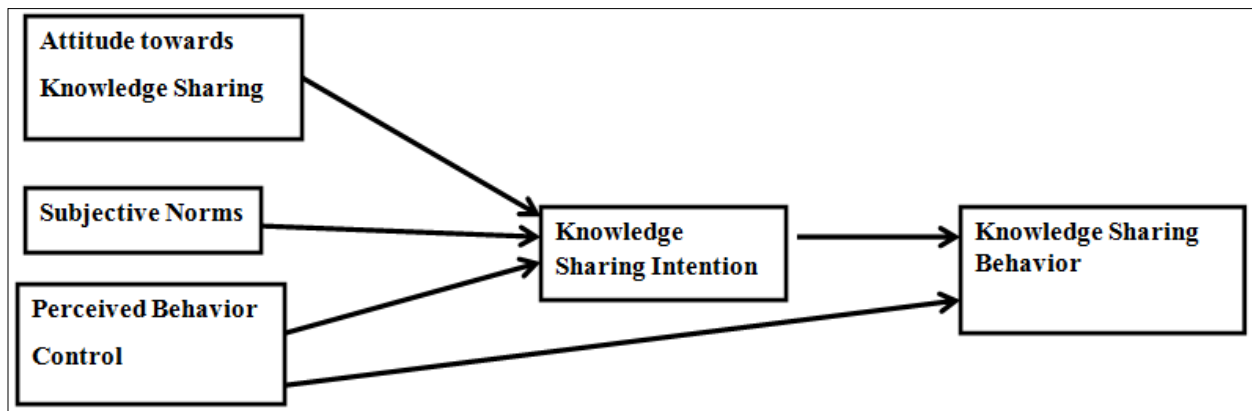


Figure 1: Theory of Perceived Behavior (TPB)

Source: Ajzen (1991)

The Explanation of the Theory of Planned Behavior (TPB) Constructs

TPB hypothesize that individual choice of action is primarily determined by Perceived Behavioral Control and the behavioral intentions where behavioral intentions are a function of an individual’s attitude, Subjective norms and the Perceived Behavioral Control as shown in figure 1 above.

The behavioral intention has received numerous empirical supports from prior studies as a good predictor of actual behavior. Behavioral intention is a measure of the strength of one’s intention to perform a specified behavior. Therefore, any factors that influence behavior are indirect influences through behavioral intention [30]. This leads to hypothesis 1: Knowledge Sharing Intention has a positive effect on Knowledge Sharing Behavior

Intention is in turn influenced by the individual's attitude towards a behavior (A), subjective norm (SN) and perceived behavioral control (PBC) with each determinant weighed for its significance in relation to the behavior and population in question [11].

Considered as the person's perception that others desire the performance or non-performance of a specific behavior, subjective norm reflects on if other members are in favor of or opposition to the performance of the behavior by the subject [11]. It is the person's perception of others' thinking regarding the behavior in question. Hence the positive support received by individuals from other persons or organizations important to them becomes greater, their attitude also becomes more positive [2]. Subjective Norm (SN) is based on normative beliefs. Normative beliefs are beliefs about the perceived social pressure from important referent group to perform or not to perform a specified behavior. Normative beliefs together with the motivation to comply with these referent group expectations determine the subjective norm. Based on the TPB, sharing norms are positively related to knowledge sharing behavior in communities of practice and therefore there exists a positive link between opportunities to share (which include a culture that encourages knowledge use) and knowledge use [19]. This leads to hypothesis 2: Subjective Norms has a positive effect on Knowledge Sharing Intention.

The perceived Behavior control is based on the beliefs that the presence or absence of some factors together with the perceived power of each factor may impede or facilitate the performance of a certain behavior. Perceived Behavior Control positively affects behavioral intention since human are generally tend to shy away from undertaking tasks at which they fail and also, individuals with resources and opportunities are likely to form strong behavioral intentions towards performing the desired behavior [2]. This leads to Hypothesis 3: Perceived Behavior Control has a positive effect on Knowledge Sharing Intention.

Additionally, when the individual's perceptions of behavior control and the actual control are in agreement, Perceived Behavior Control is also expected to influence actual behavior. The greater one's belief that one possesses resources and opportunities, the fewer impediments one anticipates and as such has greater perceived control over the behavior. Hence, a possibility of the proposition that perceived behavioral control can also influence behavior [2]. This leads to Hypothesis 4: Perceived Behavior Control has a positive effect on Knowledge Sharing Behavior.

The attitude toward using is an individual's positive or negative feelings about performing the target behavior. Attitude towards knowledge sharing is formed from behavioral beliefs and refers to the degree of positive/negative feelings an individual has towards the intention to share knowledge with other members of the organization. Higher attitudinal disposition towards knowledge sharing should increase knowledge sharing intention [20]. This leads to hypothesis 5: Attitude towards knowledge sharing has a positive effect on Knowledge Sharing Intention.

Methodology

To test the proposed research model, a sample size of 14 academic staff at the University of Kigali was selected. This research paper used a questionnaire that contained the following dimensions: Intention to Share knowledge; Subjective Norms about Knowledge Sharing; Perceived Behavior Control; Attitude towards Knowledge sharing. A pilot study done at Mount Kenya University, Department of Information Technology revealed that the questionnaire satisfactory attained the required internal reliability and measures what it is supposed to measure (Cronbach's Alpha of all items in the questionnaire was above the acceptable value of 0.6).

Results And Discussions

Knowledge Sharing Behavior

From Table 1 below, the majority of the respondents (50 percent) agreed (Median = 4, Mode = 4, Range = 2 and IQR = 1) that when they have learnt something new, they tell their colleagues about it. However, majority (35.7 percent) of the respondents remained neutral (Median = 3, Mode = 3 Range = 4 and IQR = 2) on whether their colleagues tell them when they have learnt something new. From the figure 2 below, it can additionally be observed that the responses for knowledge sharing behavior are normally distributed since the median is equal to the mode.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Median	Mode	Range	IQR
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When I have learned something new, I tell my colleagues about it	0.0	0.0	14.3	50	35.7	4	4	2	1
When they have learned something new, my colleagues tell me about it	7.1	21.4	35.7	28.6	7.1	3	3	4	2

Table 1: Knowledge Sharing Behavior

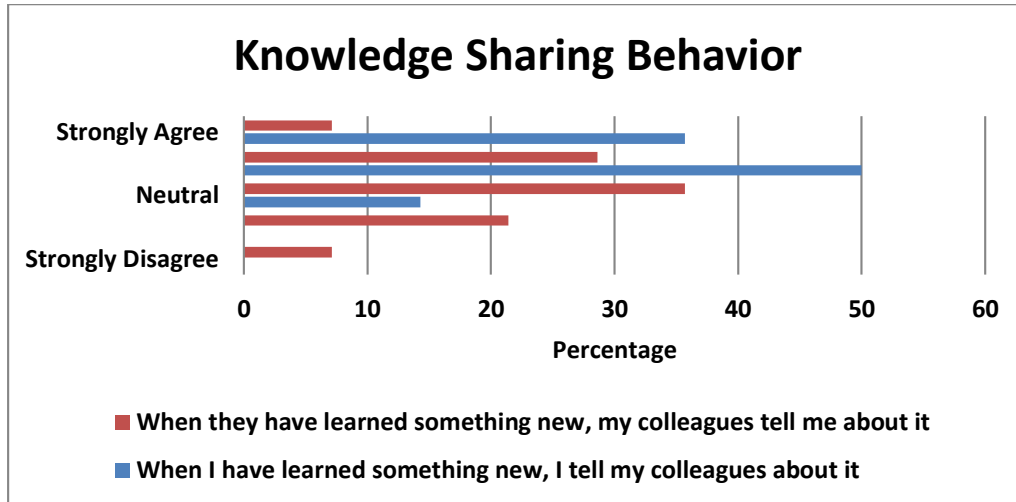


Figure 2: Knowledge Sharing Behavior

Intention to share knowledge

From Table 2 below, the majority (42.9 %) of the respondents agreed (Median = 4, Mode = 4, Range = 2 and IQR = 1) on their intention to share knowledge is to acquire new knowledge and experience. When asked whether their intention to share knowledge is to save time, 21.4 percent of the respondents disagreed while 21.4 percent of the respondents remained neutral (Median = 4, Mode = 3.5, Range = 4 and IQR = 1). Moreover, an equal number (21.4 %) of respondents agreed and the majority (28.6 %) strongly agreed that knowledge sharing saves time.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Median	Mode	Range	IQR
To acquire new knowledge and experience	0.0	0.0	21.4	42.9	35.7	4	4	2	1
Saving time	7.1	21.4	21.4	21.4	28.6	3	3.5	4	3

Table 2: Intention to share knowledge

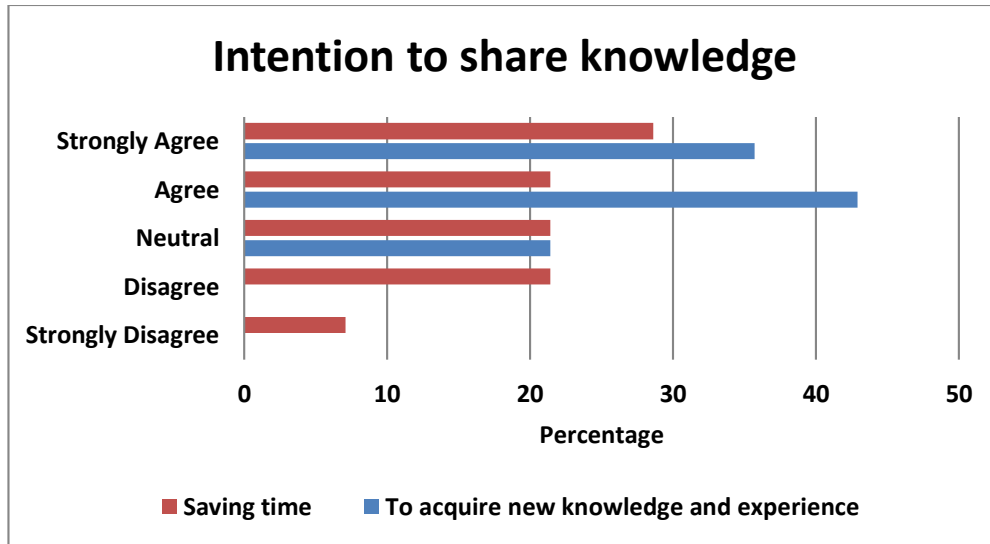


Figure 3: Intention to share knowledge

Subjective Norms on Knowledge Sharing

From Table 3 below, majority (35.7 %) of the respondents remained neutral (Median = 3, Mode = 3, Range = 4 and IQR = 2) on whether their head of Department always thinks that they should share their knowledge to other members on the organization. However when responding on whether their colleagues expects them to share their knowledge in the university, 35.7 percent strongly agreed, 21.4 percent were neutral, but a roughly equal number (21.4 %) agreed (Median = 4, Mode = 5, Range = 4 and IQR = 2) on the question

	Strongly Agree	Disagree	Neutral	Agree	Strongly Agree	Median	Mode	Range	IOR
My Head of Department always thinks that I should share my knowledge with other members.	14.3	7.1	35.7	21.4	21.4	3	3	4	2
My colleagues expect me to share my knowledge in the university.	7.1	14.3	21.4	21.4	35.7	4	5	4	2

Table 3: Subjective Norms on Knowledge Sharing

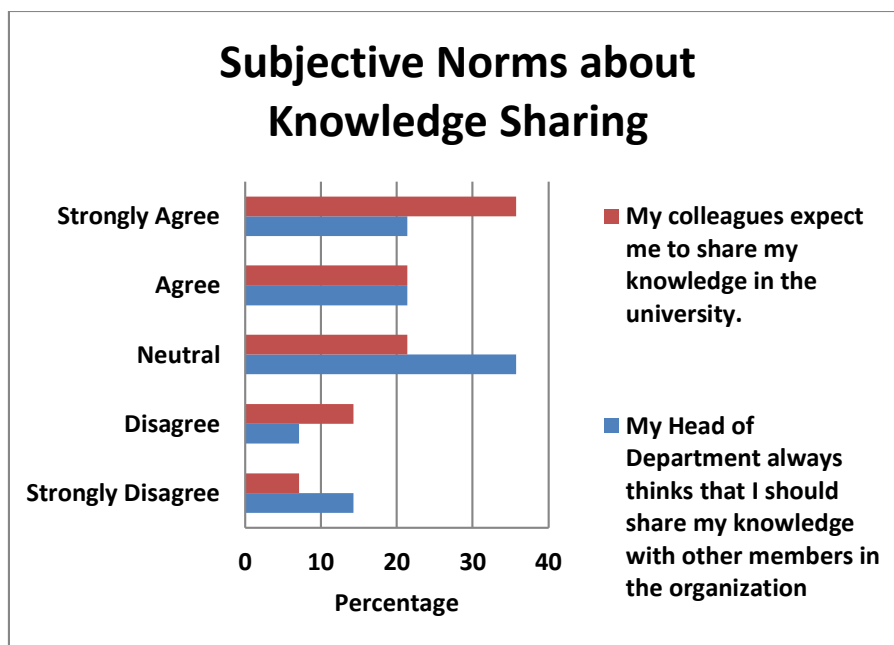


Figure 4: Subjective Norms on Knowledge Sharing

Perceived Behavior Control

From Table 4 below, when the respondents were asked as to whether they have enough time available to share knowledge with their colleagues, 42.9 percent agreed while 28.6 percent of the respondents remained neutral (Median = 3, Mode = 3, Range = 4 and IQR = 2) on this. When asked whether they believe that sharing knowledge is within their control, 28.6 percent remained neutral, another 28.6 percent agreed (Median = 4, Mode = 3, Range = 3 and IQR = 2) and a further 28.6 percent strongly agreed. When the respondents asked as to whether they share knowledge with their colleagues irrespective of their level of knowledge and experience, 42.9 percent strongly agreed and 28.6 percent agreed (Median = 4, Mode = 5, Range =4 and IQR = 2).

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Median	Mode	Range	IQR
I have enough time available to share knowledge with my colleagues	7.1	14.3	28.6	42.9	7.1	3.5	4	4	1
Sharing knowledge with my colleagues is within my control.	0.0	14.3	28.6	28.6	28.6	4	3	3	2
I share my knowledge only with colleagues regardless of their level of knowledge and experience	14.3	0.0	14.3	28.6	42.9	4	5	4	2

a. Multiple modes exist. The smallest value is shown

Table 4: Perceived Behavior Control

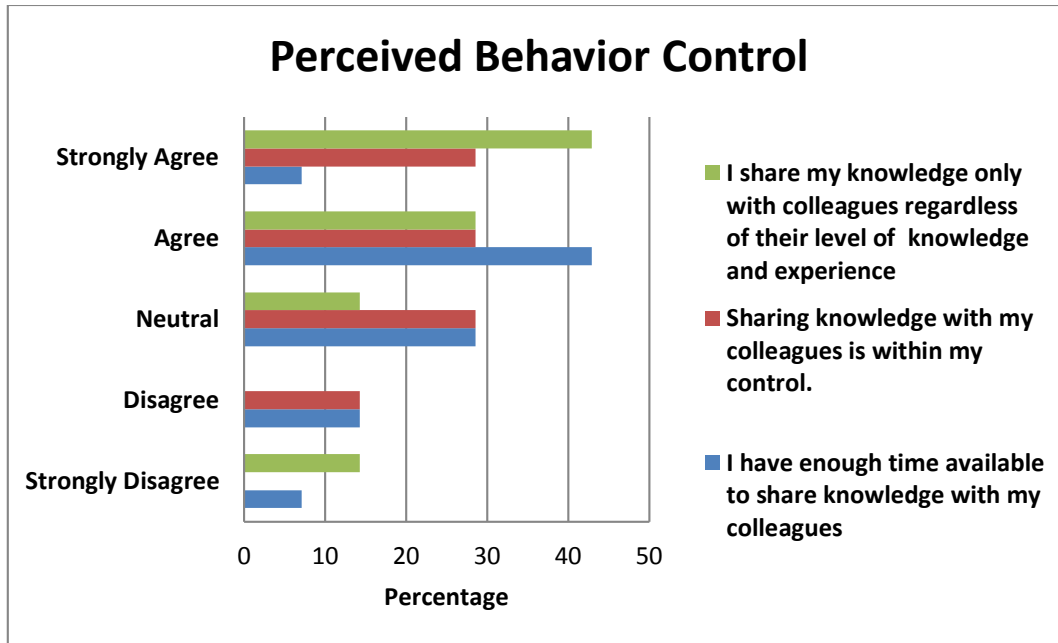


Figure 5: Perceived Behavior Control

Attitude towards Knowledge Sharing

From Table 5 below, it can be observed that majority (64.3) of the respondents agreed (Median = 4, Mode = 4, Range = 1 and IQR = 1) that sharing knowledge with their colleagues is good. When asked as to whether they think that sharing knowledge with their colleagues is pleasant, 35.7 percent of the respondents remained neutral, 28.6 percent strongly agreed and another 35.7 percent agreed (Median = 3, Mode = 3, Range = 4 and IQR = 2) that knowledge sharing is pleasant.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Median	Mode	Range	IQR
Sharing knowledge with my colleagues is good	0.0	0	0.0	64.3	35.7	4	4	1	1
Sharing knowledge with my colleagues is pleasant.	0.0	0	35.7	35.7	28.6	4	3a	2	2

a. Multiple modes exist. The smallest value is shown

Table 5: Attitude towards Knowledge Sharing

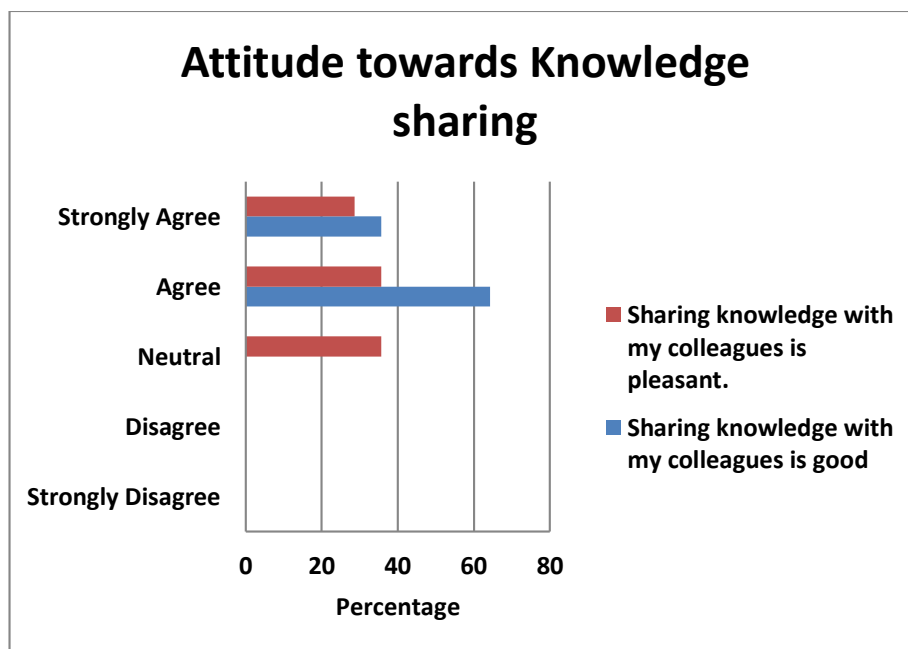


Figure 6: Attitude towards Knowledge Sharing

Hypothesis 1: Knowledge Sharing Intention has a positive effect on Knowledge Sharing Behavior

The results of the correlation analyzes are displayed in the table 6 below. The table indicates the correlation is significant at the 0.05 level (2-tailed). From the correlation matrix it can be observed that there exists a positive relationship between Knowledge Sharing Intention and Knowledge Sharing Behavior but it can be observed that the overall relationship between Knowledge Sharing Intention and knowledge sharing behavior is very weak. The only valid items from the correlation analyzes were the relationship between when my colleagues have learnt something new, they tell me about it and to acquire new knowledge and experience (p<0.05) and the relationship between saving time and When I have learnt something new, I tell my colleagues about it (p<0.01)

		Knowledge Sharing Behavior	
		When I have learned something new, I tell my colleagues about it	When they have learned something new, my colleagues tell me about it
Knowledge Sharing Intention	To acquire new knowledge and experience	0.510	0.639*
	Saving time	0.714**	0.458

** → Correlation is significant at the 0.01 level (2-tailed) and * → Correlation is significant at the 0.05 level (2-tailed).

Table 6: Correlation results on the effect of Knowledge Sharing Intention and knowledge sharing behavior

Hypothesis 2: Subjective Norms has a positive effect on Knowledge Sharing Intention

The results of the correlation analyzes are displayed in the table 7 below. From the table, it could be observed that there exists a positive relationship between Subjective Norms and Knowledge Sharing Intention. However, the overall relationship between Attitude towards knowledge sharing and Knowledge Sharing Intention is also fairly weak. The valid items from the correlation analyzes were the relationships between the influences of the Head of the Department towards academic staff knowledge sharing intention acquire new knowledge and experience and to saving time. Also, there exists a weak relationship between other academic staff expecting colleagues to share knowledge in the university to acquire new knowledge and experience. The only item that was not valid is the relationship but had a positive effect was the relationship between colleagues expecting other colleagues to share knowledge to save time.

	Knowledge Sharing Intention
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		To acquire new knowledge and experience	Saving Time
Subjective Norms	My Head of Department always thinks that I should share my knowledge with other members in the organization	0.635*	0.790**
	My colleagues expect me to share my knowledge in the university.	0.651*	0.521
** → Correlation is significant at the 0.01 level (2-tailed) and * → Correlation is significant at the 0.05 level (2-tailed).			

Table 7: Correlation matrix between Subjective Norms and Knowledge Sharing Intention

Hypothesis 3: Perceived Behavior Control has a positive effect on Knowledge Sharing Intention

The results of the correlation analyzes are displayed in the table 8 below. From the table, it could be observed that there exists a positive relationship between Perceived Behavior Control and Knowledge Sharing Intention. The majority of the academic staff perceive that 1) they have enough time to share knowledge with colleagues towards acquiring new knowledge and experience. 2) Knowledge sharing is within their control especially when focused towards acquiring new knowledge and experience and saving time. 3) They can share knowledge with colleagues irrespective their level of knowledge and experience to acquire new knowledge and experience and save time. The only relationship that was not valid although it had a positive effect was the perception that academic staffs have enough time available to share knowledge with my colleagues to save time.

		Knowledge Sharing Intention	
		To acquire new knowledge and experience	Saving time
Perceived Behavior Control	I have enough time available to share knowledge with my colleagues	0.600*	0.283
	Sharing knowledge with my colleagues is within my control.	0.707**	0.628*
	I share my knowledge with colleagues regardless of their level of knowledge and experience	0.659*	0.565*
** → Correlation is significant at the 0.01 level (2-tailed) and * → Correlation is significant at the 0.05 level (2-tailed).			

Table 8: Correlation matrix between Perceived Behavior Control and Knowledge Sharing Intention

Hypothesis 4: Perceived Behavior Control has a positive effect on Knowledge Sharing Behavior

The results of the correlation analyzes are displayed in the table 9 below. From the table 9 it could be observed that there exists a positive relationship between Perceived Behavior Control and Knowledge Sharing Behavior but it can be observed that the overall relationship between Perceived Behavior Control and Knowledge Sharing Behavior is also fairly strong. As all items from the correlation analyzes were valid. From Table 9 below it can be observed that the majority of the academic staff believe that they have enough time available to share knowledge with my colleagues when they have learned something new. They also strongly believe that other academic staff members share knowledge when they have learned something new. They agree on knowledge sharing is within their control to share knowledge when they have learned something new. Finally there exists a weak but a positive relationship between: 1) sharing knowledge with his/her academic staff members when the academic staff has learned something new regardless of their level of knowledge and experience and 2) When other academic staff have learnt something new, the share the knowledge with their colleagues.

	Knowledge Sharing Behavior
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		When I have learned something new, I tell my colleagues about it	When they have learned something new, my colleagues tell me about it
Perceived Behavior Control	I have enough time available to share knowledge with my colleagues	0.632*	0.719**
	Sharing knowledge with my colleagues is within my control.	0.706**	0.624*
	I share my knowledge only with colleagues regardless of their level of knowledge and experience	0.659*	0.620*
** → Correlation is significant at the 0.01 level (2-tailed) and * → Correlation is significant at the 0.05 level (2-tailed).			

Table 9: Correlation matrix between Perceived Behavior Control and Knowledge Sharing Behavior

Hypothesis 5: Attitude towards knowledge sharing has a positive effect on Knowledge Sharing Intention

The results of the correlation analyzes are displayed in the table 10 below. From the table 10 below it could be observed that there exists a positive relationship between attitude towards knowledge sharing and Knowledge Sharing Intention. However, it can be observed that the overall relationship also fairly weak. The only valid items from the correlation analyses were the relationship between “Sharing knowledge with my colleagues is good” towards “Saving Time” and also there exists a relationship between “Sharing knowledge with my colleagues is pleasant” towards “To acquire new knowledge and experience” and “Saving Time”.

		Knowledge Sharing Intention	
Attitude Towards Knowledge Sharing		To acquire new knowledge and experience	Saving Time
	Sharing knowledge with my colleagues is good.	0.459	0.560*
	Sharing knowledge with my colleagues is pleasant.	0.620*	0.790**
** → Correlation is significant at the 0.01 level (2-tailed) and * → Correlation is significant at the 0.05 level (2-tailed).			

Table 10: Correlation matrix between Attitude towards knowledge sharing and Knowledge Sharing Intention

Conclusion

It can be concluded that the academic staff at the University of Kigali acknowledged that sharing knowledge is a good and pleasant thing, and they share knowledge to acquire new knowledge and experiences. They further believe that sharing new ideas will save time, and it is within their control. Moreover, the academic staff noted that they share knowledge for the sake of their colleagues regardless of the colleague’s level of knowledge and experience. However, it can be observed that most academic staff feels that they share more knowledge with their colleagues than they receive from their colleagues indicating a lack of trust among the academic staff.

Our sample consisted of 14 academic staff at the University of Kigali. The sample size itself is relatively small. The study can be strengthened by increasing the sample size and including participants in other institutions. With an increased sample size, a more detailed empirical analysis among the independent variables and the variables that have multiple categories can be performed.

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Appendix: Summary of the Hypothesis results

No	Statement of hypotheses	P-Value	Results
H1a	To acquire new knowledge and experience → When I have learned something new, I tell my colleagues about it	0.62	Not Supported
H1b	To acquire new knowledge and experience → When they have learned something new, my colleagues tell me about it	0.014	Weakly Supported
H1c	Saving time → When I have learned something new, I tell my colleagues about it	0.004	Strongly supported
H1d	Saving time → When they have learned something new, my colleagues tell me about it	0.099	Not Supported
H2a	I have enough time available to share knowledge with my colleagues → When I have learned something new, I tell my colleagues about it	0.015	Weakly Supported
H2b	I have enough time available to share knowledge with my colleagues → When they have learned something new, my colleagues tell me about it	0.004	Strongly Supported
H2c	Sharing knowledge with my colleagues is within my control → When I have learned something new, I tell my colleagues about it	0.005	Strongly Supported
H2d	Sharing knowledge with my colleagues is within my control → When they have learned something new, my colleagues tell me about it	0.017	Weakly Supported
H2e	I share my knowledge only with colleagues regardless of their level of knowledge and experience → When I have learned something new, I tell my colleagues about it	0.010	Weakly Supported
H2f	I share my knowledge only with colleagues regardless of their level of knowledge and experience → When they have learned something new, my colleagues tell me about it	0.018	Weakly Supported
H3a	Sharing knowledge with my colleagues is good → To acquire new knowledge and experience	0.099	Not Supported
H3b	Sharing knowledge with my colleagues is good → Saving time	0.037	Weakly Supported
H3c	Sharing knowledge with my colleagues is pleasant → To acquire new knowledge and experience	0.018	Weakly Supported
H3d	Sharing knowledge with my colleagues is pleasant → Saving time	0.001	Strongly Supported
H4a	My Head of Department always thinks that I should share my knowledge with other members in the organization → To acquire new knowledge and experience	0.015	Weakly Supported
H4b	My Head of Department always thinks that I should share my knowledge with other members in the organization → Saving Time	0.001	Strongly Supported
H4c	My colleagues expect me to share my knowledge in the university → To acquire new knowledge and experience	0.012	Weakly Supported
H4d	My colleagues expect me to share my knowledge in the university → Saving Time	0.056	Not Supported
H5a	I have enough time available to share knowledge with my colleagues → To acquire new knowledge and experience	0.023	Weakly Supported
H5b	I have enough time available to share knowledge with my colleagues → Saving time	0.326	Not Supported
H5c	Sharing knowledge with my colleagues is within my control → To acquire new knowledge and experience	0.005	Strongly Supported
H5d	Sharing knowledge with my colleagues is within my control → Saving time	0.016	Weakly Supported
H5e	I share my knowledge with colleagues regardless of their level of knowledge and experience → To acquire new knowledge and experience	0.010	Weakly Supported
H5f	I share my knowledge with colleagues regardless of their level of knowledge and experience → Saving time	0.035	Weakly Supported