

Tacit knowledge management strategies of small- and medium-sized enterprises: An overview

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Background: The study argues that managing tacit knowledge (TKM) would reduce small- and medium-sized enterprises (SMEs) operational discontinuity and knowledge loss in KwaZulu-Natal (KZN) province, South Africa.

Objectives: The article examined the strategies put in place by SMEs for tacit knowledge management (TKM) practices and to develop a framework that will promote TKM for SMEs.

Method: The study adopted a quantitative research method and targeted 326 SMEs using Google Forms. One hundred and eighty (180; 55.2%) useful responses were obtained and analysed using the Statistical Package for Social Sciences.

Results: Most of the SME owners are aware and affirmed that there is a particular tacit knowledge that is of importance to business. The most common methods of capturing tacit knowledge among SMEs are monitoring, practical sessions, in-house training programmes, and brainstorming. Tacit knowledge is shared during meetings (such as project teams) and when dialoguing. The study also revealed that electronic files in computers are the major tools for storing the collected tacit knowledge.

Conclusion: The study concluded that TKM among SMEs in KZN required improvement and recommended improving teams and informal networks and making information and communication technology tools available to preserve tacit knowledge. The SMEs that can afford it can consider employing the services of consultant knowledge management officers to conduct periodic knowledge audits to identify knowledge gaps for proactive solutions.

Contribution: The study contributed to knowledge management, tacit knowledge, explicit knowledge, and TKM.

Keywords: tacit knowledge; SECI model; knowledge management; small- and medium-sized enterprises; South Africa.

Introduction

Knowledge continues to be a fundamental asset that contributes to organisational development and competitive advantage (López-Cabarcos et al. 2019). It is the main driver of organisational performance; hence, there is a need to manage it effectively. This would help to create, disseminate and exploit organisational knowledge. Knowledge can be viewed from two standpoints: knowledge as an object (Bolisani & Bratianu 2018), which presents a static and linear view of knowledge; and knowledge as a process, which is dynamic (Chatti, Jarke & Schroeder 2012). Davenport and Prusak (1998:5) emphasised the dynamic nature of knowledge in their well-known definition: 'Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information'.

Knowledge management continues to be a growing concern in management research and practice because of its role in innovation capability, organisational competitive advantage and continuous optimum performance. Knowledge management, in particular, is significant for small- and medium-sized enterprises (SMEs) as they are comparatively more dynamic than larger organisations and are attested to being more open to learning (Wang & Yang 2016). This study embraced the attribute of knowledge as a process, which makes it flow from where and how it is located, to where and how it is required (Bolisani & Oltramari 2012). This study is grounded on Nonaka and Takeuchi's (1995) concept of explicit and tacit knowledge and its components comprising four modes of knowledge conversion widely known as the SECI model: tacit-to-tacit

(socialisation), tacit-to-explicit (externalisation), explicit-to-explicit (combination) and explicit-to-tacit (internalisation).

The SECI model has been found applicable as a knowledge creation and/or management matrix in a range of contexts (Adesina & Ocholla 2019), and knowledge creation has been used to explain why some organisations have higher competitive advantages over others (Mwangi & Mwanuzi 2023). Concurring with related studies (Garcia-Perez et al. 2020), we argue that businesses that manage knowledge-related resources are at a competitive advantage over those that do not. However, most knowledge management studies appear to have concentrated on explicit knowledge (Mládková 2012) and big, multinational firms (Mohd Selamat, Prakoornwit & Khan 2020), with inadequate emphasis on SMEs.

Although we acknowledge the significant roles played by the two types of knowledge in the knowledge creation model of Nonaka and Takeuchi (1995), this study focussed on the knowledge that is rooted in innovativeness and spurs competitive advantage, which several studies have attested to be tacit (Castellani et al. 2021). The aim of this article is to examine the tacit knowledge management (TKM) strategies of SMEs in the KwaZulu-Natal (KZN) Province of South Africa and to develop a framework that will promote TKM for SMEs. It is believed that the findings of the study will reduce the dearth of information on TKM of SMEs in the province, and perhaps elsewhere and aid SME owners in the management of tacit knowledge for improved knowledge creation, innovation, performance and competitive advantage. The study focuses on two research questions: what are the existing methods of TKM of SMEs in KwaZulu-Natal? What are the enabling factors that aid TKM of SMEs in KwaZulu-Natal?

Theoretical perspectives

This section highlights the theory and brief literature review of the study.

The study was underpinned by Nonaka and Takeuchi's knowledge creation theory; the SECI model, which provides insight into how knowledge is created, shared, stored and used in organisations; and Stankosky and Baldanza's knowledge management enabler framework (KMEF) (Haslinda & Sarinah 2009). This is because tacit knowledge capture is not the right of SMEs but is owned by employees. The KMEF was adopted to determine the organisational factors in place in the SMEs that can positively influence the employees to share their tacit knowledge willingly. In a recent study, Adesina and Ocholla (2020) found that the SECI model continues to be widely accepted and used despite criticism levelled against it, such as the non-linearity of the model. This was evident in the exponential growth of the SECI model's usage and application in knowledge management research.

Two modes of the SECI model (socialisation and externalisation) were employed to determine the tacit

knowledge capturing and sharing methods. Socialisation is a tacit-to-tacit knowledge exchange that may occur through apprenticeship and informal social meetings, face-to-face interactions and observation, among others. It characteristically occurs in the traditional apprenticeship (instead of what is read in manuals or textbooks), informal social meetings and interactions beyond workplace boundaries (Easa & Fincham 2012). The authors clarify that externalisation articulates tacit knowledge into explicit knowledge when captured and expressed through formal internal rules of function and explicit organisational goals. It is externalisation that makes tacit knowledge shareable. Externalisation is dependent on the processes, systems and technologies that enable the mode to occur, which accentuates the significance of the KMEF in this study. The KMEF aids knowledge management activities by creating an atmosphere that encourages knowledge sharing readiness. The model suggests organisational, leadership, learning and technological factors that motivate knowledge owners to share willingly. The KMEF organisational factors of consideration were reward system, teamwork, informal networks and technologies, all of which have been researched to be crucial to tacit knowledge sharing (Alves & Pinheiro 2022).

In the next section, we briefly review the extant literature on the key concepts related to the study, followed by themes from the study questions.

Tacit knowledge

Tacit knowledge is crucial in organisational knowledge (Baronian 2022). It is characterised by the experience, expertise and skills of individuals and is present in hunches, ideas, insights, intuition and values (Nonaka & Takeuchi 1995). It has been described as knowledge capital, implicit knowledge, expert knowledge, intellectual capital, knacks, experience and skills (Biloslavo & Lombardi 2021). Tacit knowledge encompasses skills and experience-based knowledge of employees, which can be expressed through actions, evaluations, attitudes, points of view, commitments and motivation.

Tejero, Pau and León (2019) notice that tacit knowledge is crucial to enterprises and accounts for 90% of total organisational knowledge. Its relevance in any organisation or business enterprise rests upon its ability to unlock organisational competitive advantage and operational effectiveness (Huie, Cassaberry & Rivera 2020). Regrettably, tacit knowledge is easy to lose to mergers, reorganisation, downsizing, brain drain, redeployment, retirement, resignation, retrenchment, dismissal, a continual increase in the on-demand transient workforce, millennials not staying long with a single employer, more baby boomers' retirement, and death of employees (Meister & Willyerd 2021; Mohajan 2017). The possible loss of tacit knowledge because of multiple factors makes its management crucial for business/organisation survival and competitiveness, but stopping tacit

knowledge owners from leaving their jobs with their knowledge is a major challenge.

Tacit knowledge- and small and medium-sized enterprises

Small- and medium-sized enterprises can innovate by successfully managing their tacit organisational knowledge, which is the bedrock of innovation (Taipale-Eräväla, Henttonen & Lampela 2019). However, they tend to have a high turnover rate, which means that they often lose the specialised knowledge that is the core of their businesses (Cerchione, Esposito & Spadaro 2015). Grice, Peer and Morris (2011) recognised this difficulty and recommended that SMEs employ TKM initiatives, as they have the capacity and capability to exploit knowledge management practices by exploring tacit knowledge (Mohd Selamat et al. 2020). It has been suggested that a situation in which critical tacit knowledge resides in the minds of resigning staff members can lead to knowledge loss. This serves as the basis for the clamour of Droege and Hoobler (2003) that though it may be impossible to stop staff members from leaving, there must be a way to stop them from taking their knowledge with them.

Small- and medium-sized enterprises play an important role in almost all economies, particularly in developing countries such as South Africa, where there are several difficulties with employment and income distribution (Ozkan et al. 2019). As a result, the capacity of SMEs in developing countries to compete is critical to their economic success. However, despite the importance of TKM in organisations, extant literature has revealed that while several organisations in developed countries have successfully mapped out knowledge management strategies, most SMEs in developing countries are yet to explore these initiatives optimally (Uzelac et al. 2018).

Tacit knowledge management methods

A widely held and contested view is that tacit knowledge cannot be managed holistically because of its complexity or intangibility. Nonaka and Takeuchi (1995) argue that it is possible to capture and manage tacit knowledge. Tejero et al. (2019) also observed that properly collecting tacit knowledge can prevent knowledge loss in organisations, particularly those at risk of losing their knowledge-based competitive advantage. It is agreed that it is easy for one to learn or acquire tacit knowledge through shared experiences, observation, imitation, coaching and mentoring, skills, observation, intuitive feelings, mental modes, beliefs, values and face-to-face discussions (Mohajan 2017). Fahrenbach, Revoredo and Santoro (2019) describe tacit knowledge as a key ingredient of socially constructed knowledge that can be captured through informational discussions, such as from the experience of employees or teams for organisational benefit.

Mohajan (2016) stated that the most valuable organisational knowledge is not as much in written procedures as in the heads/minds of humans. This realisation necessitates the

need to have tacit knowledge captured and shared. Recognising the high value of tacit knowledge, companies have started capturing it through organisational learning processes and by interviewing employees before their exit (Droege & Hoobler 2003). Al-Qdah and Salim (2013) and Dzekashu and McCollum (2014) highlight the role of communities of practice (CoPs) (a group that shares knowledge, insight and experience, learns together, and creates common practices about an area of common interest) in the capturing and sharing of tacit knowledge. Other methods of capturing and managing tacit knowledge reported by Al-Qdah and Salim include observing the procedures of an expert to gain insights into the practices of the expert, reinforcing attitudes and building of knowledge base (internalisation in the SECI model). In addition, the use of an apprenticeship system, in which a novice gains hands-on tacit knowledge from the experiences of a master, mentor or colleague, is equally important (Mohajan 2017).

McAdam and Reid (2001), in their study of Australian SMEs, reported that the highest-ranked tacit knowledge capture methods employed by SMEs are informal discussions, while inductions and exit interviews were ranked the least methods. Some other researched tacit knowledge creation, capturing and sharing methods are mentoring, an ongoing relationship of learning and dialoguing/personal developmental relationship, in which a more experienced or knowledgeable person guides a less experienced or less knowledgeable person (Al-Qdah & Salim 2013); storytelling, the process of using tales or narratives to effectively transfer knowledge about organisational, managerial systems, norms, values and culture (Al-Qdah & Salim 2013); expert interviews, through which an apprentice uses structured or unstructured questions to interview an expert in a specific domain of expertise (Chennamaneni & Teng 2011); and lessons learned, where lessons are put together and shared with other members of the organisation to enable learning from the experiences of others (Chennamaneni, Teng & Raja 2012), which is considered highly effective for generating creative ideas and solutions through intensive and group discussions (McAdam & Reid 2001). While different methods have been used successfully for TKM in several organisations and nationalities, not much is known about this process by SMEs in KZN, South Africa.

It is also apt to caution that organisations should pay attention to the enabling factors that aid the TKM of SMEs, because tacit knowledge is subjective and human-embedded, and its explication cannot be forced but motivated (Jiang & Xu 2020). The next section addresses this.

Tacit knowledge management enablers

Tacit knowledge management requires organisational support. Al-Shammari and Almulla (2023) highlighted the role of leadership and organisational culture as enablers of effective management of tacit knowledge. Other facilitating factors were individual, organisational structure and knowledge management strategy factors (Alves & Pinheiro 2022). While Sitharam (2014) studied the factors affecting the

performance of SMEs in KZN, South Africa, the enabling factors that aid effective tacit knowledge capture, processing, sharing and preservation in South African SMEs were not covered in Sitharam's study.

Research methods and design

The current quantitative research is the outcome of the second phase of an exploratory sequential mixed-methods research, which implies that the themes for the questionnaire were obtained from the themes that emerged from the analysis of the qualitative data. The qualitative data were collected through interviews. In moving from the qualitative analysis to developing a questionnaire, the study identified common themes to develop the constructs for the online survey.

The research respondents were SME owners or managers. The estimated total population of SMEs in KZN province registered with the Durban Chamber of Commerce (DCC) was 3500. From this population, a sample size of 346 SMEs was initially targeted for the study (Ahmad & Halim 2017:22). Thus, the study set out to survey 346 SME owners or managers in different locations in KZN via the iFeedback consultants using Google Forms (Kumalo & Van Der Poll 2018). Using this online survey method made it difficult to do a one-on-one follow-up of the respondents because the researcher did not have direct access to their contact details. The Statistical Package for the Social Sciences (SPSS) was used to analyse the quantitative data, and the method of analysis is descriptive statistics, including charts, tables, frequency and percentages. As regards ethical considerations, the study adhered to the ethical procedure laid down by the University of Zululand's research ethics committee (<http://www.research.unizulu.ac.za/index.php/research-ethics/>).

The SPSS software package was used to assess the reliability of the questionnaire as a data collection method in this study. The data collection instrument's reliability was established by administering copies of the questionnaire to 30 respondents in Pretoria, Gauteng Province, South Africa. The Cronbach's coefficient alpha was used to assess the questionnaire's internal consistency. The scores obtained were subject to reliability analysis (Table 1). The overall index value of approximately 0.73 revealed that the 103 questionnaire items were reliable. The obtained results are satisfactory as acceptable threshold or cutoff values are usually greater than 0.70 (Griethuijzen, Eijck & Haste 2015).

TABLE 1: Methods of storing and preserving the tacit knowledge.

Variable	Yes	No	I don't know	Percentage yes
Electronic files in computers within or outside the business premises	161	18	1	89.4
Cloud storage	125	50	5	69.4
Physical files and cabinets	108	71	1	60.0
Organisational archive or repository	106	70	4	58.9
Google drive	67	110	5	37.2
Memory stick	66	112	2	36.7
CDs,VCDs and DVDs	40	136	4	22.2

The study employed the use of Google Forms, which tended to be exclusive to literate persons with internet access to be part of the quantitative phase of the study. As a result of study's limitations, such as the consequences of the coronavirus disease 2019 (COVID-19) pandemic, the pro-Zuma protests, and the constraint of time and funds at the time of data collection, an online survey was the only option at the time of data collection. Also, because of the same reasons, the non-probability sampling method, a feasible alternative in situations where probability sampling is impossible, was utilised.

Results

The section responds to the two research questions. Only 186 SME owners or managers responded, representing a 55.2% response rate. The study found only 180 responses valid for the analysis.

What are the existing methods of tacit knowledge management of small- and medium-sized enterprises in KwaZulu-Natal, South Africa?

This study's TKM processes of interest include tacit knowledge capture, sharing and storage; therefore, this section explores the activities that foster the aforesaid. Therefore, this section sought to determine the methods of TKM adopted by KZN SMEs.

Tacit knowledge capturing methods used by small- and medium-sized enterprises in KwaZulu-Natal, South Africa

Findings revealed that the most important methods of capturing tacit knowledge are monitoring (93.9%), practical sessions (92.2%), in-house training programmes (91.7%) and brainstorming and/or knowledge sharing sessions (91.7%). The least used method(s) of capturing tacit knowledge are examination or assessment (46.1%), written interviews (43.9%), storytelling programmes (34.4%) and audio and/or video-recorded interviews with employees (31.7%) (Figure 1).

Tacit knowledge sharing methods used by small- and medium-sized enterprises in KwaZulu-Natal, South Africa

The study discovered the following activities, in decreasing order, through which tacit knowledge is shared: meetings (practice, project teams), dialogues among employees, brainstorming and knowledge sharing sessions, practical sessions, review of work performance, socialisation, interactions, get-togethers, intellectual discussions, mentoring programmes, induction and orientation programmes, project review sessions with experts, workshops, internship, pairing system, online platforms, apprenticeship programmes, imitation of experts, CoPs, concept mapping and storytelling programmes (Figure 2).

Tacit knowledge storage methods used by small- and medium-sized enterprises in KwaZulu-Natal, South Africa

Findings also revealed that tacit knowledge is stored or preserved among SMEs in KZN in electronic files in computers within or outside the business premises, cloud

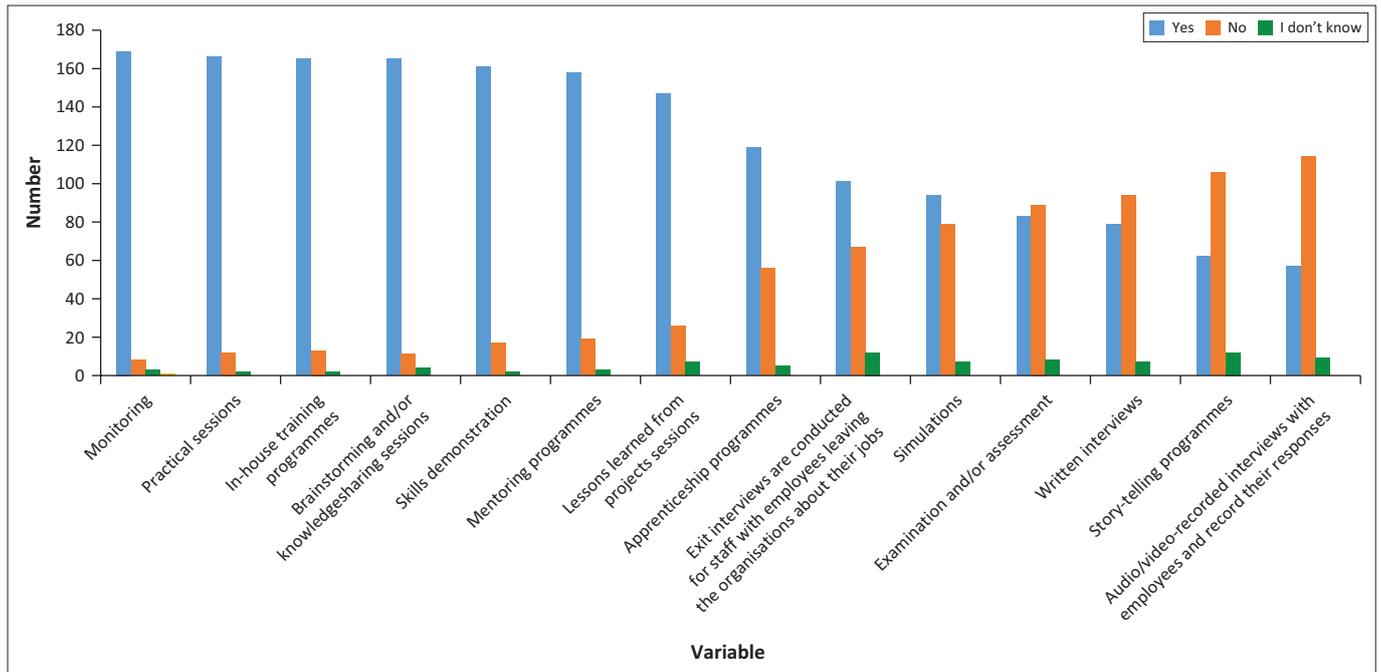


FIGURE 1: Methods of capturing tacit knowledge by small- and medium-sized enterprises ($N = 180$) in Kwazulu-Natal, South Africa.

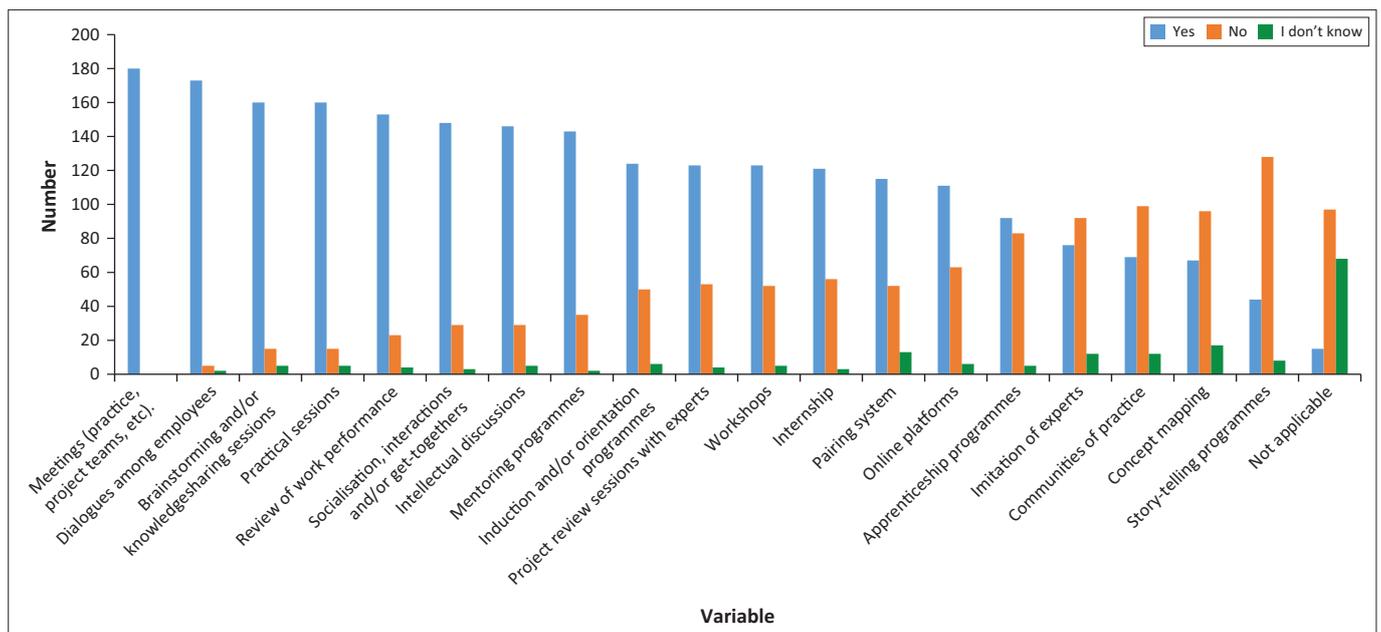


FIGURE 2: Methods of sharing tacit knowledge by small- and medium-sized enterprises ($N = 180$) in Kwazulu-Natal, South Africa.

storage facilities, physical files and cabinets, organisational archive or repository, Google Drive, memory stick, and compact discs (CDs), video CDs (VCDs) and digital video discs (DVDs) (Table 2).

What are the enabling factors that aid tacit knowledge management of small- and medium-sized enterprises in Kwazulu-Natal, South Africa?

This study's selected enabling organisational factors are technological resources, reward systems and organisational culture, which relate to informal networks and team formation.

TABLE 2: Sharing tacit knowledge should be rewarded?

Variable	Frequency	%
Yes	123	68.3
No	44	24.4
I don't know	13	7.2

Technological factors

Regarding the existing technologies, the majority of the respondents (173, 96.1%) admitted that they use information and communication technology (ICT) to manage tacit knowledge, mail (164, 91.7%), Internet and/or intranet (159; 88.3%) and mobile phones (157; 87.2%) (Figure 3). The employment of ICT by almost all the respondents to enable

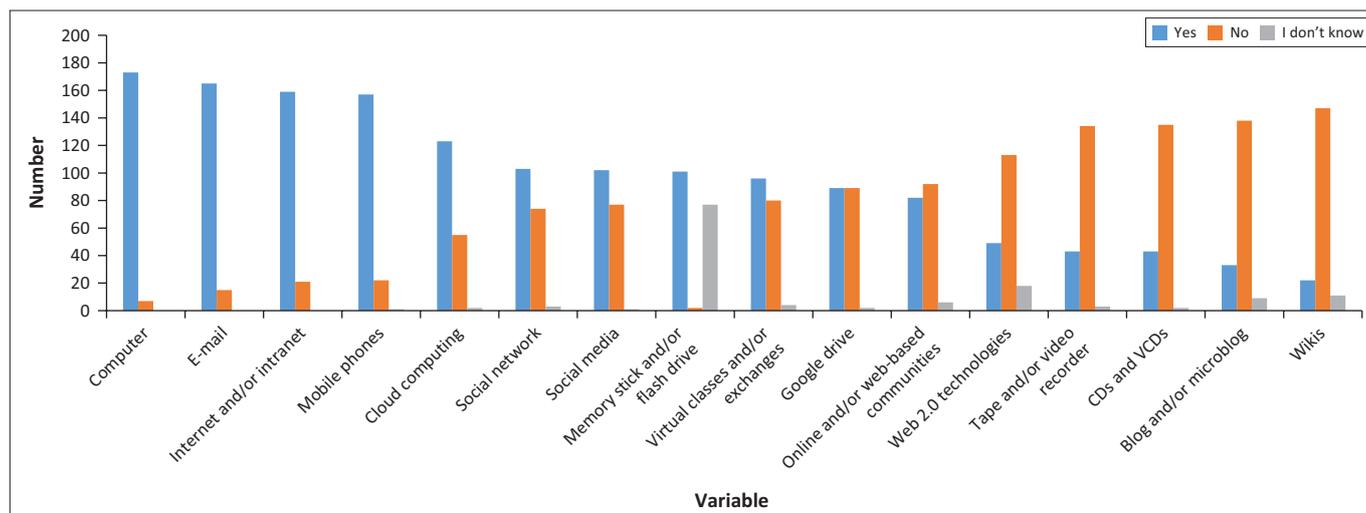


FIGURE 3: Technologies available for tacit knowledge management by small- and medium-sized enterprises ($N = 180$) in KwaZulu-Natal, South Africa.

TABLE 3: Sharing tacit knowledge as a condition for performance appraisal.

Variable	Frequency	%
Yes	115	63.90
No	52	28.90
I don't know	13	7.22

TKM underlines its crucial role in aiding knowledge creation, acquisition, conversion, dissemination and utilisation.

Reward system

Table 3 depicts that most respondents (123, 68.3%) agreed that it is good to reward tacit knowledge sharing. More than half of the SMEs (115, 63.9%) also opined that sharing tacit knowledge should be a component of employees' organisational performance appraisal. In addition, most of the respondents (140, 77.8%) revealed that they reward tacit knowledge sharing using non-monetary incentives, such as organisational recognition. Other reward types include cash, certificates, awards, gifts, training and development programmes, salary increases, performance appraisal, lunch and entitlement payment.

The cross-tabulation of sharing tacit knowledge should be rewarded versus a condition for performance appraisal is presented in Table 4. The contingency table (Table 5) shows that 78.3% of the respondents who said sharing expert knowledge should also be rewarded see it as a condition for performance appraisal. Of the 44 respondents who said sharing expert knowledge should not be rewarded, 53.8% said it should be a condition for performance appraisal. Among those who said they did not know whether sharing expert knowledge should be rewarded, 38.5% said it should be a condition for performance appraisal; none disagreed, but 61.5% said they did not know if it should be a condition for performance appraisal. The Pearson's chi-square statistic is 73.562 with 4 degrees of freedom and a p -value of $0.000 < 0.05$. Thus, it can be implied that sharing tacit knowledge should be rewarded is significantly associated with whether it should be a condition for performance

TABLE 4: Organisational factor(s) enabling tacit knowledge management.

Variable	Yes	No	I don't know	Percentage of yes
Employees are encouraged to share their business-related knowledge with their fellow workers.	176	6	0	97.8
We encourage informal networks where employees can discuss problem-solving methods and lessons learned freely.	163	16	1	90.6
We favour team formation to tackle problems.	154	20	6	85.6
New employees go through training programmes.	151	27	2	83.9
We recognise and reward the sharing of knowledge.	126	49	5	70.0
Knowledge sharing is a component of our employees' performance appraisal.	123	49	8	68.3

appraisal by SMEs in KZN Province, South Africa, at a 5% level of significance.

Organisational culture related to informal networks and team formation

This section sought to determine the prevailing organisational culture in terms of teamwork and informal relationships. The study revealed that most SMEs encourage employees to share business-related information (176, 97.8%), form teams (154, 85%) and informal networks (163, 16%) to promote tacit knowledge (Table 4). The SMEs encourage informal networks for employees to discuss freely problem-solving methods. This implies that organisational culture is very important in managing tacit knowledge for organisational competitiveness, development and survival.

Discussion

This section discusses the major findings in line with the research questions of the study.

Existing methods of tacit knowledge management

Tacit knowledge capture methods

As regards tacit knowledge capturing methods, most respondents agreed that it is possible to capture tacit

TABLE 5: Sharing tacit knowledge as a condition for performance appraisal versus it should be rewarded.

Question	Response	Sharing expert knowledge should be rewarded						Total	
		Yes		No		I don't know		n	%
		n	%	n	%	n	%		
Sharing of expert knowledge should be a condition for performance appraisal in your organisation	Yes	90	78.3	22	19.1	3	2.6	115	100.0
	No	28	53.8	22	42.3	2	3.8	52	100.0
	I don't know	5	38.5	0	0.0	8	61.5	13	100.0
Total		123	68.3	44	24.4	13	7.2	180	100.0

knowledge and acknowledged that there is a particular tacit knowledge critical to their organisational goals. These acknowledgements give credence to the rationale for this study and support Nonaka and Takeuchi's previous studies. The remaining respondents either did not agree that tacit knowledge can be captured or saw no reason to bother about capturing it, because they believed their organisational activities do not require much expertise. Findings showed that the most common method of capturing tacit knowledge is monitoring. In support, Dzekashu and McCollum (2014) reported that 40% of the labour force in the United States retire annually, and the best way to preserve their tacit knowledge is through monitoring.

Tacit knowledge sharing methods

Regarding tacit knowledge sharing, findings reveal that SMEs in KZN mostly share tacit knowledge in meetings, dialogues, brainstorming sessions, knowledge sharing sessions, practical sessions and in-house training programmes. Previous studies have encouraged combining formal and informal means of TKM (Castellani et al. 2021). It was also suggested that formal avenues such as meetings, training programmes and workshops could also be held in informal places like relaxation rooms (Mueller 2015). Castellani et al. further contend that using formal methods can reinforce informal methods and vice versa; hence, they suggest adopting 'hybrid solutions' for knowledge sharing, such as socialisation, which will embed formal and informal means of capturing and sharing tacit knowledge.

Relevant research has notably emphasised the fundamental role of socialisation, social interactions in tacit knowledge sharing. As such, socialisation, a component of the SECI model, and dialogue are indispensable components of tacit knowledge sharing (Panahi, Watson & Partridge 2013). The authors confirm that dynamic exchanges and discussions through socialisation enable personal and professional experience sharing. Milovanovic and Nis (2006) further advocate for trust and open and friendly communication to enable socialisation and tacit knowledge sharing; however, most activities of tacit knowledge capture and sharing overlap. Yew (2021) concurs with the study of family firms, enterprise development and tacit knowledge transformation of SMEs in Malaysia.

Tacit knowledge storage methods

The study highlighted electronic files in computers within or outside the business premises, cloud technologies, and physical files and cabinets as the tacit knowledge storage

methods, which are affirmed by Ofori-Dwumfuo and Kommey (2013) in a study on TKM among SMEs in Ghana where preservation of knowledge through electronic files was most popular. Related studies have highlighted that tacit knowledge can be codified and stored in databases for easy access and reuse rather than in repositories (Chergui, Zidat & Marir 2020). In another study, Narendra, Pradeep and Prabhakar (2017) developed a standard knowledge management repository system that supports traditional and multimedia captured knowledge formats. They show that although less emphasis is laid on the use of physical files and cabinets in support of the current technology era, just as in the case of using a hybrid method for TKM, the same can be adopted in the storage process. The fundamental requirement is to ensure that organisations store tacit knowledge in such a way that externalised and captured tacit knowledge remains in their organisational memory even if employees leave (Ganesh & Pravin Kumar 2017).

Applying the SECI model to our findings has implications in practice. Remarkably, both socialisation and externalisation occur within overlapping activities: monitoring, practical sessions, in-house training programmes, brainstorming sessions, skills demonstration, mentoring, lessons learned from project sessions and apprenticeship. In support of Constandse's (2013) earlier observation, the four SECI modes overlap and can happen concurrently. Constandse observes that for tacit knowledge capture (externalisation mode) to occur, SMEs' management may need to be deliberate and systematic about the process. This is where formal activities such as after-project reviews, lessons learned, best practice reviews, exit interviews, CoPs, reviews of work performance, apprenticeship and mentoring become useful tools. In this study, the identified activities sit within the socialisation model of the SECI model, which is any process of tacit knowledge sharing that involves physical proximity/togetherness, direct interaction, interpersonal relationships and social contact. Socialisation takes place when experiences are shared. Therefore, it is possible to observe that SMEs in KZN practise socialisation, although tilting more towards the formal avenues (training programmes, meetings, interviews). This finding implies that when SMEs share tacit knowledge, the organisational knowledge base is enriched for innovation and competitive advantage. In addition, sharing tacit knowledge improves teamwork among SME employees. It also builds ties and interpersonal relationships that enhance organisational performance. However, for effective TKM to take place, the following facilitating factors were identified.

Enabling factors for tacit knowledge management

This study's selected enabling organisational factors are technological resources, reward systems, and organisational culture related to informal networks and team formation.

Technological factors

Regarding existing technologies, approximately 96% of the respondents admitted that they use ICT to manage tacit knowledge, followed by e-mails, Internet, intranet, and mobile phones. It can be deduced that most SMEs store expert knowledge in digital format through computers and cloud drives, as they admitted that technology is a factor that needs to be considered in managing tacit knowledge. Thus, the role of ICT is inevitable for effective TKM because it facilitates knowledge creation, acquisition, conversion, dissemination and utilisation. The study's finding concurs with Nonaka and Takeuchi (1995) and Castellani et al. (2021), which emphasise the need for knowledge-intensive organisations, particularly SMEs, to adopt technological innovations that will sustain TKM activities.

Reward system

In this context, a reward system is intended to motivate members of an organisation to share tacit knowledge, which is the owner's property until shared. Rewarding tacit knowledge sharing is practised by up to 68% of the SMEs studied, and this is more in the form of non-monetary incentives such as organisational recognition, training and development programmes, and promotion. Other reward types include cash, certificates, awards, gifts, training and development programmes, salary increases, performance appraisal, lunch and entitlement payments. Most of those who agreed that tacit knowledge sharing should be rewarded said that it should be a component of the employee performance appraisal. Others agreed that a rewarding system should not be encouraged in promoting organisational TKM. Rewarding tacit knowledge sharing, as agreed by most of the study respondents, seems to be widespread as noticed in related studies by Šajeva (2014), who admitted that a reward system is designed to promote TKM in organisations. Some previous studies have debated the merits of rewarding tacit knowledge sharing behaviour (Suppiah & Singh Sandhu 2011). However, most recent studies, such as Oliveira and Pinheiro (2022), have supported the need to reward tacit knowledge sharing because the knowledge owner must be willing to share. Rewards may be non-monetary incentives such as appreciation, encouragement, motivation, bonuses, entitlement, certificates, gifts, development programmes and training. They can also be monetary incentives such as cash and salary increment. The questionnaire responses pointed out that reward types are mostly non-monetary incentives, for instance, organisational recognition. However, the form of reward, monetary or non-monetary, remains contextual. A significant contribution to the issue of the form of reward is best explained by Oliveira and Pinheiro (2022) that:

... it is only effective if it finds an echo in what individual expectations are intrinsic to the person. What can serve as an incentive or reward for one person can have a counterproductive effect for another, so it is an exercise that facilitates the sharing of tacit knowledge, but that which is based on the intrinsic characteristics of the individual. (p. 1305)

This submission implies that the personality traits of the knowledge owner are a major determinant of what type of reward is most suitable. Other determinants of reward type are altruism and the personal value of knowledge (Obrenovic et al. 2020). Evidently, reward system is a delicate undertaking that should be handled cautiously.

Organisational culture related to informal networks and team formation

The SMEs studied encourage informal networks and team activities for projects. The study revealed that most SMEs encourage employees to share business-related information and form teams, and informal networks to promote tacit knowledge. The SMEs encourage informal networks for employees to discuss freely problem-solving methods. This implies that organisational culture is very important in managing tacit knowledge for organisational competitiveness, development and survival. In support, Wethyavivorn and Teerajetgul (2020) attest to the significant relationship between informal networks and tacit knowledge sharing in organisations. Thus, organisational culture in SMEs can be leveraged to create a favourable condition for organisational development and survival in competitive environments.

How can the tacit knowledge management framework be developed?

As mentioned earlier, the study was underpinned by the SECI model of Nonaka and Takeuchi (1995) and the KMEF of Stankosky and Baldanza (Haslinda & Sarinah 2009). The study limited the application of the SECI model to only two modes: socialisation and externalisation, both of which reflect the employee's individual tacit knowledge sharing process (Jin-Feng et al. 2017; Panahi et al. 2013). For the KMEF, we focussed on organisational factors (reward systems, team formation and informal networks) and technologies for this study. The study discovered overlapping functions/methods regarding these two modes. However, this is understandable and acceptable, as it has been clarified that both modes reflect the tacit knowledge sharing phase of the cyclical model (Panahi et al. 2013:385). The KMEF factors were found applicable to motivate TKM, and these findings provided the basis for the proposed framework.

The framework is a system incorporating a knowledge audit, which is the first layer of the system; tacit knowledge subject, which identifies expertise knowledge; tacit knowledge/tools to facilitate TKM; tacit knowledge enablers, to create a conducive climate for TKM, and the last step, which is tacit knowledge sharing methods. The framework is described in the following sections.

Knowledge audit

It was observed in the findings of research question 1 that awareness of tacit knowledge provides the platform for knowledge audits, valuing and identifying key knowledge issues. Knowledge audit is described as a significant first step in KM implementation (Sohal et al. 2018). It is defined by Ghosh and Pradhan (2017) as a:

[S]ystematic examination and evaluation of organisational knowledge health, which examines organisation's knowledge needs, existing knowledge assets/resources, knowledge flows, future knowledge needs, knowledge gap analysis, as well as the behaviour of people in sharing and creating knowledge. (p. 170)

The authors affirm the need-to-know strengths, weaknesses, opportunities, threats (SWOT) and risks. The submission buttressed the assertion of Liebowitz et al. (2000) that knowledge audit aids organisations in determining the most effective method of knowledge storage and dissemination. Thus, this study suggests that carrying out a comprehensive knowledge audit will help to identify other components as follows.

The tacit knowledge subjects

For instance, tacit knowledge subjects are known through knowledge role components of the knowledge audit, which include identifying the employees with critical expertise, skills and knowledge pertinent to achieving organisational goals. We suggest that these can be used to design appropriate point-of-entry assessments for recruitment, being a reported method of identifying employees with tacit knowledge. We also observed earlier that personality traits impact tacit knowledge sharing behaviour. Therefore, we consider that putting items regarding personality traits in recruitment tests may be useful in employing personnel who will be more inclined to share their tacit knowledge.

The tacit knowledge enablers

We believe that exploring organisational policies and culture will uncover appropriate factors, such as reward systems, informal relationships, teamwork and tacit knowledge sharing-embedded performance appraisal that will motivate tacit knowledge sharing.

The tacit knowledge system and tools

Determining the required and available resources from the knowledge audit would ensure that appropriate tools are available and accessible to aid TKM activities.

Tacit knowledge capturing and sharing methods

We suggest that all the middle layer components of the proposed model will determine the appropriate tacit knowledge sharing methods for specific SMEs.

The TKM model component is illustrated in Figure 4.

Conclusions

Knowledge management continues to be a growing concern in management research and practice because of its

roles in innovation capability, organisational competitive advantage and continuous optimum performance. Knowledge management is particularly significant for SMEs. They are comparatively more dynamic than larger organisations and are attested to being more open to learning. This study, on KZN SMEs, builds on the recognition that tacit knowledge can be shared when there are direct interactions among individuals in the workplace because the most valuable organisational knowledge is not as much in written procedures as written procedures in the heads or minds of humans. By tacit knowledge, we referred to skills and experience-based knowledge of employees that can be expressed through actions, evaluations, attitudes, points of view, commitments and motivation. The TKM components such as capturing, sharing and storing were the focus of the study. The findings indicated that KZN SMEs operate within the activities that foster the socialisation and externalisation modes of the SECI model through tacit knowledge sharing methods, such as brainstorming, knowledge sharing and practical sessions and mentoring programmes. However, the activities revealed overlaps in the socialisation and externalisation modes of the model, which was observed earlier by Constandse (2013).

The observation shows that while the stepwise process may be linear and cyclical, the embedded tacit knowledge sharing activities of the process are intertwined. The main difference appears to be the need to be deliberate in tacit knowledge capture. The deliberate practice of tacit knowledge capture (externalisation mode of the SECI model) can be enhanced by creating a culture of knowledge sharing and social interaction (observation, teamwork, informal networks), recording processes and practical sessions using videos, encouraging storytelling about experiences, shadowing, apprenticeship, exit interviews, best practices report, after-project reviews, mentoring and CoPs, among others, and investing in a knowledge sharing system that captures, processes and stores tacit knowledge as an organisational knowledge bank.

Tacit knowledge activities primarily occur through meetings and monitoring. Captured tacit knowledge is stored using electronic files in computers within or outside the business premises, cloud technologies, and physical files and cabinets. Identified enablers are reward systems, technological resources, informal networks and team formation. The study concludes that the current TKM practices in SMEs in KZN Province need improvement. Moreover, SME owners must be more proactive in eradicating actions and policies that could lead to knowledge hoarding and/or hiding and knowledge gaps and/or losses in their organisations.

We make the following recommendations

1. Small- and medium-sized enterprises need to adopt a deliberate approach to managing tacit knowledge by creating an organisational culture that promotes informal (such as socialisation) and formal interactions (such as knowledge sharing sessions and training) that will

study is pertinent to ministries of trades and industries and other relevant bodies on TKM. The study can be used beyond the context for comparative studies.

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Competing interests

The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.

Authors' contributions

Both the authors contributed equally towards conceptualisation, execution and writing of this article. The study is based on the first author's PhD supervised by the second author. Both authors contributed towards the article version of this article for the journal.

Ethical considerations

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Data availability

See PhD thesis at UNIZULU Institutional Repository. Raw data are available on request.

Disclaimer

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