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Developing a knowledge sharing strategy for a South African IT consultancy

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Background: Information technology (IT) consultants find themselves in a fast-paced, fast-changing environment where client satisfaction, project success and problem-solving are their greatest responsibilities. Because of the characteristics of this environment, there is a need in the IT consultancy industry for effective knowledge sharing, to assist their consultants to solve problems faster.

Objectives: The focus of this study was therefore to create such a knowledge sharing strategy by investigating what would be included in a strategy, what the benefits of a knowledge sharing strategy is and what could hinder consultants from sharing their knowledge.

Method: Qualitative data were collected through semi-structured interviews with the consultants from the IT consultancy, with the intention to investigate their current knowledge sharing habits and needs, while literature was also consulted to determine the current practices within similar industries.

Results: The outcome of the data and literature analysed lead to the development of a knowledge sharing strategy for the IT consultancy where the research was conducted.

Conclusion: In summary, this study concludes with the development of a customised knowledge sharing strategy, with the intention to increase the IT consultants' ability to deliver better products and enhance their problem-solving abilities.

Contribution: This study contributed to the limited existing research on knowledge sharing within South African IT consultancies, thereby enhancing the field of Information Science. It has also granted IT consultancies with insight into how consultants share knowledge and what these consultants believe could be improved regarding knowledge sharing.

Keywords: knowledge sharing; information technology; consultancies; knowledge sharing strategy; knowledge management framework.

Introduction

Background

The information technology (IT) consulting industry is a fast-paced environment where consultants are under constant pressure to produce swift, affordable and innovative solutions for their clients (Dingsøyr 2002:1). To achieve these goals, consultants need to gather and share knowledge with their colleagues to deliver more productive and efficient work (Klanwaree & Choemprayong 2019:441). Such effective knowledge sharing becomes even more crucial because, in the age of information, knowledge plays an essential role in a company's ability to stay competitive (Kamasak & Bulutlar 2010:307). On the other hand, companies cannot use their knowledge to the fullest extent without proper knowledge management practices. According to Sokhanvar, Matthews and Yarlagadda (2014:1825), knowledge management practices are crucial for companies that focus on projects, such as IT consultancies, considering that they can prevent consultants from redoing work or losing knowledge after projects.

Knowledge management not only entails the safe-keeping of knowledge but also consists of varying activities as seen in the definition by the Gartner Group: 'knowledge management' 'promotes an integrated approach to identifying, capturing, evaluating, retrieving, and sharing all of an enterprise's information assets' (Gartner Group 2021); and it also includes 'the tacit, uncaptured knowledge of people' (Duhon 1998:10). Not only should consultancy firms encourage their employees to share their knowledge to maintain a competitive advantage, but when colleagues collaborate and share knowledge, it can also contribute to the expertise of others and promote organisational learning.

Considering the significant role that knowledge plays within a consultancy, this study aims to develop a knowledge sharing strategy for a specific IT consultancy in South Africa to enhance their knowledge sharing and project delivery.

Problem statement and research question

Considering the aforementioned introduction and background, knowledge sharing and knowledge conversion play a significant role in the success of IT consultancies. Ensuring that their consultants share knowledge and convert their tacit knowledge to explicit knowledge is crucial for these firms to learn from others' mistakes, aiding them in successfully completing projects and acquiring a competitive advantage. The latter seems to hold excellent value in developing a knowledge sharing strategy for a specific IT consultancy in South Africa.

This study aims to answer the following main research question:

What is required for a knowledge sharing strategy for IT consultants?

Literature review

This literature review seeks to highlight literature required to address the main research question and focuses on knowledge sharing strategies and hindrances, how these concepts can influence organisational learning, and the knowledge management framework incorporated into the knowledge sharing strategy developed specifically for an IT consultancy.

An overview of knowledge sharing

The following section provides a brief overview of knowledge sharing barriers, which could prevent knowledge being shared, and the importance of knowledge sharing specifically within IT consultancies.

Defining knowledge sharing

'Knowledge sharing' is defined as when 'individuals mutually exchange their tacit and explicit knowledge to create new knowledge' (Kamasak & Bulutlar 2010:307). Knowledge sharing plays a key role within organisations to 'enable people to capitalise on existing knowledge bases residing within and outside the organisation' (Carmeli, Gelbard & Reiter-Palmon 2013:96), which enables an organisation to improve its products and services.

Knowledge sharing and its correlation to knowledge management

The origins of knowledge sharing can be linked to the origins of knowledge management. Civilisations have shared knowledge through cave drawings (Alexander 2017), stone carvings, libraries and written and printed texts (Ives, Torrey & Gordon 1998:269–272). Hansen, Noria and Tierney (1999) discussed that the development of IT has contributed to knowledge management and sharing within organisations. With IT becoming more popular, and knowledge sharing becoming more important for competitive advantage, some organisations have focused on the categorisation of knowledge: Knowledge 'is extracted from the person who developed it, made independent of that person, and reused for various purposes' (Hansen et al. 1999). This is also substantiated through externalisation, a knowledge conversion mode presented by Nonaka and Takeuchi (1995:65), which aims to convert tacit knowledge into explicit knowledge that can be shared with others.

With the multiple knowledge management activities (Bolisanni & Briantu 2018; Nonaka & Takeuchi 1995; Sanchez et al. 2013), tools and techniques (Ghani 2009; Rao 2005) that have been identified in the literature, knowledge management and the different approaches play a vital role in most organisations. Because knowledge management is a key factor in organisations today, Dalkir (2013:20) expanded on the importance of the field within its three primary areas: individuals, communities of practice and organisations.

On an individual level, knowledge management can help with better time management by improving individuals' decision-making skills and problem-solving (Dalkir 2013:20). It also provides the possibility for individuals to contribute to the knowledge base of an organisation by sharing their knowledge. For communities of practice, knowledge management can enhance the professional skills of people within the communities, also providing opportunities for collaboration, knowledge sharing and learning. Last of all, on an organisational level, knowledge management can help organisations stay competitive, find best practices and solve problems (Dalkir 2013:20). Therefore, knowledge management can improve all three areas by helping individuals, communities of practice and organisations to find experts within the fields and enhance their expertise through knowledge sharing and collaboration.

Dixon (2018:19) also described three areas or categories of knowledge management that have evolved the methods of collecting and using organisational knowledge: The first category deals with documenting and storing explicit knowledge, providing employees have access to this knowledge from a repository or database. The second category deals with explicit knowledge by allowing employees to form communities for knowledge exchange and learning from each other's experiences. To finish, the third category recognises the importance of explicit and tacit knowledge exchange in the first two categories, and it emphasises the creation of new knowledge and better innovation through collaboration and teamwork. Consequently, the third category recognises the importance of embracing knowledge management within all areas of an organisation and not just specific departments (Dixon 2018:41).

In turn, a study by Peng (2024:9) emphasises that proper knowledge management strategies can motivate employees to share knowledge throughout organisations and assist employees in building relationships and networks to enhance knowledge sharing and retrieval.

In conclusion, this section provided background information on knowledge management by discussing the origins and definitions of the method, the importance thereof, its models and how it relates to knowledge sharing. Tools and techniques that manage knowledge were also discussed. Knowledge management is seen as an overarching practice composed of different activities, with specific focus on knowledge sharing.

The importance of knowledge sharing

According to Klanwaree and Choemprayong (2019:441), knowledge management and especially knowledge sharing are critical for the success of IT consultancies, as these companies rely heavily on the knowledge and experience of consultants to complete projects successfully and ensure client satisfaction. A study by Szirtes (2012:156) showed that sharing tacit knowledge within IT consultancies is more important than explicit knowledge for it leads to greater competitive advantage when consultants learn from past experiences. The study also proved that knowledge sharing is more productive when consultants form communities for knowledge sharing because of this, enabling trust and motivating their colleagues to share knowledge – sharing knowledge purely for monetary or reputational benefits was the least successful methods of knowledge sharing within the specific consultancy (Szirtes 2012:156). According to Kumar et al. (2021), knowledge that is not shared will remain with the knowledge holder or will not be retained entirely. On the other hand, if people also do not understand the systems they need to use to share knowledge, or receive training on how to use these systems, knowledge will also be lost.

Knowledge sharing barriers

Szulanski (1995:1) referred to the barriers of knowledge sharing and transfer as 'stickiness' and identified the following characteristics that contribute to the stickiness of knowledge sharing (Szulanski 1996:30–32):

1. **Ambiguity and unprovenness:** 'ambiguity' (Szulanski 1996:30) refers to the difficulty in sharing tacit knowledge (skills, experiences and know-how), whereas 'unprovenness' (Szulanski 1996:30) refers to the issue that knowledge is difficult to share if it cannot be proven to be useful.
2. **Shortfall of motivation:** this refers to a lack of motivation from the person sharing the knowledge (which can be attributed to a fear of losing their position in a company) and no motivation from the recipient to absorb new knowledge.
3. **Unreliability and a lack of relationship:** if the recipient of the knowledge trusts the provider of the knowledge, they will be more likely to accept and absorb new knowledge; if the source of the knowledge is not trustworthy, the recipient will be reluctant to accept new knowledge. On the other hand, a negative relationship between the two parties will hinder communication and knowledge sharing.
4. **Shortfall in capacity to absorb knowledge:** employees who are unable to identify and collect new knowledge will hinder their ability to use the knowledge towards the success of the organisation.

5. **Shortfall in knowledge retention:** employee who are unable to retain the knowledge they have collected also pose a hindrance to knowledge sharing, as this knowledge will be lost and cannot be used in the future.

According to Chua, Thinakaran and Vasudevan (2023:188–189), other barriers that hinder knowledge sharing can also include the following: Not knowing how to use the technology in place to share knowledge, a lack of knowledge sharing culture within the organisation and, lastly, competitiveness, conflicts and no incentives for sharing knowledge.

These barriers are, to some degree, experienced in most organisations. Understanding such common barriers can guide the development of an effective knowledge sharing strategy, in an attempt to reduce their potential impact on the organisation.

Knowledge sharing in information technology consultancies

As the study was rooted in an IT consultancy, it was important to identify previous research on the topic (with specific focus on IT consultancies) to see how other IT companies conduct knowledge sharing. In order to understand the previous research conducted and to get a clear view of the knowledge sharing practices of global IT consultancies, Table 1 was developed to summarise these published studies. At the time of this article, no specific studies were identified that focused specifically on developing knowledge sharing strategies for IT consultancies or on knowledge sharing in IT consultancies in South Africa. Various databases of journal publications were consulted in the development of this table (such as EBSCOhost, Emerald and IEEE), and articles were identified using the following keywords: 'knowledge sharing', 'knowledge sharing strategy', 'IT', 'consulting' and 'consultants'. Articles on knowledge management and consultancies that did not form part of the IT industry were not included.

During the review of these articles, various tools and technologies, barriers and solutions, and factors that influence knowledge sharing (positively and negatively) within the IT industry were identified. Although there were various articles on the importance of knowledge sharing in organisations, most of these articles focused on knowledge sharing gaps generally, and very few articles had a focus on creating a knowledge sharing strategy. This review also found a need for more knowledge and knowledge sharing within the IT industry to enable IT consultants and professionals to perform better, become more innovative and deliver better products to their clients. This need, therefore, supports the development of a knowledge sharing strategy for a specific South African IT consultancy, as such an existing strategy could not be found in the literature.

Knowledge management framework

The following section delves into a review of one specific knowledge management framework. The knowledge sharing strategy that was developed for the IT consultancy was based on the Milton and Lambe (2019) framework. This section therefore serves as an introduction of this framework illustrating how the strategy will be developed and structured. Milton and Lambe (2019) discussed the importance of designing a framework when planning a knowledge management application. Such a framework contains the 'roles, processes, technologies and governance which collectively enable the acquisition, sharing, maintenance and re-use of knowledge' (Milton & Lambe 2019:148–149). The Knowledge Management Standard (ISO 30401) refers to these elements and includes 'culture' as 'knowledge management enablers' (International Organization for Standardization 2018:7) by stating that all knowledge management enablers are required to implement knowledge management successfully within organisations. Unifying this information from Milton and Lambe (2019:154–198) and the ISO standard 30401 (2018:7), the following four main elements are identified:

1. **People:** within an organisation, people should have distinct roles and responsibilities to ensure that knowledge is shared, used, stored and preserved. This includes holding people accountable for knowledge management, facilitating discussions that allow for tacit and explicit knowledge sharing and ensuring that knowledge is properly disposed of when becoming outdated or unused.
2. **Processes:** for knowledge management to be successful, it needs to be established within all the areas and processes of an organisation. Additionally, all knowledge management tasks should include well-defined and structured processes that employees can follow.
3. **Technology:** the technology used to store, structure and find knowledge needs to be defined, and it needs to enable employees to communicate and share knowledge with each other.
4. **Governance:** expectations need to be established and guidelines specified for retaining the quality of knowledge. Governance should also regulate who owns the knowledge, how the knowledge should be shared and stored, whether people should be trained on managing and sharing their knowledge and indicate how often knowledge and technologies are used by people within the organisation.
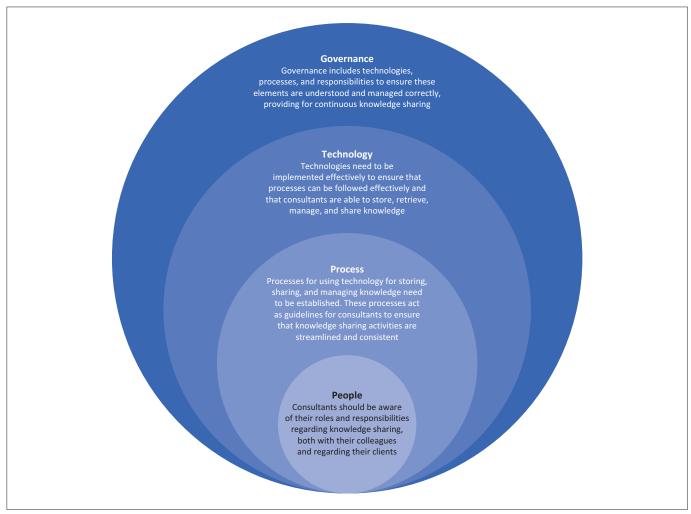

Governance
Governance includes technologies, processes, and responsibilities to ensure these elements are understood and managed correctly, providing for continuous knowledge sharing

Technology
Technologies need to be implemented effectively to ensure that processes can be followed effectively and that consultants are able to store, retrieve, manage, and share knowledge

Process
Processes for using technology for storing, sharing, and managing knowledge need to be established. These processes act as guidelines for consultants to ensure that knowledge sharing activities are streamlined and consistent

People
Consultants should be aware of their roles and responsibilities regarding knowledge sharing, both with their colleagues and regarding their clients

FIGURE 1: Framework for a knowledge sharing strategy.

TABLE 1: Key findings of knowledge sharing in information technology consultancies.

Author(s) (Date)	Title of article	Summary of some key findings
Borges (2013)	Tacit knowledge sharing between IT workers: The role of organisational culture, personality and social environment	This article focuses mainly on workers sharing tacit knowledge in an IT industry. From the findings, a few crucial factors that can influence tacit knowledge sharing, either positively or negatively, came to light: An organisational culture that is supportive of its workers and manifests a sense of belonging can influence more knowledge sharing between employees.
Han and Anantatmula (2007)	Knowledge sharing in large IT organisations: A case study	This study identified four factors that could influence knowledge sharing. Organisational factors create a culture of sharing and employees who trust each other, who will make knowledge sharing more effective. As a part of organisational factors, employees are more willing to share their own knowledge with others who will reciprocate knowledge sharing. Technological factors affect employees within an IT environment, making them more willing to share their knowledge with others if they have access to substantial knowledge sharing tools.
Hidayanto et al. (2013)	Knowledge sharing perception: Multiple case studies in Indonesian IT consulting companies	This study highlighted various influences on knowledge sharing, including knowledge sharing activities, technologies, motivational factors, benefits, barriers and how these barriers could be overcome. The study identified knowledge sharing activities by employees as activities like saving documents on a portal, having brainstorming sessions with colleagues, communities of practice and video conference sessions where work and knowledge could be shared and discussed with colleagues. The technology used by employees was video conferencing software, Internet and intranets, portals and other knowledge management software designed for collaboration.
Klanwaree and Choemprayang (2019)	Objectives and key results for active knowledge sharing in IT consulting enterprises: A feasibility study	This study identified three barriers and two needs for knowledge sharing within IT consultancies. First of all, the barriers included a delay in delivering products to clients, less productive employees and employees who were unmotivated or discouraged from sharing their knowledge with others. The identified needs for knowledge sharing include maintaining constant communication between employees to enhance knowledge sharing and developing understanding and adherence to the consultancy's strategy to ensure that knowledge management activities align with the organisation's mission.
Kucharska (2021)	Do mistakes acceptance foster innovation? Polish and US cross-country study of tacit knowledge sharing in IT	This study highlighted that employees in an IT industry who are prepared to make mistakes by making riskier decisions are more focused on their tacit knowledge, more aware of anything new they have learned and will therefore also be more innovative in their work outputs.
Lee and Shiva (2010)	An approach to overcoming knowledge sharing challenges in a corporate IT environment	Tools, technologies and solutions were identified in this study for solving knowledge sharing barriers. Some of these technologies included intranets and repositories for storing documents. To overcome knowledge sharing barriers, the researchers suggested a database where employees could search for people, skillsets and knowledge sources within the organisation.
Lei et al. (2022)	From 'personal' to 'interpersonal': A multilevel approach to uncovering the relationship between job satisfaction and knowledge sharing among IT professionals	Employees who are satisfied with their work and their employer will be more inclined to share knowledge with their colleagues, according to this study.
Sherif and Xing (2006)	Adaptive processes for knowledge creation in complex systems: The case of a global IT consulting firm	In this study, the IT consultancy has a detailed knowledge sharing strategy: team members on projects would document what they have learned on their projects and tag the documents for easier retrieval from their repository; after knowledge objects have been stored on the repository, the consultants would also have sessions with knowledge managers to discuss the helpfulness of certain knowledge objects to decide if they should be kept or removed from the repository; this repository would also enable consultants to search for useful documents before they start a project to assist them through the project lifecycle. Some barriers identified by the study included a lack of time for consultants to assess documents in the repository, as well as too little time to complete all the steps necessary to upload a document to the repository.
Song, Ma and Huang (2022)	Exploring the relationship between learning goal orientation and knowledge sharing among information communication technology consultants: The role of incentive schemes	This study described benefits and barriers to knowledge sharing. According to the researchers, knowledge sharing could result in consultants who are more motivated and can find solutions faster. It also enables mutual knowledge sharing between colleagues and could facilitate better time management. Incentivising consultants could be a motivation for them to share knowledge and participate in knowledge sharing activities. Barriers mentioned in this study included: consultants are more willing to share explicit knowledge over tacit knowledge for the following reasons: tacit knowledge is difficult to share; consultants may be afraid to lose their competitive edge when they share their tacit knowledge with others; and overall, consultants may benefit from the knowledge that is shared by others, even if they do not share their own knowledge themselves.
Thomas (2023)	Promoting IT professionals' tacit knowledge sharing through social capital and web 2.0: The moderating role of absorptive capacity	This study discussed tacit knowledge sharing specifically and included the following main ideas: for tacit knowledge sharing to be successful, IT professionals need to trust each other, be willing to exchange their knowledge mutually and have the same ambitions. Knowledge sharing goals can also be supported through the use of technologies, including blogs, online communities and intranets. Most importantly, knowledge sharing relies on communication between employees.

Note: Please see the full reference list of this article Swanepoel, D., Laughton, P., & Meyer, A., 2025, 'Developing a knowledge sharing strategy for a South African IT consultancy', *South African Journal of Information Management* 27(1), a1995. https://doi.org/10.4102/sajim.v27i1.1995 for more information.
IT, information technology.

Through the review of the literature on knowledge management frameworks, the knowledge sharing aspect of knowledge management has a great focus, as it is often incorporated into most aspects of a framework. This kind of knowledge management framework is, therefore, suitable to develop the knowledge sharing strategy for this study based on this section, with a focus on incorporating knowledge sharing activities, preferences and the needs of IT consultants.

Research methods and design

The interpretivist research paradigm was deemed suitable for the study, and a qualitative research approach was applied for data collection. A single exploratory case study method was followed, which included semi-structured interviews with 12 participants within a South African IT consultancy.

The study population for this study is a South African IT consultancy. For this study, purposive sampling was used within the identified department of the IT consultancy. Consultants were chosen to partake based on a set of pre-determined criteria, which included the following:

1. **Length of employment:** participants had to be employed as IT consultants at the IT consultancy and be employed for longer than a year. This criterion ensured that the participants were familiar with the organisation's processes and projects and had some experience with knowledge sharing within the organisation. Managers were not included in the sample, as they are not actively working as consultants.
2. **Department:** participants had to have worked for a specific department in the organisation. This criterion was chosen to narrow down the selected participants as there was limited time to interview participants and analyse the data. It was also the department that the researcher was employed in and had access to.

3. **Type of position:** participants had to have actively worked as consultants, as the study intended to only interview current consultants who could actively identify any knowledge sharing issues that currently affect their projects.

Out of 30 employees initially contacted, 12 agreed to participate in the study. The researcher selected the online collaboration application Microsoft Teams to conduct the interviews as most of the employees within the specific organisation work remotely, and this is the usual application used by the consultancy's employees to interact.

Data analysis

For this study, the researcher strived to analyse the collected data to identify specific categories and themes regarding knowledge sharing behaviour within the selected organisation, which informed the development of the knowledge sharing strategy. Therefore, a thematic analysis was used for this study, which came from a manual coding process.

Ethical considerations

Ethical clearance to conduct this study was obtained from the University of Pretoria Research Ethics Committee (No. EBIT/230/2022). The organisation and participants also had written agreements to partake in the study. Another ethical consideration to consider was the researcher being familiar with the participants. Any potential bias was managed by allowing participants to review their answers and to ensure that they can decline to answer questions they are not comfortable with.

Results

Knowledge sharing habits of participants

The following section aims to find a correlation between the participants' experience level and knowledge sharing tasks or activities they conduct. Therefore, the following conclusions were reached: All consultants oversee knowledge management and knowledge sharing, but the participants with more experience tended to have a more structured way of managing and sharing knowledge that they tend to repeat for every project. For example, Participant 4 (with 10 years of experience) would usually mentor junior consultants on projects and was responsible for writing project closure documents to detail the solution that was implemented for the clients. Participant 6 also had 10 years of experience and would train the junior consultants on the standard project documentation and archive the documentation for future projects. Then, Participant 12, who had 8 years of experience, drew diagrams of commonly used system processes and shared them with other consultants and clients; they also document and explained all system changes and solutions to the client.

For the least experienced consultant, with 1 year and 2 months of experience, Participant 3 would create knowledge-based articles to document changes made on the system and solutions to common problems. They would also store these documents on a repository and share these articles between the colleagues on their projects. Participant 3 also indicated that the repository has helped them to find information more easily. Participant 5, who has 1 year and 4 months of experience, asked their project leads for documentation of the system or went through the system by themselves to generate documentation on all the configurations of the system. Participant 5 also established sessions with their team leads before a project to allow the more senior consultants to share knowledge with them.

Structure of the information technology consultancy and manner in which teams interact

The IT consultancy involved in this study mainly focuses on implementing payroll systems, clocking systems and human resources (HR) systems. Although this is a global company, this study focused only on the South African branch that is divided into three departments, which are referred to as 'practices'. These departments comprise both functional and technical consultants at various levels, from interns to senior consultants, as well as managers and partners. Each of the functional and technical consultants fulfil separate roles on projects and work with different areas of the software, forming smaller teams as part of the bigger project team. The more senior consultant in the team will then function as the team lead for that area. At the end of a project, the main project team will hand over their work to a support team that assists the clients with any system requirements or queries after their system is live and they are actively using the system. Within the IT consultancy, the consultants are divided into teams based on their specialities. These teams are called Centres of Excellence, where they gather and share knowledge among each other to progress their skills within a specific area and enhance project delivery. This is a new initiative that the organisation is implementing, where every 'Centre of Excellence' also has a repository for each team to store their software documentation, training material and project specifications. Only team members that work with the same software or on the same projects have access to these repositories. The consultants also refer to these repositories as their 'Centres of Excellence sites'.

Summary of responses from the interviews

Table 2 describes the questions asked in the interview schedule and provides a summary of the participants' responses.

Thematic analysis of the responses

Themes and research questions resolved

Throughout the questions that were asked during the interview process, five main themes and two sub-themes were identified based on the keywords and phrases that were most used by the participants when answering the questions. This section discusses each theme and the research questions they resolved as laid out by Table 3. The age and gender of participants were not collected and all participants hold the same occupancy (Information Technology consultant).

TABLE 2: Summary of responses from data collection.

Interview question	Summary of responses
What knowledge management tasks do you conduct during or after a project?	Although the question focused on knowledge management, the participants responded with a combination of their knowledge management and knowledge sharing tasks. From the participants' responses, most knowledge management tasks are conducted during projects, but the task that was conducted by the most participants was end-of-project documentation and knowledge transfer. The most prominent tasks included: standard software documentation, personal documentation, email archives, documentation of specific issues, onboarding courses, training and boot camps, project specific documentation, check-ins, lessons learned and knowledge transfers.
What knowledge sharing tasks do you conduct during or after a project?	For this question, participants also indicated a combination of knowledge sharing and knowledge management tasks. As specified by the participants, there are an equal number of tasks conducted before and during projects, and that the least number of tasks are conducted after projects. Some tasks that run before, during and after projects are also related, for example, knowledge sharing sessions, training, mentorship and knowledge transfer, which all involve direct interaction between consultants or consultants and clients. The most prominent tasks included: knowledge sharing sessions, sharing templates, process diagrams, training and boot camps, sharing resources and links, mentorships and end-user training.
What knowledge conversion tasks do you conduct during or after a project?	The participants indicated many of the same knowledge sharing tasks from the previous question, which might indicate that the participants interpret knowledge sharing and knowledge conversion to be the same, not having a clear indication of the differences between the two concepts. Although the participants pointed towards similar tasks, fewer unique tasks were mentioned. The most prominent tasks included: mentorships, check-ins, end-user training and blueprints.
Can you please evaluate how much you value knowledge sharing and knowledge conversion?	Participants had to evaluate how much they value knowledge sharing and knowledge conversion on a scale from 1 to 3, where 1 is 'not valued', 2 is 'slightly valued', and 3 is 'highly valued'. Most participants indicated that they highly value knowledge sharing and knowledge conversion. Two participants who indicated no or a low number on the scale did mention that they understand the value that knowledge sharing and knowledge conversion can have.
Would you value a person's knowledge over other popular information sources, such as books on best practices, journal articles, YouTube videos, etc.?	Most participants value the knowledge from people more than knowledge from other information sources because asking a colleague for assistance can lead to more contextual and specific knowledge, and their colleagues also tend to understand the client's requirements more, particularly on custom implementations. This question also gave insight into the preferences of the participants for seeking knowledge.
How has knowledge sharing helped you with projects?	The majority of participants stated that they have received the most benefit from knowledge sharing while interacting with their colleagues. Some participants also revealed that knowledge sharing has assisted in faster solutions on projects, allowed for delegation to new employees, and created a knowledge sharing culture within the organisation.
What knowledge sharing strategies could you suggest?	Although most participants indicated that they prefer human interaction when sharing knowledge, they suggested many knowledge sharing strategies in this question that pointed to interactions between consultants. Most of the participants suggested documentation and centralised repositories that they could access to find relevant documents. Participants additionally discussed points on motivation and incentives.
How could knowledge sharing be beneficial on projects?	Most participants indicated that knowledge sharing could enable consultants to implement projects faster, reducing replicating problems on projects. Some participants also said that less experienced consultants would work confidently on projects sooner if they received a background of the work before the start of the project. Less interaction between consultants may be necessary during a project if efficient knowledge sharing and knowledge management can occur beforehand.
Describe any current knowledge sharing practices that you are aware of within the organisation.	The majority of participants mentioned monthly training sessions and their Centres of Excellence as current knowledge sharing practices in the organisation, although some participants mentioned that there is a decline in participation in these practices as they see no benefit in participating. The inexperienced and experienced consultants are trained together, which results in repetitive training sessions that may not benefit the more experienced consultants.
Describe any difficulties you have experienced within the organisation regarding knowledge sharing.	Most of the participants mentioned time constraints as a recurring hindrance for knowledge sharing as they either do not have time to share knowledge and participate in knowledge sharing activities or they have to wait for their colleagues to find time to assist them, both of which cause delays in problem-solving. A few participants discussed a lack of participation in knowledge sharing as a hindrance because some consultants do not value it or see a benefit to sharing knowledge. Standout solutions to these two issues include gamifying the process of updating wikis and knowledge sharing platforms and allocating the knowledge management tasks to one person in the organisation.
Describe any difficulties you have experienced within the organisation regarding knowledge management.	Most of the consultants identified issues of finding the right information and the maintenance of repositories as hindrances to knowledge management, with Participant 11 mentioning that a dedicated person for knowledge management would be beneficial (as per the responses from Participant 10 and Participant 12 in the previous question). Fewer participants indicated time as a difficulty in knowledge management compared to knowledge sharing. Participant 12 was also in agreement with Participant 11 in the previous question, where they stated that the consultants need a buy-in and to see the benefit for themselves before participating.
Do some teams have better ways of sharing knowledge than others? Are there any standout examples of knowledge sharing practices within teams you have worked with in the past?	The majority of participants do believe some teams share knowledge better than others and provided examples of their experiences. The participants also indicated that more driven initiatives are needed to encourage all consultants to participate.
How would you describe other people's view of knowledge sharing within the organisation?	Most participants indicated that knowledge management and knowledge sharing are not valued nor prioritised and that those who do value knowledge sharing do not have time during their projects to participate.
Why would you or why would you not consider people more knowledgeable if they are more likely to share knowledge?	The vast majority of participants answered 'Yes' and indicated that sharing knowledge shows a deeper understanding of the work, the problem and the solution. They also said that people who share knowledge are seen as the 'subject-matter experts' and would be more frequently consulted to assist other consultants with issues on projects. Only three participants responded 'No', explaining that they believe anyone could have the knowledge but might just not be willing or eager to share it because of factors such as time constraints.

Requirements for a knowledge sharing strategy for information technology consultants

Throughout the literature and data collection, various aspects of knowledge sharing within IT consultancies were identified, including benefits, barriers, needs and solutions. These aspects provided a better understanding of current trends in the industry, what the consultants at IT consultancy may require, as well as aspects that could hinder them from sharing knowledge and knowledge activities that they may not find useful or effective. From the interviews, it was found that the consultants at IT consultancy would require an easily searchable knowledge base, better training and documentation before, during and after projects, templates for how to create documentation and also a person that can assist in managing and retrieving the knowledge from the knowledge base and documentation were identified. Incentives were also identified as a factor that could motivate consultants to share their knowledge. These needs and solutions suggested by the participants and retrieved from the literature were used to develop a more in-depth knowledge sharing strategy that are discussed below.

Developing a knowledge sharing strategy

The findings from both the literature and the data collection process were combined to develop a knowledge sharing strategy for the IT consultancy, which will suit the needs and preferences of its consultants.

TABLE 3: Findings of themes from data collection.

Theme	Statements by participants to support these themes
Theme 1: Knowledge-related activities	'… [W]here [*a specific problem*] has not been seen before, or no one has [*had*] experience with [*it*] before, that should and will definitely be documented.' (Participant 1, 3 years experience, IT consultant)
	'When I was with Project A, it was very much a shared database repository, … [*and the*] onboarding process was very in-depth.' (Participant 2, 3.5 years experience, IT consultant)
	'So, I am doing a whole boot camp with the juniors that will take over the support [*of the project*] later on so that they are equipped with the solution, what we implemented, and how to troubleshoot some items.' (Participant 1, 3 years experience, IT consultant)
Theme 2: Knowledge sharing systems	'… I archive my emails very well. So, I try to make sure that those lessons learned are always captured in emails. It will be dual captured, one in Microsoft Teams and one in an email.' (Participant 6, 10 years experience, IT consultant)
	'[*Formal training sessions*] will be recorded, and then they are shared via the various Centres of Excellence channels that we have available.' (Participant 3, 1 years and 2 months experience, IT consultant)
	'We … have the Centres of Excellence on [*Microsoft*] Teams, where it … takes channels where you can go. [*You can*] put down any issue you encountered and the solution, or you can ask for help. But moving or navigating a text chat just to find information is quite difficult …' (Participant 7, 4 years experience, IT consultant)
Theme 3: Knowledge sharing barriers	'It's this idea of a dead document … The payroll team had captured documents in 2021. They are absolutely out of date and dead … not updated and becoming untrustworthy …' (Participant 6, 10 years experience, IT consultant)
	'Something I alluded to in the beginning is competitiveness: 'I don't want to share my knowledge because I feel it gives me an advantage'.' (Participant 6, 10 years experience, IT consultant)
	'Purely from knowledge sharing, what hasn't worked is when it's not being documented … if they had to explain the same thing over and over again to different people …' (Participant 1, 3 years experience, IT consultant)
Theme 4: Knowledge sharing benefits	'But to have someone that is already on the same project as you and been there longer than you, I would value the knowledge of the person, mostly because it's within the context of what you are trying to achieve.' (Participant 1, 3 years experience, IT consultant)
	'And getting information from colleagues and team members and resources that I can ask directly has probably saved me hours, if not days' worth, of debugging and searching for possible issues.' (Participant 7, 4 years experience, IT consultant)
Theme 5: Knowledge sharing needs	'The thing is it needs to be quite extensive. There needs to be quite a few contributions. So, that wiki is very useful. However, it needs to have all the information or a lot of the information to actually work.' (Participant 2, 3.5 years experience, IT consultant)
	'So, I would definitely say that when knowledge is shared, we should have a standard format that it should be shared [*in*] … I would have a better naming convention as well.' (Participant 3, 1 years and 2 months experience, IT consultant)
	'… We can get someone that handles the admin. We don't have enough time to do the admin around it and implement the project.' (Participant 10, 4 years experience, IT consultant)
	'… [H]aving [*a repository*] maintained is very difficult just due to the practical nature of it … If there's someone who can walk side by side and help facilitate that … sort through documentation and store it in the right places …' (Participant 12, 8 years experience, IT consultant)

The literature review found that centralised and searchable knowledge bases are valuable knowledge sharing assets for IT consultants, along with allocated time and billable hours for the consultants to join in knowledge sharing activities. In the interviews, consultants highlighted their preferences for interacting with their colleagues when sharing knowledge, as well as having sufficient time, incentives and proper motivation to partake in knowledge sharing activities and to prepare for training. Some consultants also suggested that knowledge managers could be helpful in locating, storing the documents and disseminating knowledge on their behalf.

Taking these factors into consideration, a knowledge sharing strategy was developed for the chosen IT consultancy. This strategy is based on the knowledge management framework as discussed in Section 1.3.6 by cross-referencing people, processes, technology, and governance with discussion, documentation, synthesisation, and finding and reviewing knowledge, as suggested by Milton and Lambe (2019:149). The strategy is outlined below (Figure 1).

People

The people who will need to be involved in knowledge sharing for the organisation include interns, associate consultants, consultants and senior consultants (the entire spectrum of consultants). Although management would play a guiding role in encouraging and facilitating knowledge sharing, it is mostly the consultants working directly with the clients that require knowledge, especially less experienced consultants. Team leads in the organisation tend to have more contact with other consultants than the managers and

will, therefore, play a larger role in holding others accountable for knowledge sharing.

The following details the responsibilities of the consultants regarding knowledge sharing:

1. **Discussion:** within each project, team leads will be responsible for ensuring that the consultants who form part of their team contribute to knowledge sharing with the rest of the team by having discussions and informal training sessions. This can be facilitated by a team lead. Consultants on the project should be responsible for participating in these discussions and following the guidance of team leads.

2. **Documentation:** both the team leads and consultants would need to complete documentation during the project lifecycle, whether this includes blueprints, workshops, knowledge transfers or lessons learned. Part of this documentation can also include documenting problems resolved or lessons learned from knowledge sharing discussion sessions. It should be the responsibility of all consultants to participate in these tasks.

3. **Synthesisation:** although appointing a knowledge manager to manage the documentation within the organisation might not be realistic, it might be possible to allow the project managers additional, billable time on projects to ensure that project documentation is stored and disseminated. Additional documentation from knowledge sharing discussions could be stored and managed by team leads.

4. **Finding and reviewing:** project managers should be responsible for guiding consultants to the correct templates to use and for documenting past projects. Team leads should

be responsible for guiding consultants to documentation or sources where they can find documentation for problem-solving. Consultants themselves are responsible for finding, reading and reusing the knowledge they have gained from the sources they have consulted.

Process

Different processes are required for sharing, documenting, storing, managing, finding and reusing knowledge. Following these processes will ensure effective knowledge transfer and will assist in keeping the flow of knowledge between teams consistent and accurate. The following points outline these different processes, which should be followed to ensure that consultants have specific guidelines to follow and can fulfil their roles and responsibilities:

1. **Discussion:** as some consultants prefer online meetings and other prefer face-to-face meetings (specifically in knowledge sharing), team leads can follow the preference of their team for facilitating knowledge sharing discussions. Team leads can arrange sessions with their team and allow team members to ask questions based on their current project or for other consultants to assist. Another option is to allow for information training sessions where members share and document what they have learned throughout their week and allow for questions from the rest of the team. Formal training sessions can be facilitated by managers, who can also talk to other consultants to discover what they would like to be trained on in these sessions.

2. **Documentation:** as time constraints are a major hindrance for knowledge sharing between consultants, especially if there are no motivational factors, knowledge sharing should be incentivised. In an attempt to address this, the following process is suggested:

   - Consultants can briefly document knowledge, lessons learned and solutions to problems experienced on projects at the end of the project lifecycle. This can include documentation used in the team-specific knowledge sharing sessions and discussions.
   - Other consultants can then vote on how useful they find the documentation; each vote can count as a point to the consultant.
   - If the documentation is deemed highly valuable, the consultant can receive additional billable hours to elaborate on their documentation.

3. **Synthesisation:** during the project lifecycle, project managers need to ensure that the project documentation is created, updated and stored on a database that all consultants in the department have access to. These tasks need to be performed continuously, and consultants should work online to ensure that version control of all documents is accurate. Project managers should also be informed of any changes to documentation; this can be done through a centralised application such as Microsoft Teams as to not overflow the project managers' inboxes.

4. **Finding and reviewing:** for finding and reusing resources, project managers should have discussions before projects start, where they let the consultants know what their high-level requirements would be (e.g., what documentation they would be required to create) and where they can find templates and past documentation to use as examples. Team leads should also have a session with their team before the start of a project to ensure they understand the implementation requirements. During this session, the team can go through the implementation documentation, cheat sheets or past documentation to ensure they understand what is expected of them, so that they know where to find knowledge if they need to solve any problems during the project.

Technology

For knowledge sharing to be successful within the company, consultants need to make use of different technologies to assist with sharing, storing, finding and using knowledge. Because most of the consultants work from home, the company already has applications like Microsoft Teams and SharePoint in place. Younger consultants prefer to use Discord to talk to their peers and informally share knowledge.

The following further discusses the use of technologies for each of these elements:

1. **Discussion:** technologies for facilitating knowledge sharing and discussions already exist, and consultants can continue using Microsoft Teams to hold online meetings, share documentation and links with each other and upload documents to Microsoft SharePoint. A more structured database where documents are stored in a more logical way can also be created to allow consultants to find who has the knowledge they are seeking and who they can contact to assist in solving complex project problems.

2. **Documentation:** currently, consultants and project managers use Microsoft Word, Microsoft Excel and Microsoft PowerPoint for formal documentation, such as project documentation and formal training documentation. Other consultants also make use of Microsoft OneNote to collaborate with their teams on collecting knowledge sources and solutions to common issues. These technologies can remain in use for informal documentation from knowledge sharing sessions and to allow access to all other teams in the department as well, these could be uploaded onto Microsoft SharePoint. Training sessions can also be recorded via Microsoft Teams and uploaded for later use.

3. **Synthesisation:** a knowledge base can be created with tags, keywords and appropriate metadata to enable consultants to search for knowledge-based articles and project documentation easily to know what the articles entail to determine if the articles will be relevant to them. Metadata can also assist in identifying the authors of the documents and who can be consulted for further questions. This knowledge base can be centralised to ensure all consultants from all teams have access to the documentation as opposed to the current situation where each team has

their own knowledge base and only certain team members have access. Having project documentation, such as proposals, blueprints, knowledge transfers and workbooks from previous projects stored, on the knowledge base will enable consultants to reference and adapt such documentation easily to their current projects.

4. **Finding and reviewing:** as mentioned above, tags, keywords and metadata can easily enable consultants to find knowledge and people who could assist them in solving problems on projects by allowing them to see who created the documents and what the main topics of the documents are. Consultants and project managers could also create consistent taxonomies to ensure that consultants know how to navigate and use the knowledge base to find knowledge.

Governance

One hindrance to knowledge sharing and seeking that one participant mentioned was outdated and untrustworthy documents. Other aspects also include knowledge being lost when consultants leave the company, unorganised folder structures and not having access to required knowledge.

These aspects all fall into the category of governance and are discussed below:

1. **Discussion:** team leads and project managers would need to be informed of their responsibilities regarding knowledge sharing and what is expected of them. They might also require training in facilitating knowledge discussions and navigating the knowledge base to access knowledge to share easily with their teams. Consultants would need to be informed of their roles and responsibilities when attending formal and informal knowledge sharing sessions. Guidelines should also be provided for the processes and technologies that need to be used when having formal and informal training sessions.

2. **Documentation:** guidelines should be provided for consultants about what knowledge should and should not be captured. Guidelines should also outline how knowledge needs to be captured and stored, as well as indicate what technologies to use and processes to follow when creating documentation. This will ensure that all captured knowledge is consistent between teams within the department, which can allow for easier retrieval of knowledge as well.

3. **Synthesisation:** team leads and project managers will need to ensure that knowledge is not duplicated on the knowledge base. For project documents, duplicate files should not be created, making proper version control and retention management vital to discard unnecessary documents. For informal and formal knowledge sessions and training, team leads and managers should ensure that knowledge is not duplicated either and that consultants are rather referred to the existing knowledge than asked to recreate the same documentation.

4. **Finding and reviewing:** consultants would need to be trained on the proper processes for creating taxonomies,

storing documentation and knowledge sources and navigating the knowledge base. If there is no proper governance on storing and tagging documents, consultants may struggle to find and retrieve the knowledge that they require, and the knowledge will not be reusable.

Summary of the knowledge sharing strategy's objectives

The factors mentioned above form the knowledge sharing strategy for this study. Although various aspects of knowledge sharing are found within the literature and the empirical study, this knowledge sharing strategy has been developed with the habits and preferences of the participants of the study in mind and aims to ensure easier knowledge sharing between team members at this particular IT consultancy. This strategy attempts to avoid over-complicating the process of knowledge sharing and, in an attempt, to prevent consultants from feeling that their workload increases by participating in knowledge sharing activities. This strategy also covers governance in an attempt to ensure that consultants and project managers keep updated documentation and discard outdated documentation.

Conclusion

A critical component of any knowledge management initiative is the sharing of knowledge. This strategy attempts to address the specific needs of the IT consultancy used in this study. Some of the components along with the associated practices of this strategy may be useful to other organisations. Ideally, a customised strategy may be best to address the standard practices and culture of an organisation.

At the core of this knowledge sharing strategy are people, process, technology and governance – addressing the critical role players and resources that make knowledge sharing a reality. Organisations looking to improve the sharing of knowledge should look to developing a strategy to enhance its flow. What is crucial and falls outside of the scope of this research is the implementation and measurement of the sharing of knowledge strategy in an attempt to refine and enhance such a strategy.

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Authors' contributions

D.S. conceptualised the idea for this research article for her studies. The author's contribution included collecting data, writing the article and data analysis. P.L. and A.M. served as supervisors to the initial research study.

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Data availability

The data that support the findings of this study are available from the corresponding author, D.S., upon reasonable request.

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