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ORIGINAL RESEARCH

Integrated framework for healthcare practitioners' actual knowledge-sharing behaviour

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Background: The most effective support for knowledge behaviours is not well understood in healthcare organisations. Therefore, it is essential to examine the factors that influence knowledge-sharing behaviours.

Aim: The study's goal is therefore to develop a conceptual model that identifies the actual knowledge-sharing behaviour among healthcare practitioners in public healthcare institutions.

Setting: Dr George Mukhari Hospital, an Academic Hospital and a tertiary training medical facility situated approximately 30 kilometres to the north of Tshwane (Pretoria), was the site of the study. It functions as Sefako Makgatho Health Science University's training hospital for students studying health sciences.

Method: Data for the study were gathered by a quantitative methodology, namely a survey. Data analysis was done using the Partial Least Squares and Structural Equation Model approaches.

Results: Organisational culture, organisational structure and information communication technologies are strongly and positively associated with actual knowledge-sharing behaviour, which confirmed seven of the hypotheses (H1, H2, H3, H5, H6, H7, H8), which were consequently accepted. H4 and H9 were rejected because there was no significant relationship between knowledge-sharing conduct and perceived organisational support**.**

Conclusion: Organisational culture, organisational structure and information communication technology all have a strong and positive correlation with the actual behaviour of knowledge sharing.

Keywords: organisational culture, organisational structure, healthcare professionals, electronic health records, knowledge sharing, actual knowledge-sharing behaviour, patients.

Geïntegreerde raamwerk vir gesondheidsorgpraktisyns se werklike:

Agtergrond: Die mees doeltreffende ondersteuning vir kennisgedrag word nie goed in gesondheidsorgorganisasies verstaan nie. Daarom is dit noodsaaklik om die faktore wat kennisdelingsgedrag beïnvloed te ondersoek.

Doel: Die doel van die studie is dus om 'n konseptuele model te ontwikkel wat die werklike kennisdelingsgedrag onder gesondheidsorgpraktisyns in openbare gesondheidsorginstellings identifiseer.

Omgewing: Dr. George Mukhari-hospitaal, 'n akademiese hospitaal en 'n tersiêre opleidingsfasiliteit, ongeveer 30 kilometer noord van Tshwane (Pretoria), was die terrein van die studie. Dit funksioneer as die Sefako Makgatho-Universiteit vir Gesondheidswetenskap se opleidingshospitaal vir studente wat gesondheidswetenskappe studeer.

Metode: Data vir die studie is ingesamel deur 'n kwantitatiewe metodologie, naamlik 'n meningsopname. Data-analise is gedoen met behulp van die Parsiële Kleinste Kwadrate- en Strukturele Vergelykingsmodel-benaderings.

Resultate: Organisasiekultuur, organisasiestruktuur en inligtingskommunikasietegnologieë word sterk en positief geassosieer met werklike kennisdelingsgedrag, wat sewe van die hipoteses bevestig het (H1, H2, H3, H5, H6, H7, H8), wat gevolglik aanvaar is. H4 en H9 is verwerp omdat daar geen beduidende verband tussen kennisdelingsgedrag en waargenome organisasiesteun was nie**.**

Gevolgtrekking: Organisasiekultuur, organisasiestruktuur en inligtingskommunikasietegnologie het almal 'n sterk en positiewe korrelasie met die werklike gedrag van kennisdeling.

Sleutelwoorde: organisasiekultuur, organisasiestruktuur, gesondheidsorgpersoneel, elektroniese gesondheidsrekords, kennisdeling, werklike kennisdelingsgedrag, pasiënte.

Introduction

Healthcare organisations are regarded as knowledge-intensive organisations since a large number of clinicians with specialist knowledge are employed there. The definition and precondition of professionalism is their ongoing technical and knowledge upgrading, which is crucial for raising the calibre of healthcare services, reducing the incidence of medical errors and improving patient care (Yuan & Ma, 2022). Knowledge sharing is the process of continuously exchanging information between people, groups and organisations via channels for knowledge exchange (Kipkosgei et al., 2020; Jiang & Chen, 2021). Since knowledge is often owned by an individual or group of individuals, staff member dissemination of critical knowledge is a critical factor in the effectiveness of knowledge management programmes. According to MamoMulate and Gojeh (2020a) and MamoMulate and Gojeh (2020b), using knowledge management techniques can raise the standard of care. It is commonly accepted that improving patient care requires knowledge sharing across medical professionals.

In order to promote information exchange in the healthcare sector, a suitable framework for knowledge management must be established. In particular, this framework needs to ensure that knowledge is communicated in a comprehensible manner instead of being locked away in the minds of experts. A growing number of medical professionals believe that supporting the entire range of knowledge requirements throughout the medical process is essential (MamoMulate & Gojeh, 2020a; Mulate & Gojeh, 2020b). Furthermore, the critical significance of knowledge sharing in the provision of healthcare has been unequivocally demonstrated in a plethora of prior studies, regardless of whether the setting is public or private (Demsash, Chakilu & Mazengia, 2021). This practice of knowledge sharing has the potential to cultivate a more fundamental sense of accountability in the planning, decision-making and provision of a diverse array of services (MamoMulate & Gojeh, 2020a).

According to studies, there is a significant link between medical errors like misdiagnosis, incorrect prescriptions, incorrect treatments and poor knowledge-sharing practices in healthcare facilities. These errors can lead to increased multi-drug resistance, injuries and unanticipated deaths (Imran et al., 2019; Pandey et al., 2021; Soualmia et al., 2021). Additionally, medical errors have a tremendous psychological impact on patients as well as health care providers, leading to feelings of remorse, inadequacy, sadness and suicidal thoughts (Rodziewicz et al.2021). In order to fill the gap, health information systems (HIS) have transformed patient data management and revolutionised healthcare, resulting in enhanced care and a decrease in the frequency of adverse patient outcomes (Astier et al., 2020; Rudin et al., 2020). These systems have replaced inefficient physical records and introduced a new era of systematic data management, facilitating the simple access to patient information for a diverse array of health care operations and research. Electronic health records, databases and registries are healthcare information tools that have become indispensable. In addition, these tools or technologies offer a variety of advantages, such as enhanced operational efficiency, reduced medical errors, improved decision-making and advancements in patient care (Wood et al.,2021).

Actual knowledge-sharing behaviour was chosen as the dependent variable in this study in an effort to close the detected gap, as shown in Figure 1. Thus, in line with previous research on information sharing, the focus of this study is on real knowledge-sharing conduct (Brooke et al., 2017; Fullwood et al., 2018). The Technology-Organisation-Environment (TOE) framework and the Theory of Planned Behaviour (TPB) serve as a theoretical lens through which the suggested model in this research studies the elements that influence knowledge sharing in public hospitals. The majority of this research has employed TPB and the theory of reasoned action (TRA) models to analyse academicians' knowledge-sharing behaviours. Although the TPB is one of the most effective applied behavioural models, researchers have nevertheless foreseen the need to expand it with a few more variables. Thus, this study employed ideas that may provide both viewpoints.

Integrated model as the theoretical framework

This study used the TPB (Ajzen, 1991) and the TOE frameworks, which were developed by Tornatzky and Fleischer (1990), as the theoretical framework to better understand what influences healthcare practitioners' knowledge-sharing behaviours in public healthcare facilities. TPB is employed in this study because it has components, like social influence and adoption-facilitating organisational environments, that prior research has shown are critical for healthcare workers to embrace HIS and related technologies (Fan et al., 2021; Hsieh, 2015; Shmueli, 2021). According to Sutter and Paulson (2017), the theory is composed of four essential constructs: the attitude towards conduct, subjective standards, perceived behavioural control and behavioural intention, which establishes the behavioural intention to use.

In this study, attitude, knowledge-sharing intention and perceived behavioural control – all study constructs adopted from TPB – determine the actual information-sharing behaviour among healthcare practitioners in public healthcare organisations. The TOE framework is one of the best-known and most often-used theoretical perspectives on information technology (IT) innovation adoption, according to Hameed et al. (2012). Researchers have used these extensively to study how different innovations, such as the use of big data in those situations, are accepted by organisations (Nam et al., 2015; Agrawal, 2015; Sun et al., 2016). The Tornatzky and Fleischer (1990) paradigm encompasses three key contexts: technology, organisation and environment. Technology and organisational context were the TOE components that were used to ascertain the actual knowledge-sharing behaviour among healthcare practitioners in public healthcare facilities. To assist and demonstrate the explanatory capabilities of both models, the combined TOE and TPB model was developed. Figure 1 depicts a conceptual model that can achieve the objectives of this investigation. Structural equation modelling (SEM) will be used

in the analysis to determine the relationships between the constructs. Therefore, this study proposed the following hypotheses:

Organisational culture and actual knowledge sharing

According to Anning-Dorson (2021) organisational culture is the setting in which employees operate, providing the framework for their actions and thoughts, as well as for them to work in. The core of sustainability consciousness is culture (Roscoe, Subramanian, Jabbour & Chong, 2019). According to Lam et al. (2021), organisational culture plays a crucial role in fostering and promoting knowledge sharing inside the company.

The work of Rezaei et al. (2021) and Asurakkody and Hee (2020) are recent studies that have demonstrated a positive correlation between organisational culture and knowledge sharing. In an environment of mutual trust and confidence, individuals are inclined to share knowledge, whereas in a competitive environment, individuals may hoard their knowledge in order to acquire and retain knowledge power due to jealousy and competition. An advantage of clan culture is that it facilitates the unrestricted exchange of knowledge, fosters confidence and trust among organisational members, connects and affiliates individuals and avoids anti-social norms (Shateri & Hayat, 2020).

Based on the discussion, it was hypothesised that:
H1: Organisational culture is positively related to actual knowledge-sharing behaviour.
H2: Organisational culture is positively related to knowledge-sharing intentions.

Organisational structure

According to Srivastava and Singh (2020) and Andersen and Plesner (2022) there is a need for organisations to increase their information-processing capacity in order to reduce decision-making delays. The effort put in to get and disseminate information to others determines how quickly information is processed (Andersen & Plesner, 2022). An organisational structure is either a team organised by one person, a group or multiple people to achieve a shared goal or goals, or it is a system that controls how tasks are officially given to people in a group so that they can achieve that goal (Nene & Pillay, 2019). Multidisciplinary teams in healthcare have demonstrated efficacy in enhancing interprofessional communication and knowledge sharing among hospital units, thereby mitigating disparities across departments, specialisations and professions, including the clinician-patient divide (Grippa et al., 2018; Pereira de Souza et al., 2021; Zhang & Wang, 2021). Rezaei et al. (2021) describe this structure as straightforward, with employees having ample opportunities to exercise complete control over their daily responsibilities and with minimal direct supervision.

Based on the discussion, it was hypothesised that:
H3: Organisational structure is positively related to knowledge-sharing intentions.

Perceived organisational support and knowledge-sharing intentions

The degree to which an organisation or company supports employees for their contributions, shows concern for their well-being and engages them in mutually beneficial relationships with the organisation or company is known as perceived organisational support (Agustian & Fitria, 2020). Managers have a crucial role in the implementation of knowledge management because of their capacity to find and share knowledge within the company. Additionally, nursing managers have a significant impact on staff acceptance of the knowledge-sharing culture. Line managers in the health care need to be committed to ensuring that their units operate efficiently for patients and maintain a healthy workforce, as indicated by research conducted by Kallman et al. (2019) and the Swedish Social Insurance Agency (2018). According to a study by Lunden et al. (2021), half of the nurses had favourable opinions of the knowledge management-related measures taken by their managers.

Based on the discussion, it was hypothesised that:
H4: Perceived organisational support is positively related to knowledge-sharing intentions.

Technological context

According to Cahyono, Nurcholis and Nugroho (2022), it has been demonstrated that a number of technological factors, such as perceived utility, perceived usability, system compatibility, system security and IT infrastructure, influence how quickly organisations embrace new technologies. Information and communication technologies were covered in this study.

Information communication technologies and knowledge-sharing attitudes

Nowadays, businesses and professionals are discovering how important it is to be able to quickly gather information and distinguish between useful and irrelevant data (Wu, 2019). According to Siddiqui et al. (2019), employees' subjective norm is defined by their "normative views" regarding the likelihood that their referents will have the influence to either support or oppose their particular behaviour. Several researchers have defined attitude as an employee's "cognitive views" about the consequences of their behaviour. Information and communication technology (ICT) has the potential to significantly improve the efficacy of information sharing (Punniyamoorthy & Asumptha, 2019). Depending on how the organisation is set up, knowledge can be seen as a limited resource that is concentrated in the hands of a small number of people or as a knowledge

management system that collects knowledge from all areas of the organisation to add to the body of knowledge (Martin-Rios, 2018). In the healthcare sector, the implementation of an effective knowledge management system will facilitate the collection, analysis and dissemination of information and insight derived from health data that has been collected in a variety of methods for a variety of purposes (Imran et al., 2021). The necessity for such systems in this profession is derived from the fact that in this field, situations necessitate the rapid processing and critical thinking of a specific collection of diagnostic test results, medications, past treatment responses and similar patient cases in order to make optimal decisions that impact lives (Bowden, Dawn, Smits, Stanley & Andrews Matthew, 2020).

Based on the discussion, it was hypothesised that:
H5: Information communication technologies are positively related to knowledge-sharing attitudes.
H6: Information communication technologies are positively to related actual knowledge-sharing behaviour.

Perceived behavioural control and knowledge sharing

Perceived behavioural control has been defined as a person's perception of their capacity to display particular actions (Yean, Johari & Sukery, 2015). The individual's perception of their capacity to engage in environmental behaviour is referred to as perceived behavioural control (PBC) in the specialised scientific literature (Karimi & Mohammadimehr, 2022). Individuals' desire and ability to select the activities, get ready for them and put in an effort during a performance can all be influenced by their perception of behavioural control (Razak et al., 2015). Employee intention to share increases if they feel their PBC over knowledge sharing is higher than the dangers involved (Hajli & Lin, 2016). It is anticipated that the individual will act in accordance with their intentions when the opportunity presents itself, provided that they possess a sufficient degree of genuine control over their actions (Bosnjak et al., 2020).

Based on the discussion, it was hypothesised that:
H7: Perceived behavioural control is positively related to knowledge-sharing intentions.

Attitude and share knowledge intentions

According to the TPB, attitude is an important factor to research in order to comprehend a person's behaviour (Ajzen, 1991; Kaba et al., 2023). The intention to share knowledge demonstrates the eagerness of knowledge workers to engage in knowledge-sharing activities (Wu and Zhu, 2012). As per Ajzen (1991) and Al-Kurdi et al. (2020), the TPB posits that an individual's intention to engage in a certain behaviour is influenced by their attitudes towards the behaviour and by subjective norms. In the context of information sharing, an individual's intention to engage in knowledge-sharing behaviour is shaped by their attitudes (Al-Kurdi et al., 2018). Numerous research investigations have discovered that behavioural intention in knowledge sharing is highly predicted by attitude (Abdillah et al., 2018; Obrenovic et al., 2021). Jameel et al. (2021) discovered a noteworthy influence of academicians' perspectives on information sharing on their inclination to share knowledge, specifically within the healthcare professional workforce in healthcare establishments. Additionally, Jameel et al. (2021) state that academics who are eager to share expertise with others in universities would be produced by healthcare professionals who have a positive attitude towards knowledge sharing. Al-Kurdi et al. (2020) discovered that the intention to share information in healthcare institutions is strongly correlated with the attitudes of healthcare professionals towards knowledge sharing.

Based on the discussion, it was hypothesised that:
H8: Attitude is positively related to knowledge-sharing intentions.

Knowledge-sharing intentions and actual knowledge-sharing behaviour

Several studies have used knowledge-sharing intention as the dependent variable (Gagne et al., 2019; Akosile and Olatokun, 2020: Aldhmour and Doyle, 2023). Real information-sharing behaviour was selected as the dependent variable in order to close the knowledge gap that Nguyen et al. (2019) showed in their study. The decision to concentrate on employees' intention to share knowledge rather than their attitude or actual knowledge-sharing activity is supported by the notion of reasoned action. In this case, attitude and intention towards a particular conduct drive actual behaviour, which is explained by the theory of reasoned action (Abdillah et al., 2018). This suggests that in a knowledge-sharing situation, an employee's intention to share knowledge would be stronger the more positively they see knowledge sharing. Consequently, an employee is more likely to share expertise with coworkers if they have a stronger purpose to do so. According to Lyu et al. (2020), a lack of desire to share knowledge can have a detrimental impact on actual knowledge-sharing behaviour. To fully benefit from information sharing, it is crucial to investigate the elements that impact knowledge-sharing intention. Based on the discussion, it was hypothesised that:
H9: A healthcare practitioner's attitude toward knowledge sharing has a positively significant impact on their intention to share knowledge.

The TRA's attitude, subjective norm and intention construct, along with the TPB's PBC, offer a framework for developing a comprehension of the variables influencing healthcare workers' actual knowledge-sharing behaviours in public healthcare facilities. Moreover, it is inferred that elements, including technical advancements, organisational culture, structure and perceived managerial support (Fullwood & Rowley, 2017), would influence employees' attitudes, intentions and subjective norms, which will ultimately impact on how knowledge is shared. Figure 1 provides an overview of these constructs in relation to the modified conceptual framework used for this investigation.

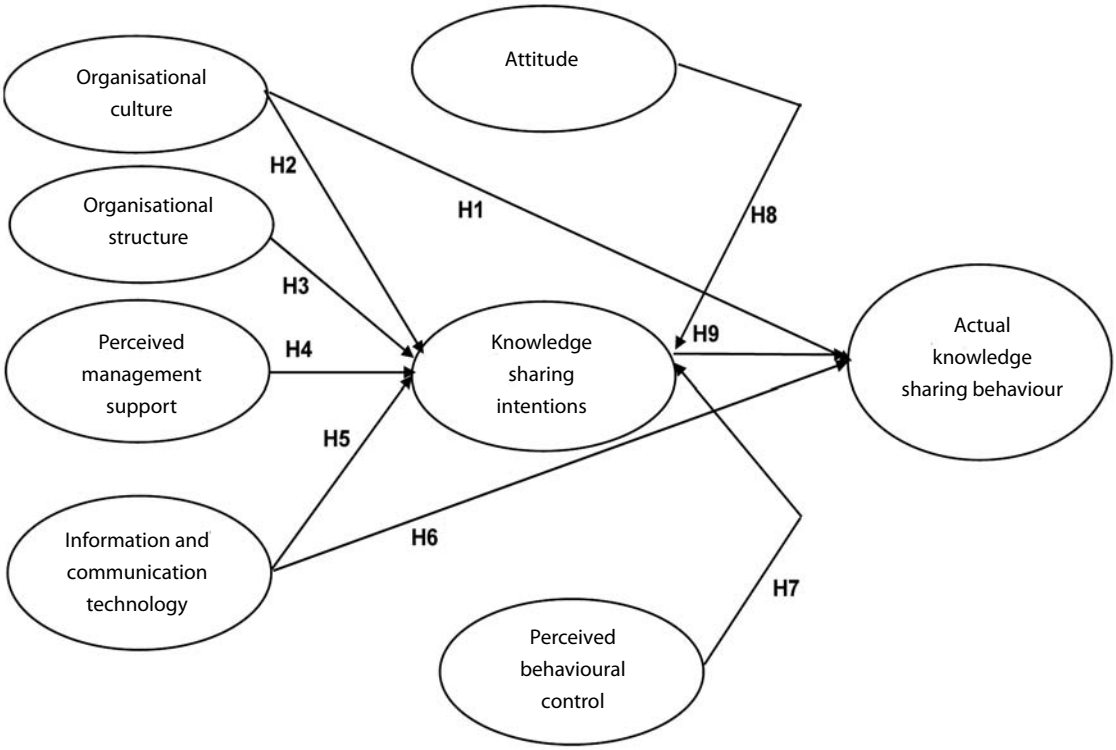

Figure 1: Conceptual framework of the research

Materials and methods

Study setting

The research was conducted at Dr George Mukhari Academic Hospital (DGMAH), an academic facility located in the northern Pretoria suburb of Ga-Rankuwa. Previously, it was called Ga-Rankuwa Hospital. DGMAH began as a provincial hospital but got access to tertiary services in 1974 with the founding of the Medical University of South Africa (MEDUNSA). The university's health sciences teaching platform is called DGMAH. In 2011, DGMAH obtained academic standing and became the new Sefako Makgatho Health Sciences University (SMU), continuing the legacy of the former Medunsa. DGMAH is a platform for instruction used by the Ga-Rankuwa Nursing College.

Population and sampling

The population of the study consisted of DGMAH healthcare practitioners (nursing practitioners, osteopathic physicians and medical doctors). The significance of choosing a sizeable sample size that is representative of the total population of this study was emphasised by Creswell and Poth (2018). Convenience sampling was utilised to choose a sample that was representative of the population because it was not possible to choose every member of the population. According to Foley (2018), purposeful sampling is a kind of non-probability sampling in which researchers choose community members for their studies solely on the basis of their own judgement. Researchers felt that the members of this community fitted the demographics they were trying to attract, which is why they were purposefully targeting this community.

This purposeful targeting lends credence to this approach. There are a number of drawbacks to purposeful sampling that needed to be considered, including restrictions on the data analysis techniques that could be applied, issues with generalisability and the potential for making wrong inclusion decisions (Dapar et al., 2020; Smith & Hasan, 2020), yet despite these acknowledged problems, purposeful sampling remained a suitable approach for this study. Despite the fact that some of the suggested participants had schedules that made them somewhat less than easily available, the researcher was nonetheless able to gather enough involvement to meet the set selection criteria thanks to conscious sampling.

Ethics approval

Respondents' privacy was safeguarded during the research. This was accomplished by guaranteeing the respondents' privacy and omitting any personal information from the questionnaire. Respondents were further briefed on the study's purpose and the academic data it provided. The UNISA-CAES Research Ethics Committee (2019/CAES/075) approved the study as ethically acceptable. Furthermore, permission to conduct the study was granted by the Deputy Director: Office of Clinical Services at the selected teaching hospital.

Research instrument measures

Using a self-administered, standardised questionnaire, data for the study were collected. The literature review served as guidance during the development and design of the questionnaire. It was modified from a number of survey

instruments that were previously subjected to pilot testing (Akosile & Olatokun, 2020; Kalra & Baral, 2020; Irene & Zuva, 2018; Aldhmour & Doyle, 2023). 460 possible participants were given the questionnaire using a self-administered approach. Out of this group, 384 completed and functional surveys were returned. Of these, 84 surveys were returned that had irregular response patterns and large percentages of missing data. Consequently, only 300 questionnaires were suitable for analysis. Hair et al. (2019) show that a sample of this size could be deemed appropriate for the current study since it used structural equation modelling (SEM) to assess the relationship between intra-team knowledge-sharing practices and cultural intelligence.

The questionnaire was developed based on the conceptual framework depicted in Figure 1. A questionnaire was used to collect data from the respondents. Section A and Section B comprised the two sections of the questionnaire. In Section A, the respondents' details were requested, including their age, status, gender and level of education. Section B included 49 Likert scale items to evaluate the various components of the study. Perceived managerial support, organisational culture and organisational structure were measured using four different metrics. The next five factors assessed the degree of intention and attitude towards sharing knowledge with individuals from different "tribes": equal status, subjective norm, perceived organisation support, organisational culture and organisational size. The majority of the items utilised in this study's measurement of the constructs were modified from previously approved instruments.

Data analysis

In this study, structural equation modelling, or SEM, was used to analyse the data. SEM can find information about latent components by examining the covariance of observed variables, which reduces the number of observed variables into a smaller number of latent variables (Awang, 2014). Gefen et al. (2000) recommend using SEM in IS and behavioural sciences research. Therefore, it was determined that SEM would be suitable for analysing the information acquired for this study. The AMOS statistical software package was utilised to evaluate the hypotheses, utilising covariance-based SEM (CB-SEM). While CB-SEMs are used to test and validate ideas, partial least squares SEM (PLS-SEM) is more commonly used in exploratory research (Hair et al., 2019). The researcher opted for the former strategy because this study was predicated on a well-established model that allows the researcher to hypothesise correlations among the model's variables (Hussey & Eagan, 2007). In accordance with Anderson and Gerbing (1988), a two-step procedure was employed, wherein the measurement model's validity and reliability were assessed using confirmatory factor analysis. Next, the validity of the structural model was verified and the theories evaluated.

Results and discussion

Evaluation of the measurement model

According to Hair (2019), evaluating the measurement model, also referred to as the outer model, yields results for individual item reliability, content validity, convergent validity, discriminant validity and internal consistency reliability.

Convergent validity

Convergent and discriminant validity must be evaluated in order to determine the extent to which the measured variables accurately reflect the latent constructs. Convergent validity is evaluated by filling each instrument with the appropriate variables, whereas discriminant validity can be determined by examining the correlations between them (Awang, 2014). Confirmatory factor analysis was used to verify validity. Convergent validity, according to Hair et al. (2019), is reached when item reliability, concept validity and average variance extracted (AVE) all have reasonable values. Item dependability is demonstrated if all measured items have factor loadings for the latent variables greater than 0,6 (Awang, 2014).

Table I indicates that there was sufficient convergence of the measured statements because the AVE values of the constructs in the measurement model exceeded the recommended cut-off value of 0,50. Furthermore, the table unequivocally demonstrates the internal consistency of each measured construct and that the measurement model's constructions' composite reliability values were above the recommended cut-off value of 0,70. Based on the computation of the average variance extracted (AVE) and composite reliability values and the examination of the standardised factor loadings, all eight constructs of the measurement model demonstrate convergent validity.

Correlation analysis

It is significant to note statistically, as highlighted in table II, that this study found that the negative relationship between the dependent variable, actual knowledge-sharing behaviour (AKSB) and two independent variables, organisational culture (OC) and perceived organisational support (POS), was at a 10% significance level. A robust and positive adjustment exists between the dependent variable and the remaining independent components, as indicated by a 10% significance level. Of all the variables, attitude (ATT) shows the highest and most robust positive correlation coefficient (0,773).

Table I: Convergent validity of the measurement model

Constructs	Items	Standard loading	CR	AVE	Cronbach's α
Organisational culture (OC)	OC1	0,71	0,74	0,56	0,82
	OC2	0,76			
	OC3	0,78			
	OC4	0,73			
Organisational structure (OS)	OS1	0,90	0,81	0,71	0,86
	OS2	0,84			
	OS3	0,80			
Perceived organisational support (POS)	POS1	0,74	0,76	0,53	0,70
	POS2	0,84			
	POS3	0,57			
Information communication technologies (ICT)	ICT1	0,76	0,81	0,60	0,75
	ICT2	0,88			
	ICT3	0,65			
Attitude (ATT)	ATT1	0,74	0,80	0,61	0,73
	ATT2	0,89			
Knowledge-sharing intentions (KSI)	KSI1	0,81	0,70	0,55	0,68
	KSI2	0,64			
	KSI3	0,68			
Perceived behavioural control (PBC)	PBC1	0,76	0,72	0,56	0,71
	PBC2	0,73			
	PBC3	0,77			
Actual sharing of knowledge (ASKB)	ASKB1	0,74	0,76	0,62	0,76
	ASKB2	0,82			
	ASKB3	0,77			

Table II: Correlation Matrix

Variables		1	2	3	4	5	6	7	8
1	AKSB	1,000							
2	OS	0,416*	1,000						
3	PBC	0,338*	0,910	1,000					
4	KSI	0,407*	0,909*	0,886*	1,000				
5	ATT	0,743*	0,328*	0,185*	0,235*	1,000			
6	ICT	0,722	0,480*	0,414*	0,424*	0,283*	1,000		
7	OC	-0,192*	-0,110*	-0,098*	-0,100*	-0,074*	-0,105*	1,000	
8	POS	-0,144*	-0,001	0,033	0,037	-0,036	-0,020	-0,287*	1,000

*$p < 0,05$, **$p < 0,01$

Table III: Discriminant Validity of the Measurement Model

Variables	OC	OS	POS	ICT	ATT	KSI	PBC	ASKB
OC	0,696							
OS	0,510	0,660						
POS	0,681	0,565	0,521					
ICT	0,795	0,676	0,467	0,563				
ATT	0,500	0,380	0,485	0,718	0,631			
KSI	0,795	0,676	0,467	0,563	0,664	0,587		
PBC	0,500	0,380	0,485	0,718	0,630	0,624	0,641	
AKSB	0,500	0,380	0,485	0,718	0,628	0,622	0,613	0,564

Note: *Organisational culture = (OC); Organisational structure = (OS);* Perceived organisational support = (POS); *Information and communication technology = (ICT); Attitude = (ATT); Knowledge-sharing intentions = (KSI); Perceived behavioral control = (PBC); Actual knowledge-sharing behavior = (AKSB)*
*$p = 0,05$ **$p = 0,01$ *** $p = 0,001$

Discriminant validity

This study next examined the constructs' discriminant validity. Hair et al. (2022) define discriminant validity as the empirical difference between a latent concept and other latent variables in the model. So the correlation coefficients of the constructs should not be significantly correlated. The discriminant validity was analysed using the Fornell-Larcker criterion. According to Fornell and Larcker (1981), this criterion assesses whether the square root of the AVE for the latent variables is greater than its maximum correlation with any other latent construct. Discriminant validity measures are supported when the square root of the average variance recovered for each construct is the highest for the assigned construct (Fornell & Lacker, 1981). Table III shows that the correlations for each construct are less than the square root of the average variance recovered by the indicators, indicating appropriate discriminant validity. Sufficient convergent and discriminant validity were demonstrated by the measurement model overall.

The results are displayed in Table III, which does not include any crucial situations. Next, utilising the findings of Hair et al. (2019) and Awang (2014), the model fit indices for the confirmatory factor analysis were assessed. The outcomes are displayed in Table IV. In addition, the approved cut-off values of 0,9 and 0,95 for AGFI and NFI were marginally exceeded (Awang, 2014). Although the Chi-square test was significant, a decent model fit requires a non-significant Chi-square (Barrett, 2007). Fit indices show that the model can still be deemed good despite the short sample size and complexity of the model influencing ideal cut-off values (Sivo et al., 2006).

Evaluation of the Structural Model

Using the structural model, the relationships between the latent constructs were examined and the hypotheses were put to the test. Table IV shows the model fit indices for the SEM. RMSEA and GFI show a reasonable model fit, but chi-square is still significant. The incremental fit indices, according to Hooper et al. (2007), are also within a reasonable range, with the exception of AGFI, which is somewhat below. Eight of the hypotheses are confirmed by the strong and positive relationships between corporate culture, organisational structure and information communication technology, and real knowledge-sharing behaviour (H1, H3, H5, H6, H8 and H9). Due to the lack of a substantial correlation between perceived behavioural control and intentions to share knowledge and between felt organisational support and knowledge-sharing activity, H4 and H7 were rejected. (see Table V and Figure 2).

H1 was ultimately validated by the study, which discovered that actual knowledge-sharing behaviour was significantly and favourably influenced by organisational culture (beta = 0,537***, *t*-value = 7,504, *p*-value = 0,000). Because organisational culture also significantly and favourably affected information-sharing intentions, H2 was supported (beta = 0,401***, *t*-value = 5,201, *p*-value = 0,000). Since information-sharing intentions considerably and positively influenced organisational structure (beta = 0,247**, *t*-value = 2,984, *p*-value = 0,003), H3 was supported. H4 was not supported since there was no appreciable relationship between perceived organisational support and intentions to share information beta = 0,191, *t*-value = 1,664, *p*-value = 0,096). Since information communication technologies

Table IV: Fit Indices for the structural model

Category	Index	Level of acceptance	Results
Absolute fit	Chisq	$p > 0,05$	0,00
	RMSEA	RMSEA < 0,08	0,05
	GFI	GFI > 0,90	0,90
Incremental fit	AGFI	AGFI > 0,90	0,86
	CFI	CFI > 0,90	0,97
	TLI	TLI > 0,90	0,96
	NFI	NFI > 0,90	0,90
Parsimonious fit	Chisq/df	Chisq/df < 5,0	1,49

Table V: Results of Hypothesis Testing

Variables	β-Value	t-Value	p-Values	Hypothesis
OC → AKSB	0,537***	7,504	0,000	H1: Supported
OC → KSI	0,401**	5,201	0,000	H2: Supported
OS → KSI	0,247**	2,984	0,003	H3: Supported
POS → KSI	0,191	1,664	0,096	H4: Not Supported
ICT → KSI	0,420**	4,605	0,000	H5: Supported
ICT → AKSB	0,528***	7,497	0,000	H6: Supported
PBC → KSI	0,156	1790	0,073	H7: Not Supported
ATT → KSI	0,423***	5,965	0,000	H8: Supported
KSI → AKSB	0,282**	2,895	0,004	H9: Supported

Note: *Organisational culture = (OC); Organisational structure = (OS);* Perceived organisational support = (POS); *Information and communication technology = (ICT); Attitude = (ATT); Knowledge-sharing intentions = (KSI); Perceived behavioral control = (PBC); Actual knowledge-sharing behavior = (AKSB)*
*p = 0,05 **p = 0,01 *** p = 0,001

have a negligible and minor impact on knowledge-sharing intentions (beta = 0,420***, *t*-value = 4,605, *p*-value = 0.000), H5 was supported. The study's results, which showed that ICT positively and significantly increased actual knowledge exchange (beta = 0,528***, *t*-value = 7,497, *p*-value = 0,000), further supported H6. Knowledge-sharing intentions were negatively and negligibly impacted by perceived behavioural control. Thus, H7 (beta = 0,156, *t*-value = 1,790, *p*-value = 0,073) did not hold up. Since attitude had a significant and positive impact on information-sharing intentions, H8 was supported (beta = 0,423***, *t*-value = 5,965, *p*-value = 0,000). Moreover, H9 was validated since intentions to share knowledge had a positive and substantial impact on actual sharing behaviour (beta = 0,282**, *t*-value = 2,895, *p*-value = 0,004).

Discussion

The goal of the research is to develop a conceptual model that identifies the actual knowledge-sharing behaviour among healthcare practitioners in public healthcare institutions.

Hypothesis H1

H1 examined how organisational culture affects healthcare professionals' actual knowledge-sharing activities in public healthcare institutions. With a p-value of 0,536 and a beta value of 0,000, the initial hypothesis was confirmed in light of the information shown in Table 3. The idea that organisational culture has a significant and positive influence on genuine knowledge exchange was validated. This result is consistent with the study conducted by Jamshed and Majeed (2019) to find out what factors influence team members' knowledge-sharing behaviours and enhance team performance. The study looked at the relationship between team culture and healthcare professionals. The results are supported by Abbasi and Dastgeer (2018) and Jamshe and Majeed (2019), who proposed that norms and values that support a knowledge-sharing culture encourages knowledge sharing and can guarantee unhindered information flow.

Hypothesis H2

H2 investigated the relationship between knowledge-sharing intentions and organisational culture. The findings show that organisational culture has a major impact on healthcare personnel' intentions to share information inside healthcare facilities. In this study, a beta value of 0,000 and a p-value of 0,400 were verified as the second hypothesis. Olaniran (2017) offers evidence in favour of the results. She found in her research on the environment and culture of organisations that adding new members who have different values and organisational cultures can make it more difficult for the team to communicate tacit knowledge. These results corroborate past studies' findings that firms can become highly adaptive and ambidextrous through the development of an organisational culture that values and encourages knowledge sharing, which can help them maintain or gain a competitive advantage (Anser et al., 2022; Khan et al., 2021; Puriwat & Hoonsopon, 2022). Consistent with the results of this study, Briatte et al. (2019) claim that improving healthcare staff organisation leads to even higher success rates in attaining higher standards of care.

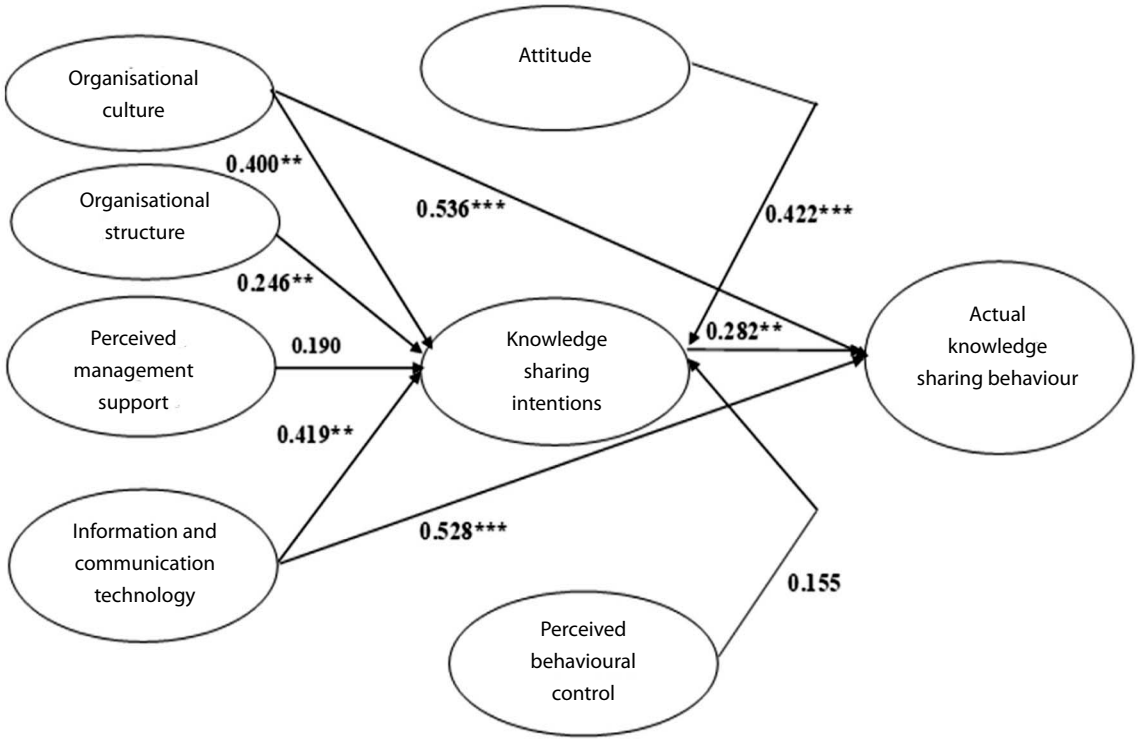

Figure 2: Structural model for healthcare practitioners' actual knowledge-sharing behaviour

Hypothesis H3

The hypothesis H3 examined the impact of organisational structure on healthcare workers' intentions to share information. A p-value of 0,246 and a beta value of 0,003 indicated support for H3. The study's conclusion implies that organisational structure significantly and favourably impacts objectives for information exchange. This finding is in line with that of Zaman et al. (2020), who found that nurses' innovative work practices and their sense of organisational support were positively correlated. Moreover, this result is consistent with research by Kalra & Baral (2020), which found that support from senior management reveals an organisation's concern for its ability to help its employees. Research conducted in the same environment has demonstrated that workers are more willing to share their expertise both internally and with other employees when managers model leadership behaviours that promote knowledge sharing (Matošková et al., 2018). Furthermore, an empirical study by Koranteng and Wiafe (2019) suggests that a shared vision may have an impact on information sharing among individuals.

Hypothesis H4

In H4, the effect of perceived managerial support on knowledge-sharing intentions was investigated. As H4 had a beta value of 0,095 and a p-value of 0,190, it was not supported. Conversely, the research conducted by Asurakkody and Kim (2020) demonstrated that healthcare workers' perceptions of high levels of organisational support had a favourable impact on patient happiness, the calibre of healthcare services and the prosperity of healthcare institutions (Çankaya, 2020; Saadeh & Suifan, 2020). These results ran counter to what the current study found. Moreover, the results of this study were in direct opposition to those of Alat and Filizöz (2021), who found that employees who feel supported by their employer have positive views and behaviours towards it. They are working more willingly to aid the organisation in achieving its goals. Moreover, Keskin and Aytemiz Seymen (2020) provided evidence to counter the results of this study, claiming that employees' perceptions of organisational support increase when their opinions, feelings and happiness are recognised and valued, as well as when they are required to contribute to the company.

Hypothesis H5

H5 examined how information and communication technologies affect knowledge-sharing intentions. Information and communication technologies have a major influence on knowledge-sharing intentions, as demonstrated by the results displayed in Table 3. H5 was thus confirmed with a beta value of 0,000 and a p-value of 0,419. This result supports the conclusions of previous research, such as Wu et al.'s (2021) study, which discovered that by promoting the spread of health technology both within and among organisations, health institutions can improve performance and obtain a competitive edge. Al-Omoush, Simón-Moya and Sendra-García (2020) offer supplementary backing for this contention by highlighting that a crucial function of technology is to enable the mobilisation of novel knowledge generation. Consequently, the availability of IT infrastructure raises healthcare practitioners' accessibility and readiness to exchange knowledge.

Hypothesis H6

In H6, the impact of information and communication technology on the intentions to share knowledge was investigated. With a beta value of 0,000 and a p-value of 0,528, H6 was thus found to be valid. This result is supported by a study conducted by Rudramuniyaiah et al. (2020), which found that where specialisation was common, the organisation had knowledge-sharing policies in place, and IT personnel felt altruistic and more likely to share information. These results revealed that when the corporate culture encourages individuals to share their specialised knowledge with others, these persons also feel like subject matter experts. This result is in line with the observation made by Kumar et al. (2022) that supportive environments, such as IT support, have positive and notable effects on employees' knowledge-sharing behaviour.

Hypothesis H7

Finding out if perceived behaviour intention has any bearing on knowledge-sharing intention was the goal of H7. The data in Table 8 did not support H7, with a beta value of -0,155 and a p-value of 0,072. This indicates that a considerable impact on the perceived behaviour intention has a little effect on the intention to share knowledge. This finding contradicts that of Cangialosi et al. (2021), who suggested that creative endeavours are more like parts of a networked organisational structure than discrete acts. Research findings from multiple previous studies (Matic et al., 2017; Stenius et al., 2017; Hoseini et al., 2019; Al-Kurdi et al., 2020; Kakhki et al., 2020) provide empirical evidence in favour of a positive correlation between information-sharing behaviour and intention. To account for this outcome, the researcher claims that healthcare organisations do not promote information sharing among healthcare practitioners and that it can be challenging to comprehend the goals and advantages of knowledge sharing prior to sharing knowledge. Healthcare workers' information-sharing attitudes become unclear as a result, which prevents the attitude of knowledge sharing from having a significant influence on knowledge-sharing behaviour.

Hypothesis H8

This hypothesis (H8) examined how attitudes affected people's intentions to share knowledge. Table 8 demonstrates that intentions to share knowledge are positively and significantly impacted by attitude. Therefore, H8 was supported, based on a p-value of 0,000 and a beta value of 0,422. This research implies that a person's favourable attitude towards knowledge sharing will be cultivated by the success of others. The association between attitude and knowledge intention is supported by a substantial body of empirical research (Al-Kurdi et al. 2020; Pham 2020; Nguyen et al. 2019). In a similar vein, attitude is thought to be a reliable predictor of behaviour in the future and is impacted by knowledge-sharing intentions and the ability to exhibit the behaviour (Castaneda et al., 2016).

Hypothesis H9

The relationship between information-sharing intentions and real knowledge-sharing behaviour was evaluated in H9, which was found to be supported by the data, with a beta value of 0,282 and a p-value of 0,004. This suggests that there is a connection between the intentions and actual behaviour of knowledge sharing. This conclusion is supported by the numerous studies that have demonstrated the beneficial and significant impact that intention has on an individual's information-sharing behaviour (Obrenovic et al., 2020, 2021). According to several studies (Ding et al., 2017; Stenius et al., 2017; Mc Evoy et al., 2019; Al-Kurdi et al., 2020), this type of employee behaviour is critical to the success of knowledge-intensive organisations, such as the healthcare sector. This finding aligns with a number of studies that show a connection between information-sharing behaviour and intention (Burnette, 2017; Al-Kurdi, El-Haddadeh, & Eldabi, 2018). The conclusions of Halawi et al. (2017), who postulated that it is imperative for hospital management to ensure that its implicit knowledge is suitably articulated, effectively communicated and tracked, corroborate this finding.

Limitations of the study

Despite the study's many theoretical and practical advances, there were certain limitations. The study's target population was the medical staff of a particular public teaching hospital in the northern Pretoria suburb of Ga-Rankuwa in South Africa. It may consequently be difficult to generalise to the populations of healthcare providers in other public hospitals. The reliability of the data collected is reinforced by the consistency of the experiences of healthcare workers, even though this raises concerns about generalisability and emphasises the importance of undertaking research in different settings and circumstances. Comparing similar studies done in various circumstances might be enlightening.

Implication

This research contributes significantly to theory. Initially, the findings make a valuable contribution to the existing literature on the actual knowledge-sharing behavioural factors among healthcare practitioners in public healthcare institutions. The care that patients receive when they visit the hospital will suffer if highly specialist expertise is not shared inside the institution. The results of this study add to the body of knowledge and may encourage healthcare professionals to exchange knowledge more frequently by theoretically and conceptually developing a conceptual model and empirically examining organisational factors of knowledge management. In addition, this study was able to validate and test the model using primary data, which advanced researchers' understanding of the effects of variables on actual knowledge-sharing behaviour, such as perceived organisational support, organisational structure and perceived behavioural control.

Secondly, this study tackled some of the contemporary problems with healthcare professionals' unwillingness to share their knowledge in information-rich settings like hospitals, where knowledge is critical to the survival of patients. The study provides empirical insight into actions that healthcare practitioners could take to improve the standard of care they give. To handle complicated clinical challenges, healthcare workers need to build relationships between departments within and outside the institution. They must also be adaptable over time in terms of leadership and membership structures to consider information that facilitates decision-making. Decision makers, managers and healthcare professionals are the target audience for practical consequences of the research. This is important as it offers opportunities that can improve the standard of care that medical facilities offer by better understanding the behavioural and organisational aspects that influence the behaviour of information sharing.

Improving organisational features like culture, scale and support can improve the quality of healthcare services and positively affect knowledge-sharing intentions and other behavioural aspects. Multidisciplinary healthcare teams have been successful in improving information sharing and communication throughout hospital departments. The study's conclusions will guide managers and employees in healthcare organisations to concentrate more of their time, money and energy on putting initiatives and activities involving knowledge creation, knowledge sharing and information communication technologies into action in order to raise the general calibre of healthcare services. It is imperative that managers comprehend the alignment between their knowledge management activities and their specific organisational context, as well as the resources available to them for knowledge management.

Conclusion and recommendation

The study aimed to examine the actual knowledge-sharing behavioural factors among healthcare practitioners at a public healthcare facility located in Ga-Rankuwa, north of Pretoria in South Africa. The findings of the investigation provide precise information regarding the variables that actually influence the cognitive behaviour in a public healthcare institution. In addition, the proposed model in this study was validated using the PLS-SEM approach. According to empirical data, organisational and technical factors have a considerable impact on the real knowledge-sharing behaviour of healthcare staff. These results illustrated the critical role that organisational and technology elements play in promoting an information-sharing culture in public health facilities. The study's conclusions offer valuable information and motivate several suggestions for more investigation. Although the information-sharing criteria utilised in this study are reliable and have been tested in past research, more analysis could increase the robustness of the findings. Future studies should include expanding the set of items used to measure knowledge sharing and cross validating the constructs to enhance construction validity. Moreover, additional research might look at the effects of knowledge-sharing practices on various open science topics. By investigating these fields, healthcare professionals can improve their understanding of the broader implications and benefits of information-sharing strategies, which will support knowledge management and open scientific initiatives.

Conflict of interest

There is no conflicting interest that exists in this manuscript.

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